



# Tenable Security Center Director 6.6.x User Guide

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# Welcome to Tenable Security Center Director

This user guide describes how to install, configure, and manage Tenable Security Center Director™ 6.6.x.

Tenable Security Center Director is an add-on to Tenable Security Center that provides centralized console insight to reduce complexity and give multiple-console customers complete visibility across their entire network.

To get started, see [Get Started With Tenable Security Center Director](#).

For additional information on Tenable Security Center Director, review the following customer education materials:

- [Tenable Security Center Director Introduction \(Tenable University\)](#)

## Tenable Security Center and Tenable Security Center Director

Tenable Security Center is a comprehensive vulnerability management solution that provides complete visibility into the security posture of your distributed and complex IT infrastructure. Tenable Security Center consolidates and evaluates vulnerability data from across your entire IT infrastructure, illustrates vulnerability trends over time, and assesses risk with actionable context for effective remediation prioritization.

Tenable Security Center Director is an add-on to Tenable Security Center that provides centralized console insight to reduce complexity and give multiple-console customers complete visibility across their entire network.

## Tenable Security Center and Tenable Security Center Director Feature Comparison

Feature	Tenable Security Center	Tenable Security Center Director
Remote repository import (for cumulative data analysis)	X	X
Retrieve data from individual scans		X



Monitor status and configuration of scanning tier instances and connected sensors		X
Centralized scan capability with scanning tiers via the API		X

## Get Started With Tenable Security Center Director

Use the following getting started sequence to configure and mature your Tenable Security Center Director deployment. A fully configured Tenable Security Center Director deployment includes one Tenable Security Center Director and one or more managed Tenable Security Center instances. For more information, see [Tenable Security Center Director Deployments](#).

1. [Prepare](#)
2. [Configure Managed Tenable Security Center Instances](#)
3. [Install](#)
4. [Monitor Scans](#)
5. [Refine](#)
6. [Expand](#)

**Tip:** For additional information on Tenable Security Center Director, review the following customer education materials:

- [Tenable Security Center Director Self Help Guide](#)
- [Tenable Security Center Director Introduction \(Tenable University\)](#)

### Prepare

Before you begin, learn about Tenable Security Center and Tenable Security Center Director, then establish a deployment plan and analysis workflow to guide your configurations.



- Design a deployment plan by identifying your organization's objectives and analyzing your network topology. Consider Tenable-recommended best practices for your environment. Tenable Security Center Director cannot perform scans. Plan your deployment to ensure you have adequate scan coverage on the Tenable Security Center instances you plan to manage from Tenable Security Center Director.
- Design an analysis workflow. Identify key stakeholders in your management and operational groups, considering the data you intend to share with each stakeholder.

For more information about planning a large enterprise deployment of Tenable Security Center, see the [Tenable Security Center Large Enterprise Deployment Guide](#).

## Configure Managed Tenable Security Center Instances

Configure the Tenable Security Center instances you want to manage with Tenable Security Center Director.

1. Install and fully configure Tenable Security Center on your managed Tenable Security Center instances, as described in [Get Started With Tenable Security Center](#) in the *Tenable Security Center User Guide*.

**Note:** You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.

2. To ensure that your Tenable Security Center instances can connect to Tenable Security Center Director, apply the required license upgrade to each managed Tenable Security Center instance, as described in [Update an Existing License](#) in the *Tenable Security Center User Guide*.
3. Generate API keys for an administrator on each managed Tenable Security Center instance, as described in [Generate API Keys](#) in the *Tenable Security Center User Guide*.

## Install

Install Tenable Security Center Director and perform initial configuration.



**Note:** You cannot upgrade Tenable Security Center to Tenable Security Center Director. If you want to install Tenable Security Center Director on a host where Tenable Security Center is already installed, you must uninstall Tenable Security Center and perform a clean installation of Tenable Security Center Director on that host. For more information, see [Uninstall Tenable Security Center](#).

**Note:** You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.

1. Prepare for the installation, as described in [Before You Install](#).
2. Install Tenable Security Center Director, as described in [Install Tenable Security Center Director](#).
3. Perform quick setup, as described in [Quick Setup](#). You can:
  - Apply activation codes for Tenable Nessus and Tenable Network Monitor to allow Tenable Security Center Director to perform plugin updates
  - Connect Tenable Security Center instances you want to manage with Tenable Security Center Director
  - Create one organization
  - Create one administrator user account and one security manager account
  - Configure usage statistic collection

Tenable recommends following the quick setup wizard, but you can configure these features later. For example, do not configure LDAP until you have easy access to all necessary LDAP parameters.

4. Configure SMTP settings, as described in [Mail Settings](#).
5. Configure remote repositories, if necessary, as described in [Repositories](#).
6. Configure security settings (e.g., password complexity requirements and custom banners), as described in [Use the Security section to define the Tenable Security Center user interface](#)





[login parameters and options for account logins. You can also configure banners, headers, and classification headers and footers..](#)

7. Configure and connect additional managed Tenable Security Center instances, if necessary, as described in [Connect a Managed Tenable Security Center Instance](#).

## Monitor Scans

On your managed Tenable Security Center instances, configure and run basic scans, as described in [Getting Started with Tenable Security Center](#) in the *Tenable Security Center User Guide*.

In Tenable Security Center Director, monitor running scans and scan results to begin evaluating the effectiveness of your deployment plan and analysis workflow.

- Monitor running scans and scanner availability using the [Insights Dashboard](#).
- When the scans complete, create template-based dashboards and reports, as described in [Dashboards](#) and [Reports](#).
- Search for vulnerabilities by CVE ID, as described in [Search](#).

Tenable recommends frequently reviewing your scan results and scan coverage. You may need to modify your scan configurations to suit your organization's objectives and reach all areas of your network.

**Tip:** You can manage scan policy configurations for active scans on your managed Tenable Security Center instances from Tenable Security Center Director using the Tenable Security Center Director API. For more information, see the [Tenable Security Center API Guide](#).

## Refine

Configure other features in Tenable Security Center Director, if necessary, and refine your existing configurations.

- Configure audit files, as described in [Audit Files](#).
- Configure groups, as described in [Add a Group](#).
- Create a custom user role, as described in [Create a User Role](#).
- Create additional user accounts and share objects with users, as described in [User Accounts](#).



- Create dynamic assets and combination assets, as described in [Add a Custom Asset](#). For more information about asset types, see [Assets](#).
- Review the plugin update schedule, as described in [Edit Plugin and Feed Settings and Schedules](#). Consider editing the schedules to suit your needs. For example, you may want to schedule plugin and feed updates to run a few hours before your scheduled scans.
- Add queries and use filters, as described in [Add or Save a Query](#) and [Apply a Filter](#).
- Create custom dashboards and reports, as described in [Dashboards](#) and [Reports](#).
- Configure alerts and ticketing, as described in [Workflow Actions](#).
- View vulnerability data and use the built-in analysis tools, as described in [Vulnerability Analysis](#).

## Expand

Review and mature your deployment plan and analysis workflow.

- Conduct weekly meetings to review your organization's responses to identified vulnerabilities.
- Conduct weekly management meetings to oversee your teams executing the analysis workflow.
- Review scan automation settings on your managed Tenable Security Center instances and consider revising.
- Review your scan results and scan coverage. You may need to modify your scan configurations on your managed Tenable Security Center instances to suit your organization's objectives and reach all areas of your network.
- Optimize and operationalize your custom dashboards to meet the needs of individual user account holders.
- Optimize and operationalize your custom reports to prepare them for distribution.
- Consider configuring API integrations, as described in the [Tenable Security Center API Guide](#) and the [Tenable Security Center API Best Practices Guide](#).

## Considerations for Air-Gapped Environments



Consider the following when deploying Tenable Security Center in an air-gapped (offline) environment.

## Architecture

You must deploy a Tenable Security Center and a set of scanners within each air-gapped network.

If you want to consolidate data from other networks with the data generated in your air-gapped network, you can use offline repositories to export data from your air-gapped Tenable Security Center to your other instance of Tenable Security Center. This supports both consolidated and federated reporting structures.

## Upgrades and Updates

Tenable recommends performing Tenable Security Center upgrades at least once a year (quarterly preferred) and plugin/feed updates at least once a month. After you perform a plugin update, run comprehensive scans to take advantage of the new vulnerability data and generate current scan results.

**Note:** A few plugins require internet access and cannot run in an air-gapped environment. For example, Tenable Nessus plugin 52669 checks to see if a host is part of a botnet.

After you perform a plugin update or feed update, verify the files as described in the [knowledge base](#) article.

To perform a Tenable Security Center upgrade or a plugin/feed update offline:

**Tip:** You can use the API to automate some Tenable Security Center upgrade and plugin update process.

1. Download the files in a browser or [via the API](#).
2. Verify the integrity of the files.
  - Tenable Security Center upgrade: Compare the download checksum with the checksum on the [Tenable downloads](#) page
  - Plugin/feed update: [Download and compare the checksums](#).
3. Move the files to your Tenable Security Center instance.



#### 4. Upload the files to Tenable Security Center.

- Tenable Security Center upgrade: [via the CLI](#).
- Plugin/feed update: [in a browser](#) or [via the API](#).

## Tenable Agents

If you deployed Tenable Nessus Manager to manage Tenable Agents in an air-gapped environment, perform an offline software update (`nessus-agent-updates-X.X.X.tar.gz` on the [Tenable Downloads](#) site) on your Tenable Nessus Manager. Tenable Nessus Manager pushes the update to the managed Tenable Agents.

For more information, see the [knowledge base](#) article.

## Tenable Security Center Director Deployments

You can use Tenable Security Center Director to manage Tenable Nessus scanners and scan zones and monitor scan results on multiple Tenable Security Center instances. If your deployment includes several instances of Tenable Security Center, Tenable recommends using Tenable Security Center Director to remotely monitor your Tenable Security Center instances.

A Tenable Security Center Director deployment includes:

- One *Tenable Security Center Director* where you connect managed Tenable Security Center instances. You use Tenable Security Center Director to centralize and monitor data collected by your managed Tenable Security Center instances.  
Tenable Security Center Director cannot perform scans. Plan your deployment to ensure you have adequate scan coverage on the Tenable Security Center instances you plan to manage from Tenable Security Center Director.
- One or more *managed Tenable Security Center instances*. You connect managed Tenable Security Center instances to collect vulnerability data that can be viewed in Tenable Security Center Director.

**Note:** You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.



**Note:** To enable cumulative vulnerability data analysis, add the repositories of your managed Tenable Security Center Director instances as [Remote Repositories](#).

To plan and fully configure your Tenable Security Center Director deployment, see [Get Started With Tenable Security Center Director](#).

For more information, see:

- [Connect a Managed Tenable Security Center Instance](#)
- [Manage Your Tenable Security Center Instances](#)
- [Managed Tenable Security Center Instance Settings](#)

## Monitor Your Tenable Security Center Director Deployment

After you acquire a Tenable Security Center Director license, configure Tenable Security Center Director, and connect one or more managed Tenable Security Center instances, you can monitor the following details from Tenable Security Center Director:

- The status, version, and total number of [Tenable Nessus Scanners](#) running on each managed Tenable Security Center instance
- The [Scan Zones](#) configured on each managed Tenable Security Center instance
- The [scan results](#) of scans run on each managed Tenable Security Center instance
- A summary of plugin sets used on each managed Tenable Security Center instance
- A summary of plugin sets used by Tenable Nessus scanners on each managed Tenable Security Center instance
- The version of Tenable Security Center running on each managed Tenable Security Center instance

You can configure the following from Tenable Security Center Director:

- Add, edit, and delete Tenable Nessus scanners and scan zones on managed Tenable Security Center instances. For more information, see [Tenable Nessus Scanners](#) and [Scan Zones](#).
- Pause, resume, or stop scans that are running on managed Tenable Security Center instances,



as described in [Pause, Resume, or Stop Scans on a Managed Tenable Security Center Instance](#).

**Note:** You can only edit configurations for Tenable Nessus scanners and scan zones on managed Tenable Security Center instances from Tenable Security Center Director. To manage other configurations on a managed Tenable Security Center instance, log in to that instance.

**Note:** You cannot download Tenable Nessus scanner logs on managed Tenable Security Center instances from Tenable Security Center Director. To download Tenable Nessus scanner logs on a managed Tenable Security Center instance, log in to that instance.

**Tip:** Managed Tenable Security Center instances cannot share repository data. For more information about sharing repository data between Tenable Security Center instances, see [Tiered Remote Repositories](#).

**Tip:** Using the Tenable Security Center Director API, you can perform the following actions to manage active scans on your managed Tenable Security Center instances:

- Add, retrieve, and delete scan and scan policy configurations for active scans.
- Retrieve scan objects, such as users, scan policies, repositories, and scan zones for active scans.

For more information, see the [Tenable Security Center API Guide](#).

## Connect a Managed Tenable Security Center Instance

**Required Tenable Security Center Director User Role:** Administrator

For more information about using Tenable Security Center Director to monitor your Tenable Security Center instances, see [Tenable Security Center Director Deployments](#).

Before you begin:

1. Confirm the Tenable Security Center instance you want to connect to Tenable Security Center Director is running the same Tenable Security Center version as Tenable Security Center Director. You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable



Security Center instances that are running a different version of Tenable Security Center.

2. Generate API keys for an administrator on the Tenable Security Center instance you want to manage with Tenable Security Center Director, as described in [Generate API Keys](#) in the *Tenable Security Center User Guide*.

To connect a Tenable Security Center instance to Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Managed Instances**.

The **Tenable Security Center Instances** page appears.

3. Click the **Add** button.

The **Add Tenable Security Center Instance** page appears.

4. Configure the options for the managed Tenable Security Center instance. For more information, see [Managed Tenable Security Center Instance Settings](#).
  - a. In the **Name** box, type a name for the Tenable Security Center instance.
  - b. In the **Port** box, type the HTTPS port (typically, 443).
  - c. In the **IP Address** box, type the IP address.
  - d. (Optional) In the **Description** box, type a description.
  - e. In the **Access Key** box, type the API access key for an administrator.
  - f. In the **Secret Key** box, type the API secret key for an administrator.
  - g. (Optional) To verify that the IP address entered in the **IP Address** option matches the CommonName (CN) presented in the SSL certificate from the Tenable Security Center instance, enable the **Verify Hostname** toggle.
  - h. (Optional) To use the proxy configured in Tenable Security Center Director for communication with the Tenable Security Center instance, enable the **Use Proxy** toggle.
5. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:



- Begin monitoring data on your managed Tenable Security Center instances.
  - To view the Tenable Nessus scanners, scan zones, and scan results on a managed Tenable Security Center instance, see [View Managed Tenable Security Center Instance Details](#).
  - To view the Tenable Nessus scanners on your managed Tenable Security Center instances, see [View Your Nessus Scanners](#).
  - To view the scan zones on your managed Tenable Security Center instances, see [View Your Scan Zones](#).
  - To view the scan results on your managed Tenable Security Center instances, see [View Scan Results](#).

## Manage Your Tenable Security Center Instances

**Required Tenable Security Center Director User Role:** Administrator

For more information about using Tenable Security Center Director to monitor your Tenable Security Center instances, see [Tenable Security Center Director Deployments](#).

To manage your linked Tenable Security Center instances:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Managed Instances**.

The **Tenable Security Center Instances** page appears.

3. To view the list and status of your managed Tenable Security Center instances, see [View Managed Tenable Security Center Instances](#).
4. To view details for a managed Tenable Security Center instance, see [View Managed Tenable Security Center Instance Details](#).
5. To edit the settings for a managed Tenable Security Center instance:
  - a. Right-click the row for the managed Tenable Security Center instance you want to edit.

The actions menu appears.





- b. Click **Edit**.

The **Edit Tenable Security Center Instance** page appears.

- c. Modify the managed Tenable Security Center instance options. For more information, see [Managed Tenable Security Center Instance Settings](#).
- d. Click **Submit**.

Tenable Security Center Director saves your configuration.

6. To disconnect a managed Tenable Security Center instance, see [Disconnect a Managed Tenable Security Center Instance](#).

## View Managed Tenable Security Center Instances

**Required Tenable Security Center Director User Role:** Administrator

You can view an overview of basic information about your managed Tenable Security Center instances from Tenable Security Center Director. To view more details about an instance, see [View Managed Tenable Security Center Instance Details](#).

For more information about using Tenable Security Center Director to monitor your Tenable Security Center instances, see [Tenable Security Center Director Deployments](#).

To view a list of your managed Tenable Security Center instances:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Managed Instances**.

The **Tenable Security Center Instances** page appears.

3. View the following information about each managed Tenable Security Center instance:
  - **Name** — The name of the instance.
  - **IP/FQDN** — The IP address of the instance.
  - **Version** — The version of Tenable Security Center running on the instance.
  - **Status** — The status of the scanners on the instance.



Status	Description	Recommended Action
<b>Working</b>	All of the scanners configured on the managed Tenable Security Center instance are <b>Working</b> .	None.
<b>x/y Scanners Available</b>	Only some of the scanners configured on the managed Tenable Security Center instance are <b>Working</b> . The status label shows the number of <b>Working</b> scanners compared to the total number of scanners on the managed Tenable Security Center instance.	Review your scanner statuses to identify the scanners with issues, as described in <a href="#">View Your Nessus Scanners</a> . Then, follow the recommended actions to resolve the issues, as described in <a href="#">Tenable Nessus Scanner Statuses</a> .
<b>Connection Error</b>	Tenable Security Center Director cannot communicate with the managed Tenable Security Center instance.	None.
<b>Protocol Error</b>	The provided credentials for the Tenable Security Center instance are invalid.	<a href="#">Edit the managed Tenable Security Center instance</a> in Tenable Security Center Director to add a valid API <b>Access Key</b> and <b>Secret Key</b> for the managed Tenable Security Center instance. To generate a new API access key and secret key for the Tenable Security Center instance, see <a href="#">Generate API Keys</a> in the



- **Scanners** – The number of available scanners compared to the total number of scanners on the managed Tenable Security Center instance.
- **Last Sync** – The date and time Tenable Security Center Director successfully synchronized with the managed Tenable Security Center instance. Tenable Security Center Director syncs with managed Tenable Security Center instances every 15 minutes.

## View Managed Tenable Security Center Instance Details

**Required Tenable Security Center Director User Role:** Administrator

From Tenable Security Center Director, you can view details about each managed Tenable Security Center instance, including all Tenable Nessus scanners, scan zones, and scan results.

For more information about managing Tenable Security Center instances with Tenable Security Center Director, see [Tenable Security Center Director Deployments](#).

To view details for a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Managed Instances**.

The **Tenable Security Center Instances** page appears.

3. Right-click the row for the managed Tenable Security Center instance.

The actions menu appears.

-or-

Select the check box for the managed Tenable Security Center instance.

The available actions appear at the top of the table.

4. Click **View**.

The managed Tenable Security Center instance page appears.



5. To view configuration details for the managed Tenable Security Center instance:

- a. Click the **Information** tab.

The **Information** tab appears.

- b. View the following information for the managed Tenable Security Center instance:

Section	Action
<b>General</b>	View general information about the managed Tenable Security Center instance.
<b>Options</b>	View optional settings configured for the managed Tenable Security Center instance. For more information, see <a href="#">Managed Tenable Security Center Instance Settings</a> .
<b>Scanner Summary</b>	<p>View a summary of the scanners configured on the managed Tenable Security Center instance.</p> <ul style="list-style-type: none"><li>• <b>Scanner Version</b> – The total number of Tenable Nessus scanners on the instance, organized by Tenable Nessus scanner version.</li><li>• <b>Scanner Status</b> – The total number of Tenable Nessus scanners on the instance, organized by scanner status. For more information about a status, see <a href="#">Tenable Nessus Scanner Statuses</a>.</li><li>• <b>Scanner PluginSet</b> – The total number of Tenable Nessus scanners on the instance, organized by scanner plugin set.</li></ul>

6. To view the Tenable Nessus scanners configured on the managed Tenable Security Center instance:

- a. Click the **Scanners** tab.

The **Scanners** tab loads.



- b. View the following information about the Tenable Nessus scanners configured on the instance:

Section	Action
<b>Scanners</b> table	<ul style="list-style-type: none"><li>• View the number of operational Tenable Nessus scanners compared to the total number of scanners on the managed Tenable Security Center instance.</li><li>• View the Tenable Nessus scanners on the managed Tenable Security Center instance.<ul style="list-style-type: none"><li>• <b>Name</b> – The name for the scanner.</li><li>• <b>Features</b> – Specifies whether the scanner is a <b>Standard</b> scanner or an <b>Agent Capable</b> scanner. Agent capable scanners provide Tenable Agent scan results to Tenable Security Center.</li><li>• <b>Status</b> – The status of the scanner.</li><li>• <b>Host</b> – The IP address or hostname of the scanner.</li><li>• <b>Version</b> – The scanner's Tenable Nessus version.</li><li>• <b>Type</b> – The type of scanner connection: <b>Tenable Nessus (Unmanaged Plugins)</b> or <b>Tenable Nessus (Managed Plugins)</b>. For more information, see <a href="#">View Your Nessus Scanners</a>.</li><li>• <b>Uptime</b> – The length of time, in days, that the scanner has been running.</li><li>• <b>Last Modified</b> – The date and time the scanner was last modified.</li></ul></li><li>• View details for a Tenable Nessus scanner on the managed Tenable Security Center instance.</li></ul>



	<ol style="list-style-type: none"><li>1. Right-click the row for the scanner you want to view.  The actions menu appears.</li><li>2. Click <b>View</b>.  The <b>View Tenable Nessus Scanner</b> page appears. For more information, see <a href="#">View Details for a Nessus Scanner</a>.</li></ol>
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7. To view the scan zones configured on the managed Tenable Security Center instance:

- a. Click the **Scan Zones** tab.

The **Scan Zones** tab loads.

- b. View the following information about the scan zones configured on the instance:

Section	Action
<b>Scan Zones</b> table	<ul style="list-style-type: none"><li>• View the number of operational scan zones on the managed Tenable Security Center instance.</li><li>• View the scan zones on the managed Tenable Security Center instance.<ul style="list-style-type: none"><li>• <b>Name</b> — The name for the scan zone.</li><li>• <b>Status</b> — The status of the scan zone. For more information, see <a href="#">View Your Scan Zones</a>.</li><li>• <b>Scanners</b> — The number of Tenable Nessus scanners in the scan zone.</li><li>• <b>Last Modified</b> — The date and time the scan zone was last modified.</li></ul></li><li>• View details for a scan zone configured on the managed Tenable Security Center instance.</li></ul>



	<ol style="list-style-type: none"><li>1. Right-click the row for the scan zone you want to view. The actions menu appears.</li><li>2. Click <b>View</b>. The <b>View Scan Zone</b> page appears. For more information, see <a href="#">View Your Scan Zones</a>.</li></ol>
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8. To view the results of scans run on the managed Tenable Security Center instance:

- a. Click the **Scan Results** tab.

The **Scan Results** tab loads.

- b. View the following information about the results of scans run on the instance:

Section	Action
<b>Scan Results</b> table	<ul style="list-style-type: none"><li>• View the scan results on the managed Tenable Security Center instance.<ul style="list-style-type: none"><li>• <b>Name</b> — The name for the scan associated with the result.</li><li>• <b>Availability</b> — The status of the scan result. For more information, see <a href="#">Scan Result Statuses</a>.</li><li>• <b>Type</b> — The type of scan that generated the scan result.</li><li>• <b>Scan Policy</b> — The name of the scan policy that generated the scan result.</li><li>• <b>Scanned IPs</b> — The number of IP addresses scanned.</li><li>• <b>Owner</b> — The username for the user who added the scan.</li><li>• <b>Duration</b> — The total time elapsed while running the scan.</li><li>• <b>Import Time</b> — The date and time Tenable Security Center completed the scan result import.</li></ul></li></ul>



	<ul style="list-style-type: none"><li>• <b>Status</b> – The status of the scan that generated the scan result. For more information, see <a href="#">Scan Status</a>.</li></ul> <div><p><b>Note:</b> You can view scan results from managed Tenable Security Center instances from the past 7 days. To view older scan results, log in to the managed Tenable Security Center instance where the scan took place.</p></div> <ul style="list-style-type: none"><li>• View details for a scan result on the managed Tenable Security Center instance.<ul style="list-style-type: none"><li>• Click the row for the scan result you want to view.</li></ul></li></ul> <p>The <b>View Scan Zone</b> page appears. For more information, see <a href="#">View Scan Result Details</a>.</p>
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9. To view details for a different managed Tenable Security Center instance:

a. Click the **Jump to** menu.

The list of managed Tenable Security Center instances appears.

b. Click the name of the managed Tenable Security Center instance you want to view.

The **View Tenable Security Center Instance** page appears.

## Disconnect a Managed Tenable Security Center Instance

**Required Tenable Security Center Director User Role:** Administrator

Disconnect a managed Tenable Security Center instance from Tenable Security Center Director to stop monitoring the instance from Tenable Security Center Director. You can continue using individual Tenable Security Center instances separately from Tenable Security Center Director. For more information, see [Tenable Security Center Director Deployments](#).

To disconnect a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Managed Instances**.

The **Tenable Security Center Instances** page appears.





3. Right-click the row for the managed Tenable Security Center instance you want to disconnect.

The actions menu appears.

-or-

Select the check box for the managed Tenable Security Center instance you want to disconnect.

The available actions appear at the top of the table.

4. Click **Delete**.

A confirmation window appears.

5. Click **Delete**.

Tenable Security Center Director disconnects the managed Tenable Security Center instance.

## Managed Tenable Security Center Instance Settings

For more information about using Tenable Security Center Director to monitor your Tenable Security Center instances, see [Tenable Security Center Director Deployments](#).

The following table describes the options to configure when connecting managed Tenable Security Center instances.

Option	Description
<b>General</b>	
<b>Name</b>	A descriptive name for the Tenable Security Center instance.
<b>IP Address</b>	The IP address of the Tenable Security Center instance.
<b>Port</b>	The TCP port that the Tenable Security Center instance listens on for communications from Tenable Security Center Director (443).
<b>Description</b>	(Optional) A description for the Tenable Security Center instance.
<b>API Keys</b>	
<b>Access Key</b>	The API access key for an administrator user on the managed Tenable Security Center instance. For more information, see <a href="#">Manage API Keys</a> .



Option	Description
<b>Secret Key</b>	The API secret key for an administrator user on the managed Tenable Security Center instance. For more information, see <a href="#">Manage API Keys</a> .
<b>Options</b>	
<b>Verify Hostname</b>	(Optional) When enabled, adds a check to verify that the IP address entered in the <b>IP Address</b> option matches the Common Name (CN) presented in the SSL certificate from the managed Tenable Security Center instance.
<b>Use Proxy</b>	(Optional) When enabled, instructs Tenable Security Center Director to use its configured proxy for communication with the managed Tenable Security Center instance.

## Requirements

You can run Tenable Security Center Director in the following environments.

Environment			More Information
Tenable Core	Virtual	VMware	<a href="#">Requirements</a> in the <i>Tenable Core User Guide</i>
		Microsoft Hyper-V	
	Cloud	Amazon Web Services (AWS)	
	Hardware		
Other platforms	Cloud	Amazon Web Services (AWS)	<a href="#">Cloud Requirements</a>
	Hardware		<a href="#">Hardware Requirements</a>

For general information about other requirements to run Tenable Security Center Director, see:

[Hardware Requirements](#)

[Cloud Requirements](#)

[System Requirements](#)



[License Requirements](#)

[Port Requirements](#)

[Browser Requirements](#)

[Tenable Integrated Product Compatibility](#)

[Large Enterprise Deployments](#)

## Hardware Requirements

You can run Tenable Security Center on hardware, with or without Tenable Core. For more information about Tenable Core, see the [Tenable Core User Guide](#).

**Note:** Tenable strongly discourages running Tenable Security Center or Tenable Core + Tenable Security Center in an environment shared with other Tenable applications.

**Note:** Complex deployments require more resources. For example, deployments with large numbers of organizations or application objects. For more information, see [Performance](#) in the *Tenable Security Center Large Deployment Guide*.

## Storage Requirements

Tenable recommends installing Tenable Security Center on direct-attached storage (DAS) devices (or storage area networks [SANs], if necessary) with a storage latency of 10 milliseconds or less.

Tenable does not support installing Tenable Security Center on network-attached storage (NAS), including network filesystems such as NFS.

## Disk Space Requirements

Enterprise networks can vary in performance, capacity, protocols, and overall activity. Resource requirements to consider for deployments include raw network speed, the size of the network being monitored, and the configuration of the application. Processors, memory, and network cards are heavily based on the former. Disk space requirements vary depending on usage based on the amount and length of time data is stored on the system.

An important consideration is that Tenable Security Center can be configured to save a snapshot of vulnerability archives each day. In addition, the size of the vulnerability data stored by Tenable



Security Center depends on the number and types of vulnerabilities, not just the number of hosts. For example, 100 hosts with 100 vulnerabilities each could consume as much data as 1,000 hosts with 10 vulnerabilities each. In addition, the output for vulnerability check plugins that do directory listings, etc. is larger than Open Port plugins from discovery scans.

For networks of 35,000 to 50,000 hosts, Tenable has encountered data sizes of up to 25 GB. That number is based on storage of 50,000 hosts and approximately 500 KB per host.

Additionally, during active scanning sessions, large scans, and multiple smaller scans have been reported to consume as much as 150 GB of disk space as results are acquired. Once a scan has completed and its results are imported, that disk space is freed up.

## Requirements When Running Basic Network Scans + Local Checks

# of Hosts Managed by Tenable Security Center	CPU Cores	Memory	Disk Space used for Vulnerability Trending
2,500 active IPs	4 2GHz cores	8 GB RAM	90 days: 125 GB 180 days: 250 GB
10,000 active IPs	8 3GHz cores	16 GB RAM	90 days: 450 GB 180 days: 900 GB
25,000 active IPs	16 3GHz cores	32 GB RAM	90 days: 2.4 TB 180 days: 5 TB
100,000 active IPs	32 3GHz cores	64 GB RAM	90 days: 4.5 TB 180 days: 9 TB

## Requirements When Running Basic Network Scans + Local Checks + 1 Configuration Audit

# of Hosts Managed by Tenable Security Center	CPU Cores	Memory	Disk Space used for Vulnerability Trending
2,500 active IPs	4 2GHz cores	8 GB RAM	90 days: 225 GB



# of Hosts Managed by Tenable Security Center	CPU Cores	Memory	Disk Space used for Vulnerability Trending
			180 days: 450 GB
10,000 active IPs	8 3GHz cores	16 GB RAM	90 days: 900 GB 180 days: 1.8 TB
25,000 active IPs	16 3GHz cores	32 GB RAM	90 days: 4.5 TB 180 days: 9 TB
100,000 active IPs	32 3GHz cores	128 GB RAM	90 days: 9 TB 180 days: 18 TB

**Note:** Tenable Security Center is a memory and disk I/O-intensive application. If you deploy Tenable Security Center in a virtualized infrastructure, take care to avoid running Tenable Security Center in a manner in which it may attempt to draw on oversubscribed resources, especially memory and disk I/O. Refer to your vendor-specific virtualized infrastructure documentation for guidance on optimizing virtual infrastructure resource allocation.

**Note:** Upsize your Tenable Security Center hardware resources (CPU/memory) proportionally based on the Tenable Security Center recommendations. For example, upsize the instance from 8 CPU/16 GB RAM to 16 CPU/32 GB RAM, and not to 16 CPU/20 GB RAM.

## Disk Partition Requirements

**Note:** When you upgrade Tenable Security Center to version 6.6.x, you must have at least 6 GB of space in the `/tmp` folder, if the `/tmp` folder is in its own partition.

Tenable Security Center installs into `/opt/sc`. Tenable highly recommends that you create the `/opt` directory on a separate disk partition. If you want to increase performance, consider using two disks: one for the operating system and one for the system deployed to `/opt`.

Tenable strongly recommends using high-performance disks. Tenable Security Center is a disk-intensive application and using disks with high read/write speeds, such as SSDs, results in the best performance.



If required disk space exists outside of the `/opt` file system, mount the desired target directory using the command `mount --bind <olddir> <newdir>`. Make sure that the file system is automatically mounted on reboot by editing the `/etc/fstab` file appropriately.

**Note:** Tenable Security Center does not support using symbolic links for `/opt/sc/`. You can use symbolic links within `/opt/sc/` subdirectories if instructed by Tenable Security Center documentation or Tenable Support.

Deploying Tenable Security Center on a server configured with RAID disks can also dramatically boost performance.

**Tip:** Tenable does not require RAID disks for even our largest customers. However, in one instance, response times for queries with a faster RAID disk for a customer with more than 1 million managed vulnerabilities moved from a few seconds to less than a second.

## Network Interface Requirements

You can install Tenable Security Center in externally connected or air-gapped environments. For more information about special considerations for air-gapped environments, see [Considerations for Air-Gapped Environments](#).

Gigabit or faster network cards are recommended for use on the Tenable Security Center server. This is to increase the overall performance of web sessions, emails, and other network activities.

## Cloud Requirements

The primary method to deploy Tenable Security Center in a cloud environment is with Tenable Core + Tenable Security Center. For more information, see the [Tenable Core User Guide](#).

However, you can install Tenable Security Center in vendor-supported version of your cloud environment that meets the [operating system requirements](#) to run Tenable Security Center.

The following guidelines can help you install Tenable Security Center in an Amazon Elastic Compute Cloud (Amazon EC2) cloud-based environment or an Azure Virtual Machine (Azure Virtual Image) cloud-based environment, but they do not cover all deployment scenarios or cloud environments. For assistance with a different cloud environment, contact [Tenable Professional Services](#).

## Supported Amazon EC2 Instance Types



You can install Tenable Security Center in an Amazon Elastic Compute Cloud (Amazon EC2) cloud-based environment that meets all of the following requirements.

Tenable Security Center uses a balance of networking and compute resources and requires persistent storage for proper operation. To meet these requirements, Tenable supports installing Tenable Security Center on M5 instances with General Purpose SSD (gp2) EBS storage.

Tenable recommends the following Amazon EC2 instance types based on your Tenable Security Center deployment size.

### Requirements When Running Basic Network Scans + Local Checks

# of Hosts Managed by Tenable Security Center	EC2 Instance Type	Disk Space Used for Vulnerability Trending
1 to 2,500	m5.2xlarge	90 days: 125 GB 180 days: 250 GB
2,501 to 10,000	m5.4xlarge	90 days: 450 GB 180 days: 900 GB
10,001 to 25,000	m5.8xlarge	90 days: 2.4 TB 180 days: 5 TB
25,001 to 50,000	m5.12xlarge	90 days: 4.5 TB 180 days: 9 TB
50,001 or more	For assistance with large enterprise deployments greater than 50,000 active IP addresses, contact your Tenable representative.	

### Requirements When Running Basic Network Scans + Local Checks + 1 Configuration Audit

# of Hosts Managed by Tenable Security Center	EC2 Instance Type	Disk Space Used for Vulnerability Trending
1 to 2,500	m5.4xlarge	90 days: 225 GB



# of Hosts Managed by Tenable Security Center	EC2 Instance Type	Disk Space Used for Vulnerability Trending
		180 days: 450 GB
2,501 to 10,000	m5.8xlarge	90 days: 900 GB 180 days: 1.8 TB
10,001 to 25,000	m5.8xlarge	90 days: 4.5 TB 180 days: 9 TB
25,001 to 50,000	m5.12xlarge	90 days: 9 TB 180 days: 18 TB
50,001 or more	For assistance with large enterprise deployments greater than 50,000 active IP addresses, contact your Tenable representative.	

## Supported Amazon Machine Images (AMIs)

Tenable provides an AMI for Tenable Core, but not for other cloud deployments without Tenable Core. Tenable supports using the following Amazon Marketplace AMI for Tenable Security Center without Tenable Core:

- [CentOS Stream 9 \(x86\\_64\)](#)
- [Red Hat Enterprise Linux 9](#)
- [Red Hat Enterprise Linux 8](#)

## Configuration considerations:

- These AMIs may not include Java, but Tenable Security Center requires OpenJDK or the Oracle Java JRE to export PDF reports.

You must install OpenJDK or the Oracle Java JRE onto your AMI before hosting Tenable Security Center. For more information, see [Dependencies](#).





- These AMIs may configure an SELinux enforcing mode policy, which requires customization to be compatible with Tenable Security Center.

You must use the SELinux `sealert` tool to identify errors and solutions. For more information, see [Customize SELinux Enforcing Mode Policies for Tenable Security Center](#).

- You must confirm these AMIs meet all other standard requirements for operating systems. For more information, see [Operating System Requirements](#).

## Supported Azure Instance Types

You can install Tenable Security Center in an Azure Virtual Machine (Azure Virtual Image) cloud-based environment that meets all of the following requirements.

Tenable recommends the following virtual machine instance types based on your Tenable Security Center deployment size. You may need to increase the storage allocated to the virtual machine instance depending on usage.

## Requirements When Running Basic Network Scans + Local Checks

# of Hosts Managed by Tenable Security Center	Virtual Machine Instance	Disk Space Used for Vulnerability Trending
1 to 2,500	D3V2	90 days: 125 GB 180 days: 250 GB
2,501 to 10,000	D4V2	90 days: 450 GB 180 days: 900 GB
10,001 to 25,000	F16	90 days: 2.4 TB 180 days: 5 TB
25,001 to 50,000	F32SV2	90 days: 4.5 TB 180 days: 9 TB
50,001 or more	For assistance with large enterprise deployments greater than 50,000 active IP addresses, contact your Tenable representative.	



## Requirements When Running Basic Network Scans + Local Checks + 1 Configuration Audit

# of Hosts Managed by Tenable Security Center	EC2 Instance Type	Disk Space Used for Vulnerability Trending
1 to 2,500	D3V2	90 days: 125 GB 180 days: 250 GB
2,501 to 10,000	D4V2	90 days: 900 GB 180 days: 1.8 TB
10,001 to 25,000	F16	90 days: 4.5 TB 180 days: 9 TB
25,001 to 50,000	D32SV3	90 days: 9 TB 180 days: 18 TB
50,001 or more	For assistance with large enterprise deployments greater than 50,000 active IP addresses, contact your Tenable representative.	

### Supported Azure Machine Images

Tenable provides an Azure image for Tenable Core, but not for other cloud deployments without Tenable Core. Tenable supports using the following Azure images for Tenable Security Center:

- [Oracle Linux 8 or 9 VM](#)
- [Red Hat Enterprise Linux 8 or 9 VM](#)

### Configuration considerations:

- These images may not include Java, but Tenable Security Center requires OpenJDK or the Oracle Java JRE to export PDF reports.

You must install OpenJDK or the Oracle Java JRE onto your image before hosting Tenable Security Center. For more information, see [Dependencies](#).



- These images may configure an SELinux enforcing mode policy, which requires customization to be compatible with Tenable Security Center.

You must use the SELinux `sealert` tool to identify errors and solutions. For more information, see [Customize SELinux Enforcing Mode Policies for Tenable Security Center](#).

- You must confirm these images meet all other standard requirements for operating systems. For more information, see [Operating System Requirements](#).

## External PostgreSQL Requirements

You can install Tenable Security Center configured to work with a PostgreSQL instance managed by you. PostgreSQL is required for certain features. For more information about connecting a PostgreSQL database, see [Connect an External PostgreSQL Server](#).

This is a required configuration if you have more than 100K hosts. Tenable Security Center requires PostgreSQL versions 13 through 17. It is also recommended that `wal_segment_size` is set to be at least 64MB.

If you set up your PostgreSQL instance in a cloud environment, the following are guidelines for choosing your instance size. Note that the disk space in the following table is only for PostgreSQL data, and does not include any other OS or other dependencies you have.

# of Hosts Managed by Tenable Security Center	AWS	Azure	Google Cloud Platform (GCP)	Minimum Disk Space Required for PostgreSQL Data
2,500 active IPs	r6g.xlarge	E4ps	t2a-standard-4	10 GB
10,000 active IPs	r6g.2xlarge	E8ps	t2a-standard-8	40 GB
25,000 active IPs	r6g.4xlarge	E16ps	t2a-standard-16	100 GB
100,000 active IPs	r6g.8xlarge	E32ps	t2a-standard-32	400 GB

## System Requirements



## Operating System Requirements

This version of Tenable Security Center is available for:

- Red Hat Enterprise Linux 8 (RHEL 8), 64-bit
- Red Hat Enterprise Linux 9 (RHEL 9), 64-bit
- CentOS Stream 9, 64-bit
- Oracle Linux 8, 64-bit
- Oracle Linux 9, 64-bit

## SELinux Requirements

Tenable Security Center supports disabled, permissive, and enforcing mode Security-Enhanced Linux (SELinux) policy configurations.

- Disabled and permissive mode policies typically do not require customization to interact with Tenable Security Center.
- Enforcing mode policies require customization to interact with Tenable Security Center. For more information, see [Customize SELinux Enforcing Mode Policies for Tenable Security Center Director](#).

**Note:** Tenable recommends testing your SELinux configurations before deploying on a live network.

## Secure Environment Requirements

Tenable recommends adhering to security best practices, including:

- Configure the operating system to ensure that security controls cannot be bypassed.
- Configure the network to ensure that the Tenable Security Center system resides in a secure network segment that is not accessible from the Internet.
- Configure network time synchronization to ensure that accurate time stamps are recorded in reports and log files.



**Note:** The time zone is set automatically during the installation process with no user interaction. The time zone configured in `php.ini` must be synchronized with the system time zone in `/etc/sysconfig/clock`.

- Configure access control to ensure that only authorized users have access to the operating system platform.
- Monitor system resources to ensure that adequate disk space and memory are available, as described in [Hardware Requirements](#). If system resources are exhausted, Tenable Security Center may not log audit data during system administrator troubleshooting or other activities. For more information about troubleshooting resource exhaustion, see [General Tenable Security Center Director Troubleshooting](#).

For information about secure administration of a Red Hat installation, see the *Red Hat Enterprise Linux Security Guide* for your version.

**Note:** As with any application, the security and reliability of the installation is dependent on the environment that supports it. It is strongly recommended that organizations deploying Tenable Security Center have an established and applied IT management policy that covers system administration integrity, resource monitoring, physical security, and disaster recovery.

## Dependencies

All dependencies must be installed on the system prior to installing the Tenable Security Center package. While they are not all required by the installation RPM file, some functionality of Tenable Security Center may not work properly if the packages are not installed.

- Either OpenJDK or the Oracle Java JRE along with their accompanying dependencies must be installed on the system along with any additional Java installations removed for reporting to function properly.
- You must upgrade pyTenable to version 1.4.2 or later.
- To run Tenable Security Center, you must install binutils and initscripts. If you try to migrate from Tenable Security Center 5.23.x or earlier to a current version of Tenable Security Center on a system that does not have binutils or initscripts installed, the migration will fail.

**Note:** Tenable recommends using the latest stable production version of each package.



**Note:** Tenable does not recommend forcing the installation without all required dependencies. If your version of Red Hat or CentOS is missing certain dependencies, it will cause problems that are not readily apparent with a wide variety of functions. Tenable Support has observed different types of failure modes for Tenable Security Center when dependencies are missing.

For a list of required packages, run the following command against the Tenable Security Center RPM file:

```
# yum deplist SecurityCenter-x.x.x-el6.x86_64.rpm
```

- or -

```
# dnf deplist SecurityCenter-x.x.x-el8.x86_64.rpm
```

To determine which version of a dependency is installed on your system, run the following command for each of the packages (replace “libtool” with the appropriate package):

```
# yum list installed | grep libtool
```

- or -

```
# dnf list installed | grep libtool
```

If one of the prerequisite packages is missing, it can be installed using the “yum” or “dnf” package managers. For example, install Java 1.8.0 with “yum” using the command below:

```
# yum -y install java-1.8.0-openjdk.x86_64
```

## Tenable Security Center Communications and Directories

The following table summarizes the components’ primary directories and communication methods.

**Note:** Tenable Security Center does not support using symbolic links for /opt/sc/. You can use symbolic links within /opt/sc/ subdirectories if instructed by Tenable Security Center documentation or Tenable Support.



Tenable Security Center Directories	
Installation Directory	/opt/sc
User Data	/opt/sc/orgs/<Organization Serial Number>
Repositories	/opt/sc/repositories/<Repository Number>
Admin Logs	/opt/sc/admin/logs/
Organization Logs	/opt/sc/orgs/<Organization Number>/logs/
Communication Interfaces	<ul style="list-style-type: none"><li>• User Access – HTTPS</li><li>• Feed Updates – Acquired over SSL from Tenable servers directly to Tenable Security Center or for <a href="#">offline installation</a>. Plugin packages are secured via 4096-bit RSA digital signatures.</li></ul> <p>For more information, see <a href="#">Port Requirements</a>.</p>

For information about data encryption in Tenable Security Center, see [Encryption Strength](#).

## Tenable Security Center Director Version Requirements

You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.

## Customize SELinux Enforcing Mode Policies for Tenable Security Center Director

Security-Enhanced Linux (SELinux) enforcing mode policies require customization to interact with Tenable Security Center Director.

Tenable Support does not assist with customizing SELinux policies, but Tenable recommends monitoring your SELinux logs to identify errors and solutions for your policy configuration.

Before you begin:



- Install the SELinux `sealert` tool in a test environment that resembles your production environment.

To monitor your SELinux logs to identify errors and solutions:

1. Run the `sealert` tool, where `/var/log/audit/audit.log` is the location of your SELinux audit log:

```
sealert -a /var/log/audit/audit.log
```

The tool runs and generates a summary of error alerts and solutions. For example:

```
SELinux is preventing /usr/sbin/sshd from write access on the sock_file /dev/log
SELinux is preventing /usr/libexec/postfix/pickup from using the rlimitinh access
on a process.
```

2. Execute the recommended solution for each error alert.
3. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director restarts.

4. Run the `sealert` tool again to confirm you resolved the error alerts.

Use `/dev/random` for Random Number Data Generation

**Required Tenable Security Center User Role:** Root user

If your organization requires Tenable Security Center Director to use `/dev/random` instead of `/dev/urandom` to generate random number data for secure communication functions, modify the random data source using an environment variable.

Unlike `/dev/urandom`, `/dev/random` blocks HTTPS and SSL/TLS functions if there is not enough entropy to perform the functions. The functions resume after the system generates enough entropy.

**Note:** If `/dev/random` blocks during an installation or upgrade, the system waits up to 10 minutes for more entropy to be generated before halting the operation.

Tenable does not recommend using `/dev/random` unless required by your organization.





To use `/dev/random` for random number data generation in Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. In the CLI in Tenable Security Center Director, run the following command:

```
export TSC_ENTROPY_CHECK=true
```

Tenable Security Center Director recognizes the environment variable and uses `/dev/random`.

What to do next:

- Install or upgrade Tenable Security Center Director in order for your changes to take effect, as described in [Install Tenable Security Center Director](#) or [Upgrade Tenable Security Center Director](#).

## Tenable Security Center Director Database Journaling Modes

By default, Tenable Security Center Director databases that can significantly impact performance use write-ahead logging (WAL) journaling mode. All other databases use DELETE mode. Tenable Security Center Director also supports converting WAL journaling mode databases to DELETE mode.

For Tenable Security Center installations where WAL is not enabled, enabling WAL may resolve issues with excessive database locks. If your Tenable Security Center Director does not experience database locking issues, Tenable recommends leaving your Tenable Security Center Director databases in the default journaling mode.

Tenable strongly recommends performing a backup before converting database journaling modes and performing regular backups after converting database journaling modes. For more information, see [Backup and Restore](#).

For general information about SQLite3 database journaling modes, see the [SQLite3 documentation](#).

For more information, see:

- [Enable Write-Ahead Logging](#)
- [Disable Write-Ahead Logging](#)



**Note:** If you previously converted one or more Tenable Security Center Director databases to WAL journaling mode without using the `convertDatabaseMode.php` script, you must use the `convertDatabaseMode.php` script to ensure your Tenable Security Center Director databases are fully converted to WAL journaling mode.

## WAL Requirements

**Note:** Write-ahead logging mode typically uses more disk space than DELETE mode. Consider your disk space availability before enabling write-ahead logging. Tenable recommends the same amount of disk space that is occupied by the database.

In addition to the [requirements](#) to run Tenable Security Center Director, your Tenable Security Center Director installation must be running Tenable Security Center Director 5.19.x or later.

## Databases Affected

Enabling or disabling WAL converts the database journaling mode for the following Tenable Security Center Director databases:

- `/opt/sc/application.db`
- `/opt/sc/hosts.db`
- `/opt/sc/jobqueue.db`
- `/opt/sc/plugins.db`
- `/opt/sc/remediationHierarchy.db`
- `/opt/sc/orgs/<orgID>/organization.db` (for each organization in your Tenable Security Center Director)
- `/opt/sc/orgs/<orgID>/assets.db` (for each organization in your Tenable Security Center Director)

The `convertDatabaseMode.php` script only converts the database journaling mode for Tenable Security Center Director databases that can significantly impact performance.

Enable Write-Ahead Logging

**Required Tenable Security Center User Role:** Root user



**Note:** This topic assumes a basic understanding of Linux.

You can use the `convertDatabaseMode.php` script to enable write-ahead logging (WAL) journaling mode for Tenable Security Center Director databases. Enabling WAL may resolve issues with excessive database locks. If your Tenable Security Center Director does not experience database locking issues, Tenable recommends leaving your Tenable Security Center Director databases in the default DELETE journaling mode.

For more information, see [Tenable Security Center Director Database Journaling Modes](#).

Before you begin:

- Confirm your Tenable Security Center Director installation meets the requirements to enable WAL. For more information, see [WAL Requirements](#).
- Write-ahead logging mode typically uses more disk space than DELETE mode. Consider your disk space availability before enabling write-ahead logging. Tenable recommends the same amount of disk space that is occupied by the database.
- Perform a backup of Tenable Security Center Director, as described in [Perform a Backup](#).

To enable WAL:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).
3. In the CLI in Tenable Security Center Director, run the following command to start the `convertDatabaseMode.php` script:

```
/opt/sc/support/bin/php /opt/sc/src/tools/convertDatabaseMode.php -m WAL
```

The script runs.

4. If the script detects any running `tns` user processes, repeat the following steps for each `tns` user process detected:



- a. Follow the prompts in the error output to halt the `tns` user process.

Example error output:

```
Error! The Tenable Security Center process with PID '10135' is still running
and needs to be halted before this script can be executed successfully.
  Command: /opt/sc/support/bin/php -f /opt/sc/daemons/Jobd.php
Bailing with 146.
```

- b. Run the following command to restart the `convertDatabaseMode.php` script:

```
/opt/sc/support/bin/php /opt/sc/src/tools/convertDatabaseMode.php -m WAL
```

The script restarts.

Tenable Security Center Director converts supported databases to WAL journaling mode. For more information, see [Databases Affected](#).

5. Start Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

What to do next:

- Perform regular backups of Tenable Security Center Director, as described in [Perform a Backup](#).

Disable Write-Ahead Logging

**Required Tenable Security Center User Role:** Root user

**Note:** This topic assumes a basic understanding of Linux.

If you experience issues with write-ahead logging (WAL), disable WAL by reverting your Tenable Security Center Director databases to DELETE journaling mode. For more information, see [Tenable Security Center Director Database Journaling Modes](#).

Before you begin:

- Perform a backup of Tenable Security Center Director, as described in [Perform a Backup](#).

To disable WAL:



1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).
3. In the CLI in Tenable Security Center Director, run the following command to start the `convertDatabaseMode.php` script:

```
/opt/sc/support/bin/php /opt/sc/src/tools/convertDatabaseMode.php -m DELETE
```

The script runs.

4. If the script detects any running `tns` user processes, repeat the following steps for each `tns` user process detected:
  - a. Follow the prompts in the error output to halt the `tns` user process.

Example error output:

```
Error! The Tenable Security Center process with PID '10135' is still running
and needs to be halted before this script can be executed successfully.
  Command: /opt/sc/support/bin/php -f /opt/sc/daemons/Jobd.php
Bailing with 146.
```

- b. Run the following command to restart the `convertDatabaseMode.php` script:

```
/opt/sc/support/bin/php /opt/sc/src/tools/convertDatabaseMode.php -m DELETE
```

The script restarts.

Tenable Security Center Director converts supported databases to DELETE journaling mode. For more information, see [Databases Affected](#).

5. Start Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

What to do next:

- Perform regular backups of Tenable Security Center Director, as described in [Perform a Backup](#).



## License Requirements

This topic breaks down the licensing process for Tenable Security Center as a standalone product. It also explains how assets are counted, lists add-on components you can purchase, and describes what happens during license overages or expiration.

## Tenable Security Center Versions

Tenable Security Center has two versions:

- **Tenable Security Center** — Includes Tenable Network Monitor in discovery mode and unlimited Tenable Nessus scanners.
- **Tenable Security Center+** — Includes all of the above plus Tenable Network Monitor with vulnerability detection and metrics such as [Asset Exposure Score \(AES\)](#) and [Asset Criticality Rating \(ACR\)](#).

Tenable Security Center Director is available for both versions. Tenable Security Center Director is an add-on with which you can manage multiple Tenable Security Center instances from one location. For more information, see the [Tenable Security Center Director User Guide](#).

**Note:** You cannot upgrade a Tenable Security Center license to a Tenable Security Center Director license or downgrade a Tenable Tenable Security Center Director license to a Tenable Security Center license.

## Licensing Tenable Security Center

To use any version of Tenable Security Center, you purchase licenses based on your organizational needs and environmental details. Tenable Security Center assigns those licenses to your *assets*, which are assessed hosts from Tenable Cloud Security or imported from other Tenable products.

When your environment expands, so does your asset count, so you purchase more licenses to account for the change. Tenable licenses use progressive pricing, so the more you purchase, the lower the per-unit price. For prices, contact your Tenable representative.

**Note:** Tenable offers simplified pricing to managed security service providers (MSSPs). To learn more, contact your Tenable representative.

## How Assets are Counted



Tenable Security Center licenses are valid for specific hosts and a maximum number of active assets identified by IP address or UUID. Assets count towards your license depending on how Tenable Security Center discovers them. In general, assets do not count unless they have been assessed for vulnerabilities.

For example, if you purchase a 500 asset license, you can perform host discovery on your network, but you cannot assess more than 500 assets. For more information about discovery and assessment scanning, see [Scanning Overview](#) in the *Tenable Security Center User Guide*.

The following table explains when assets count towards your license.

Counted Towards Your License	Not Counted Towards Your License
<ul style="list-style-type: none"><li>Assets from active scans.</li><li>Assets from Tenable Network Monitor instances not in discovery mode.</li><li>Assets in offline or remote repositories that you downloaded using the same Tenable Security Center instance or license.</li></ul> <div><b>Note:</b> In agent or IPv4 repositories, each single IP address or UUID counts once toward your license, even if it was scanned via multiple methods or stored in multiple repositories.  In universal repositories, each asset with a UUID is counted toward your license. For example, if an asset in an IPv4 repository does not have a UUID, and the same asset is stored in a universal repository with a UUID, the asset is counted twice.</div> <div><b>Note:</b> If you use an alternative port scanner, Tenable Security Center counts the detected IP addresses against your license.</div>	<ul style="list-style-type: none"><li>Assets present only from imports to offline or remote repositories.</li><li>Assets present only from Tenable Network Monitor instances in discovery mode.</li><li>Assets in offline or remote repositories that you downloaded using the same Tenable Security Center instance with a different license.</li><li>Assets in offline or remote repositories that you downloaded using a different Tenable Security Center instance and license.</li><li>In the latest versions of Tenable Security Center and Tenable Security Center Director, the following excluded plugins:  <b>Tenable Nessus</b> – 10180, 10287, 10335, 11219, 11933, 11936, 12053,</li></ul>



Counted Towards Your License	Not Counted Towards Your License
	14272, 14274, 19506, 22964, 33812, 33813, 34220, 34277, 45590, 54615, 87413, 112154, 161455, 179042, 209654, and 204872.  <b>Tenable Network Monitor</b> — 0, 12, 18, 19, 20, 113, and 132.

**Note:** In the context of this table, assets are differentiated by the type of repository the data is stored in. For example:

- in IPv4 and IPv6 repositories, *assets* are *IP addresses*.
- in agent repositories, *assets* are *agents*.
- in universal repositories, *assets* are *hosts*.

For more information, see [Asset Tracking in Tenable Security Center](#).

## Tenable Security Center Components

You can customize Tenable Security Center for your use case by adding components. Some components are add-ons that you purchase.

Version	Included with Purchase	Add-on Component
<b>Tenable Security Center</b>	<ul style="list-style-type: none"><li>• One console (or more with additional IP addresses).</li><li>• Tenable Network Monitor in discovery mode.</li><li>• Tenable Nessus scanners.</li></ul>	<ul style="list-style-type: none"><li>• Cloud Tenable Agents.</li><li>• Tenable Network Monitors in high-performance mode.</li><li>• (Subscription-only) Additional consoles.</li><li>• (Subscription-only) Security Center Lab License.</li><li>• Tenable Web App Scanning, to scan web applications with a Tenable Nessus scanner in</li></ul>





	<ul style="list-style-type: none"><li>• Vulnerability Probability Rating (VPR).</li><li>• (Subscription-only) The same number of on-premises Tenable Agents as your licensed assets, provided on request.</li></ul>	<p>Tenable Security Center. Scan up to your number of licensed fully qualified domain names (FQDNs). For more information, see <a href="#">Web App Scans</a> in the <i>Tenable Security Center User Guide</i>.</p> <div><p><b>Note:</b> If you already have a Tenable Security Center license and you upgrade to Tenable Security Center version 6.2.x or later, there are two ways to enable web application scans. Either update your Tenable Web App Scanning plugins manually in Tenable Security Center or wait for the nightly plugin update to run.</p></div> <ul style="list-style-type: none"><li>• (Subscription-only) Tenable Security Center Director.</li><li>• (Perpetual-only) On-Premises Tenable Agents, which Perpetual customers must purchase separately.</li><li>• Tenable Attack Surface Management.</li><li>• Vulnerability Intelligence.</li></ul>
<b>Tenable Security Center+</b>	<ul style="list-style-type: none"><li>• One console (or more with additional IP addresses).</li><li>• Tenable Network Monitor in discovery mode.</li><li>• Tenable Network Monitors with vulnerability detection.</li></ul>	<ul style="list-style-type: none"><li>• Cloud Tenable Agents.</li><li>• Tenable Network Monitors in high-performance mode.</li><li>• (Subscription-only) Additional consoles.</li><li>• (Subscription-only) Security Center Lab License.</li><li>• Tenable Web App Scanning, to scan web applications with a Tenable Nessus scanner in Tenable Security Center. Scan up to your number of licensed fully qualified domain</li></ul>



	<ul style="list-style-type: none"><li>• Tenable Nessus scanners.</li><li>• Asset Exposure Score (AES).</li><li>• Vulnerability Priority Rating (VPR).</li><li>• (Subscription-only) The same number of on-premises Tenable Agents as your licensed assets, provided on request.</li></ul>	<p>names (FQDNs). For more information, see <a href="#">Web App Scans</a> in the <i>Tenable Security Center User Guide</i>.</p> <div><p><b>Note:</b> If you already have a Tenable Security Center license and you upgrade to Tenable Security Center version 6.2.x or later, there are two ways to enable web application scans. Either update your Tenable Web App Scanning plugins manually in Tenable Security Center or wait for the nightly plugin update to run.</p></div> <ul style="list-style-type: none"><li>• (Subscription-only) Tenable Security Center Director.</li><li>• (Perpetual-only) On-Premises Tenable Agents, which Perpetual customers must purchase separately.</li><li>• Tenable Attack Surface Management.</li><li>• Vulnerability Intelligence.</li></ul>
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## Reclaiming Licenses

Tenable Security Center's license count updates when you delete a repository, run a license report, or upload a new license. If you set assets to age out, they are removed during nightly cleanup. If you configure your scan settings to remove unresponsive hosts, they are removed at scan import.

For more information, see [License Count](#) in the *Tenable Security Center Best Practices Guide*.

## Exceeding the License Limit

As you approach or exceed your license limit, a warning appears in the Tenable Security Center interface. If you exceed your limit, Tenable disables your access to Tenable Security Center. To upgrade your license, contact your Tenable representative.

## Expired Licenses



The Tenable Security Center licenses you purchase are valid for the length of your contract. 30 days before your license expires, a warning appears in the user interface. During this renewal period, work with your Tenable representative to add or remove products or change your license count.

After your license expires, your Tenable products and components are affected as follows:

- **Tenable Security Center Console (Perpetual license)** – The software remains fully functional. All user data is accessible.
- **Tenable Security Center Console (Subscription license)** – To access the console, you must enter a new license key. Once you enter a new license key, normal operation resumes.
- **Tenable Nessus (Perpetual license)** – When your maintenance period expires, plugin updates are no longer available. After 90 days, Tenable Nessus stops working and you cannot perform new scans. Because Tenable Security Center stops receiving feeds, the Tenable Nessus scanners managed by your managed Tenable Security Center instances no longer receive updates and also stop working.
- **Tenable Network Monitor (Perpetual license)** – After 30 days with no updates, new data is no longer processed.

## Working with License Keys

The following sections explain how to work with Tenable license keys and link to additional details.

### Get a Tenable Security Center License Key

To get a Tenable Security Center license key, enter the hostname of the installation machine in a form on the [Tenable Community](#) site, as described in the [Tenable Community Guide](#). You can also email the key to [licenses@tenable.com](mailto:licenses@tenable.com). In both cases, you receive a Tenable Security Center license key to use when activating your products.

**Tip:** To obtain the hostname of the installation machine, in a system shell prompt, type `hostname`.

You can also use the install UUID in place of the hostname. The install UUID appears on the license activation page of the initial setup wizard, and is also available on disk in the install log and in the `install-uuid.txt` file.

### Add or Update a Tenable Security Center License Key



In most cases, adding a license key to Tenable Security Center or its attached products requires the Tenable Security Center console to contact a product registration server. The server connection is encrypted, as described in [Encryption Strength](#).

**Tip:** To learn which Tenable sites to allow through your firewall, see the [Tenable Knowledge Base](#).

**Note:** For instructions to use in offline or air-gapped environments, see [Offline Plugin and Feed Updates for Tenable Security Center](#).

See the following topics for instructions to upload a new license key or update an existing one:

- [Quick Setup](#) – Upload a new Tenable Security Center license and add activation codes for any attached products.
- [Apply a New License](#) – Upload a new license for attached Tenable products only.
- [Update an Existing License](#) – Update an existing Tenable Security Center license or existing attached Tenable product licenses.

## Apply a New License

**Required Tenable Security Center User Role:** Administrator

To apply a license for an additional Tenable product, add the license activation code. To update a license for an existing Tenable product, see [Update an Existing License](#).

For general information about licensing, see [License Requirements](#). For information about adding a license during quick setup, see [Quick Setup](#).

To download Tenable Security Center, see the [Tenable Security Center downloads](#) page.

To apply a new Tenable Nessus or Tenable Network Monitor license:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **License** tile.



The **License Configuration** page appears.

4. Click the product box for the license you want to apply.
5. In the box, type the activation code for the product.
6. Click **Register**.

Tenable Security Center updates the page to reflect the activation code status:

- Valid Code: A green box with a check mark.
- Invalid Code: A red box with an X.

If the code is valid, Tenable Security Center initiates a plugin download.

## Update an Existing License

**Required Tenable Security Center User Role:** Administrator

**Tip:** Tenable rebranded Tenable Security Center Continuous View as Tenable Security Center+.

If you need to replace your Tenable Security Center Director license or the license activation code for your Tenable Nessus or Tenable Network Monitor license, update the license.

To apply a new license for another Tenable product for the first time, see [Apply a New License](#).

You can update your Tenable Security Center Director license in an externally connected or air-gapped environment. Tenable Security Center Director requires an internet connection to validate product licenses for Tenable Nessus or Tenable Network Monitor.

For instructions on how to install a Tenable Security Center patch, see [Install a Patch](#).

To download Tenable Security Center, see the [Tenable Security Center Downloads](#) page.

For general information about licensing, see [License Requirements](#).

To update a license:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Configuration**.

The **Configuration** page appears.



3. Click the **License** tile.

The **License Configuration** page appears.

4. To replace your Tenable Security Center Director license, in the **Tenable Security Center Director License** section:
  - a. Click **Update License**.
  - b. Click **Choose File** and browse to the license file you want to upload.

Tenable Security Center Director applies the new license.

5. To replace an activation code for an integrated product license, in the **Activation Codes** section:
  - a. Click the green check mark.
  - b. Click **Reset Activation Code**.
  - c. In the box, paste your product license activation code.
  - d. Click **Register**.

Tenable Security Center Director communicates with the Tenable product registration server to validate your license activation code.

If the code is valid, Tenable Security Center Director applies the new license and initiates a plugin download.

## Port Requirements

Tenable Security Center port requirements include Tenable Security Center-specific, Tenable Security Center Director-specific, and application-specific requirements.

### Tenable Security Center Instance

Your Tenable Security Center instances require access to specific ports for inbound and outbound traffic.

#### Inbound Traffic

You must allow inbound traffic to the following ports.



Port	Traffic
TCP 22	Performing remote repository synchronization with another Tenable Security Center.
TCP 443	Accessing the Tenable Security Center interface. Communicating with Tenable Security Center Director instances. Communicating with OT Security instances. Performing the initial key push for remote repository synchronization with another Tenable Security Center. Interacting with the API.
TCP 8837	Communicating with Sensor Proxy.

## Outbound Traffic

You must allow outbound traffic to the following ports.

Port	Traffic
TCP 22	Synchronizing repositories from other Tenable Security Center instances.
TCP 25	Sending SMTP email notifications.
TCP 389	Communicating with customer-managed LDAP servers.
TCP 443	Communicating with Tenable One for synchronization. Communicating with the <code>plugins.nessus.org</code> server for plugin updates.
TCP 465	Sending SMTP email notifications.
TCP 587	Sending SMTP email notifications.
TCP 636	Communicating with customer-managed LDAP servers.
TCP 8834	Communicating with Tenable Nessus.
TCP 8835	Communicating with Tenable Network Monitor.
UDP 53	Performing DNS resolution.



**Note:** If your Tenable Security Center instance is not configured as an offline instance, you must also allow outbound traffic to the Tenable websites listed in the [Which Tenable sites should I allow?](#) article in the Knowledge Base.

SSL inspection on traffic to and from the Tenable update sites is not supported. While access to the update sites can be established, it may not be able to complete updates due to SSL inspection of the traffic.

## Tenable Security Center Director

Your Tenable Security Center Director instances require access to specific ports for inbound and outbound traffic.

### Inbound Traffic

You must allow inbound traffic to the following ports.

Port	Traffic
TCP 22	Performing remote repository synchronization with another Tenable Security Center.
TCP 443	Accessing the Tenable Security Center Director interface. Communicating with managed Tenable Security Center instances. Accessing the Tenable Security Center API interface. Performing automatic SSH key setup to synchronize remote repositories with another Tenable Security Center.

### Outbound Traffic

You must allow outbound traffic to the following ports.

Port	Traffic
TCP 25	Sending SMTP email notifications.
TCP 443	Communicating with the <code>plugins.nessus.org</code> server for plugin updates. Performing automatic SSH key setup to synchronize remote repositories with another Tenable Security Center.





Port	Traffic
TCP 465	Sending SMTP email notifications.
TCP 587	Sending SMTP email notifications.
UDP 53	Performing DNS resolution.

**Note:** If your Tenable Security Center Director instance is not configured as an offline instance, you must also allow outbound traffic to the Tenable websites listed in the [Which Tenable sites should I allow?](#) article in the Knowledge Base.

SSL inspection on traffic to and from the Tenable update sites is not supported. While access to the update sites can be established, it may not be able to complete updates due to SSL inspection of the traffic.

## Tenable Nessus Scanner

Your Tenable Nessus instances require access to specific ports for inbound and outbound traffic.

### Inbound Traffic

You must allow inbound traffic to the following ports.

Port	Traffic
TCP 8834	Accessing the Tenable Nessus interface. Communicating with Tenable Security Center. Interacting with the API.

### Outbound Traffic

You must allow outbound traffic to the following ports.

Port	Traffic
TCP 25	Sending SMTP email notifications.
TCP 443	Communicating with Tenable Vulnerability Management (sensor.cloud.tenable.com or sensor.cloud.tenablecloud.cn).



Port	Traffic
	Communicating with the <code>plugins.nessus.org</code> server for plugin updates.
UDP 53	Performing DNS resolution.

## Tenable Agent

Your Tenable Agents require access to specific ports for outbound traffic.

### Outbound Traffic

You must allow outbound traffic to the following ports.

Port	Traffic
TCP 443	Communicating with Tenable Vulnerability Management.
TCP 8834	Communicating with Tenable Nessus Manager. <b>Note:</b> The default Tenable Nessus Manager port is TCP 8834. However, this port is configurable and may be different for your organization.
UDP 53	External DNS support for the host that Tenable Agent is installed on. Several plugins use DNS resolution in their operation.

**Note:** Operating system installation commands, such as `dnf install`, may require other connections besides Tenable Vulnerability Management or Tenable Nessus Manager. Consult your operating system administrator for more information.

## Tenable Network Monitor

Your Tenable Network Monitor instances require access to specific ports for inbound and outbound traffic.

### Inbound Traffic

You must allow inbound traffic to the following ports.

Port	Traffic
TCP 8835	Accessing the Tenable Network Monitor interface.



Port	Traffic
	Communicating with Tenable Security Center.

## Outbound Traffic

You must allow outbound traffic to the following ports.

Port	Traffic
TCP 443	Communicating with Tenable Vulnerability Management (sensor.cloud.tenable.com or sensor.cloud.tenablecloud.cn).  Communicating with the <code>plugins.nessus.org</code> server for plugin updates.
TCP 601	Communications for reliable TCP syslog forwarding.
UDP 53	Performing DNS resolution.
UDP 514	Communications for UDP syslog forwarding.

## Browser Requirements

**Note:** Tenable recommends using the newest available version of your browser.

**Note:** Tenable Security Center Director does not officially support any browser extensions. If you encounter issues related to browser extensions, please report them to the relevant browser extension developer for further assistance.

You can access the Tenable Security Center Director user interface using the following browsers:

- Mozilla Firefox 87 or later
- Google Chrome 89 or later
- Mac OS Safari 14.02 or later
- Microsoft Edge 99 or later

## Tenable Integrated Product Compatibility



The versions of Tenable products tested with Tenable Security Center Director 6.6.x are available in the release notes. For more information, see the [Tenable Security Center Release Notes](#) for your version.

## Large Enterprise Deployments

You may have a number of unique technical and business requirements to consider when planning a large enterprise deployment of Tenable Security Center. If your organization scans 100,000 or more IP addresses, consider the information in the [Tenable Security Center Large Enterprise Deployment Guide](#) when planning, configuring, and operationalizing your Tenable Security Center deployment.

## External PostgreSQL with Tenable Security Center Director

**Note:** When reviewing external PostgreSQL documentation, ensure that you use the appropriate documentation version for the PostgreSQL version you deployed.

### Requirements

If your Tenable Security Center Director installation manages more than 100,000 assets, Tenable strongly recommends that you use an external PostgreSQL server for performance. Depending on deployment complexity or usage, Tenable Support may recommend that you use an external PostgreSQL server for improved performance, even if you manage fewer than 100,000 assets.

### Migration Between Internal and External PostgreSQL

You can use the [Tenable-provided script and instructions](#) to migrate between an internal and external PostgreSQL implementations with Tenable Security Center Director.

### Responsibility Matrix

You are responsible for the following when you use an external PostgreSQL server with Tenable Security Center Director:

- Installing and configuring PostgreSQL
- Backing up PostgreSQL



- Securing PostgreSQL
- Patching and upgrading PostgreSQL

Tenable is responsible for:

- The Tenable Security Center Director database and structure within PostgreSQL
- Data integrity and database-level configuration

You must not access or modify the Tenable Security Center Director database within PostgreSQL directly.

## Installation

You may use any currently supported version of PostgreSQL. These include:

- PostgreSQL 13.x
- PostgreSQL 14.x
- PostgreSQL 15.x
- PostgreSQL 16.x (preferred)
- PostgreSQL 17.x

Tenable follows the [PostgreSQL lifecycle](#) and removes support after that major version's final version is released. For example, Tenable will not support PostgreSQL 13.x after November 2025.

Follow the [PostgreSQL documentation for installation instructions](#).

You may choose a managed (by a cloud vendor or other) instance of PostgreSQL, as long as you meet the requirements listed above.

**Note:** When you use an external PostgreSQL database and you uninstall Tenable Security Center Director, the associated PostgreSQL database remains. Contact your Database Administrator to remove the database properly and completely, and ensure you take and maintain any required backups.

## Configuration

### External PostgreSQL Resource Requirements



For hardware requirements for PostgreSQL with Tenable Security Center Director, see [Hardware Requirements](#)

The table below shows the sizing requirements for Tenable Security Center Director based on the asset count. Tenable uses this information to determine the appropriate PostgreSQL configuration parameters needed for optimal Tenable Security Center Director performance.

# of Hosts Managed by Tenable Security Center Director	CPU Cores	Memory	Minimum Disk Space Required for PostgreSQL Data
2,500 active IPs	4	16 GB RAM	20 GB
10,000 active IPs	8	32 GB RAM	50 GB
25,000 active IPs	16	64 GB RAM	100 GB
100,000 active IPs	32	128 GB RAM	400 GB
250,000 active IPs	64	256 GB RAM	1 TB

You can set PostgreSQL configuration items using various methods. [Review the PostgreSQL documentation](#) for information on how to apply these configuration changes.

The following are recommended settings for various Tenable Security Center Director sizes:

#### **4 vCPUs/16 GB RAM, Cloud Equivalent- m6g.xlarge (2,500 active IPs and ~2 million Vulnerabilities)**

```
max_connections=50
max_worker_processes=4
max_parallel_workers_per_gather=2
max_parallel_maintenance_workers=2
max_parallel_workers=4
shared_buffers=4GB
work_mem=128MB
maintenance_work_mem=1024MB
```



```
effective_cache_size=12GB
default_statistics_target=100
checkpoint_completion_target=0.9
wal_buffers=128MB
max_wal_size=6GB
min_wal_size=3GB
checkpoint_timeout=15min
wal_writer_flush_after=4MB
wal_writer_delay=10ms
effective_io_concurrency=200
random_page_cost=1.1
```

### **8 vCPUs/32 GB RAM, Cloud Equivalent- m6g.2x large (10,000 active IPs and ~8 million Vulnerabilities)**

```
max_connections=50
max_worker_processes=8
max_parallel_workers_per_gather=4
max_parallel_maintenance_workers=4
max_parallel_workers=8
shared_buffers=8GB
work_mem=256MB
maintenance_work_mem=2048MB
effective_cache_size=24GB
default_statistics_target=100
checkpoint_completion_target=0.9
wal_buffers=128MB
max_wal_size=6GB
min_wal_size=3GB
checkpoint_timeout=15min
wal_writer_flush_after=4MB
wal_writer_delay=10ms
effective_io_concurrency=200
random_page_cost=1.1
```

### **16 vCPUs/64 GB RAM, Cloud Equivalent- m6g.4x large (25,000 active IPs)**



```
max_connections=50
max_worker_processes=16
max_parallel_workers_per_gather=4
max_parallel_maintenance_workers=4
max_parallel_workers=16
shared_buffers=32GB
work_mem=1024MB
maintenance_work_mem=2048MB
effective_cache_size=96GB
default_statistics_target=100
checkpoint_completion_target=0.9
wal_buffers=128MB
max_wal_size=6GB
min_wal_size=3GB
checkpoint_timeout=15min
wal_writer_flush_after=4MB
wal_writer_delay=10ms
effective_io_concurrency=200
random_page_cost=1.1
```

### **32 vCPUs/128 GB RAM, Cloud Equivalent- m6g.8x large (70,000 Hosts and ~40 million Vulnerabilities)**

```
max_connections=50
max_worker_processes=32
max_parallel_workers_per_gather=4
max_parallel_maintenance_workers=4
max_parallel_workers=32
shared_buffers=32GB
work_mem=1024MB
maintenance_work_mem=2048MB
effective_cache_size=96GB
default_statistics_target=100
checkpoint_completion_target=0.9
wal_buffers=128MB
max_wal_size=6GB
min_wal_size=3GB
checkpoint_timeout=15min
wal_writer_flush_after=4MB
```





```
wal_writer_delay=10ms
effective_io_concurrency=200
random_page_cost=1.1
```

### **64 vCPUs/256 GB RAM, Cloud Equivalent- m6g.16x large**

```
max_connections=50
max_worker_processes=64
max_parallel_workers_per_gather=4
max_parallel_maintenance_workers=4
max_parallel_workers=64
shared_buffers=64GB
work_mem=1024MB
maintenance_work_mem=2048MB
effective_cache_size=192GB
default_statistics_target=100
checkpoint_completion_target=0.9
wal_buffers=128MB
max_wal_size=6GB
min_wal_size=3GB
checkpoint_timeout=15min
wal_writer_flush_after=4MB
wal_writer_delay=10ms
effective_io_concurrency=200
random_page_cost=1.1
```

## Security

Tenable recommends that you implement an applicable PostgreSQL security baseline—such as the Center for Internet Security (CIS) PostgreSQL Benchmark or the Crunchy Data PostgreSQL STIG—if you host your own PostgreSQL instance. Tenable does not provide support for implementing these benchmarks, and some configurations may impact Tenable Security Center Director performance or functionality.

Implementation of security benchmarks may require adding external extensions, for example, `pgaudit` and `pgcrypto`, to PostgreSQL. Tenable does not provide support or documentation on how to install or configure these extensions.



## Patching and Upgrades

**Note:** You must shut down Tenable Security Center Director before you patch or upgrade PostgreSQL.

Tenable recommends you do the following:

- Monitor [PostgreSQL Security Updates](#) and apply the relevant security patches after testing.
- Take a backup of the Tenable Security Center Director database before you patch or upgrade PostgreSQL.

## Connect an External PostgreSQL Server

You must configure an external PostgreSQL database if your Tenable Security Center Director installation meets any of the following criteria:

- Your Tenable Security Center Director instance has over 100,000 assets.
- Your Tenable Security Center Director instance is a non-rpm installation.

**Note:** Tenable Security Center Director does not support multiple Tenable Security Center Director instances using the same database name in the same PostgreSQL server. The database name should be unique in the PostgreSQL instance.

**Note:** Tenable Security Center Director supports PostgreSQL versions 13.x through 17.x.

For information about how to configure a PostgreSQL server, see the [PostgreSQL documentation](#).

For sizing recommendations, see the [Hardware Requirements](#) and [Cloud Requirements](#).

To connect your Tenable Security Center Director instance to your PostgreSQL server:

1. Before you install or upgrade Tenable Security Center Director, populate the following environment variables:

**Note:** You must set the environment variables with a root or tns user account.

- SC\_PG\_HOST (required)- The IP address or hostname of the external PostgreSQL server.
- SC\_PG\_USER (required) - The PostgreSQL username.



**Note:** The PostgreSQL user account must have CREATEDB and read/write permissions.

- **SC\_PG\_PORT** (required) - The port number. The default port is **5432**.
- **SC\_PG\_PASSWORD** - The password for the PostgreSQL user. If you do not provide a password, Tenable Security Center Director will assume an empty password for the external PostgreSQL user.
- **SC\_PG\_DATABASE** (required) - The database name for the Tenable Security Center Director data. The default database name is **SecurityCenter**.
- **SC\_PG\_CA\_PATH** - The absolute path to the cert file. When you specify the location of the root certificate, Tenable Security Center Director verifies the root certificate used by PostgreSQL.
- **SC\_PG\_REQUIRE\_TLS** - Whether PostgreSQL will use SSL. Available options are *NULL*, *require*, and *prefer*. If this variable is not set, then the Tenable Security Center Director client `ssl_mode` will be set to *prefer*.

After you install or upgrade to Tenable Security Center Director 6.5.0 or later, then Tenable Security Center Director will attempt to connect to the PostgreSQL instance using the values provided and create a database with the specified database name.

## Backup and Restore Tenable Security Center Director with an External PostgreSQL

For more information about PostgreSQL with Tenable Security Center Director, see [External PostgreSQL with Tenable Security Center Director](#).

### Before you Begin

- Tenable recommends either a SQL Dump or a File System Level Backup for simplicity.
- Review the [PostgreSQL documentation on backups and restores](#).

Backup and Restore Tenable Security Center Director with an External PostgreSQL database:

1. [Stop Tenable Security Center Director](#).
2. Back up PostgreSQL according to the [PostgreSQL documentation](#).



3. [Back up the Tenable Security Center Director application.](#)
4. Restore PostgreSQL according to the [PostgreSQL documentation](#), and ensure the connection details are the same.
5. Install the Tenable Security Center Director RPM matching the backup version and architecture if needed.
6. [Restore Tenable Security Center](#) from the backup file you created in step 3.

## Installation and Upgrade

To perform a fresh installation of Tenable Security Center Director, see [Before You Install](#) and [Install Tenable Security Center Director](#).

To perform an upgrade of Tenable Security Center Director, see [Before You Upgrade](#) and [Upgrade Tenable Security Center Director](#).

To uninstall Tenable Security Center Director, see [Uninstall Tenable Security Center Director](#).

### Before You Install

**Note:** A basic understanding of Linux is assumed throughout the installation, upgrade, and removal processes.

## Understand Tenable Security Center and Tenable Security Center Director Licenses

Confirm your licenses are valid for your Tenable Security Center Director deployment. Tenable Security Center Director does not support an unlicensed demo mode.

For more information, see [License Requirements](#).

## Plan Your Tenable Security Center Director Deployment Version

You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center



Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.

If you have already installed and configured the Tenable Security Center instances you plan to manage with Tenable Security Center Director, do one of the following:

- Download and install the same version of Tenable Security Center Director that you are already running on your Tenable Security Center instances.
- Plan to upgrade your managed Tenable Security Center instances to the same version as your Tenable Security Center Director.

For more information about managing Tenable Security Center instances with Tenable Security Center Director, see [Tenable Security Center Director Deployments](#).

## Disable Default Web Servers

Tenable Security Center Director provides its own Apache web server listening on port 443. If the installation target already has another web server or other service listening on port 443, you must disable that service on that port or configure Tenable Security Center Director to use a different port after installation.

Identify which services, if any, are listening on port 443 by running the following command:

```
# ss -pan | grep ':443 '
```

If there are any services listening on port 443, you must either disable or run them on a different port.

## Modify Security Settings

Tenable Security Center Director supports disabled, permissive, and enforcing mode Security-Enhanced Linux (SELinux) policy configurations. For more information, see [SELinux Requirements](#).

## Perform Log File Rotation

The installation does not include a log rotate utility; however, the native Linux `logrotate` tool is supported post-installation. In most Red Hat environments, `logrotate` is installed by default. The following logs are rotated if the `logrotate` utility is installed:



- All files in `/opt/sc/support/logs` matching `*log`
- `/opt/sc/admin/logs/sc-error.log`

During an install/upgrade, the installer drops a file named `SecurityCenter` into `/etc/logrotate.d/` that contains log rotate rules for the files mentioned above.

Log files are rotated on a monthly basis. This file is owned by `root/root`.

## Allow Tenable Sites

To allow Tenable Security Center Director to communicate with Tenable servers for product updates and plugin updates, Tenable recommends adding Tenable sites to an allow list at the perimeter firewall. For more information, see the [knowledge base](#) article.

## Connect a PostgreSQL server

You must configure an external PostgreSQL database if your Tenable Security Center Director installation meets any of the following criteria:

- Your Tenable Security Center Director instance has over 100,000 assets.
- Your Tenable Security Center Director instance is a non-rpm installation.

Before you install or upgrade Tenable Security Center Director, you must configure some environment variables to connect the PostgreSQL server. For more information, see [Connect an External PostgreSQL Server](#).

## Install Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

**Note:** A basic understanding of Linux is assumed throughout the installation, upgrade, and removal processes.

**Caution:** When performing `sudo` installs, use `sudo -i` to ensure the proper use of environmental variables.

**Caution:** During the installation process, Tenable Security Center produces a log file in a temporary location: `/tmp/sc.install.log`. Once the installation process finishes, the file is stored here:



`opt/sc/admin/logs/install.log`. Do not remove or modify these files; they are important for ebugging in case of a failed installation.

**Note:** If your Tenable Security Center Director will manage more than 10,000 active IPs, you must [update the Apache configuration file](#) after you install and before you use Tenable Security Center Director.

**Note:** You must [connect an external PostgreSQL database](#) if your Tenable Security Center Director installation meets any of the following criteria:

- Your Tenable Security Center Director instance has over 100,000 assets.
- Your Tenable Security Center Director instance is a non-rpm installation.

For information about new features, resolved issues, third-party product updates, and supported upgrade paths, see the [release notes](#) for Tenable Security Center Director 6.6.x.

Before you begin:

- Complete system prerequisites, as described in [Before You Install](#).
- Download the installation RPM file from the [Tenable Security Center downloads](#) page. If necessary, depending on the operating system of the host, move the installation RPM file onto the host.
- Confirm the integrity of the installation RPM file by comparing the download checksum with the checksum on the [Tenable Security Center downloads](#) page, as described in the [knowledge base](#) article.
- If your organization requires Tenable Security Center to use `/dev/random` instead of `/dev/urandom` to generate random number data for secure communication functions, modify the random data source as described in [Use /dev/random for Random Number Data Generation](#).

To install Tenable Security Center Director:

1. On the host where you want to install Tenable Security Center Director, open the command line interface (CLI).
2. Run one of the following commands to install the RPM:



```
# yum install SecurityCenter-x.x.x-el6.x86_64.rpm
```

- or -

```
# dnf install SecurityCenter-x.x.x-el8.x86_64.rpm
```

Output similar to the following is generated:

```
# dnf install SecurityCenter-6.x.x-es6.x86_64.rpm
Preparing... ##### [100%]
 1:SecurityCenter ##### [100%]
Installing Nessus plugins ... complete
Applying database updates ... complete.
By default, SecurityCenter will listen for HTTPS requests on ALL available
interfaces. To complete your installation, please point your web browser to one of
the following URL(s):
https://x.x.x.x
Starting SecurityCenter services
[ OK ] SecurityCenter services: [ OK ]
#
```

The system installs the package into `/opt/sc` and attempts to start all required daemons and web server services.

**Tip:** In rare cases, a system restart is required after installation in order to start all services. For more information, see [Start, Stop, or Restart Tenable Security Center Director](#).

What to do next:

- If you are scanning more than 10,000 hosts, [update the Apache configuration file](#) before using Tenable Security Center Director.

## Quick Setup

The Tenable Security Center Director Quick Setup Guide walks through the following configurations:

After configuring, [Review](#) and confirm.





## License

**Note:** These settings are not available in Tenable Enclave Security.

Upload your Tenable Security Center Director license.

### Tenable Security Center Director License

1. Click **Choose File** to upload the Tenable Security Center Director license file you received from Tenable.

The file should follow the format:

<CompanyName>\_SC<IP Count>-<#>-<#>.key

2. Click **Activate**.

The page confirms successful upload and activation of a valid license.

### Activation Codes

Consider adding additional license activation codes to allow Tenable Security Center Director to update plugins:

- Tenable Security Center license activation code — required before adding any Tenable Nessus scanners. The Tenable Security Center license activation code allows Tenable Security Center to download plugins and update Tenable Nessus scanner plugins.

In the **Tenable Nessus** section, type the Tenable Security Center activation code and click **Register**.

- Tenable Network Monitor license activation code — required before using and managing attached Tenable Network Monitor scanners.

In the **Tenable Network Monitor** section, type the Tenable Network Monitor activation code and click **Register**.

Click **Next** to continue.

A plus (+) sign indicates that no license is applied for the product. A box with an X indicates an invalid activation code. Click on the plus (+) or X to add or reset a license activation code.



A box with a checkmark indicates a valid license is applied and that Tenable Security Center initiated a plugin download in the background.

The download may take several minutes and must complete before initiating any Tenable Nessus scans. After the download completes, the **Last Updated** date and time update on the Plugins page.

## Connect Tenable Security Center Instances

**Note:** These settings are not available in Tenable Enclave Security.

Connect the Tenable Security Center instances you want to monitor from Tenable Security Center Director. For information about the options you configure, see [Managed Tenable Security Center Instance Settings](#).

## Organization

**Note:** These settings are not available in Tenable Enclave Security.

An organization is a set of distinct users and groups and the resources they have available to them. For information about the options you can configure, see [Organizations](#).

You can configure one organization during initial setup. If you want to use multiple organizations, you must configure other organizations after the Quick Start.

## User

**Note:** These settings are not available in Tenable Enclave Security.

You must create one administrator and one security manager during initial setup. For more information, see [User Roles](#).

- Security manager – a user to manage the organization you just created. After you finish initial setup, the security manager can create other user accounts within the organization.
- Administrator – a user to manage Tenable Security Center. After you finish initial setup, the administrator can create other organizations and user accounts.

After creating the security manager user and setting the administrator password, click **Next** to finish initial setup. The **Admin Dashboard** page appears, where you can review login configuration data.



## Review

The review page displays your currently selected configurations. If you want to make further changes, click the links in the left navigation bar.

When you are finished, click **Confirm**.

## Before You Upgrade

**Note:** A basic understanding of Linux is assumed throughout the installation, upgrade, and removal processes.

### Tenable Security Center Director Upgrade Path

For more information about the upgrade paths to Tenable Security Center Director version 6.6.x, see the [Tenable Security Center Release Notes](#).

### Plan your Tenable Security Center Director Deployment Upgrade

You must run the same version of Tenable Security Center on your entire Tenable Security Center Director deployment, including Tenable Security Center Director and all managed Tenable Security Center instances that you connect to Tenable Security Center Director. Tenable Security Center Director cannot communicate with managed Tenable Security Center instances that are running a different version of Tenable Security Center.

If you upgrade Tenable Security Center Director, you must also upgrade your managed Tenable Security Center instances to the same version to avoid communication disruptions between Tenable Security Center Director and your managed Tenable Security Center instances.

For more information about managing Tenable Security Center instances with Tenable Security Center Director, see [Tenable Security Center Director Deployments](#).

### Java Version Requirements

If you have not installed the Oracle Java JRE or OpenJDK, Tenable Security Center Director displays the following warning:



[WARNING] SecurityCenter has determined that Oracle Java JRE and OpenJDK is not installed. One of two must be installed for SecurityCenter reporting to function properly.

You must install the latest version of Oracle Java JRE or OpenJDK to take full advantage of Tenable Security Center reporting.

## Halt or Complete Running Jobs

Tenable recommends stopping all running Tenable Security Center Director processes before beginning an upgrade. If processes are running (for example, Tenable Nessus scans), Tenable Security Center displays the following message along with the related process names and their PIDs:

SecurityCenter has determined that the following jobs are still running. Please wait a few minutes before performing the upgrade again. This will allow the running jobs to complete their tasks.

Stop the processes manually or retry the upgrade after the processes complete.

To stop processes running on Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director with the following command:

```
# /bin/systemctl stop SecurityCenter
```

Tenable Security Center Director stops.

3. In the CLI in Tenable Security Center Director, run the following command to view all running processes:

```
# ps -fu tns
```



4. If any processes are listed, run the following commands to stop them:

```
# killall -u tns
```

```
# killall httpd
```

5. If necessary, repeat step 4 to confirm all processes stopped.

## Perform a Tenable Security Center Director Backup

Perform a backup of Tenable Security Center Director before beginning your upgrade. For more information, see [Backup and Restore](#).

## Rename Your Mount Point

If the existing `/opt/sc` directory is or contains a mount point to another location, rename the mount point. During the RPM upgrade process, a message appears with information about the discovered mount point. Contact your system administrator for assistance.

## Upgrade Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

**Note:** This topic assumes a basic understanding of Linux.

**Caution:** During the upgrade process, Tenable Security Center produces a log file in a temporary location: `/tmp/sc.install.log`. Once the installation process finishes, the file is stored here: `/opt/sc/admin/logs/install.log`. Do not remove or modify these files; they are important for debugging in case of a failed upgrade.

**Caution:** If your plugin set is more than 30 days old, the upgrade will fail. Ensure you have updated your plugin set within the last 30 days before you upgrade Tenable Security Center Director.

For information about new features, resolved issues, third-party product updates, and supported upgrade paths, see the [release notes](#) for Tenable Security Center Director 6.6.x.

These steps describe how to upgrade to the latest version of Tenable Security Center Director from a previous version. You can also use these steps to upgrade from an early access version of Tenable Security Center Director.



**Note:** If you are upgrading from Tenable Security Center Director version 6.2.1 or earlier to version 6.3.x or later, you must [update the Apache configuration file](#) after you upgrade and before you use Tenable Security Center Director.

Before you begin:

1. Complete system prerequisites, as described in [Before You Upgrade](#).

**Note:** Tenable recommends creating a backup of your Tenable Security Center Director data before upgrading, as described in [Perform a Backup](#).

2. Download the upgrade RPM file from the [Tenable downloads](#) page. If necessary, depending on the operating system of the host, move the upgrade RPM file onto the host.
3. Confirm the integrity of the upgrade RPM file by comparing the download checksum with the checksum on the [Tenable downloads](#) page.
4. If your organization requires Tenable Security Center to use `/dev/random` instead of `/dev/urandom` to generate random number data for secure communication functions, modify the random data source as described in [Use /dev/random for Random Number Data Generation](#).

To upgrade to Tenable Security Center Director 6.6.x:

1. Log in to Tenable Security Center Director via the user interface.
2. Prepare the upgrade command you intend to run:
  - Use `yum` or `dnf` with the `upgrade` switch from the command line of the Tenable Security Center Director server.
  - Use `"sudo -i"` when performing `sudo` upgrades of Tenable Security Center Director to ensure the proper use of environmental variables.

For example:

```
# yum upgrade SecurityCenter-x.x.x-el6.x86_64.rpm
```

- or -



```
# dnf upgrade SecurityCenter-x.x.x-el8.x86_64.rpm
```

The upgrade begins. Tenable Security Center Director is not available until the upgrade finishes.

```
# dnf upgrade SecurityCenter-x.x.x-el6.x86_64.rpm
Preparing... ##### [100%]
Shutting down SecurityCenter services: [ OK ]
Backing up previous application files ... complete.
    1:SecurityCenter ##### [100%]

Applying database updates ... complete.
Beginning data migration.
Starting plugins database migration...complete.
(1 of 4) Converting Repository 1 ... complete.
(2 of 4) Converting Repository 2 ... complete.
(3 of 4) Converting Repository 3 ... complete.
(4 of 4) Converting Repository 4 ... complete.
Migration complete.
Starting SecurityCenter services: [ OK ]
~]#
```

What to do next:

- If you are upgrading from Tenable Security Center Director version 6.2.1 or earlier to Tenable Security Center Director version 6.3.x or later, [update the Apache configuration file](#) before using Tenable Security Center Director.
- (Optional) If you used custom Apache SSL certificates before upgrading Tenable Security Center Director, restore the custom SSL certificates, as described in [Restore Custom SSL Certificates](#).

Restore Custom SSL Certificates

**Required Tenable Security Center User Role:** Root user

If you used custom Apache SSL certificates before upgrading Tenable Security Center Director, you must restore the custom Apache SSL certificates after you upgrade Tenable Security Center Director.



Tenable Security Center Director creates a backup of the certificates during the upgrade process. Tenable Security Center Director copies the existing custom SSL certificates to the Apache configuration backup directory that the upgrade process creates in the `/tmp/[version].apache.conf-#####` directory. The exact name of the directory varies, but the system displays the name during the upgrade process and reports it in the `/opt/sc/admin/log/install.log` file.

Before you begin:

- Upgrade to a new version of Tenable Security Center Director, as described in [Upgrade Tenable Security Center Director](#).

To restore custom SSL certificates after upgrading Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. In the CLI in Tenable Security Center Director, run the following command:

```
# cp /tmp/[version].apache.conf-#####/SecurityCenter.cert
/opt/sc/support/conf/SecurityCenter.crt
```

3. Select **yes** to overwrite the existing file.
4. In the CLI in Tenable Security Center Director, run the following command:

```
# cp /tmp/[version].apache.conf-#####/SecurityCenter.pem
/opt/sc/support/conf/SecurityCenter.key
```

5. Select **yes** to overwrite the existing file.

**Caution:** Ensure that the newly copied files have permissions of 0640 and ownership of `tns:tns`.

6. Modify the `servername` parameter in `/opt/sc/support/conf/servername` to match the Common Name (CN) of the SSL certificate.

**Tip:** To obtain the CN, run the following command and note the `CN=` portion of the result.

```
# /opt/sc/support/bin/openssl verify /opt/sc/support/conf/SecurityCenter.crt
```





7. In the CLI in Tenable Security Center Director, run one of the following commands to restart the Apache server:

```
# /opt/sc/support/bin/apachectl restart
```

-or-

```
# service SecurityCenter restart
```

The Apache server restarts.

## Update the Apache Configuration File

**Required Tenable Security Center User Role:** Root user

Tenable Security Center Director 6.3.x updated the Apache web server configuration to resolve a memory leak issue. When your Tenable Security Center Director instance meets the following criteria, you must update some values in the Apache configuration file located at `/opt/sc/support/conf/mpm.conf`:

- You are upgrading to Tenable Security Center Director version 6.6.x from version 6.2.1 or earlier.

-or-

- Your Tenable Security Center Director instance manages more than 10,000 active IPs.

The default settings in the Apache configuration file are sufficient if you are upgrading from Tenable Security Center Director version 6.3.x or later, and your instance manages fewer than 10,000 active IPs.

Before you begin:

- Stop Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).
- [Install Tenable Security Center Director](#) or [Upgrade Tenable Security Center Director](#)

To update the Apache configuration file:



1. Navigate to the Apache configuration file, located at `/opt/sc/support/conf/mpm.conf`
2. Update the values in the configuration file. Tenable recommends the following settings based on the size of your deployment:

# Hosts Managed by Tenable Security Center Director	Recommended Settings
Fewer than 10,000 active IPs	StartServers 5 MinSpareServers 5 MaxSpareServers 10 MaxRequestWorkers 32
10,000 to 25,000 active IPs	StartServers 10 MinSpareServers 10 MaxSpareServers 20 MaxRequestWorkers 64
25,001 to 100,000 active IPs	StartServers 20 MinSpareServers 20 MaxSpareServers 40 MaxRequestWorkers 128
100,001 or more active IPs	StartServers 40 MinSpareServers 40 MaxSpareServers 80 MaxRequestWorkers 256

3. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

What to do next:



- After the Tenable Security Center Director build has run for a period of time, check the log located at `/opt/sc/support/logs/error_log` for any errors related to the **MaxRequestWorkers** setting. For more information, see [Generate a Diagnostics File](#).

## Uninstall Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

To uninstall Tenable Security Center Director:

1. On the host where you want to uninstall Tenable Security Center Director, open the command line interface (CLI).
2. In the CLI, run the following command to stop Tenable Security Center Director:

```
service SecurityCenter stop
```

3. Run the following command to remove Tenable Security Center Director:

```
dnf remove SecurityCenter
```

4. Run the following command to remove user-created and user-modified files:

```
rm -rf /opt/sc
```

Tenable Security Center Director is removed.

## User Access

The **Users** page provides the ability to add, edit, delete, or view the details of Tenable Security Center Director user accounts. When you view the **Users** page, you see a list of users and actions, limited by your account privileges. Your *user role*, *organization* membership, and/or *group* membership determine your account privileges. For more information, see [User Roles](#) and [Organizations and Groups](#).

There are two categories of user accounts:



- *Administrator* users have the system-provided administrator role and do not belong to organizations.
- *Organizational* users have the system-provided security manager, auditor, credential manager, executive, security analyst, security manager, or vulnerability analyst role, or a custom role, and belong to an organization.

Tenable Security Center Director supports three types of user account authentication: TNS, LDAP, and SAML. For more information, see [User Accounts](#).

To log in to the Tenable Security Center Director web interface with a user account, see [Log In to the Web Interface](#) or [Log in to the Web Interface via SSL Client Certificate](#).

## Log In to the Web Interface

**Required Tenable Security Center User Role:** Any

To log in to the Tenable Security Center Director configuration interface:

1. Open a supported web browser on a system that has access to the system's network address space.

**Note:** You must access the Tenable Security Center Director web interface using a secure web connection (HTTPS) with SSL/TLS 1.2 enabled. Tenable Security Center Director recommends configuring the strongest encryption supported by your browser.

For more information, see [Encryption Strength](#).

2. Clear your web browser's cache.
3. Navigate to the URL for your Tenable Security Center Director: `https://<SERVER ADDRESS OR NAME>/`.

Where `<SERVER ADDRESS OR NAME>` is the IPv4 or IPv6 address or hostname for your Tenable Security Center Director.

The Tenable Security Center Director web interface appears.

4. Log in using the supported method for your account configuration.

**Note:** If you are the first administrator user logging in to Tenable Security Center Director, see [Initial Login Considerations](#).



- To log in via a username and password, type your Tenable Security Center Director credentials and click **Log In**.
- To log in via SAML authentication, click **Sign In Using Identity Provider**. When presented with your identity provider login page, type your identity provider credentials.

For more information about SAML authentication, see [Configure SAML Authentication Manually via the User Interface](#).

- To log in via certificate, see [Log in to the Web Interface via SSL Client Certificate](#).

Tenable Security Center Director logs you in and displays the dashboard with different elements depending on your user role.

## Initial Login Considerations

When you log in to Tenable Security Center Director for the first time, Tenable Security Center Director displays the Quick Setup Guide welcome page to begin a multi-step setup process for initial configuration. For more information about quick setup, see [Quick Setup](#).

If you prefer to configure the system manually, click **Exit Quick Setup Guide**. For more information about getting started with Tenable Security Center Director, see [Get Started With Tenable Security Center Director](#).

### Log in to the Web Interface via SSL Client Certificate

**Required Tenable Security Center User Role:** Any

Before you begin:

- Confirm your Tenable Security Center Director administrator fully configured Tenable Security Center Director for certificate authentication, as described in [Certificate Authentication](#).

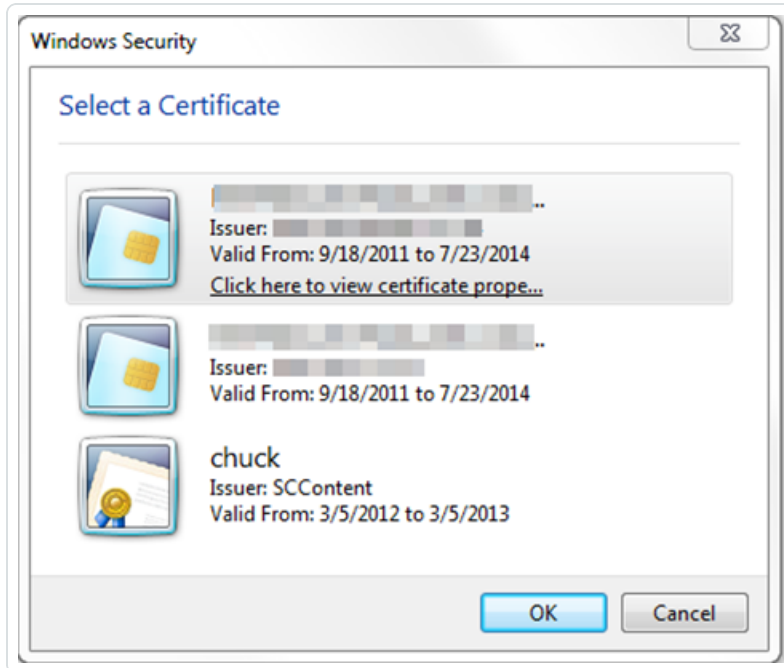
To perform a certificate-based Tenable Security Center Director login:

**Note:** The following information is provided with the understanding that your browser is configured for SSL certificate authentication. Please refer to your browser's help files or other documentation to configure this feature.



1. Open a browser window and navigate to Tenable Security Center Director.

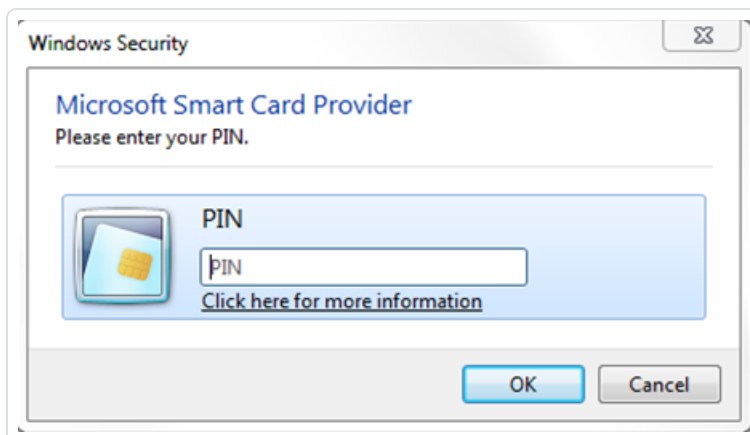
The browser presents a list of available certificate identities.



For information about Tenable Security Center Director-browser communications encryption, see [Encryption Strength](#).

2. Select a certificate.
3. Click **OK**.

An authentication prompt appears (if required to access your certificate).



4. (Optional) If prompted, type a PIN or password.



5. Click **OK**.

The Tenable Security Center Director login page appears.

6. Log in using the username to be associated with the selected certificate.

**Caution:** Only one Tenable Security Center Director user may be associated with a single certificate. If one user holds multiple user names and roles, a unique certificate must be provided for each login name.

The **Certificate Authentication** window appears.

7. When prompted, specify whether the current certificate is to be used to authenticate the current user.
  - Click **Yes** to always use the certificate for authentication.
  - Click **No** to ignore the certificate and log in via TNS authentication.

Tenable Security Center logs you in.

## Subsequent Logins

After you log out of Tenable Security Center Director, the login page appears. If you want to log in again with the same certificate, refresh your browser window. If you want to use a different certificate, you must start a new browser session.

After you perform your second certificate login, edit your account from the **Profile** page to view your certificate details. If your certificate changes or you need to revoke it, click the **Clear Certification Details** button to disassociate the certificate from your account.

## User Roles

Roles determine what a user can or cannot access from their account. Tenable Security Center Director comes with eight system-provided roles, but you can also create custom roles to satisfy complex security policy needs. You can customize the permissions on some, but not all, system-provided user roles.

You can create *linked user accounts* and *linked non-admin user accounts* to allow users to switch between accounts without logging out and logging back in to Tenable Security Center Director. For more information, see [Linked User Accounts](#).

For more information about user roles in Tenable Security Center Director, see [Manage User Roles](#).



## Roles

User Role	Customizable Permissions?	Description
<b>Administrator</b>	No	<p>An account that manages Tenable Security Center Director as a whole. The primary task of the Administrator is to install and configure each organization and connect managed Tenable Security Center instances. The Administrator is automatically assigned the “Manage Application” role.</p> <p>Because administrators do not belong to an organization, they do not have access to the data collected by Tenable Security Center Director.</p>
<b>Organizational User Roles</b>		
<b>Security Manager</b>	No	<p>An account that manages an individual organization. This is the role assigned to the initial user that is assigned when a new organization is created. They can launch scans, configure users (except for administrator user roles), vulnerability policies, and other objects belonging to their organization.</p> <p>A Security Manager is the account within an organization that has a broad range of security roles within the defined organization. This is the initial user that is created when a new organization is created, and the user can launch scans, configure users (except for the Administrator user), vulnerability policies, and other objects that belong to their organization. This initial Security Manager account cannot be deleted without deleting the entire organization.</p> <p>Security Managers have complete access to all data collected by their organization.</p>





<b>SM-Linked</b>	No	A linked account that has the same abilities as a Security Manager, except an SM-Linked account cannot configure users.
<b>Auditor</b>	Yes	An account that can access summary information to perform third-party audits. An Auditor can view dashboards, reports, and logs, but cannot perform scans or create tickets.
<b>Credential Manager</b>	Yes	An account that can be used specifically for handling credentials. A Credential Manager can create and share credentials without revealing the contents of the credential. This can be used by someone outside the security team to keep scanning credentials up to date.
<b>Executive</b>	Yes	An account intended for users who are interested in a high-level overview of their security posture and risk profile. Executives would most likely browse dashboards and review reports, but would not be concerned with monitoring running scans or managing users. Executives would also be able to assign tasks to other users using the ticketing interface.
<b>Security Analyst</b>	Yes	An account that has permissions to perform all actions at the Organizational level except managing groups and users. A Security Analyst is most likely an advanced user who can be trusted with some system-related tasks such as setting freeze windows or updating plugins.
<b>Vulnerability Analyst</b>	Yes	An account that can perform basic tasks within the application. A Vulnerability Analyst is allowed to view security data, perform scans, share objects, view logs, and work with tickets.



<b>No Role</b>	No	An account with virtually no permissions. No Role is assigned to a user if their designated role is deleted.
<b>Custom Role</b>	Yes	A custom role that you create by enabling or disabling individual permissions.

## Role Options

Permissions Option	Description
<b>General</b>	
<b>Name</b>	Custom role name
<b>Description</b>	Custom role description
<b>Scanning Permissions</b>	
<b>Create Scans</b>	Allows the user to create policy-based scans. Disabling <b>Create Policies</b> while enabling this permission allows you to lock user into specific set of policies for scanning.
<b>Create Plugin Scans</b>	(Appears when <b>Create Scans</b> is enabled) Allows the user to create single plugin remediation scans.
<b>Create Agent Synchronization Jobs</b>	Allows the user to add agent synchronization jobs that fetch agent scan results from Tenable Vulnerability Management or Tenable Nessus Manager.
<b>Create Agent Scans</b>	Allows the user to add agent scans that create and launch parallel scans in Tenable Nessus Manager, then import the scan results to Tenable Security Center.
<b>Create Audit Files</b>	Allows the user to upload audit files, which can be used for configuration audit scans.
<b>Create Policies</b>	Allows the user to set scan parameters and select plugins for scanning.
<b>Upload Nessus Scan Results</b>	Allows the user to import results from an external Nessus scanner. Result upload will be limited to user's repositories and restricted by user's IP address ranges.



Permissions Option	Description
<b>Manage Freeze Windows</b>	Allows the user to add, edit, and delete organization-wide freeze windows. Freeze windows prevent scans from launching and stop any scans in progress.
<b>Asset Permissions</b>	
<b>Create LDAP Query Assets</b>	Allows the user to create LDAP Query Assets, which update a list of hosts based on a user-defined LDAP query.
<b>Analysis Permissions</b>	
<b>Accept Risks</b>	Allows the user to accept risks for vulnerabilities, which removes them from the default view for analysis, dashboards, and reports.
<b>Recast Risks</b>	Allows the user to change the severity for vulnerabilities.
<b>Manage Risks</b>	(Appears when <b>Accept Risks</b> or <b>Recast Risks</b> is enabled) Allows the user to modify accept and recast risk rules created by other users.
<b>Organizational Permissions</b>	
<b>Share Objects Between Groups</b>	Allows the user to share assets, audit files, credentials, queries, and policies with any group. Users in groups to which these objects have been shared can use the objects for filtering and scan creation.
<b>View Organization Logs</b>	Allows the user to view logs for entire organization.
<b>User Permissions</b>	
<b>Manage Roles</b>	Allows the user to create new roles and edit and delete organizational roles. Any roles added must have permissions equal to or lesser than the user's role.
<b>Manage Groups</b>	Allows the user to add, edit, and delete groups. Users with this permission are allowed to create groups with access to any vulnerability and event data available to the organization.
<b>Manage Group</b>	Allows the user to set other user's relationship with any other groups.



Permissions Option	Description
<b>Relationships</b>	Group relationships allow for a user to view and manage objects and users in other groups.
<b>Report Permissions</b>	
<b>Manage Images</b>	Allows the user to upload images, so anyone in the organization can use the images in reports.
<b>Manage Attribute Sets</b>	Allows the user to add, edit, and delete attribute sets.
<b>System Permissions</b>	
<b>Update Feeds</b>	Allows the user to request a plugin update or a Tenable Security Center feed update.
<b>Workflow Permissions</b>	
<b>Create Alerts</b>	Allows the user to create alerts which are used to trigger actions (e.g., launch scans, run reports, send emails) when specified vulnerability or event conditions occur.
<b>Create Tickets</b>	Allows the user to create tickets, which are typically used to delegate work to other users.
<b>Host Assets Permissions</b>	
<b>View Host Assets</b>	<div>Allows the user to view the <a href="#">Host Assets</a> page.  <b>Note:</b> This permission does not restrict which host assets a user can view. The <b>Host Assets</b> page only displays hosts in the user's assigned <a href="#">repositories</a>.</div>

## Manage User Roles

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information about user role options, see [User Roles](#).



## Create a User Role

To create a custom user role:

1. Log in to Tenable Security Center Director via the user interface.
2. Do one of the following:
  - If you are logged in as an administrator, click **System > Roles**.
  - If you are logged in as an organizational user, click **Users > Roles**.

The **Roles** page appears.

3. Click **Add**.

The **Add Role** page appears.

4. In the **Name** box, type a name for the role.
5. (Optional) In the **Description** box, type a description for the role.
6. Set the following permissions, as described in [User Roles](#):

- **Scanning Permissions**
- **Asset Permissions**
- **Analysis Permissions**
- **Domain Permissions**
- **Organization Permissions**
- **User Permissions**
- **Reporting Permissions**
- **System Permissions**
- **Workflow Permissions**

7. Click **Submit**.

Tenable Security Center Director saves your configuration.

## View User Role Details



To view role details:

1. Log in to Tenable Security Center Director via the user interface.
2. Do one of the following:
  - If you are logged in as an administrator, click **System > Roles**.
  - If you are logged in as an organizational user, click **Users > Roles**.

The **Roles** page appears.

3. Right-click the row for the user role you want to view.

The actions menu appears.

-or-

Select the check box for the user role you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Role** page appears.

Section	Action
<b>General</b>	<p>View general information for the user role.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The user role name.</li><li>• <b>Description</b> – The user role description.</li><li>• <b>User Count</b> – The number of users with this role.</li><li>• <b>Created</b> – The date the user role was created.</li><li>• <b>Last Modified</b> – The date the user role was last modified.</li><li>• <b>ID</b> – The user role ID.</li></ul>
<b>Scanning Permissions</b>	<p>View a summary of permissions for the role. For more information, see <a href="#">User Roles</a>.</p>



Section	Action
Asset Permissions	
Analysis Permissions	
Organization Permissions	
User Permissions	
Reporting Permissions	
System Permissions	
Workflow Permissions	

## Edit a User Role

To edit the permissions of a custom or system-provided role:

1. Log in to Tenable Security Center Director via the user interface.
2. Do one of the following:
  - If you are logged in as an administrator, click **System > Roles**.
  - If you are logged in as an organizational user, click **Users > Roles**.

The **Roles** page appears.

3. Right-click the row for the user role you want to edit.

The actions menu appears.

-or-

Select the check box for the user role you want to edit.



The available actions appear at the top of the table.

4. Click **More > Edit**.

The **Edit Role** page appears.

5. (Optional) Modify the **Name**
6. (Optional) Modify the **Description**.
7. (Optional) Modify the following permissions, as described in [User Roles](#):

- **Scanning Permissions**
- **Asset Permissions**
- **Analysis Permissions**
- **Domain Permissions**
- **Organization Permissions**
- **User Permissions**
- **Reporting Permissions**
- **System Permissions**
- **Workflow Permissions**

8. Click **Submit**.

Tenable Security Center Director saves your configuration.

Delete a User Role

**Note:** Deleting a role will cause all users with that role to lose all assigned permissions.

To delete a custom or system-provided user role:





1. Log in to Tenable Security Center Director via the user interface.
2. Do one of the following:
  - If you are logged in as an administrator, click **System > Roles**.
  - If you are logged in as an organizational user, click **Users > Roles**.

The **Roles** page appears.

3. Select the role you want to delete:
  - To delete a single user role:
    - a. In the table, right-click the row for the role you want to delete.  
The actions menu appears.
    - b. Click **Delete**.
  - To delete multiple user roles:
    - a. In the table, select the check box for each role you want to delete.  
The available actions appear at the top of the table.
    - b. At the top of the table, click **More > Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center Director deletes the role.

## Organizations and Groups

An *organization* is a set of distinct users and groups and the resources they have available to them. These users are assigned repositories and zones within one or more specified IP address networks. *Users* refers to any non-administrator user account on Tenable Security Center Director. *Groups* refers to collections of users with the same permissions within an organization.

### Organizations



An *organization* is a set of distinct users and groups and the resources (for example, scanners, repositories, and LDAP servers) they have available to them.

The organization is managed primarily by the administrator users and security manager users. The administrator user creates the organization and creates, assigns, and maintains the security manager user account. The security manager user (or any organizational user with appropriate permissions) creates other users within the organization. Groups allow you to manage users and share permissions to resources and objects among the group. For more information, see [User Access](#).

Multiple organizations can share the same repositories, and the vulnerability data associated with the overlapping ranges is shared between each organization. Conversely, organizations can be configured with their own discrete repositories to facilitate situations where data must be kept confidential between different organizational units.

Creation of an organization is a multi-step process. After you create an organization, Tenable Security Center Director prompts you to create the initial security manager user.

For more details, see [Manage Organizations](#).

To view the users in an organization, filter by the organization on the [Users](#) page. For more information about filters, see [Apply a Filter](#).

## Organization Options

Option	Description
<b>General</b>	
<b>Name</b>	(Required) The organization name.
<b>Description</b>	A description for the organization.
<b>Contact Information</b>	The relevant contact information for the organization including address, city, state, country, and phone number.
<b>Password Expiration</b>	
<b>Enable Password Expiration</b>	When enabled, passwords for users in the organization will expire after the number of days specified in the <b>Expiration Days</b> box.



Option	Description
<b>Expiration Days</b>	<p>The number of days before the user's password expires. You can enter a number between 1 and 365.</p> <p>The user will receive daily password expiration notifications at login, starting 14 days before the password expires. After the password expires, the user must change their password at the next login. For more information about Tenable Security Center notifications, see <a href="#">Notifications</a>.</p>
<b>Scanning</b>	
<b>Distribution Method</b>	<p>The scan distribution mode you want to use for this organization:</p> <ul style="list-style-type: none"><li>• <b>Automatic Distribution Only:</b> Tenable Security Center chooses one or more scan zones to run the scan. Organizational users cannot choose a scan zone when configuring a scan.</li></ul> <p>Tenable Security Center distributes targets for scans based on your configured scan zone ranges. This facilitates optimal scanning and is useful if an organization has devices placed behind a firewall or NAT device or has conflicting <a href="#">RFC 1918</a> non-internet-routable address spaces.</p> <ul style="list-style-type: none"><li>• <b>Locked Zone:</b> Tenable Security Center uses the one <b>Available Zone</b> you specify to run the scan. Organizational users cannot modify the scan zone when configuring a scan.</li><li>• <b>Selectable Zones:</b> Tenable Security Center allows organizational users to select a scan zone when configuring a scan.</li></ul> <p>This mode allows organizational users to use scanners to run internal and external vulnerability scans and analyze</p>



Option	Description
	<p>the vulnerability stance from a new perspective. For example, an organizational user can choose an external scanner to see the attack surface from an external attacker's perspective.</p> <p>For more information about scan zones, see <a href="#">Scan Zones</a>.</p>
<b>Available Zones</b>	One or more scan zones that you want organizational users to have access to when configuring scans.
<b>Allow for Automatic Distribution</b>	<p>Enable or disable this option to specify whether you want Tenable Security Center to select one or more scan zones automatically if an organizational user does not specify a scan zone when configuring a scan.</p> <ul style="list-style-type: none"><li>• When enabled, Tenable Security Center chooses one or more scan zones as specified by your <b>Restrict to Selected Zones</b> setting.</li><li>• When disabled, Tenable Security Center requires the organizational user to specify a scan zone when configuring a scan.</li></ul>
<b>Restrict to Selected Zones</b>	<p>If <b>Allow for Automatic Distribution</b> is enabled, enable or disable this option to specify the zones you want Tenable Security Center to choose from when automatically distributing zones.</p> <ul style="list-style-type: none"><li>• When enabled, Tenable Security Center chooses from the <b>Available Zones</b> shared with the organization.</li><li>• When disabled, Tenable Security Center chooses from all zones on Tenable Security Center.</li></ul>
<b>Restricted Scan Ranges</b>	The IP address ranges you do not want users in this organization to scan.
<b>Analysis</b>	



Option	Description
<b>Accessible Repositories</b>	The repositories that you want this organization to have access to. You can search for the repositories by name or scroll through the list.
<b>Accessible Agent Capable Scanners</b>	The Tenable Nessus scanners (with Tenable Agents enabled) that you want this organization to have access to. Select one or more of the available scanners to allow the organization to import Tenable Agent results from the selected scanner.
<b>Accessible LDAP Servers</b>	<div>The LDAP servers that you want this organization to have access to. An organization must have access to an LDAP server to perform LDAP authentication on user accounts within that organization, and to configure LDAP query assets.</div> <div><b>Note:</b> If you revoke access to an LDAP server, users in the organization cannot authenticate and LDAP query assets cannot run.</div>
<b>Custom Analysis Links</b>	
<p>A list of custom analysis links provided to users within the host vulnerability details when analyzing data outside of Tenable Security Center is desired. Click <b>Add Custom Link</b> to create a new option to type the link name and URL to look up additional data external to Tenable Security Center.</p> <p>For example: <code>http://example.com/index.htm?ip=%ip%</code></p> <p>The <code>%ip%</code> reference is a variable that inserts the IP address of the current host into the specified URI.</p>	
<b>Vulnerability Weights</b>	
<b>Low</b>	The vulnerability weighting to apply to <b>Low</b> criticality vulnerabilities for scoring purposes. (Default: 1)
<b>Medium</b>	The vulnerability weighting to apply to <b>Medium</b> criticality vulnerabilities for scoring purposes. (Default: 3)
<b>High</b>	The vulnerability weighting to apply to <b>High</b> criticality



Option	Description
	vulnerabilities for scoring purposes. (Default: 10)
<b>Critical</b>	The vulnerability weighting to apply to <b>Critical</b> criticality vulnerabilities for scoring purposes. (Default: 40)
<b>Vulnerability Scoring System</b>	
<b>Scoring System</b>	<p>The scoring system Tenable Security Center Director uses to assess the severity of vulnerabilities: <b>CVSS v2</b>, <b>CVSS v3</b>, or <b>CVSS v4</b>.</p> <div><p><b>Note:</b> Changing the <b>Scoring System</b> while Tenable Security Center Director is running certain operations, such as preparing reports or dashboard data, results in data using mixed CVSS v2, CVSS v3, and CVSS v4 scores.</p><p><b>Note:</b> Changing the <b>Scoring System</b> does not impact historical dashboard trend data. For example, if you change the <b>Scoring System</b> from <b>CVSS v3</b> to <b>CVSS v4</b>, dashboard trend data before the change displays CVSS v3 scores while dashboard trend data after the change displays CVSS v4 scores.</p></div>

## Groups

User groups are a way to group rights to objects within an organization, and then quickly assign these rights to one or more users. A user's group membership determines their access to security data. When a user creates various objects such as reports, scan policies, dashboards, and other similar items, these objects are automatically shared among the group members if the group permissions allow view and control.

For more information, see [Manage Groups](#).

## Group Options

Option	Description
<b>General</b> tab	



Option	Description
<b>Name</b>	The name for the group.
<b>Description</b>	A description for the group (e.g., <b>security team at the central office</b> or <b>executives on the east coast</b> ).
<b>Viewable Hosts</b>	The IP addresses and agent IDs that are viewable by the group. The selection is made by all defined assets or the selection of one or more asset lists.
<b>Repositories</b>	The repositories you want to share with the group.
<b>Sample Content</b>	<p>When enabled, Tenable provides sample content objects to users in the group:</p> <ul style="list-style-type: none"><li>• sample dashboards (<b>Executive 7 Day</b>, <b>Executive Summary</b>, and <b>Vulnerability Overview</b>)</li><li>• sample reports (<b>Critical and Exploitable Vulnerabilities</b>, <b>Monthly Executive</b>, and <b>Remediation Instructions by Host</b>)</li><li>• sample ARCs (<b>CCC 1: Maintain an Inventory of Software and Hardware</b>, <b>CCC 2: Remove Vulnerabilities and Misconfigurations</b>, <b>CCC 3: Deploy a Secure Network</b>, <b>CCC 4: Authorize Users</b>, and <b>CCC 5: Search for Malware and Intruders</b>)</li><li>• sample assets required for the sample ARCs</li></ul> <p>After enabling <b>Sample Content</b>, you must add a new user to the group before all users in the group can access the sample content.</p> <div><p><b>Note:</b> If a user in a group deletes a sample content object, the object is deleted for all other users in that group.</p></div> <div><p><b>Note:</b> If you move a sample content object owner (e.g., move the first user in group A to group B), Tenable Security Center:</p><ol style="list-style-type: none"><li>1. Assigns their dashboards and ARCs to a new sample content object owner in group A. Tenable Security Center does not reassign reports or assets.</li></ol></div>



Option	Description
	<div>2. Recreates their dashboards, ARCs, and assets required for ARCs in group B. Tenable Security Center does not recreate reports.</div>
<b>Share to Group</b> tab	
<b>Available Objects</b>	The list of available objects to be shared with the group on creation or edit in a bulk operation.

## Manage Organizations

**Required Tenable Security Center User Role:** Administrator

For more information about organization options, see [Organizations](#).

### Add an Organization

To add an organization:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Organizations**.

The **Organizations** page appears.

3. Click **Add**.

The **Add Organization** page appears.

4. Configure the following settings:

- **General**
- **Password Expiration**
- **Scanning**
- **Analysis**
- **Custom Analysis Links**





- **Vulnerability Weights**
- **Vulnerability Scoring System**

5. Click **Submit**.

Tenable Security Center Director saves your configuration.

## View Organization Details

To view organization details:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Organizations**.

The **Organizations** page appears.

3. Right-click the row for the organization you want to view.

The actions menu appears.

-or-

Select the check box for the organization you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Organization** page appears.

Section	Action
<b>General</b>	<p>View general information for the organization.</p> <ul style="list-style-type: none"><li>• <b>Name</b> — The organization name.</li><li>• <b>Description</b> — The organization description.</li><li>• <b>Address / City / State / Country / Phone</b> — The contact information for the organization.</li><li>• <b>Created</b> — The date the organization was created.</li></ul>



Section	Action
	<ul style="list-style-type: none"><li>• <b>Last Modified</b> – The date the organization was last modified.</li><li>• <b>ID</b> – The organization ID.</li></ul>
<b>Password Expiration</b>	View a summary of your password expiration settings for the organization. For more information about a setting, see <a href="#">Organizations</a> .
<b>Scanning</b>	View a summary of your scanning settings for the organization. For more information about a setting, see <a href="#">Organizations</a> .
<b>Analysis</b>	View a summary of your analysis settings for the organization. For more information about a setting, see <a href="#">Organizations</a> .
<b>Custom Analysis Links</b>	View a summary of your custom analysis link settings for the organization. For more information about a setting, see <a href="#">Organizations</a> .
<b>Vulnerability Weights</b>	View a summary of your vulnerability weights settings for the organization. For more information about a setting, see <a href="#">Organizations</a> .
<b>Vulnerability Scoring System</b>	View the vulnerability scoring system selected for the organization. For more information, see <a href="#">Organizations</a> .

## Delete an Organization

**Note:** Deleting an organization deletes all of the users in that organization.

To delete an organization:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Organizations**.

The **Organizations** page appears.

3. Select the organization you want to delete:



- To delete a single organization:
  - a. In the table, right-click the row for the organization you want to delete.  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple organizations:
  - a. In the table, select the check box for each organization you want to delete.  
The available actions appear at the top of the table.
  - b. At the top of the table, click **Delete**.

A confirmation window appears.

4. Click **Delete**.

A confirmation window appears.

5. Click **Delete**.

Tenable Security Center Director deletes the organization.

## Manage Groups

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For more information about group options, see [Groups](#).

### Add a Group

To add a group:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Users > Groups**.

The **Groups** page appears.

3. Click **Add**.



The **Add Group** page appears.

4. Configure the **General** options.
5. Configure the **Share to Group** options.
6. Click **Submit**.

Tenable Security Center Director saves your configuration.

## View Group Details

To view group details:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Users > Groups**.

The **Groups** page appears.

3. Right-click the row for the group you want to view.

The actions menu appears.

-or-

Select the check box for the group you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Group** page appears.

Section	Action
<b>General</b>	<p>View general information for the group.</p> <ul style="list-style-type: none"><li>• <b>Name</b> — The group name.</li><li>• <b>Description</b> — The group description.</li><li>• <b>Created</b> — The date the group was created.</li><li>• <b>Last Modified</b> — The date the group options were last modified.</li></ul>



Section	Action
	<ul style="list-style-type: none"><li>• <b>ID</b> – The group ID.</li></ul>
<b>Access</b>	View the lists of <b>Viewable Hosts</b> and <b>Repositories</b> users in the group can access. For more information, see <a href="#">Group Options</a> .
<b>Preferences</b>	View whether you enabled <b>Sample Content</b> for the group. For more information, see <a href="#">Group Options</a> .
<b>Users</b>	View the list of users associated with the group.

## Delete a Group

To delete a group:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Users > Groups**.

The **Groups** page appears.

3. Select the group you want to delete:

- To delete a single group:

- a. In the table, right-click the row for the group you want to delete.

The actions menu appears.

- b. Click **Delete**.

- To delete multiple groups:

- a. In the table, select the check box for each group you want to delete.

The available actions appear at the top of the table.

- b. At the top of the table, click **Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center Director deletes the group.



## User Accounts

The **Users** page displays the user accounts on Tenable Security Center Director, limited by your account privileges. You can sort the columns or apply filters to locate specific user accounts. You can also add a user ([Add a TNS-Authenticated User](#), [Add an LDAP-Authenticated User](#), or [Add a SAML-Authenticated User](#)) or [Delete a User Account](#).

You can create one or more administrator accounts on Tenable Security Center Director. You can create one or more organizational users (security managers and custom roles) per organization. Tenable recommends you make at least one TNS-authenticated administrator and security manager user per organization so that you can still log in if the LDAP or SAML service becomes unavailable. For more information about user account types, see [User Access](#).

For more information about options available when configuring user accounts, see [User Account Options](#).

## Linked User Accounts

You can create *linked user accounts* and *linked non-admin user accounts* to allow users to switch between accounts without logging out and logging back in to Tenable Security Center Director. For more information, see [Linked User Accounts](#).

## API Keys

You can generate API keys to authenticate as a specific user for Tenable Security Center API requests. For more information, see [API Key Authentication](#).

### Add a TNS-Authenticated User

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information about user account configuration options, see [TNS User Account Options](#).

To add a TNS-authenticated user account as an administrator user:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users**.



The **Users** page appears.

3. Click **Add**.

The **Add User** page appears.

4. Select a **Role**.
5. If you selected **Security Manager** as the **Role**, select an **Organization**.
6. (Optional) Type a **First Name** and **Last Name**.
7. Type a **Username** and **Password** for the user.
8. If the **Type** drop-down box is visible, select **TNS**.
9. (Optional) Enable **User Must Change Password**.
10. Select a **Time Zone**.
11. (Optional) Select a **Scan Result Default Timeframe**.
12. (Optional) Enable **Cached Fetching**.
13. (Optional) Enable **Password Expiration** for the user.
14. (Optional) Enable **Dark Mode** for the user.
15. (Optional) Type **Contact Information** for the user.
16. Click **Submit**.

Tenable Security Center Director saves your configuration.

To add a TNS-authenticated user account as an organizational user:

1. Log in to Tenable Security Center Director via the user interface. You must log in with a user account belonging to the organization where you want to create a new user.
2. Click **Users > Users**.

The **Users** page appears.

3. Click **Add**.

The **Add User** page appears.



4. (Optional) Type a **First Name** and **Last Name** for the user.
5. If the **Type** drop-down box is visible, select **TNS**.
6. Type a **Username** and **Password** for the user.
7. (Optional) Enable **User Must Change Password**.
8. Select a **Time Zone**.
9. (Optional) Select a **Scan Result Default Timeframe**.
10. (Optional) Enable **Cached Fetching**.
11. (Optional) Enable **Password Expiration** for the user.
12. Select a **Role**. For more information, see [User Roles](#).
13. Select a **Group**. For more information, see [Organizations and Groups](#).
14. (Optional) If you want to customize the group-related permissions for the user, modify the **Group Permissions** as described in [Custom Group Permissions](#).
15. (Optional) If you want to share an asset list with the user, select an **Asset**. For more information, see [Assets](#).
16. (Optional) Enable **Dark Mode** for the user.
17. (Optional) Type **Contact Information** for the user.
18. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Add an LDAP-Authenticated User

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information about user account configuration options, see [User Accounts](#)

To add an LDAP-authenticated user account as an administrator user:





1. Log in to Tenable Security Center Director via the user interface.
2. Configure an LDAP server, as described in [LDAP Authentication](#). If you want the new user to be a member of an organization, associate the LDAP server with an organization.
3. Click **System > Users**.  
  
The **Users** page appears.
4. Click **Add**.  
  
The **Add User** page appears.
5. Select a **Role** for the user account.
6. If you selected **Security Manager** as the **Role**, select an **Organization** for the user account. You must select an organization with an associated LDAP server.
7. (Optional) Type a **First Name** and **Last Name** for the user.
8. In the **Type** drop-down list, select **LDAP**. If **LDAP** does not appear in the drop-down list, add an LDAP server as described in [Manage LDAP Servers](#).
9. Select the **LDAP Server** where you want to authenticate the user.
10. Type a **Search String** to find existing users on the LDAP server.
11. Click **Search**.  
  
The page displays the **LDAP Users Found** by the LDAP search string.
12. Select an LDAP user from the **LDAP Users Found** drop-down box.  
  
The page populates the **Username** option with your selection.
13. View the **Username**. Tenable does not recommend modifying the **Username** since it must match the username on the LDAP server.
14. Select a **Time Zone**.
15. (Optional) Select a **Scan Result Default Timeframe**.
16. (Optional) Enable **Cached Fetching**.
17. (Optional) Enable **Dark Mode** for the user.



18. (Optional) Type **Contact Information** for the user.
19. Click **Submit**.

Tenable Security Center Director saves your configuration.

To add an LDAP-authenticated user account as an organizational user:

1. Log in to Tenable Security Center Director via the user interface. You must log in with a user account belonging to the organization where you want to create a new user.
2. Confirm that an administrator user configured an LDAP server, and that the LDAP server was associated with the organization where you want to create a user account.
3. Click **Users > Users**.

The **Users** page appears.

4. Click **Add**.

The **Add User** page appears.

5. (Optional) Type a **First Name** and **Last Name** for the user.
  6. In the **Type** drop-down list, select **LDAP**. If **LDAP** does not appear in the drop-down list, add an LDAP server as described in [Manage LDAP Servers](#).
  7. Select the **LDAP Server** where you want to authenticate the user.
  8. Select an LDAP user from the **LDAP Users Found** drop-down box.
- The page populates the **Username** option with your selection.
9. View the **Username**. Tenable does not recommend modifying the **Username** since it must match the username on the LDAP server.
  10. Select a **Time Zone**.
  11. (Optional) Select a **Scan Result Default Timeframe**.
  12. (Optional) Enable **Cached Fetching**.
  13. Select a **Role**. For more information, see [User Roles](#).
  14. Select a **Group**. For more information, see [Organizations and Groups](#).



15. (Optional) If you want to customize the group-related permissions for the user, modify the **Group Permissions** as described in [Custom Group Permissions](#).
16. (Optional) If you want to share an asset list with the user, select an **Asset**. For more information, see [Assets](#).
17. (Optional) Enable **Dark Mode** for the user.
18. (Optional) Type **Contact Information** for the user.
19. Click **Submit**.

Tenable Security Center Director saves your configuration.

### Add a SAML-Authenticated User

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information about user account configuration options, see [SAML User Account Options](#). To automatically add SAML-authenticated users by importing users from your SAML identity provider, see [Configure SAML User Provisioning](#).

Before you begin:

- Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.
- Configure SAML authentication, as described in [Configure SAML Authentication Manually via the User Interface](#).

To add a SAML-authenticated user account as an administrator user:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users**.

The **Users** page appears.

3. Click **Add**.

The **Add User** page appears.



4. (Optional) Type a **First Name** and **Last Name** for the user.
5. In the **Type** drop-down box, select **SAML**. If **SAML** does not appear in the drop-down box, configure SAML authentication as described in [Configure SAML Authentication Manually via the User Interface](#).
6. In the **Username** box, type the user's SAML username exactly as it appears in your identity provider SAML configuration for this user.
7. Select a **Time Zone**.
8. (Optional) Select a **Scan Result Default Timeframe**.
9. (Optional) Enable **Cached Fetching**.
10. (Optional) Enable **Dark Mode** for the user.
11. (Optional) Type **Contact Information** for the user.
12. Click **Submit**.

Tenable Security Center Director saves your configuration.

To add a SAML-authenticated user account as an organizational user:

1. Log in to Tenable Security Center Director via the user interface. You must log in with a user account belonging to the organization where you want to create a new user.

2. Click **Users > Users**.

The **Users** page appears.

3. Click **Add**.

The **Add User** page appears.

4. (Optional) Type a **First Name** and **Last Name** for the user.
5. In the **Type** drop-down list, select **SAML**. If **SAML** does not appear in the drop-down list, configure SAML authentication as described in [Configure SAML Authentication Manually via the User Interface](#).
6. In the **Username** box, type the user's SAML username exactly as it appears in your identity provider SAML configuration for this user.



7. Select a **Time Zone**.
8. (Optional) Select a **Scan Result Default Timeframe**.
9. (Optional) Enable **Cached Fetching**.
10. Select a **Role**. For more information, see [User Roles](#).
11. Select a **Group**. For more information, see [Organizations and Groups](#).
12. (Optional) To customize the user's object and user account management permissions, modify the **Group Permissions** as described in [Custom Group Permissions](#).
13. (Optional) To share an asset list with the user, select an **Asset**. For more information, see [Assets](#).
14. (Optional) Enable **Dark Mode** for the user.
15. (Optional) Type **Contact Information** for the user.
16. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Manage User Accounts

For more information about user accounts, see [User Accounts](#).

### View User Account Details

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

To view the details of any user account:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users** (administrator users) or **Users > Users** (organizational users).

The **Users** page appears.

3. Right-click the row for the user you want to view.



The actions menu appears.

-or-

Select the check box for the user you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View User** page appears.

5. View the following information for the user:

Section	Action
General	<p>View general information for the user.</p> <ul style="list-style-type: none"><li>• <b>Created</b> – The date the user was created.</li><li>• <b>Last Modified</b> – The date the user was last modified.</li><li>• <b>ID</b> – The user ID.</li></ul>
<b>Membership</b>	<p>View role and organization information for the user. For more information, see <a href="#">User Account Options</a>.</p>
<b>Password Expiration</b>	<p>View password expiration settings for the user. For more information, see <a href="#">User Account Options</a>.</p>
<b>Display Options</b>	<p>View dark mode settings for the user. For more information, see <a href="#">User Account Options</a>.</p>
<b>Contact Information</b>	<p>View contact information for the user. For more information, see <a href="#">User Account Options</a>.</p>
<b>API Key</b>	<p>If the user has API keys, view the access key for the user. For more information, see <a href="#">Enable API Key Authentication</a>.</p>
<b>Linked User Details</b>	<div><b>Required Tenable Security Center User Role:</b> Administrator</div> <p>View linked user accounts associated with the user:</p>



- **Linked Users** – If the user is an Administrator, view the linked Security Manager users. If the user is a Security Manager, view the linked SM-Linked users.
- **Primary User** – If the user is a linked Security Manager, view the associated Administrator user. If the user is an SM-Linked user, view the associated Security Manager user.

For more information, see [Linked User Accounts](#).

## Filter the Users Page

**Required Tenable Security Center User Role:** Any

To filter the user accounts on the **Users** page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users** (administrator users) or **Users > Users** (organizational users).

The **Users** page appears.

3. To filter the users that appear on the page, apply a filter as described in [Apply a Filter](#).

**Note:** If you are logged in with an administrator account, the **Organization** filter is set to **System** by default. To view users from other organizations, select a different organization for the **Organization** filter.

## Edit Your User Account (Administrator)

**Required Tenable Security Center User Role:** Administrator

You can edit your user account to update your password, contact information, display preferences, and other settings depending on your user role. If you want to edit a linked user account, see [Manage Linked Users](#).

**Note:** The username can be changed for all users except the first Security Manager and the first administrator of each organization.

To edit your user account as an administrator:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users**.

The **Users** page appears.

3. Right-click the row for your user account.

The actions menu appears.

-or-

Select the check box for your user account.

The available actions appear at the top of the table.

4. Click **More > Edit**.

The **Edit User** page appears.

5. Modify your user account settings. For more information, see [User Account Options](#).

**Note:** If you want to edit a Tenable Security Center user that was created via user provisioning and you enabled **User Data Sync**, edit the user in your SAML or LDAP identity provider. Otherwise, the Tenable Security Center user data synchronization overwrites your changes the next time the user logs in to Tenable Security Center using your SAML or LDAP identity provider. For more information about **User Data Sync**, see [SAML Authentication Options](#) or [LDAP Authentication Options](#).

6. Click **Submit**.

Tenable Security Center Director saves your configuration.

#### Edit Your User Account (Organizational User)

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can edit your user account to update your password, contact information, display preferences, and other settings depending on your user role. If you want to edit a linked user account, see [Manage Linked Users](#).





**Note:** The username can be changed for all users except the first Security Manager and the first administrator of each organization.

To edit your user account as an organizational user:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Username** > **Profile**.

The **Edit User Profile** page appears.

3. Modify your user account settings. For more information, see [User Account Options](#).

**Note:** If you want to edit a Tenable Security Center user that was created via user provisioning and you enabled **User Data Sync**, edit the user in your SAML or LDAP identity provider. Otherwise, the Tenable Security Center user data synchronization overwrites your changes the next time the user logs in to Tenable Security Center using your SAML or LDAP identity provider. For more information about **User Data Sync**, see [SAML Authentication Options](#) or [LDAP Authentication Options](#).

4. Click **Submit**.

Tenable Security Center Director saves your configuration.

Replace First User

**Required Tenable Security Center User Role:** Administrator

By default, the first user is the first Security Manager user account you create during setup. You can promote a different Security Manager account to first user to replace the previous Security Manager account.

When you replace a first user with a different Security Manager account, the promoted Security Manager will absorb the contents of the previous Security Manager's account. The promoted Security Manager account will keep both its objects and the objects of the previous Security Manager account, because that data is not cleared before the migration. After the replacement, the promoted Security Manager loses any previous notifications and running jobs.

**Note:** When you promote a certificate-based user account to first user, the promoted user account automatically changes to password-based authentication.



## Before you begin

- These steps assume you already have more than one Security Manager account. If you do not already have a second Security Manager account, create a new user account with the Security Manager role. For more information about creating user accounts, see [User Accounts](#).

To replace the first user with a different Security Manager user account:

1. Log in to Tenable Security Center Director via the Admin user interface.
2. Click **Users > Users**.

The **Users** page appears.

3. On the left side of the page, select the organization by which you want to filter the page.
4. Right-click the row for the current Security Manager first user.

The actions menu appears.

-or-

Select the check box for the current Security Manager first user.

The available actions appear under **More** at the top of the table.

5. Click **Replace First User**.

The **Replace First User** window appears.

6. In the **Users** drop-down, select the Security Manager that you want to promote to first user.
7. In the **New Password** box, type a new password for the user.
8. Click **Replace**.

The Security Manager you selected in step 5 is promoted to first user.

## Delete a User Account

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

### Notes:



- If you want to migrate a user's objects, you must use a Security Manager account in the user's organization to delete the user. Other roles cannot migrate user objects.
- You cannot delete the initially created Administrator and Security role users from any of your organizations. You can replace the initial Security Manager user. For more information, see [Replace First User](#).
- If you want to delete an Administrator or Security Manager with linked user accounts, you must delete the linked accounts associated with the Administrator or Security Manager before deleting the Administrator or Security Manager, as described in [Delete a Linked User Account](#). For more information about linked user accounts, see [Linked User Accounts](#).
- If you want to delete a Tenable Security Center user that was created via user provisioning, delete the user from your SAML or LDAP identity provider. If you delete a user in Tenable Security Center that was created via user provisioning without deleting the user in your SAML or LDAP identity provider, Tenable Security Center automatically re-creates the user in Tenable Security Center the next time they log in using your SAML or LDAP identity provider. For more information, see [SAML User Provisioning](#) or [LDAP User Provisioning](#).

To delete a user:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System** > **Users** (administrator users) or **Users** > **Users** (organizational users).

The **Users** page appears.

3. Select the user you want to delete:
  - To delete a single user:
    - a. In the table, right-click the row for the user you want to delete.

The actions menu appears.

- b. Click **Delete**.
- To delete multiple users:



- a. In the table, select the check box for each user you want to delete.

The available actions appear at the top of the table.

- b. At the top of the table, click **More > Delete**.

A confirmation window appears.

4. (Optional) If you want to migrate the user's objects, click the toggle to migrate the user's objects to another user. Tenable Security Center supports migrating:

- Active scans, agent scans, and scan results
- Custom assets, credentials, audit files, and scan policies
- Freeze windows
- Queries
- Tickets and alerts
- ARCs
- Dashboards
- Reports, report images, report attributes, and report results

If you do not migrate the user's objects, Tenable Security Center deletes the user's objects.

**Note:** The following are considerations for migrating objects:

- You cannot migrate objects when deleting an Administrator user because all Administrator-created objects are shared across Tenable Security Center and remain accessible after user deletion.
- If you delete a linked non-admin user, the user's objects can only be migrated to the linked Security Manager account. For more information about linked user accounts, see [Linked User Accounts](#).
- When you delete multiple users, you cannot migrate objects for the users unless you are logged in as an Administrator.

5. Click **Delete**.

Tenable Security Center deletes the user.



## Linked User Accounts

You can create *linked user accounts* and *linked non-admin user accounts* to allow users to switch between accounts without logging out and logging back in to Tenable Security Center Director.

- **[Linked User Account](#)** - A Security Manager user account that is linked to an Administrator user account.
- **[Linked Non-Admin User Account](#)** - An SM-Linked user account that is linked to a Security Manager user account.

On the **Users** page, a tooltip appears next to linked and linked non-admin users that displays the username for the associated Administrator or Security Manager account.

For more information about user accounts in Tenable Security Center Director, see [User Access](#) and [User Roles](#).

For more information about linked user accounts, see [Manage Linked Users](#).

## Linked User

Users with linked user accounts can use a single set of login credentials to log in to Tenable Security Center Director as an Administrator, then switch to a linked Security Manager, from one linked Security Manager to another, or from a linked Security Manager to the linked Administrator. You do not need to re-authenticate to switch between linked user accounts after logging in as the linked Administrator.

The following restrictions apply to linked user accounts:

- Each Administrator can have one linked Security Manager per organization.
- Each linked Security Manager can be associated with only one Administrator user account.
- Linked Security Managers cannot log in to Tenable Security Center Director directly. You must log in to the Administrator account associated with the linked Security Manager, then switch users.
- You cannot convert a standalone user account to a linked user account.
- You cannot convert a linked user account to a standalone user account. To unlink a Security



Manager user from an Administrator user, delete the linked Security Manager, then create a standalone Security Manager.

### Linked Non-Admin User

Users with linked non-admin user accounts can use a single set of login credentials to log in to Tenable Security Center Director as a Security Manager, then switch to a linked SM-Linked account, from one SM-Linked account to another, or from an SM-Linked account to the linked Security Manager. You do not need to re-authenticate to switch between linked user accounts after logging in as the linked Security Manager.

**Note:** You must have more than one organization to create a linked non-admin user. For more information about organizations, see [Organizations](#).

The following restrictions apply to linked non-admin user accounts:

- Each Security Manager can have one linked SM-Linked user account per organization.
- Each SM-Linked user account can be associated with only one Security Manager user account.
- SM-Linked user accounts cannot create, edit, or delete user accounts in the organization.
- SM-Linked users do not have access to the **Profile** page to edit their own accounts.
- SM-Linked users cannot log in to Tenable Security Center Director directly. You must log in to the Security Manager account associated with the SM-Linked account, then switch users.
- You can only create linked non-admin user accounts for TNS user accounts. Linked non-admin user accounts are not supported for LDAP or SAML user accounts.
- You cannot convert a standalone user account to a linked non-admin user account.
- You cannot convert an SM-Linked user to a standalone user account. To unlink an SM-Linked user from a Security Manager user, delete the SM-Linked user account.
- You cannot create a standalone SM-Linked user account.

### Manage Linked Users



You can create *linked user accounts* and *linked non-admin user accounts* to allow users to switch between accounts without logging out and logging back in to Tenable Security Center Director. You can add a linked Security Manager to an Administrator account, or you can add an SM-Linked user to a Security Manager account.

For more information about linked user accounts, see [Linked User Accounts](#). For more information about user account configuration options, see [User Account Options](#).

#### Add a Linked User

**Required Tenable Security Center User Role:** Administrator

To add a linked Security Manager to an Administrator, or add an SM-Linked user to a Security Manager:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Users**.

The **Users** page appears.

3. Right-click the row for the Administrator or Security Manager to which you want to add a linked user.

The actions menu appears.

-or-

Select the check box for the Administrator or Security Manager to which you want to add a linked user.

The available actions appear at the top of the table.

4. Click **Add Linked User**.

The **Add User** page appears. Tenable Security Center Director pre-populates the **First Name**, **Last Name**, and **Contact Information** fields with values from the Administrator or Security Manager user account.

5. Select an **Organization**. If you create a linked non-admin user, you can select more than one organization and Tenable Security Center Director will create one linked non-admin user for



each organization.

6. (Optional) Modify the **First Name** and **Last Name** for the user.
7. Type a **Username** for the user. If you create a linked non-admin user, Tenable Security Center Director adds the orgID to the end of the username.
8. Select a **Time Zone**.
9. (Optional) Select a **Scan Result Default Timeframe**.
10. (Optional) Enable **Cached Fetching**.
11. (Optional) Enable or disable **Dark Mode** for the user.
12. (Optional) Modify the **Contact Information** for the user.
13. Click **Submit**.

Tenable Security Center Director saves your configuration.


### Switch to a Linked User Account

Linked users can switch from the linked Administrator to a linked Security Manager, from one linked Security Manager to another, or from a linked Security Manager to the linked Administrator user. Linked non-admin users can switch from the linked Security Manager to an SM-Linked user, from one SM-Linked user to another, or from an SM-Linked user to the linked Security Manager.

To switch to a linked user account:

1. Log in to Tenable Security Center Director via the user interface.

**Note:** You must log in to the Administrator or Security Manager account associated with the linked user, then switch between linked users. Linked Security Managers and SM-Linked users cannot log in to Tenable Security Center Director directly.

2. Click your user profile  icon > **Switch User**. This option appears only if the current logged-in user already has a linked user account.

The **Switch To Linked Account** window appears.

3. Click the name of the linked user you want to switch to.
4. Click **Switch**.





Tenable Security Center Director logs you in as the selected user.

The username menu updates to show the linked user account name and associated organization.

#### Edit a Linked User Account (Administrator)

**Required Tenable Security Center User Role:** Administrator

To edit a linked user account as an Administrator:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users**.

The **Users** page appears.

3. Filter the **Users** page to show user accounts for the linked user's organization, as described in [Apply a Filter](#).

4. Right-click the row for the linked user account you want to edit.

The actions menu appears.

-or-

Select the check box for the linked user account you want to edit.

The available actions appear at the top of the table.

5. Click **More > Edit**.

The **Edit User** page appears.

6. Modify the user account settings. For more information, see [User Account Options](#).
7. Click **Submit**.

Tenable Security Center Director saves your configuration.

#### Edit a Linked User Account (Linked User)

**Required Tenable Security Center User Role:** Security Manager linked to an Administrator or an SM-Linked user linked to a Security Manager. For more information, see [User Roles](#) and [Linked](#)



## [User Accounts.](#)

To edit your linked user account as a linked user:

1. Log in to Tenable Security Center Director via the user interface.
2. Switch to a linked user account, as described in [Switch to a Linked User Account](#).
3. Click **Username** > **Profile**.

The **Edit User Profile** page appears.

4. Modify the user account settings. For more information, see [User Account Options](#).
5. Click **Submit**.

Tenable Security Center Director saves your configuration.

Delete a Linked User Account

**Required Tenable Security Center User Role:** Administrator

### **Note:**

- If you want to remove a linked user account, you must delete the linked account. You cannot convert a linked user account into a standalone user account.
- If you want to delete an Administrator or Security Manager with linked user accounts, you must delete the linked accounts associated with the Administrator or Security Manager before deleting the Administrator or Security Manager.

To delete a linked user account:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System** > **Users**.

The **Users** page appears.

3. Apply a filter to view the organization for the user you want to delete, as described in [Apply a Filter](#).
4. Select the linked user account you want to delete:



- To delete a single linked user account:
  - a. In the table, right-click the row for the linked user account you want to delete.  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple linked user accounts:
  - a. In the table, select the check box for each linked user account you want to delete.  
The available actions appear at the top of the table.
  - b. At the top of the table, click **Delete**.

A confirmation window appears.

5. (Optional) If you want to migrate the user's objects, click the toggle to migrate the user's objects to another user. Tenable Security Center Director supports migrating:

- Active scans, agent scans, and scan results
- Custom assets, credentials, audit files, and scan policies
- Freeze windows
- Queries
- Tickets and alerts
- ARCs
- Dashboards
- Reports, report images, report attributes, and report results

If you do not migrate the user's objects, Tenable Security Center Director deletes the user's objects.

**Note:** You cannot migrate objects when deleting an Administrator user because all Administrator-created objects are shared across Tenable Security Center Director and remain accessible after user deletion.

6. Click **Delete**.



Tenable Security Center Director deletes the user.

## Custom Group Permissions

When creating or editing a user account, you can customize a user's group permissions.

- Your selection in the **Group** field assigns the user to a group.
- Your selections in the **Group Permissions** section grant the user resource (user and object) permissions in their assigned group and other groups.

For more information about organizations and groups, see [Organizations and Groups](#).

In the **Group Permissions** section, the **Manage All Users** and **Manage All Objects** sliders enable or disable all of the settings in the **User Permission** and **Object Permission** columns, respectively. By default, the system enables all permissions for all groups. You can clear the check boxes in each group row to restrict the user's ability to perform the following actions on the resources within a group.

Resources Controlled by Manage Users/User Permissions	Resources Controlled by Manage Objects/Object Permissions
<ul style="list-style-type: none"><li>• Users (edit and delete)</li><li>• Groups (edit and delete)</li></ul>	<ul style="list-style-type: none"><li>• Reports (launch, stop, copy, delete, and sometimes edit)</li></ul> <div><b>Note:</b> A user can only edit reports within their assigned group, even if you grant them <b>Object Permissions</b> for another group.</div> <ul style="list-style-type: none"><li>• Report results (publish, email, copy, and delete)</li><li>• Report images (delete)</li><li>• Report attributes (delete)</li><li>• Scan results (stop, pause, and delete)</li><li>• Assets (edit, share, and delete)</li><li>• Alerts (edit and delete)</li><li>• Audit files (edit, share, and delete)</li></ul>



Resources Controlled by Manage Users/User Permissions	Resources Controlled by Manage Objects/Object Permissions
	<ul style="list-style-type: none"><li>• Tickets (edit, resolve, and close)</li><li>• Queries (edit, share, and delete)</li><li>• Dashboards (edit, share, copy, and delete)</li></ul>

## Examples

Consider the following examples for a user assigned to *Group1*.

### Control Permissions to Resources in the User's Assigned Group

- If you select the **User Permissions** and/or **Object Permissions** check boxes in the *Group1* row, the user can perform actions for all resources in *Group1*, including the resources owned by other users.
- If you clear the **User Permissions** and/or **Object Permissions** check boxes in the *Group1* row, the user cannot perform actions on resources owned by other users in *Group1*.

### Control Permissions to Resources in Other Groups

- If you select the **User Permissions** and/or **Object Permissions** check boxes in the *Group2* row, the user can perform actions for all resources in *Group2*, including the resources owned by other users.

**Note:** Although the user receives many permissions for resources in *Group2*, the user cannot edit reports owned by *Group2* users. Users must be assigned to *Group2* and have **Object Permissions** selected in order to edit reports, active scans, and agent scans.

- If you clear the **User Permissions** and/or **Object Permissions** check boxes in the *Group2* row, the user cannot perform actions on resources owned by other users in *Group2*.

## Manage API Keys



**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

API keys allow you to authenticate as a specific user for Tenable Security Center API requests. For more information, see [API Key Authentication](#).

**Note:** If you generate API keys for a user that already has API keys, the old keys will be replaced. If you delete existing keys or generate new API keys for a user, Tenable Security Center deauthorizes API requests attempted with the old keys.

## Generate API Keys

Administrators can generate API keys for any user account. Other roles can generate API keys for user accounts with the same role.

Before you begin:

- Enable API keys to allow users to perform API key authentication, as described in [Enable API Key Authentication](#).

To generate API keys:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users** (administrator users) or **Users > Users** (organizational users).

The **Users** page appears.

3. Right-click the row for the user for which you want to generate an API key.

The actions menu appears.

-or-

Select the check box for the user for which you want to generate an API key.

The available actions appear at the top of the table.

4. Click **API Keys > Generate API Key**.

A confirmation window appears.

5. Click **Generate**.



The **Your API Key** window appears, displaying the access key and secret key for the user.

6. Save the API keys in a safe location.

**Note:** You cannot view API secret keys in the Tenable Security Center interface after initial generation. If you lose your existing secret key, you must generate new API keys.

What to do next:

- Use the API keys to perform API requests, as described in [API Key Authorization](#) in the *Tenable Security Center API Best Practices Guide*.

### Delete API Keys

After you delete a user's API keys, the deleted keys cannot be used for authentication in Tenable Security Center API requests.

To delete API keys:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Users** (administrator users) or **Users > Users** (organizational users).

The **Users** page appears.

3. Right-click the row for the user for which you want to delete API keys.

The actions menu appears.

-or-

Select the check box for the user for which you want to delete API keys.

The available actions appear at the top of the table.

4. Click **API Keys > Delete API Key**.

A confirmation window appears.

5. Click **Delete**.

The system deletes the API keys.

### User Account Options



You can configure the following options for Tenable Security Center Director user accounts. The available options depend on the user type, the user's role, and the role of the user adding or editing the user.

For more information about user accounts in Tenable Security Center, see [User Accounts](#).

### TNS User Account Options

To add a TNS-authenticated user, see [Add a TNS-Authenticated User](#).

Option	Description
<b>First Name</b>	The user's first name.
<b>Last Name</b>	The user's last name.
<b>Type</b>	<p>(If LDAP or SAML are configured) The type of authentication you want to perform on the user:</p> <ul style="list-style-type: none"><li>• Tenable (<b>TNS</b>)</li><li>• Lightweight Directory Access Protocol (<b>LDAP</b>)</li><li>• Security Assertion Markup Language (<b>SAML</b>)</li></ul> <p>You must configure an LDAP server or SAML authentication in order to select <b>LDAP</b> or <b>SAML</b> from the <b>Type</b> drop-down box.</p>
<b>Username</b>	<p>(Required) The username for the user account.</p> <div><b>Note:</b> The username value is case-sensitive.</div>
<b>Password</b>	<p>(Required) The password for the user account.</p> <div><b>Tip:</b> Tenable recommends using passwords that meet stringent length and complexity requirements.</div> <p>For information about Tenable Security Center Director password data encryption, see <a href="#">Encryption Strength</a>.</p> <p>When editing a user, type a new password to change the password for the user account.</p>





<b>Confirm Password</b>	(Required) When creating a user or changing a user's password, re-type the password for the user account.
<b>Password Change</b>	<p>Click <b>Change Password</b> to change the password for the user account.</p> <p>To change a user password:</p> <ol style="list-style-type: none"><li>1. Begin editing a user account, as described in <a href="#">Manage User Accounts</a>.</li><li>2. Click <b>Change Password</b>.</li><li>3. In the <b>Current Password</b> box, type your password. If you do not have a password (for example, you have a SAML-authenticated or LDAP-authenticated user account), type any string of characters in this field.</li><li>4. In the <b>Password</b> box, type a new password.</li><li>5. In the <b>Confirm Password</b> box, type the new password again.</li><li>6. Click <b>Submit</b>.</li></ol> <p>Tenable Security Center Director saves your configuration.</p>
<b>Current Password</b>	(If you click <b>Change Password</b> ) Type your password. If you do not have a password (for example, you have a SAML-authenticated or LDAP-authenticated user account), type any string of characters in this field.
<b>User Must Change Password</b>	When enabled, the user must change their password upon initial login.
<b>Account Locked</b>	When enabled, the user cannot log in to Tenable Security Center. An administrator must unlock the user's account to allow them to log in.
<b>Time Zone</b>	(Required) The time zone for the user.
<b>Scan Result Default Timeframe</b>	The default <b>Completion Time</b> filter applied when the user accesses or refreshes the scan results page.
<b>Cached Fetching</b>	When enabled, Tenable Security Center Director caches plugin policy information and performs plugin policy downloads once per page load.



Password Expiration	
<b>Password Never Expires</b>	When enabled, the user's password will never expire. Any password expiration settings at the user or organization level will not apply to this user.
<b>Enable Password Expiration</b> or <b>Custom Password Expiration</b>	<p>When enabled, the user's password will expire after the number of days specified in the <b>Expiration Days</b> box.</p> <p>When disabled, the user's password expiration settings will default to the organization settings. For more information about organization options, see <a href="#">Organizations</a>.</p> <p>The user will receive daily password expiration notifications at login, starting 14 days before the password expires. After the password expires, the user must change their password at the next login. For more information about Tenable Security Center notifications, see <a href="#">Notifications</a>.</p>
<b>Expiration Days</b>	The number of days before the user's password expires. You can enter a number between 1 and 365.
Membership	
<b>Role</b>	<p>(Required) The role assigned to the user. For more information, see <a href="#">User Roles</a>.</p> <p>Administrator users can create <b>Administrator</b> or <b>Security Manager</b> user accounts. Organizational users can create <b>Auditor</b>, <b>Credential Manager</b>, <b>Executive</b>, <b>No Role</b>, <b>Security Analyst</b>, <b>Security Manager</b>, or <b>Vulnerability Analyst</b> accounts at their own privilege level or lower. For example:</p> <ul style="list-style-type: none"><li>• If a user is an Auditor, they can create new Auditors or lesser roles.</li><li>• If a custom user has the Create Policies privilege but not the Update Feeds privilege, that user can create users with the Create Policies privilege, but not the Update Feeds privilege.</li></ul>
<b>Organization</b>	(Required) The organization where you want to assign the user account.
<b>Group</b>	(Required) The group where you want to assign the user account. A user's group determines their access to Tenable Security Center Director



	<p>resources. For more information about groups, see <a href="#">Groups</a>.</p> <p>To grant a user limited privileges to other groups' resources, see <a href="#">Custom Group Permissions</a>.</p>
<b>Group Permissions</b>	
<b>Manage All Users</b>	When enabled, allows the user to manage users in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Manage All Objects</b>	When enabled, allows the user to manage objects in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Responsibility</b>	
<b>Asset</b>	Assigns a user to an asset list for which the user is responsible. Assigning a user to an asset list makes it easier to determine who in a group or organization should be assigned tickets, notifications, and other tasks to resolve particular issues. Selecting an asset updates the User Responsibility Summary in the <a href="#">Vulnerability Analysis</a> section.
<b>Display Options</b>	
<b>Dark Mode</b>	When enabled, sets the Tenable Security Center user interface to dark mode for the user.
<b>Use System Dark Mode Setting</b>	<p>When enabled, the Tenable Security Center Director user interface uses the operating system setting for light or dark mode. This setting overrides the <b>Dark Mode</b> setting.</p> <p>If you select the sun or moon icon in the top navigation bar, that will override the <b>Use System Dark Mode Setting</b> for the user account.</p>
<b>Contact Information</b>	



<b>Title</b>	The contact information for the user.
<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Country</b>	
<b>Email</b>	
<b>Phone</b>	

### LDAP User Account Options

You must configure an LDAP server to add LDAP-authenticated users. For more information, see [LDAP Authentication](#).

To add an LDAP-authenticated user, see [Add an LDAP-Authenticated User](#).

Option	Description
<b>First Name</b>	The user's first name.
<b>Last Name</b>	The user's last name.
<b>Type</b>	<p>(If LDAP or SAML are configured) The type of authentication you want to perform on the user:</p> <ul style="list-style-type: none"><li>• Tenable (<b>TNS</b>)</li><li>• Lightweight Directory Access Protocol (<b>LDAP</b>)</li><li>• Security Assertion Markup Language (<b>SAML</b>)</li></ul> <p>You must configure an LDAP server or SAML authentication in order to select <b>LDAP</b> or <b>SAML</b> from the <b>Type</b> drop-down box.</p>
<b>LDAP Server</b>	The LDAP server you want to use to authenticate the user.
<b>Search String</b>	The LDAP search string you want to use to filter your user search. Use the format: <i>attribute=&lt;filter text&gt;</i> . You can use wildcards, and the option accepts up to 1024 characters.



	<b>Examples</b>  sAMAccountName=*  mail=a*  displayName=C*
<b>LDAP Users Found</b>	A filtered list of LDAP user accounts retrieved by the <b>Search String</b> . Your selection in this option populates the <b>Username</b> option.
<b>Username</b>	(Required) The username, populated by your <b>LDAP Users Found</b> selection. This username must match a user on the LDAP server in order to authenticate successfully.
<b>Time Zone</b>	(Required) The time zone for the user.
<b>Scan Result Default Timeframe</b>	The default <b>Completion Time</b> filter applied when the user accesses or refreshes the scan results page.
<b>Cached Fetching</b>	When enabled, Tenable Security Center Director caches plugin policy information and performs plugin policy downloads once per page load.
<b>Membership</b>	
<b>Role</b>	<p>(Required) The role assigned to the user. For more information, see <a href="#">User Roles</a>.</p> <p>Administrator users can create <b>Administrator</b> or <b>Security Manager</b> user accounts. Organizational users can create <b>Auditor</b>, <b>Credential Manager</b>, <b>Executive</b>, <b>No Role</b>, <b>Security Analyst</b>, <b>Security Manager</b>, or <b>Vulnerability Analyst</b> accounts at their own privilege level or lower. For example:</p> <ul style="list-style-type: none"><li>• If a user is an Auditor, they can create new Auditors or lesser roles.</li><li>• If a custom user has the Create Policies privilege but not the Update Feeds privilege, that user can create users with the Create Policies privilege, but not the Update Feeds privilege.</li></ul>
<b>Organization</b>	(Required) The organization where you want to assign the user account.



<b>Group</b>	<p>(Required) The group where you want to assign the user account. A user's group determines their access to Tenable Security Center Director resources. For more information about groups, see <a href="#">Groups</a>.</p> <p>To grant a user limited privileges to other groups' resources, see <a href="#">Custom Group Permissions</a>.</p>
<b>Group Permissions</b>	
<b>Manage All Users</b>	When enabled, allows the user to manage users in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Manage All Objects</b>	When enabled, allows the user to manage objects in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Responsibility</b>	
<b>Asset</b>	Assigns a user to an asset list for which the user is responsible. Assigning a user to an asset list makes it easier to determine who in a group or organization should be assigned tickets, notifications, and other tasks to resolve particular issues. Selecting an asset updates the User Responsibility Summary in the <a href="#">Vulnerability Analysis</a> section.
<b>Display Options</b>	
<b>Dark Mode</b>	When enabled, sets the Tenable Security Center user interface to dark mode for the user.
<b>Contact Information</b>	
<b>Title</b>	The contact information for the user.
<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Country</b>	
<b>Email</b>	
<b>Phone</b>	



## SAML User Account Options

You must configure SAML authentication to add SAML-authenticated users. For more information, see [SAML Authentication](#).

To add a SAML-authenticated user, see [Add a SAML-Authenticated User](#).

Option	Description
<b>First Name</b>	The user's first name.
<b>Last Name</b>	The user's last name.
<b>Type</b>	<p>(If LDAP or SAML are configured) The type of authentication you want to perform on the user:</p> <ul style="list-style-type: none"><li>• Tenable (<b>TNS</b>)</li><li>• Lightweight Directory Access Protocol (<b>LDAP</b>)</li><li>• Security Assertion Markup Language (<b>SAML</b>)</li></ul> <p>You must configure an LDAP server or SAML authentication in order to select <b>LDAP</b> or <b>SAML</b> from the <b>Type</b> drop-down box.</p>
<b>Username</b>	(Required) The user's SAML username. Type the username exactly as it appears in your identity provider SAML configuration for this user.
<b>Time Zone</b>	(Required) The time zone for the user.
<b>Scan Result Default Timeframe</b>	The default <b>Completion Time</b> filter applied when the user accesses or refreshes the scan results page.
<b>Cached Fetching</b>	When enabled, Tenable Security Center Director caches plugin policy information and performs plugin policy downloads once per page load.
<b>Membership</b>	
<b>Role</b>	<p>(Required) The role assigned to the user. For more information, see <a href="#">User Roles</a>.</p> <p>Administrator users can create <b>Administrator</b> or <b>Security Manager</b> user accounts. Organizational users can create <b>Auditor</b>, <b>Credential Manager</b>,</p>



	<p><b>Executive, No Role, Security Analyst, Security Manager, or Vulnerability Analyst</b> accounts at their own privilege level or lower. For example:</p> <ul style="list-style-type: none"><li>• If a user is an Auditor, they can create new Auditors or lesser roles.</li><li>• If a custom user has the Create Policies privilege but not the Update Feeds privilege, that user can create users with the Create Policies privilege, but not the Update Feeds privilege.</li></ul>
<b>Organization</b>	(Required) The organization where you want to assign the user account.
<b>Group</b>	<p>(Required) The group where you want to assign the user account. A user's group determines their access to Tenable Security Center Director resources. For more information about groups, see <a href="#">Groups</a>.</p> <p>To grant a user limited privileges to other groups' resources, see <a href="#">Custom Group Permissions</a>.</p>
<b>Group Permissions</b>	
<b>Manage All Users</b>	When enabled, allows the user to manage users in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Manage All Objects</b>	When enabled, allows the user to manage objects in all of the user's assigned groups. For more information, see <a href="#">Custom Group Permissions</a> .
<b>Responsibility</b>	
<b>Asset</b>	Assigns a user to an asset list for which the user is responsible. Assigning a user to an asset list makes it easier to determine who in a group or organization should be assigned tickets, notifications, and other tasks to resolve particular issues. Selecting an asset updates the User Responsibility Summary in the <a href="#">Vulnerability Analysis</a> section.
<b>Display Options</b>	
<b>Dark Mode</b>	When enabled, sets the Tenable Security Center user interface to dark mode for the user.
<b>Contact Information</b>	





<b>Title</b>	The contact information for the user.
<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Country</b>	
<b>Email</b>	
<b>Phone</b>	

## LDAP Authentication

Adding LDAP servers allows you to use one or more external LDAP servers for Tenable Security Center Director user account authentication. LDAP authentication enhances the security of Tenable Security Center Director by inheriting password complexity requirements from environments mandated by security policy.

**Note:** Tenable Security Center Director does not support SHA1 certificates for connecting to LDAP servers. Tenable Security Center Director uses OpenSSL3, which requires SHA256 certificates for authentication.

After you configure an LDAP server, create Tenable Security Center Director user accounts for each LDAP user you want to grant access.

- To manually add LDAP-authenticated users in Tenable Security Center Director, see [Add an LDAP-Authenticated User](#).
- To automatically add LDAP-authenticated users by importing users from your LDAP identity provider, see [LDAP User Provisioning](#).

Then, users with LDAP-authenticated accounts can log in to Tenable Security Center Director using the **Sign In Using Identity Provider** button, as described in [Log In to the Web Interface](#).

You can also use configured LDAP servers as LDAP query assets. For more information, see [Assets](#).

**Note:** Tenable Security Center Director does not support Microsoft Active Directory Lightweight Directory Services (AD LDS) servers for LDAP authentication.



**Note:** Tenable Security Center Director cannot retrieve more than one page of LDAP results. If Tenable Security Center Director asset list or user authentication queries are not retrieving all expected results, consider modifying your LDAP pagination control settings to increase the results per page.

For information on how to add or delete LDAP servers, see

## LDAP Authentication Options

Configure the LDAP settings as directed by your LDAP server administrator. Click **Test LDAP Settings** to validate the connection.

Option	Description
Server Settings	
Name	(Required) A unique name for the LDAP server.
Description	A description for the LDAP server.
Hostname	(Required) The IP address or DNS name of the LDAP server.
Port	(Required) The remote LDAP port. Confirm the selection with your LDAP server administrators. <ul style="list-style-type: none"><li>• When <b>Encryption</b> is <b>None</b>, <b>Port</b> is typically <b>389</b>.</li><li>• When <b>Encryption</b> is <b>TLS</b> or <b>LDAPS</b>, <b>Port</b> is typically <b>636</b>.</li></ul>
Encryption	If the LDAP server encrypts communications, the encryption method: Transport Layer Security (STARTTLS) or LDAP over SSL (LDAPS).
Username / Password	(Required) The username and password for an account on the LDAP server with credentials to search for user data. For example, Active Directory servers require an authenticated search.  Format the username as provided by the LDAP server. <div><b>Tip:</b> It is recommended to use passwords that meet stringent length and complexity requirements.</div>
User	You can enable user provisioning to automatically create LDAP-



Option	Description
Provisioning	<p>authenticated users in Tenable Security Center by importing user accounts from your LDAP identity provider. When user provisioning is enabled, users who log in to your LDAP identity provider are automatically created in Tenable Security Center.</p> <p>Tenable Security Center supports the following LDAP authentication systems for user provisioning:</p> <ul style="list-style-type: none"><li>• Active Directory on Microsoft Server 2016 (on-premises)</li><li>• Active Directory on Microsoft Server 2019 (on-premises)</li></ul> <p>For more information, see <a href="#">LDAP User Provisioning</a>.</p> <div><b>Note:</b> If you want to delete a Tenable Security Center user that was created via LDAP user provisioning, delete the user from your LDAP identity provider. If you delete a user in Tenable Security Center that was created via LDAP user provisioning without deleting the user in your LDAP identity provider, Tenable Security Center automatically re-creates the user in Tenable Security Center the next time they log in using your LDAP identity provider.</div>
User Data Sync	<p>If you enable <b>User Provisioning</b>, you can enable <b>User Data Sync</b> to allow Tenable Security Center to automatically synchronize contact information (first name, last name, email address, and phone number) from your LDAP identity provider for Tenable Security Center users created via LDAP user provisioning. For more information, see <a href="#">LDAP User Provisioning</a>.</p> <div><b>Note:</b> If you want to edit a Tenable Security Center user that was created via LDAP user provisioning and you enabled <b>User Data Sync</b>, edit the user in your LDAP identity provider. Otherwise, the Tenable Security Center user data synchronization overwrites your changes the next time the user logs in to Tenable Security Center using your LDAP identity provider.</div>
LDAP Schema Settings	
Base DN	(Required) The LDAP search base used as the starting point to search for



Option	Description
	the user data.
User Object Filter	The string you want to use to create a search based on a location or filter other than the default search base or attribute.
User Schema Settings (Optional, if you plan to use the LDAP server only as an LDAP query asset.)	
Username Attribute	The attribute name on the LDAP server that contains the username for the account. This is often specified by the string <b>sAMAccountName</b> in Active Directory servers that may be used by LDAP. Contact your LDAP server administrator for the correct value.
E-mail Attribute	The attribute name on the LDAP server that contains the email address for the account. This is often specified by the string <b>mail</b> in Active Directory servers that may be used by LDAP. Contact your LDAP server administrator for the correct value.
Phone Attribute	The attribute name on the LDAP server that contains the telephone number for the account. This is often specified by the string <b>telephoneNumber</b> in Active Directory servers that may be used by LDAP. Contact your LDAP server administrator for the correct value.
Name Attribute	The attribute name on the LDAP server that contains the name associated with the account. This is often specified by the string <b>CN</b> in Active Directory servers that may be used by LDAP. Contact your LDAP administrator for the correct value.
Access Settings	
Organizations	The Tenable Security Center Director organizations you want to authenticate using this LDAP server.
Advanced Settings	
Lowercase	When enabled, Tenable Security Center Director modifies the usernames sent by the LDAP server to use only lowercase characters.



Option	Description
	Tenable recommends keeping this option disabled.
DNS Field	<p>The LDAP server parameter used in LDAP server requests to filter the returned asset data.</p> <p>Tenable recommends using the default value provided by Tenable Security Center Director.</p>
Time Limit	<p>The number of seconds you want Tenable Security Center Director to wait for search results from the LDAP server.</p> <p>Tenable recommends using the default value provided by Tenable Security Center Director.</p>

**Note:** Access to Active Directory is performed via AD's LDAP mode. When using multiple AD domains, LDAP access may be configured to go through the Global Catalog. Port 3268 is the default non-SSL/TLS setting, while port 3269 is used for SSL/TLS connections by default. More general information about LDAP searches via the Global Catalog may be found at: [http://technet.microsoft.com/en-us/library/cc728188\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc728188(v=ws.10).aspx).

## Manage LDAP Servers

**Required Tenable Security Center User Role:** Administrator

For more information about LDAP server options, see [LDAP Authentication](#).

### Add an LDAP Server

To add an LDAP server connection:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > LDAP Servers**.
3. Click **Add**.
4. Configure the following settings as described in the [Options](#) table:



- **Server Settings**
- **LDAP Schema Settings**
- **User Schema Settings**
- **Access Settings**

5. If necessary, modify the default **Advanced Settings**.
6. Click **Test LDAP Settings** to validate the LDAP server connection.
7. Click **Submit**.

What to do next:

- Add LDAP-authenticated user accounts.
  - To manually add LDAP-authenticated users in Tenable Security Center, see [Add an LDAP-Authenticated User](#).
  - To automatically add LDAP-authenticated users by importing users from your LDAP identity provider, see [Configure LDAP User Provisioning](#).

Delete an LDAP Server

**Note:** If you delete a connection to an LDAP server, the users associated with that server cannot log in to Tenable Security Center Director. Tenable recommends reconfiguring associated user accounts before deleting LDAP server connections.

To delete an LDAP server connection:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > LDAP Servers**.
3. Select the server connection you want to delete:



- To delete a single server connection:
  - a. In the table, right-click the row for the server connection you want to delete.  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple server connections:
  - a. In the table, select the check box for each server connection you want to delete.  
The available actions appear at the top of the table.
  - b. At the top of the table, click **Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center Director deletes the LDAP server.

## LDAP User Provisioning

You can enable user provisioning to automatically create LDAP-authenticated users in Tenable Security Center by importing user accounts from your LDAP identity provider. When user provisioning is enabled, users who log in to your LDAP identity provider are automatically created in Tenable Security Center.

Tenable Security Center supports the following LDAP authentication systems for user provisioning:

- Active Directory on Microsoft Server 2016 (on-premises)
- Active Directory on Microsoft Server 2019 (on-premises)

For more information about LDAP authentication in Tenable Security Center, see [LDAP Authentication](#).

If you enable user provisioning and a user who does not have a Tenable Security Center user account logs in using your LDAP identity provider, Tenable Security Center automatically creates a user account for them in Tenable Security Center.

Tenable Security Center creates users using data from attribute fields you map to the corresponding fields in your LDAP identity provider. If you enable **User Data Sync** for an LDAP server, each time a user logs into Tenable Security Center using your LDAP identity provider,



Tenable Security Center updates any mapped attribute fields in Tenable Security Center with values from the fields in your LDAP identity provider. For more information about **User Data Sync**, see [LDAP Authentication Options](#).

**Note:** If you want to edit a Tenable Security Center user that was created via LDAP user provisioning and you enabled **User Data Sync**, edit the user in your LDAP identity provider. Otherwise, the Tenable Security Center user data synchronization overwrites your changes the next time the user logs in to Tenable Security Center using your LDAP identity provider.

**Note:** If you want to delete a Tenable Security Center user that was created via LDAP user provisioning, delete the user from your LDAP identity provider. If you delete a user in Tenable Security Center that was created via LDAP user provisioning without deleting the user in your LDAP identity provider, Tenable Security Center automatically re-creates the user in Tenable Security Center the next time they log in using your LDAP identity provider.

For more information, see [Configure LDAP User Provisioning](#).

## Configure LDAP User Provisioning

**Required Tenable Security Center User Role:** Administrator

You can enable user provisioning to automatically create LDAP-authenticated users in Tenable Security Center by importing user accounts from your LDAP identity provider. When user provisioning is enabled, users who log in to your LDAP identity provider are automatically created in Tenable Security Center.

Tenable Security Center supports the following LDAP authentication systems for user provisioning:

- Active Directory on Microsoft Server 2016 (on-premises)
- Active Directory on Microsoft Server 2019 (on-premises)

For more information, see [LDAP User Provisioning](#).

To manually create LDAP-authenticated users in Tenable Security Center, see [Add an LDAP-Authenticated User](#).

For more information about user account configuration options, see [LDAP User Account Options](#).

Before you begin:





1. (Recommended) Create a backup of your user directory in your LDAP identity provider.
2. In Tenable Security Center, add an LDAP server, as described in [Manage LDAP Servers](#).
3. In your LDAP identity provider, create the following custom user attributes: `tenableRoleID`, `tenableGroupID`, and `tenableOrgID`.
4. In your LDAP identity provider, specify the role, group, and organization you want to assign the user in Tenable Security Center:
  - a. In the `tenableRoleID` attribute field, type the ID for the Tenable Security Center role you want to assign to the user. To locate the ID for a role, see [View User Role Details](#).
  - b. In the `tenableGroupID` attribute field, type the ID for the Tenable Security Center group you want to assign to the user. To locate the ID for a group, see [View Group Details](#).
  - c. In the `tenableOrgID` attribute field, type the ID for the Tenable Security Center organization you want to assign to the user. To locate the ID for an organization, see [View Organization Details](#).

To enable LDAP user provisioning for an LDAP server:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Resources > LDAP Servers**.

The **LDAP Servers** page appears.

3. Right-click the row for the LDAP server where you want to enable user provisioning.

The actions menu appears.

-or-

Select the check box for the LDAP server where you want to enable user provisioning.

The available actions appear at the top of the table.

4. Click **Edit**.

The **Edit LDAP Server** page appears.

5. In the **Server Settings** section, click the toggle to enable **User Provisioning**.



6. (Optional) To automatically update contact information (first name, last name, email address, and phone number) for users created via LDAP user provisioning, click the **User Data Sync** toggle. For more information about **User Data Sync**, see [LDAP Authentication Options](#).
7. (Optional) In the **User Schema Settings** section, type the names of the attributes in your LDAP identity provider you want to use to populate the **Username**, **Email**, **Phone**, **First Name**, and **Last Name** for users created via LDAP user provisioning. For more information about user account options, see [LDAP User Account Options](#).

**Note:** If you enable **User Data Sync** and configure the options in the **User Schema Settings** section, Tenable Security Center automatically updates the attributes in the **User Schema Settings** section with values from your LDAP identity provider. For more information, see [LDAP Authentication Options](#).

8. Click **Submit**.

Tenable Security Center Director saves your configuration.

## LDAP Servers with Multiple OUs

Tenable's Tenable Security Center Director LDAP configuration does not support the direct addition of multiple Organizational Units (OUs) in the LDAP configuration page. Two deployment options are possible for those with multiple OUs.

For general information about LDAP Servers, see [LDAP Authentication](#).

### Option 1 (Recommended)

When you complete these changes, new users who are members of this group can log in immediately. No restart is required.

Before you begin:

- In LDAP, add a new group for Tenable Security Center Director users.
- In LDAP, allow existing Active Directory users to become members of the new group.

To configure LDAP with multiple OUs (Option 1):



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Resources > LDAP Servers**.
3. Add the LDAP server, as described in [Manage LDAP Servers](#).

**Note:** Use the Distinguished Name (DN) of the new group as the **Search Base** (e.g., *CN=Tenablesec,DC=target,DC=example,DC=com*).

4. Log out of Tenable Security Center Director.
5. Log in to Tenable Security Center Director as the organizational user you want to manage the users.
6. Create a user account for each Active Directory user in the new group, as described in [Add an LDAP-Authenticated User](#).

In the **Search String** box, type **=\***.

## Option 2

Use a high level **Search Base** in the LDAP configuration. For example:

**DC=target,DC=example,DC=com.**

The example above could be used along with a **Search String** for global usage. As another example, you might use this search string, when used in the configuration, applies to all LDAP searches:

*memberOf=CN=nested1,OU=cftest1,DC=target,DC=example,DC=com*

**Note:** This option is limited to 128 characters.

To configure LDAP with multiple OUs (Option 2):

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Resources > LDAP Servers**.
3. Begin configuring the LDAP server, as described in [Manage LDAP Servers](#).

LDAP Configuration

← Back

Test LDAP Settings

Server Settings

Hostname

192.168.55.33

Port

636

Encryption

LDAPS

Username

TARGET\Administrator

Password

Password Set

LDAP Schema

Base DN

DC=target,DC=example,DC=com

User Object Filter

memberOf=CN=nested1,OU=ctest1,DC=t

User Schema Settings

Username Attribute

sAMAccountName

E-mail Attribute

mail

Phone Attribute

telephoneNumber

Name Attribute

CN

Submit

Cancel

- Click **Test LDAP Settings** to test configurations.
- Log out of Tenable Security Center Director.
- Log in to Tenable Security Center Director as the organizational user you want to manage the users.
- Create a user account for each Active Directory user, as described in [Add an LDAP-Authenticated User](#).

In the **Search String** box, type **=\***.

## SAML Authentication



You can configure SAML authentication so that Tenable Security Center Director users can use identity provider-initiated single sign-on (SSO) when logging in to Tenable Security Center Director. Tenable Security Center Director supports SAML 2.0-based authentication (for example, Okta, OneLogin, Microsoft ADFS, or Shibboleth 2.0).

For more information, see:

- [Tenable SAML Configuration Quick-Reference Guide](#)
- [Configure SAML Authentication Automatically via the User Interface](#)
- [Configure SAML Authentication Manually via the User Interface](#)
- [Configure SAML Authentication via the SimpleSAML Module](#)

After you configure SAML authentication, create Tenable Security Center Director user accounts for each SAML user you want to grant access.

- To manually add SAML-authenticated users in Tenable Security Center Director, see [Add a SAML-Authenticated User](#).
- To automatically add SAML-authenticated users by importing users from your SAML identity provider, see [SAML User Provisioning](#).

Then, users with SAML-authenticated accounts can log in to Tenable Security Center Director using the **Sign In Using Identity Provider** button, as described in [Log In to the Web Interface](#).

## Considerations for Advanced SAML Features

Because Tenable Security Center Director cannot accept private keys to decrypt SAML assertions, Tenable Security Center Director does not support SAML assertion encryption. If you want to configure SAML authentication in Tenable Security Center Director, choose an identity provider that does not require assertion encryption and confirm that assertion encryption is not enabled.

For information about Tenable Security Center Director communications encryption, see [Encryption Strength](#).

**Note:** Tenable Support does not assist with configuring or troubleshooting advanced SAML features.

## SAML Authentication Options



Option	Description
<b>SAML</b>	<p>Specifies whether SAML authentication is enabled or disabled.</p> <p>If you disable SAML, the system clears your SAML configuration settings and prevents SAML-authenticated user accounts from accessing Tenable Security Center.</p>
<b>Source</b>	<p>Specifies your SAML configuration method:</p> <ul style="list-style-type: none"><li>• <b>Import</b> – Configure SAML authentication by uploading the metadata file provided by your identity provider, as described in <a href="#">Configure SAML Authentication Automatically via the User Interface</a>.</li><li>• <b>Entry</b> – Configure SAML authentication by manually configuring SAML options using data from the metadata file provided by your identity provider, as described in <a href="#">Configure SAML Authentication Manually via the User Interface</a>.</li></ul>
<b>Type</b>	<p>Specifies the identity provider you are using: <b>SAML 2.0</b> (e.g., Okta, OneLogin, Shibboleth 2.0, etc.).</p>
<b>Entity ID</b>	<p>The name of the Entity ID attribute. Type the attribute exactly as it appears in your identity provider SAML configuration. The Entity ID must be in URL format.</p> <div><b>Tip:</b> This is the <b>Federation Service Identifier</b> value in Microsoft ADFS.</div>
<b>Identity Provider (IdP)</b>	<p>The identity provider identifier string.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• The <b>Identity Provider Issuer</b> value in Okta.</li><li>• The <b>Federation Service Identifier</b> value in Microsoft ADFS.</li></ul>
<b>Username Attribute</b>	<p>The name of the SAML username attribute. Type the attribute exactly as it appears in your identity provider SAML configuration.</p> <p>For example, if your SAML username attribute is <b>NameID</b>, specify <b>NameID</b> to instruct Tenable Security Center to recognize users who match the</p>



Option	Description
	format NameID= <i>username</i> .
<b>Single Sign-on Service</b>	The identity provider URL where users log in via single sign-on. Type the URL exactly as it appears in your identity provider SAML metadata.
<b>Single Logout Service</b>	The identity provider URL where users log out. Type the URL exactly as it appears in your identity provider SAML metadata.
<b>Certificate Data</b>	The text of the identity provider's X.509 SSL certificate, without the ===BEGIN CERT=== and the ===END CERT=== strings.
<b>User Provisioning</b>	<p>You can enable user provisioning to automatically create SAML-authenticated users in Tenable Security Center Director by importing user accounts from your SAML identity provider. When user provisioning is enabled, users who log into your SAML identity provider are automatically created in Tenable Security Center Director. For more information, see <a href="#">SAML User Provisioning</a>.</p> <div><p><b>Note:</b> If you want to delete a Tenable Security Center user that was created via SAML user provisioning, delete the user from your SAML identity provider. If you delete a user in Tenable Security Center that was created via SAML user provisioning without deleting the user in your SAML identity provider, Tenable Security Center automatically re-creates the user in Tenable Security Center the next time they log in using your SAML identity provider.</p></div>
<b>User Data Sync</b>	<p>If you enabled <b>User Provisioning</b>, you can enable <b>User Data Sync</b> to allow Tenable Security Center to automatically synchronize contact information from your SAML identity provider for Tenable Security Center users created via SAML user provisioning. For more information, see <a href="#">SAML User Provisioning</a>.</p> <div><p><b>Note:</b> If you want to edit a Tenable Security Center user that was created via SAML user provisioning and you enabled <b>User Data Sync</b>, edit the user in your SAML identity provider. Otherwise, the Tenable Security Center user data sync overwrites your changes the next time the user logs in to Tenable Security Center using your SAML identity</p></div>



Option	Description
	<div>provider.</div> <div><b>Note:</b> Tenable Security Center does not update required fields (<b>Organization ID</b>, <b>Group ID</b>, and <b>Role ID</b>). To change the organization, group, or role for a user created via SAML user provisioning, see <a href="#">Manage User Accounts</a>.</div>

## Configure SAML Authentication Automatically via the User Interface

**Required Tenable Security Center User Role:** Administrator

You can use this method to configure most types of SAML authentication via the Tenable Security Center Director user interface. If you encounter issues with this method (for example, when configuring Microsoft ADFS), try the module method described in [Configure SAML Authentication via the SimpleSAML Module](#).

For more information about SAML authentication and SAML authentication options, see [SAML Authentication](#).

Before you begin:

- Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.
- Save your identity provider SAML metadata file to a directory on your local computer.

To automatically configure SAML authentication for Tenable Security Center Director users:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **SAML** button.

The **SAML Configuration** page appears.





4. In the **General** section, confirm the **SAML** toggle is enabled.

If you want to disable SAML authentication for Tenable Security Center Director users, click the toggle.

5. In the **Source** drop-down box, select **Import**.

The page updates to display additional options.

6. In the **Type** drop-down box, select **SAML 2.0** (e.g., Okta, OneLogin, Shibboleth 2.0, etc.).
7. Click **Choose File** and browse to the SAML metadata file from your identity provider.

**Note:** The metadata file must match the **Type** you selected. If Tenable Security Center Director rejects the file, contact your identity provider for assistance.

8. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Click **Download SAML Configuration XML**, save the .xml file locally, and use it to configure your identity provider SAML configuration. For more information, see [SAML Authentication XML Configuration Examples](#).
- Add SAML-authenticated user accounts.
  - To manually add SAML-authenticated users in Tenable Security Center Director, see [Add a SAML-Authenticated User](#).
  - To automatically add SAML-authenticated users by importing users from your SAML identity provider, see [Configure SAML User Provisioning](#).
- Instruct users to log in to Tenable Security Center Director using the **Sign In Using Identity Provider** button, as described in [Log In to the Web Interface](#).

Configure SAML Authentication Manually via the User Interface

**Required Tenable Security Center User Role:** Administrator

You can use this method to configure most types of SAML authentication via the Tenable Security Center Director interface. However, you may prefer a more streamlined method:



- To configure SAML Authentication automatically, use the method described in [Configure SAML Authentication Automatically via the User Interface](#).
- If you encounter issues with either method (for example, when configuring Microsoft ADFS), try the module method described in [Configure SAML Authentication via the SimpleSAML Module](#).

For more information about SAML authentication and SAML authentication options, see [SAML Authentication](#).

Before you begin:

- Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.
- Save your identity provider SAML metadata file to a directory on your local computer.

To configure SAML authentication for Tenable Security Center Director users:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **SAML** button.

The **SAML Configuration** page appears.

4. In the **General** section, confirm the **SAML** toggle is enabled.

If you want to disable SAML authentication for Tenable Security Center Director users, click the toggle.

5. In the **Source** drop-down box, select **Entry**.

The page updates to display additional options.

6. In the **SAML Settings** section, configure the options:



- a. In the **Type** drop-down box, select **SAML 2.0** (e.g., Okta, OneLogin, Shibboleth 2.0, etc.).
- b. In the **Entity ID** box, type the name of the Entity ID attribute exactly as it appears in your identity provider SAML configuration. The **Entity ID** must be in URL format.
- c. In the **Identity Provider (IdP)** box, type identity provider identifier string.
- d. In the **Username Attribute** box, type the SAML username attribute exactly as it appears in your identity provider SAML configuration. This field is case-sensitive.
- e. In the **Single Sign-on Service** box, type the identity provider URL where users log in via single sign-on exactly as it appears in your identity provider SAML metadata.
- f. In the **Single Logout Service** box, type the identity provider URL where users log out exactly as it appears in your identity provider SAML metadata.
- g. In the **Certificate Data** box, paste the text of the identity provider's X.509 SSL certificate, without the `===BEGIN CERT===` and the `===END CERT===` strings.

7. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Click **Download SAML Configuration XML**, save the .xml file locally, and use it to configure your identity provider SAML configuration. For more information, see [SAML Authentication XML Configuration Examples](#).
- Add SAML-authenticated user accounts.
  - To manually add SAML-authenticated users in Tenable Security Center Director, see [Add a SAML-Authenticated User](#).
  - To automatically add SAML-authenticated users by importing users from your SAML identity provider, see [Configure SAML User Provisioning](#).
- Instruct users to log in to Tenable Security Center Director using the **Sign In Using Identity Provider** button, as described in [Log In to the Web Interface](#).

Configure SAML Authentication via the SimpleSAML Module

**Required Tenable Security Center User Role:** Administrator



**Note:** These instructions are not for general configuration. These steps should be used only by advanced users or for custom configuration. The recommended method for configuring SAML authentication is via the Tenable Security Center interface:

- [Configure SAML Authentication Automatically via the User Interface](#)
- [Configure SAML Authentication Manually via the User Interface](#)

If you encounter issues [configuring SAML via the Tenable Security Center interface](#), you can use a hidden SimpleSAML module to automatically configure SAML authentication.

For general information, see [SAML Authentication](#).

Before you begin:

- Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.
- Save your identity provider SAML metadata file to a directory on your local computer.

To configure SAML authentication via the SimpleSAML module:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **SAML** button.

The **SAML Configuration** page appears.

4. Type placeholder values into all SAML configuration options. You do not need to configure valid values.
5. Click **Submit**.

Tenable Security Center Director saves your configuration.

6. Log in to Tenable Security Center Director via the command line interface (CLI).
7. Navigate to and open the `/opt/sc/support/etc/SimpleSAML/config/authsources.php` file.
8. Copy and paste the following text into the file, between the `) ,` line and the `) ;` line:



```
// This is a authentication source which handles admin authentication.
'admin' => array(
// The default is to use core:AdminPassword, but it can be replaced with
// any authentication source.

'core:AdminPassword',
),
```

9. Save the file.
10. Navigate to and open the `/opt/sc/support/etc/SimpleSAML/config/config.php` file.
11. Copy and paste the following text into the file to enable the admin module:

```
'module.enable' => [
'admin' => true,
],
```

12. Save the file.
13. In a browser, navigate to **`https://<Tenable Security Center IP address or hostname>/saml/module.php/core/frontpage_config.php`**.  
  
The **SimpleSAML.php installation** page appears.
14. On the **Configuration** tab, click **Login as administrator**.  
  
The **Enter your username and password** page appears.
15. In the **Username** box, type *admin*.
16. In the **Password** box, type *admin*.
17. Click **Login**.
18. On the **Federation** tab, in the **Tools** section, click **XML to SimpleSAML.php metadata converter**.  
  
The **Metadata parser** page appears.
19. Click **Choose File** and select your identity provider SAML metadata file.



20. Click **Parse**.

Tenable Security Center Director validates the identity provider SAML metadata file. If the metadata file is supported, Tenable Security Center Director populates the XML metadata box with content from your metadata file. If the metadata file is not supported, you cannot use it for SAML authentication in Tenable Security Center Director.

21. In the **saml20-idp-remote** section, copy the text in the box.
22. Log in to Tenable Security Center Director via the command line interface (CLI).
23. Navigate to and open the `/opt/sc/support/etc/SimpleSAML/metadata/saml20-idp-remote.php` file (for SAML 2.0 or Shibboleth 2.0).
24. Paste the text into the file, after the `<?php` line.
25. Save the file.
26. Navigate to and open the `/opt/sc/support/etc/SimpleSAML/config/authsources.php` file again.
27. Confirm the **idp** URL in the `authsources.php` file matches the **\$metadata** URL in the `saml20-idp-remote.php` or `shib13-idp-remote.php` file:

Valid `authsources.php` syntax example:

```
'idp' => 'http://www.okta.com/abcdefghijklmnpqr0s1'
```

Valid `saml20-idp-remote.php` or `shib13-idp-remote.php` syntax example:

```
$metadata['http://www.okta.com/abcdefghijklmnpqr0s1']
```

28. In a browser, navigate to **`https://<Tenable Security Center IP address or hostname>/saml/module.php/core/frontpage_config.php`**.

The **SimpleSAML.php installation** page appears.

29. On the **Authentication** tab, click **Test configured authentication sources**.

The **Test authentication sources** page appears.

30. Click **1**.



Your identity provider login page appears.

31. Log in to your identity provider.

The **SAML 2.0 SP Demo Example** page appears. If this page does not appear, the configuration did not succeed.

What to do next:

- In the Tenable Security Center interface, on the **SAML Configuration** page, click **Download SAML Configuration XML**, save the .xml file locally, and use it to configure your identity provider SAML configuration. For more information, see [SAML Authentication XML Configuration Examples](#).
- Add SAML-authenticated user accounts.
  - To manually add SAML-authenticated users in Tenable Security Center Director, see [Add a SAML-Authenticated User](#).
  - To automatically add SAML-authenticated users by importing users from your SAML identity provider, see [Configure SAML User Provisioning](#).
- Instruct users to log in to Tenable Security Center Director using the **Sign In Using Identity Provider** button, as described in [Log In to the Web Interface](#).

## SAML User Provisioning

You can enable user provisioning to automatically create SAML-authenticated users in Tenable Security Center Director by importing user accounts from your SAML identity provider. When user provisioning is enabled, users who log into your SAML identity provider are automatically created in Tenable Security Center Director. For more information about SAML authentication in Tenable Security Center, see [SAML Authentication](#).

**Tip:** Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.

If you enable user provisioning and a user who does not have a Tenable Security Center Director user account logs in using your SAML identity provider, Tenable Security Center Director automatically creates a user account for them in Tenable Security Center Director.



Tenable Security Center Director creates users using data from attribute fields you map to the corresponding fields in your SAML identity provider. If you enable **User Data Sync**, each time a user logs into Tenable Security Center Director using your SAML identity provider, Tenable Security Center Director updates any mapped attribute fields in Tenable Security Center Director with values from the fields in your SAML identity provider. For more information about **User Data Sync**, see [SAML Authentication Options](#).

**Note:** If you want to edit a Tenable Security Center user that was created via SAML user provisioning and you enabled **User Data Sync**, edit the user in your SAML identity provider. Otherwise, the Tenable Security Center user data sync overwrites your changes the next time the user logs in to Tenable Security Center using your SAML identity provider.

**Note:** If you want to delete a Tenable Security Center user that was created via SAML user provisioning, delete the user from your SAML identity provider. If you delete a user in Tenable Security Center that was created via SAML user provisioning without deleting the user in your SAML identity provider, Tenable Security Center automatically re-creates the user in Tenable Security Center the next time they log in using your SAML identity provider.

For more information, [Configure SAML User Provisioning](#).

Configure SAML User Provisioning

**Required Tenable Security Center User Role:** Administrator

You can enable user provisioning to automatically create SAML-authenticated users in Tenable Security Center Director by importing user accounts from your SAML identity provider. When user provisioning is enabled, users who log into your SAML identity provider are automatically created in Tenable Security Center Director. For more information, see [SAML User Provisioning](#).

To manually create SAML-authenticated users in Tenable Security Center Director, see [Add a SAML-Authenticated User](#).

For more information about user account configuration options, see [SAML User Account Options](#).

Before you begin:

- Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.





- Configure SAML authentication, as described in [Configure SAML Authentication Manually via the User Interface](#).

To import SAML-authenticated user accounts from your SAML identity provider:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **SAML** button.

The **SAML Configuration** page appears.

4. In the **SAML Settings** section, click the toggle to enable **User Provisioning**.
5. (Optional) To automatically update contact information for imported SAML-authenticated users, click the **User Data Sync** toggle. For more information about **User Data Sync**, see [SAML Authentication Options](#).
6. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- In your SAML identity provider, map the required Tenable Security Center user attribute fields to the corresponding fields for users in your identity provider: **Organization ID**, **Group ID**, and **Role ID**.

**Note:** Tenable Security Center Director uses the fields listed in the **Attribute Mapping** section to create and update users in Tenable Security Center Director. Any Tenable fields that you map to corresponding fields in your SAML identity provider populate when Tenable Security Center Director imports SAML users into Tenable Security Center Director. If you enable **User Data Sync**, each time a user logs into Tenable Security Center Director using your SAML identity provider, Tenable Security Center Director updates any mapped attribute fields in Tenable Security Center Director with values from the corresponding fields in your SAML identity provider.

## SAML Authentication XML Configuration Examples



**Tip:** Review the [Tenable SAML Configuration Quick-Reference](#) guide for a step-by-step guide of how to configure SAML for use with Tenable Security Center Director.

Identity provider SAML configurations vary widely, but you can use the following examples to guide your SAML-side configurations.

### OneLogin Example

In the OneLogin SAML configuration, paste data from your .xml download file.

OneLogin Field	Description
Relay State	Leave this field blank.
Audience	Type <code>https://tenable.sc</code> .
Recipient	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/sp/saml2-ac.php/1</code> , where <code>&lt;Tenable Security Center host&gt;</code> is the IP address or hostname for Tenable Security Center Director.
ACS (Consumer) URL Validator	Type <code>-*</code> .
ACS (Consumer) URL	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/sp/saml2-ac.php/1</code> , where <code>&lt;Tenable Security Center host&gt;</code> is the IP address or hostname for Tenable Security Center Director.
Single Logout URL	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/index.php?sls</code> , where <code>&lt;Tenable Security Center host&gt;</code> is the IP address or hostname for Tenable Security Center Director.

### Okta Example

In the Okta SAML configuration, paste data from your .xml download file.



Okta Field	Description
General	
Single Sign On URL	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/sp/saml2-ac.s.php/1</code> , where <i>&lt;Tenable Security Center host&gt;</i> is the IP address or hostname for Tenable Security Center Director.
Recipient URL	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/sp/saml2-ac.s.php/1</code> , where <i>&lt;Tenable Security Center host&gt;</i> is the IP address or hostname for Tenable Security Center Director.
Destination URL	Type <code>https://&lt;Tenable Security Center host&gt;/saml/module.php/saml/sp/saml2-ac.s.php/1</code> , where <i>&lt;Tenable Security Center host&gt;</i> is the IP address or hostname for Tenable Security Center Director.
Audience Restriction	Type <code>https://tenable.sc.</code>
Default Relay State	Leave this field blank.
Name ID Format	Set to Unspecified.
Response	Set to Signed.
Assertion Signature	Set to Signed.
Signature Algorithm	Set to RSA_SHA256.
Digest Algorithm	Set to SHA256.
Assertion Encryption	Set to Unencrypted.
SAML Single Logout	Set to Disabled.
authnContextClassRef	Set to PasswordProtectedTransport.
Honor Force Authentication	Set to Yes.
SAML Issuer ID	Type <code>http://www.okta.com/\${org.externalKey}</code> .



Okta Field	Description
Attribute Statements	
FirstName	Set to <b>Name Format:</b> Unspecified and <b>Value:</b> <code>user.firstName</code> .
LastName	Set to <b>Name Format:</b> Unspecified and <b>Value:</b> <code>user.lastName</code> .
Email	Set to <b>Name Format:</b> Unspecified and <b>Value:</b> <code>user.email</code> .
username	Set to <b>Name Format:</b> Unspecified and one of the following: <ul style="list-style-type: none"><li>• <b>Value:</b> <code>user.displayName</code>, if your Tenable Security Center Director user account usernames are full names (e.g., Jill Smith).</li><li>• <b>Value:</b> <code>user.email</code>, if your Tenable Security Center Director user account usernames are email addresses (e.g., jsmith@website.com).</li><li>• <b>Value:</b> <code>user.login</code>, if your Tenable Security Center Director user account usernames are name-based text strings (e.g., jsmith).</li></ul>

## Microsoft ADFS Example

In the Microsoft ADFS configuration, paste data from your .xml download file.

Microsoft ADFS Configuration	Description
Edit Authentication Methods window	
Extranet	Select, at minimum, the <b>Forms Authentication</b> check box.
Intranet	Select, at minimum, the <b>Forms Authentication</b> check box.
Add Relying Party Trust wizard	
Welcome section	<ul style="list-style-type: none"><li>• Select <b>Claims aware</b>.</li></ul>



Microsoft ADFS Configuration	Description
	<ul style="list-style-type: none"><li>• Select <b>Import data about the relying party from a file</b>.</li><li>• Browse to and select the SAML configuration .xml file you downloaded from Tenable Security Center Director.</li></ul> <div><b>Note:</b> If you see a warning that some content was skipped, click <b>Ok</b> to continue.</div>
Specify Display Name section	In the <b>Display Name</b> box, type your Tenable Security Center Director FQDN.
Configure Certificate section	Browse to and select the encryption certificate you want to use.
Choose Access Control Policy section	Select the <b>Permit everyone</b> policy.
Ready to Add Trust section	<ul style="list-style-type: none"><li>• On the <b>Advanced</b> tab, select <b>SHA256</b> or the value dictated by your security policy.</li><li>• On the <b>Identifiers</b> tab, confirm the information is accurate.</li><li>• On the <b>Endpoints</b> tab, confirm the information is accurate.</li></ul>
Finish section	Select the <b>Configure claims issuance policy for this application</b> check box.
Edit Claim Issuance Policy window	<p>Add one or more claim rules to specify the ADFS value you want Tenable Security Center Director to use when authenticating SAML users. For example:</p> <p><b>To transform an incoming claim:</b></p> <ol style="list-style-type: none"><li>1. In <b>Incoming claim type</b>, select <b>Email address</b> or <b>UPN</b>.</li><li>2. In <b>Outgoing claim type</b>, select <b>Name ID</b>.</li></ol>



Microsoft ADFS Configuration	Description
	<ol style="list-style-type: none"><li>3. In <b>Outgoing name ID format</b>, select <b>Transient Identifier</b>.</li><li>4. Select the <b>Pass through all claim values</b> check box.</li></ol> <p><b>To send LDAP attributes as claim:</b></p> <ol style="list-style-type: none"><li>1. In <b>Attribute store</b>, select <b>Active Directory</b>.</li><li>2. In <b>LDAP Attribute</b>, select <b>E-Mail Addresses</b>.</li><li>3. In <b>Outgoing Claim Type</b>, select <b>E-Mail Addresses</b>.</li></ol> <div><b>Note:</b> Tenable Support does not assist with claim rules.</div>

## Certificate Authentication

**Note:** Tenable has validated certificate support for Signature Algorithms up to SHA-384 and RSA key sizes of up to 4096 bits.

You can use configure SSL client certificate authentication for Tenable Security Center Director user account authentication. Tenable Security Center Director supports:

- SSL client certificates
- smart cards
- personal identity verification (PIV) cards
- Common Access Cards (CAC)

Configuring certificate authentication is a multi-step process.

To fully configure SSL client certificate authentication for Tenable Security Center Director user accounts:

1. Configure Tenable Security Center Director to allow SSL client certificate authentication, as described in [Configure Tenable Security Center Director to Allow SSL Client Certificate Authentication](#).



2. Configure Tenable Security Center Director to trust certificates from your CA, as described in [Trust a Custom CA](#).
3. Add TNS-authenticated user accounts for the users you want to authenticate via certificate, as described in [Add a TNS-Authenticated User](#).
4. (Optional) If you want to validate client certificates against a certificate revocation list (CRL), configure CRLs or OCSP in Tenable Security Center Director, as described in [Configure a CRL in Tenable Security Center Director](#) or [Configure OCSP Validation in Tenable Security Center Director](#).

What to do next:

- Instruct users to log in to Tenable Security Center Director via certificate, as described in [Log in to the Web Interface via SSL Client Certificate](#).

## Configure Tenable Security Center Director to Allow SSL Client Certificate Authentication

You must configure the Tenable Security Center Director server to allow SSL client certificate connections. For complete information about certificate authentication, see [Certificate Authentication](#).

To allow SSL client certificate authentication:

1. Open the `/opt/sc/support/conf/sslverify.conf` file in a text editor.
2. Edit the **SSLVerifyClient** setting:

Value	Description
none (default)	Tenable Security Center Director does not accept SSL certificates for user authentication.
require	Tenable Security Center Director requires a valid SSL certificate for user authentication.
optional	Tenable Security Center Director accepts but does not require a valid SSL certificate for user authentication.  If a user does not present a certificate, they can log in via username and



Value	Description
	<p>password.</p> <div><b>Note:</b> Some browsers may not connect to Tenable Security Center when you use the <b>optional</b> setting.</div>
optional_no_ca	<p>Tenable Security Center Director accepts valid and invalid SSL certificates for user authentication.</p> <div><b>Tip:</b> This setting does not configure reliable user authentication, but you can use it to troubleshoot issues with your SSL connection and determine whether there is an issue with the key or the CA.</div>

3. Edit the **SSLVerifyDepth** setting to specify the length of the certificate chain you want Tenable Security Center Director to accept for user authentication. For example:

- When set to **0**, Tenable Security Center Director accepts self-signed certificates.
- When set to **1**, Tenable Security Center Director does not accept intermediate certificates. Tenable Security Center Director accepts self-signed certificates or certificates signed by known CAs.
- When set to **2**, Tenable Security Center Director accepts up to 1 intermediate certificate. Tenable Security Center Director accepts self-signed certificates, certificates signed by known CAs, or certificates signed by unknown CAs whose certificate was signed by a known CA.

4. Save the file.

Tenable Security Center Director saves your configuration.

## Configure a CRL in Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

You can enable a certificate revocation list (CRL) in Tenable Security Center Director to prevent users from authenticating to Tenable Security Center Director if their certificate matches a revocation in the CRL.





**Note:** Tenable Support does not assist with CRL creation or configuration in Tenable Security Center Director.

Before you begin:

- Confirm that you have the `mod_ssl` Apache module installed on Tenable Security Center Director.
- Back up the `/opt/sc/data/CA/` directory in case you encounter issues and need to restore the current version.

To configure a CRL in Tenable Security Center Director:

1. In a text editor, open the `/opt/sc/support/conf/sslverify.conf` file.
  - a. Set the **SSLVerifyClient** setting to **Require** or **Optional**, as described in [SSLVerifyClient](#).
  - b. Set the **SSLVerifyDepth** setting, as described in [SSLVerifyDepth](#).
  - c. Save the file.

Tenable Security Center Director saves your configuration.

2. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director restarts.

3. Confirm that your CA root configuration file contains the following parameters:
  - `crl_dir`
  - `database`
  - `crl`
  - `clr_extensions`
  - `default_crl_days`

For example:

...



```
# Directory and file locations.
dir                = /opt/sc/data/CA
crl_dir            = /opt/sc/support/conf/crl
database           = /opt/sc/support/conf/index.txt
# The root key and root certificate.
private_key        = /opt/sc/support/conf/TenableCA.key
certificate         = /opt/sc/data/CA/TenableCA.crt
# For certificate revocation lists.
crl                = /opt/sc/support/conf/crl/ca.crl
crl_extensions     = crl_ext
default_crl_days   = 30
...
```

4. Save your CA root configuration file as *YourCAname.conf* in a subdirectory of `/opt/sc/support/conf/`.
5. Confirm the directories and files referenced in your *YourCAname.conf* file are present on Tenable Security Center Director in a subdirectory of `/opt/sc/support/conf/`.
6. Configure Tenable Security Center Director to trust your CA, as described in [Trust a Custom CA](#).

Tenable Security Center Director processes your CA.

7. In the command line interface (CLI), run the following command to enable the CRL in Tenable Security Center Director:

```
$ openssl ca -config <CA root configuration file directory> -gencrl -out
<crl parameter value in the YourCAname.conf file>
```

For example:

```
$ openssl ca -config /opt/sc/support/conf/ca-root.conf -gencrl -out
/opt/sc/support/conf/crl/ca.crl
```

Tenable Security Center Director creates the CRL file.



8. In a text editor, open the `/opt/sc/support/conf/vhostssl.conf` file.
  - a. Add the following content at the end of the file:

```
SSLCARevocationCheck <value>
SSLCARevocationFile "<filepath>"
```

Where `<value>` and `<filepath>` are:

Content		Description
SSLCARevocationCheck <value>		
chain		Tenable Security Center Director checks all certificates in a chain against the CRL.
leaf		Tenable Security Center Director checks only the end-entity certificate in a chain against the CRL.
SSLCARevocationFile <filepath>		
Specifies the file path for the CRL file in Tenable Security Center Director. For example, <code>/opt/sc/support/conf/crl/ca.crl</code> .		

- b. Save the file.

Tenable Security Center Director saves your configuration.

9. In the CLI, run the following command to create a symbolic link for the CRL file:

```
$ ln -s <crl parameter value in the YourCAname.conf file> `openssl crl -
hash -noout -in <crl parameter value in the YourCAname.conf file>`.r0
```

For example:

```
$ ln -s /opt/sc/support/conf/crl/ca.crl `openssl crl -hash -noout -in
/opt/sc/support/conf/crl/ca.crl`.r0
```



**Caution:** Do not use a single quote character (') instead of a backtick character (`); this command requires the backtick.

Tenable Security Center Director creates a symbolic link for the CRL file.

10. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director restarts.

## Configure OCSP Validation in Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

You can configure Online Certificate Status Protocol (OCSP) validation in Tenable Security Center Director to prevent users from authenticating to Tenable Security Center Director if their certificate matches a revocation on your OCSP server.

**Note:** Tenable Support does not assist with OCSP configuration in Tenable Security Center Director.

Before you begin:

- Confirm that you have an OCSP server configured in your environment.

To configure OCSP validation in Tenable Security Center Director:

1. In a text editor, open the `/opt/sc/support/conf/sslverify.conf` file.
  - a. Set the **SSLVerifyClient** setting to **Require** or **Optional**, as described in [SSLVerifyClient](#).
  - b. Set the **SSLVerifyDepth** setting, as described in [SSLVerifyDepth](#).
  - c. Save the file.

Tenable Security Center Director saves your configuration.

2. In a text editor, open the `/opt/sc/support/conf/vhostssl.conf` file.
  - a. Add the following content at the end of the file:

```
SSLOCSPEnable on
SSLOCSPEDefaultResponder <URI>
```



```
SSLOCSPOverrideResponder on
```

Where *<URI>* is the URI for your OCSP server.

- b. Save the file.

Tenable Security Center Director saves your configuration.

3. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director restarts.

## Search

In Tenable Security Center, you can search for vulnerabilities (by CVE ID) and host assets (by IPv4 address) using the search box in the top navigation bar. Click the drop-down to change the category. A list of suggestions appears after you type at least five characters or the first octet of an IPv4 address.

**Note:** To search for host assets, you must have the **View Host Assets** permission enabled. For more information, see [User Roles](#).

Tenable Security Center saves your search history. To view your search history, click the search box. To delete an item from your search history, click the ✕ icon next to the search term.

To view a search result, press **Enter** or click a suggestion in the drop-down box. The search results page appears, which displays widgets with details about the vulnerability or host asset:

Widget	Description
<b>Vulnerabilities</b>	
<b>Vulnerability Information</b>	<p>A list of solutions for the vulnerability that correspond to the plugins currently visible in the <b>Tenable Coverage</b> widget.</p> <p>The top right corner displays the Vulnerability Priority Rating (VPR) for the vulnerability. For more information about VPRs, see <a href="#">CVSS vs. VPR</a>.</p>
<b>VPR Key Drivers</b>	<p>Details about the history and severity of the vulnerability that contribute to the VPR.</p>



Widget	Description
	For more information about VPRs, see <a href="#">CVSS vs. VPR</a> .
<b>Risk Information</b>	Details about the risk associated with the vulnerability, as determined by the <a href="#">National Vulnerability Database (NVD)</a> .
<b>Hosts Impacted</b>	<p>A list of assets in your system that are affected by the vulnerability. When you scan your network, any discovered assets that are affected by the vulnerability will appear in this list.</p> <p>If you have a Tenable Security Center+ license, this widget also displays the Asset Exposure Score (AES) and Asset Criticality Rating (ACR) for the assets.</p> <p>Click <b>More Details</b> to see the <b>IP Summary</b> page, where you can view the list of hosts filtered by the CVE ID.</p>
<b>CPEs</b>	<p>A list of CPE names that are relevant to the vulnerability.</p> <p>Click <b>More Details</b> to open a dialog box with the full list of CPEs.</p>
<b>References</b>	<p>A list of links with information relevant to the vulnerability.</p> <p>Click <b>More Details</b> to open a dialog box with the full list of references.</p>
<b>Tenable Coverage</b>	<p>A list of <a href="#">Tenable plugins</a> that address the vulnerability. You can sort this list by plugin ID.</p> <p>When you sort plugins or navigate pages in the widget, the <b>Vulnerability Information</b> and <b>Related Links</b> widgets update to correspond to the visible plugins.</p> <p>Click <b>More Details</b> to see the <b>Vulnerability List</b> page, where you can view the list of plugins filtered by your assets. If none of the assets in your network are affected by the list of plugins, then this page will not display any plugins.</p>
<b>Related Links</b>	<p>A list of links with information relevant to the plugins currently visible in the <b>Tenable Coverage</b> widget.</p> <p>Click <b>More Details</b> to open a dialog box with the full list of related links.</p>



Widget	Description
<b>Host Assets</b>	
<b>Repository</b>	The repository associated with the host asset. If the host asset appears in more than one repository, click the drop-down to view the host asset in a different repository.
<b>Host Information</b>	<p>Details about the host asset.</p> <p>If you have a Tenable Security Center+ license, this widget also displays the Asset Exposure Score (AES) and Asset Criticality Rating (ACR) for the assets.</p> <p>Click <b>More Details</b> to open a dialog box with the full list of host details.</p>
<b>Host Vulnerability Severity</b>	A chart that displays a breakdown of vulnerabilities by severity level.
<b>Assets</b>	A list of assets associated with the host.
<b>Findings</b>	<p>A list of vulnerabilities in your system that correspond to the asset. When you scan your network, any vulnerabilities associated with the host asset will appear in this list.</p> <p>Click <b>More Details</b> to see the <b>Vulnerability List</b> page, where you can view the list of vulnerabilities filtered by the host asset.</p>

## Certificates and Certificate Authorities in Tenable Security Center Director

Tenable Security Center Director includes the following defaults:

- a default Tenable Security Center server certificate (**SecurityCenter.crt**)
- a Tenable Security Center certificate authority (CA), which signs **SecurityCenter.crt**
- a DigiCert High Assurance EV Root CA

However, you may want to upload your own CAs or certificates for advanced configurations or to resolve scanning issues. For more information, see:



- [Tenable Security Center Director Server Certificates](#)
- [Trust a Custom CA](#)
- [Certificate Authentication](#)
- [Custom Plugin Packages for NASL and CA Certificate Upload](#)

## Tenable Security Center Director Server Certificates

Tenable Security Center Director ships with a default Tenable Security Center Director server certificate and key: `SecurityCenter.crt` and `SecurityCenter.key`. In some cases, you must replace it or regenerate it.

If you replace the server certificate with a self-signed certificate, you may need to upload the CA for your server certificate to Tenable Nessus or your browser.

Problem	Solution
The default certificate for Tenable Security Center Director is untrusted.	<p>Upload a certificate for the Tenable Security Center Director server, as described in <a href="#">Upload a Server Certificate for Tenable Security Center</a>.</p> <p>If the new server certificate is self-signed, plugin 51192 may report that the Tenable Security Center Director server certificate is untrusted. To configure Tenable Nessus to trust the server certificate, upload the CA certificate to Tenable Nessus.</p>
Your browser reports that the Tenable Security Center Director server certificate is untrusted.	Upload a CA certificate for the Tenable Security Center Director server certificate to your browser.
Plugin 51192 reports that the Tenable Security Center Director server certificate expired.	Regenerate the Tenable Security Center Director server certificate, as described in <a href="#">Regenerate the Tenable Security Center Director Server Certificate</a> .

## Upload a Server Certificate for Tenable Security Center





## Required Tenable Security Center User Role: Root user

For information about Tenable Security Center Director server certificates, see [Tenable Security Center Director Server Certificates](#).

**Note:** When uploading a certificate file to Tenable Security Center Director, you must use a PEM file. The custom certificate email address must not be **SecurityCenter@SecurityCenter** or subsequent upgrades cannot retain the new certificate.

Before you begin:

- Save your new server certificate and key files as `host.crt` and `host.key`.

To upload a server certificate for Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the user interface.
2. Back up the existing `SecurityCenter.crt` and `SecurityCenter.key` files located in the `/opt/sc/support/conf` directory.

For example:

```
# cp /opt/sc/support/conf/SecurityCenter.crt /tmp/SecurityCenter.crt.bak
# cp /opt/sc/support/conf/SecurityCenter.key /tmp/SecurityCenter.key.bak
```

3. To rename the `host.crt` and `host.key` files and copy them to the `/opt/sc/support/conf` directory, run:

```
# cp host.crt /opt/sc/support/conf/SecurityCenter.crt
# cp host.key /opt/sc/support/conf/SecurityCenter.key
```

If prompted, type `y` to overwrite the existing files.

4. To confirm the files have the correct permissions (640) and ownership (tns), run:

```
# ls -l /opt/sc/support/conf/SecurityCenter.crt
-rw-r---- 1 tns tns 4389 May 15 15:12 SecurityCenter.crt
# ls -l /opt/sc/support/conf/SecurityCenter.key
-rw-r---- 1 tns tns 887 May 15 15:12 SecurityCenter.key
```



**Note:** If an intermediate certificate is required, it must also be copied to the system and given the correct permissions (640) and ownership (tns). Additionally, you must remove the # from the line in /opt/sc/support/conf/vhostssl.conf that begins with #SSLCertificateChainFile to enable the setting. Modify the path and filename to match the uploaded certificate.

If necessary, change the ownership or permissions.

- a. To change the ownership, run:

```
# chown tns:tns /opt/sc/support/conf/SecurityCenter.crt\
```

```
# chown tns:tns /opt/sc/support/conf/SecurityCenter.key
```

- b. To change the permissions, run:

```
# chmod 640 /opt/sc/support/conf/SecurityCenter.crt
# chmod 640 /opt/sc/support/conf/SecurityCenter.key
```

5. Restart the Tenable Security Center Director service:

```
# service SecurityCenter restart
```

6. In a browser, log in to the Tenable Security Center Director user interface as a user with administrator permissions.
7. When prompted, verify the new certificate details.

What to do next:

- If you uploaded a self-signed server certificate and plugin 51192 reports that the CA for your self-signed certificate is untrusted, upload the custom CA certificate to Tenable Nessus.

Regenerate the Tenable Security Center Director Server Certificate

**Required Tenable Security Center User Role:** tns user

**Required Tenable Security Center User Role:** Root user



Tenable Security Center Director ships with a default server certificate that is valid for two years. After the certificate expires, you must regenerate the SSL certificate.

To regenerate the Tenable Security Center Director SSL certificate:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. In the CLI in Tenable Security Center Director, run the following command to switch to the `tns` user:

```
su - tns
```

3. As the `tns` user, run the following command:

```
/opt/sc/support/bin/php /opt/sc/src/tools/installSSLCertificate.php
```

(Optional) If you want to suppress the self-signed warning or specify a Common Name, include an optional argument.

Argument	Description
<code>-q</code>	Suppresses the warning: This script generates a self-signed SSL certificate, which is not recommended for production.
<code>-h &lt;IP/host name&gt;</code>	Specifies an IP address or hostname that will be used as the Common Name for the certificate.

Tenable Security Center Director generates a new certificate.

4. Run the following command to exit the `tns` user:

```
exit
```

5. As the root user, run the following command to restart the Tenable Security Center Director service:



```
# service SecurityCenter restart
```

The service restarts and Tenable Security Center Director applies the new certificate.

## Trust a Custom CA

**Required Tenable Security Center User Role:** tns user

You can configure Tenable Security Center Director to trust a custom CA for certificate authentication or other uses.

To configure Tenable Security Center Director to trust a custom CA:

1. Log in to Tenable Security Center Director via the user interface.
2. Copy the required PEM-encoded CA certificate (and intermediate CA certificate, if needed) to the Tenable Security Center Director server's /tmp directory. In this example, the file is named ROOTCA2.cer.

**Note:** If you upload multiple certificates, you must upload each certificate individually in PEM format.

3. Run the installCA.php script to create the required files for each CA in /opt/sc/data/CA:

```
# /opt/sc/support/bin/php /opt/sc/src/tools/installCA.php /tmp/ROOTCA2.cer
```

Tenable Security Center Director processes all the CAs in the file.

4. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

## System Settings

The **System** menu in the left navigation and the **Username** menus in the top navigation bar contain several options to configure Tenable Security Center Director system settings. Administrator users can configure more options than organizational users.

- [Configuration Settings](#)
- [Diagnostics Settings](#)



- [Job Queue Events](#)
- [System Logs](#)
- [Publishing Sites Settings](#)
- [Keys Settings](#)
- [User Profile Menu Settings](#)

## Configuration Settings

The configuration menu includes the following settings:

### Data Expiration Settings

Data expiration determines how long Tenable Security Center retains closed tickets, scan results, and report results.

Option	Description
<b>User Generated Object Lifetime</b>	
<b>Closed Tickets</b>	The number of days you want Tenable Security Center to retain closed tickets. The default value of this option is 365 days.
<b>Report Results</b>	The number of days you want Tenable Security Center to retain report results. The default value of this option is 365 days.
<b>Tenable Security Center Instance Data Lifetime</b>	
<b>Scan Results</b>	The number of days you want Tenable Security Center Director to retain scan results imported from managed Tenable Security Center instances. You can manually retrieve scan result data from managed Tenable Security Center instances after the data has been removed from Tenable Security Center Director. The default value of this option is 30 days.

**Tip:** You can configure vulnerability data expiration for individual IPv4, IPv6, agent, and universal repositories. For more information, see [IPv4/IPv6 Repositories](#), [Agent Repositories](#), and [Universal Repositories](#).



## Mail Settings

The **Mail** option designates SMTP settings for all email-related Tenable Security Center functions. Available options include SMTP host, port, authentication method, encryption, and return address. In addition, you can use the Test SMTP Settings in the upper left corner of the page to validate the settings.

**Note:** Type the **Username** in a format supported by your SMTP server (for example, *username@domain.com* or *domain\username*).

**Note:** The **Return Address** defaults to *noreply@localhost*. Use a valid return email address for this option. If this option is empty or the email server requires emails from valid accounts, the email server cannot send the email.

## Miscellaneous Settings

The **Miscellaneous Configuration** section offers options to configure settings for web proxy, syslog, notifications, and enable or disable some report types.

### Web Proxy

**Note:** These settings are not available in Tenable Enclave Security.

From this configuration page, you can configure a web proxy by entering the host URL (proxy hostname or IP address), port, authentication type, username, and password. The hostname used must resolve properly from the Tenable Security Center host.

### Syslog

**Note:** These settings are not available in Tenable Enclave Security.

In the **Syslog** section, you can configure options to allow Tenable Security Center to send administrative log events to the local syslog service. For more information about the types of Tenable Security Center Director logs, see the [knowledge base article](#).

Option	Description
Enable	Enables log forwarding options.



Option	Description
<b>Forwarding</b>	
<b>Facility</b>	Type the facility you want to receive the log messages.
<b>Severity</b>	Specifies which syslog message levels you want to forward: <b>Informational</b> , <b>Warning</b> , or <b>Critical</b> .

## Scanning

The **IP Randomization** option specifies how you want Tenable Security Center to send active scan target lists to Tenable Nessus and Tenable Vulnerability Management scanners.

You enable or disable IP randomization for all configured active scans; you cannot configure IP randomization on a per-scan basis.

- When enabled, Tenable Security Center randomizes the targets in the active scan before sending the target list to the scanners to reduce strain on network devices during large active scans.

Scan	Randomization
1,000 or fewer targets	Tenable Security Center randomizes all the IP addresses in the target list.
1,001 or more targets	<p>Tenable Security Center randomizes all the IP addresses in the target list by:</p> <ol style="list-style-type: none"><li>1. Ordering the IP addresses numerically and splitting them into 100 groups.</li><li>2. Randomly selecting a group and choosing the lowest IP address from that group.</li><li>3. Selecting groups and IP addresses until all IP addresses in all groups are randomized in the target list.</li></ol>



If the active scan includes a Tenable Vulnerability Management scanner, Tenable Security Center breaks the target list into smaller lists (256 IP addresses each) before sending to Tenable Vulnerability Management.


**Note:** Some randomized target lists (such as small target lists) may still contain sequences of increasing IP addresses. This is a possible outcome of randomization, not an indication that randomization failed.

- When disabled, Tenable Security Center organizes the target list by increasing IP address. Then, scanners scan targets, starting with the lowest IP address and finishing with the highest IP address.

**Tip:** The **Max simultaneous hosts per scan** scan policy option specifies how many IP addresses Tenable Security Center sends to each scanner at a time. For more information, see [Scan Policy Options](#).

## Notifications

In the **Notifications** section, you can configure options for Tenable Security Center notifications. For more information, see [Notifications](#).

Option	Description
<b>Tenable Security Center Location</b>	Defines the Tenable Security Center web address used when alerts and tickets generate notifications.
<b>Bell Notifications</b>	Enables notifications to appear in the  menu in the top navigation bar.

## Report Generation

**Note:** These settings are not available in Tenable Enclave Security.

If your organization requires specialized reporting formats, such as DISA or CyberScope, you can enable **Report Generation** options based on your organization's needs.





- Defense Information Systems Agency (DISA) reporting standards include the Assessment Summary Results (ASR), Assessment Results Format (ARF), and Consolidated Assessment Results Format (CARF) styles.
- CyberScope reports utilize Lightweight Asset Summary Results Schema (LASR) style reports, which are used by some segments of governments and industry.

To allow users to choose these reports during report creation, you must enable the corresponding toggles. For more information about reports in Tenable Security Center, see [Reports](#).

Option	Description
<b>Enable DISA ARF</b>	Enable the DISA ARF report format, which meets the standards of the Defense Information Systems Agency Assessment Results Format.
<b>Enable DISA Consolidated ARF</b>	Enable the DISA consolidated ARF report format, which meets the standards of the Defense Information Systems Agency Consolidated Assessment Results Format.
<b>Enable DISA ASR</b>	Enable the DISA ASR report format, which meets the standards of the Defense Information Systems Agency Assessment Summary Results.
<b>Enable CyberScope</b>	Enable the CyberScope report format, which meets CyberScope reporting standards to support FISMA compliance.

## PostgreSQL Connection

If you have configured an external PostgreSQL database, this section displays the connection information for the database. For more information about PostgreSQL with Tenable Security Center Director, see [External PostgreSQL with Tenable Security Center Director](#).

## Privacy

The **Enable Usage Statistics** option specifies whether Tenable collects anonymous telemetry data about your Tenable Security Center deployment.

When enabled, Tenable collects usage statistics that cannot be attributed to a specific user or customer. Tenable does not collect personal data or personally identifying information (PII).

Usage statistics include, but are not limited to, data about your visited pages, your used reports and dashboards, your Tenable Security Center license, and your configured features. Tenable uses the



data to improve your user experience in future Tenable Security Center releases. You can disable this option at any time to stop sharing usage statistics with Tenable.

After you enable or disable this option, all Tenable Security Center users must refresh their browser window for the changes to take effect.

## License Settings

**Note:** These settings are not available in Tenable Enclave Security.

The **License Configuration** section allows you to configure licensing and activation code settings for Tenable Security Center and all attached Tenable products.

For information about the Tenable Security Center license count, see [License Requirements](#). To add or update a license, see [Apply a New License](#) or [Update an Existing License](#).

## Plugins/Feed Settings

The **Plugins/Feed Configuration** page displays the **Plugin Detail Locale** for Tenable Security Center and the feed and plugin update (scanner update) schedules.

For more information, see [Edit Plugin and Feed Settings and Schedules](#).

Update	Description
<b>Tenable Security Center Feed</b>	Retrieves the latest Tenable Security Center feed from Tenable. This feed includes data for general use, including templates (for example, dashboards, ARCs, reports, policies, assets, and audit files), template-required objects, some general plugin information, and updated VPR values.
<b>Active Plugins</b>	Retrieves the latest active plugins feed (for Tenable Nessus and Tenable Vulnerability Management scanners) from Tenable. Tenable Security Center pushes the feed to Tenable Nessus and Tenable Vulnerability Management scanners.
<b>Passive Plugins</b>	Retrieves the latest passive plugins feed from Tenable. Tenable Security Center pushes the feed to Tenable Network Monitor instances.
<b>WAS Plugins</b>	Retrieves the latest Tenable Web App Scanning plugins feed from Tenable.



Update	Description
	Tenable Security Center Director pushes the feed to Tenable Web App Scanning instances.

For information about Tenable Security Center-Tenable plugins server communications encryption, see [Encryption Strength](#).

## Plugin Detail Locale

The local language plugin feature allows you to display portions of plugin data in local languages. When available, translated text displays on all pages where plugin details appear.

Select **Default** to display plugin data in English.

**Note:** Tenable Security Center cannot translate text within custom files. Upload a translated **Active Plugins.xml** file to display the file content in a local language.

For more information, see [Configure Plugin Text Translation](#).

## Schedules

Tenable Security Center automatically updates Tenable Security Center feeds, active plugins, passive plugins, and event plugins. If you upload a custom feed or plugin file, the system merges the custom file data with the data contained in the associated automatically updating feed or plugin.

You can upload `tar.gz` files with a maximum size of 1500 MB.

For more information, see [Edit Plugin and Feed Settings and Schedules](#).

## Security Center Software Updates

The **Security Center Software Updates** section includes options for applying updates and patches for Tenable Security Center.

In the **Authorization Token** box, enter your authorization token. You can generate an authorization token on the [Tenable Downloads API](#) page.

If you enable the **Automatically Update Through the Security Center Feed** option, then Tenable Security Center automatically applies any available Tenable Security Center patches during scheduled feed updates.



**Note:** Some patches cannot be applied through the feed, and must be installed manually.

## Available Software Updates

New updates and patches for Tenable Security Center appear in the **Available Software Updates** section of the **Plugins/Feed Configuration** page.

The **Install Now** tab displays available software updates for download. You can install them immediately by selecting the check box and clicking **Install Now**. If you enable the **Automatically Update Through the Security Center Feed** option in the **Security Center Software Updates** section, then Tenable Security Center will automatically apply these updates and patches during scheduled feed updates.

The **Install Manually** tab includes software updates that must be installed manually. You can download the files for these updates and patches from the [Tenable Downloads](#) page.

If you install a software update but the installation fails, the update will appear in the **Available Software Updates** section with a warning icon. Click the software update in the table to view details about the error.

## Installed Software Updates

When you install a software update, it moves from the **Available Software Updates** section to the **Installed Software Updates** section. If a software update requires a restart to finish installing, the status for the update in the **Installed Software Updates** section will be **Needs Restart**. After you complete a software update, the status for the update will be **Installed**.

## SAML Settings

Use the SAML section to configure SAML 2.0-based SAML authentication (for example, Okta, OneLogin, Shibboleth 2.0, etc.) for Tenable Security Center users. For more information, see [SAML Authentication](#).

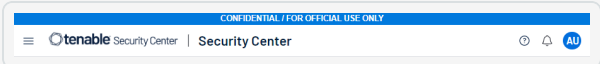
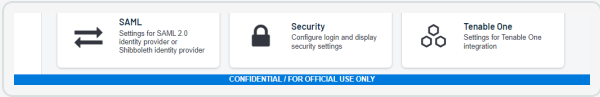
## Security Settings

Use the Security section to define the Tenable Security Center user interface login parameters and options for account logins. You can also configure banners, headers, and classification headers and footers.



Option	Description
<b>Authentication Settings</b>	
<b>Session Timeout</b>	The web session timeout in minutes (default: 60).
<b>Maximum Login Attempts</b>	The maximum number of user login attempts Tenable Security Center allows before locking out the account (default: 20). To disable this feature, set the value to 0.
<b>Minimum Password Length</b>	This setting defines the minimum number of characters for passwords of accounts created using the local TNS authentication access (default: 3).
<b>Password Complexity</b>	<p>When enabled, user passwords must be at least 4 characters long and contain at least one of each of the following:</p> <ul style="list-style-type: none"><li>• An uppercase letter</li><li>• A lowercase letter</li><li>• A numerical character</li><li>• A special character</li></ul> <div><b>Note:</b> After you enable <b>Password Complexity</b>, Tenable Security Center prompts all users to reset their passwords the next time they log in to Tenable Security Center.</div> <div><b>Note:</b> If you enable <b>Password Complexity</b> and set the <b>Minimum Password Length</b> to a value greater than 4, Tenable Security Center enforces the longer password requirement.</div>
<b>Startup Banner Text</b>	Type the text banner that appears before to the login interface.
<b>User Text</b>	Adds custom text to the bottom of the user profile menu. You can use the text to identify a company, group, or other organizational information (maximum 128 characters).
<b>Classification Type</b>	Adds a header and footer banner to Tenable Security Center to indicate the classification of the data accessible via the software.



Option	Description
	<p>Current options are <b>None</b>, <b>Custom</b>, <b>Unclassified</b>, <b>Confidential</b>, <b>Secret</b>, <b>Top Secret</b>, and <b>Top Secret – No Foreign</b>.</p> <p>If you select <b>Custom</b>, the following options appear:</p> <ul style="list-style-type: none"><li>• <b>Custom Text</b> - Type the text that you want to appear in the banner (maximum 128 characters).</li><li>• <b>Text Color</b> - Select the text color for the banner.</li><li>• <b>Background Color</b> - Select the background color for the banner.</li></ul> <div><b>Note:</b> Custom banners in reports are supported only for Arial Regular font.</div> <p>Sample header:</p>  <p>Sample footer:</p>  <div><b>Note:</b> If you set <b>Classification Type</b> to an option other than <b>None</b>, users can only see the plain report styles. The Tenable report styles do not support the classification banners.</div>
<b>Allow API Keys</b>	When enabled, allows users to generate API keys as an authentication method for Tenable Security Center API requests. For more information, see <a href="#">Enable API Key Authentication</a> .
<b>Allow Session Management</b>	This setting is disabled by default. When enabled, the <b>Session Limit</b> option appears. This feature displays the option that allows administrators to set a session limit for all users.



Option	Description
<b>Disable Inactive Users</b>	When enabled, Tenable Security Center disables user accounts after a set period of inactivity. You cannot use a disabled user account to log in to Tenable Security Center, but other users can use and manage objects owned by the disabled user account.
<b>Days Users Remain Enabled</b>	When you enable <b>Disable Inactive Users</b> , specify the number of inactive days you want to allow before automatically disabling a user account.
<b>Session Limit</b>	<p>Specifies the maximum number of sessions a user can have open at once.</p> <p>If you log in and the session limit has already been reached, Tenable Security Center notifies you that the oldest session with that username will be logged out automatically. You can cancel the login or proceed with the login and end the oldest session.</p> <div><b>Note:</b> This behavior is different for Common Access Cards (CAC) logins. Tenable Security Center does not check active sessions for CAC authentication.</div>
<b>Login Notifications</b>	Sends notifications for each time a user logs in.
<b>WebSeal</b>	<p>Allows you to enable or disable WebSEAL. WebSEAL supports multiple authentication methods, provides Security Access Authorization service, and single sign-on capabilities.</p> <div><b>Caution:</b> Before the user that enabled WebSEAL logs out of Tenable Security Center, Tenable Security Center strongly recommends confirming, in a separate session, that at least one user (preferably an administrator user) is able to log in successfully via WebSEAL. Otherwise, if there is an issue, no one will be able to access Tenable Security Center to turn off WebSEAL.</div> <div><b>Caution:</b> Any user created while WebSEAL is enabled will not have a password. An administrator must update the user account to establish a password. Any user that existed before enabling</div>



Option	Description
	WebSEAL must revert to their old password.
<b>PHP Serialization</b>	
<b>Operational Status</b>	Summarizes your current setting.
<b>PHP Serialization Mode</b>	<p>Specifies whether you want to allow or prevent PHP serialization in Tenable Security Center.</p> <ul style="list-style-type: none"><li>• <b>PHP Serialization ON</b> – Tenable Security Center performs PHP serialization and Tenable Security Center features operate as expected.</li><li>• <b>PHP Serialization OFF</b> – Tenable Security Center does not perform PHP serialization and prevents users from importing or exporting the following objects:<ul style="list-style-type: none"><li>• Assets</li><li>• Scan policies</li><li>• Assurance Report Cards</li><li>• Reports</li><li>• Audit files</li><li>• Dashboards</li></ul></li></ul>
<b>FIPS 140-2 Configuration</b>	
<b>Operational Status</b>	Summarizes whether FIPS 140-2 mode is currently enabled or disabled.
<b>FIPS 140-2 Mode</b>	<p>Specifies whether you want to enable or disable FIPS mode for communication. Switching from one mode to the other requires a restart. For more information, see <a href="#">Start, Stop, or Restart Tenable Security Center Director</a>.</p>

Edit Plugin and Feed Settings and Schedules





**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Configuration Settings](#).

To view and edit plugin and feed settings and schedules as an administrator user:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.


3. Click the **Plugins/Feed** tile.

The **Plugins/Feed Configuration** page appears.

4. View the **Plugin Detail Locale** section to see the local language configured for Tenable Security Center Director.
5. Expand the **Schedules** section to show the settings for the **Tenable Security Center Feed**, **Active Plugins**, **Passive Plugins**, or **Event Plugins** schedule.
  - a. If you want to update a plugin or feed on demand, click **Update**. You cannot update feeds with invalid activation codes.
    - If there is an update available, the **Update** link will be active.
    - If your plugins or feed are already up to date, the **Update** link will be inactive.
  - b. If you want to upload a custom feed file, click **Choose File**.
  - c. Click **Submit**.

Tenable Security Center Director saves your configuration.

To view and edit plugin and feed settings and schedules as an organizational user:

1. Log in to Tenable Security Center Director via the user interface.
2. In the top navigation bar, click your user profile  icon > **Feeds**.

The **Plugins/Feed Configuration** page appears.



3. View the **Plugin Detail Locale** section to see the local language configured for Tenable Security Center Director.
4. Expand the **Schedules** section to show the settings for the **Tenable Security Center Feed**, **Active Plugins**, **Passive Plugins**, or **Event Plugins** schedule.
5. If you want to update a plugin or feed on demand, click **Update**. You cannot update feeds with invalid activation codes.
6. If you want to upload a custom feed file, click **Choose File**.
7. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Configure Plugin Text Translation

**Required Tenable Security Center User Role:** Administrator

For more information, see [Configuration Settings](#).

To configure plugin text translation:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **Plugins/Feed** tile.

The **Plugins/Feed Configuration** page appears.

4. If you want plugin text to display in a local language, select a language from the **Locale List** box.
5. Click **Apply**.

Tenable Security Center Director saves your configuration.

6. In the **Schedules** section, in the **Active Plugins** row, click **Update**.

Tenable Security Center updates active plugins to obtain available translations.

## API Key Authentication



You can enable API key authentication to allow users to use API keys as an authentication method for Tenable Security Center API requests. Without API keys, users must use the `/token` endpoint to log in to the Tenable Security Center API and establish a token for subsequent requests, as described in [Token](#) in the *Tenable Security Center API Guide*.

Tenable Security Center attributes actions performed with API keys to the user account associated with the API keys. You can only perform actions allowed by the privileges granted to the user account associated with the API keys.

You can enable the **Allow API Keys** toggle in your Security Settings to allow users to perform API key authentication. Then, users can generate API keys for themselves or for other users. API keys include an access key and secret key that must be used together for API key authentication. For more information, see [Enable API Key Authentication](#) and [Generate API Keys](#).

A user can use API keys for Tenable Security Center API request authentication by including the **x-apikey** header element in your HTTP request messages, as described in [API Key Authorization](#) in the *Tenable Security Center API Best Practices Guide*.

Deleting API keys prevents users from authenticating Tenable Security Center API requests with the deleted keys. For more information, see [Delete API Keys](#).

For more information about the Tenable Security Center API, see the [Tenable Security Center API Guide](#) and the [Tenable Security Center API Best Practices Guide](#).

#### Enable API Key Authentication

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

You can enable API key authentication to allow users to use API keys as an authentication method for Tenable Security Center API requests. For more information, see [API Key Authentication](#).

To allow users to authenticate to the Tenable Security Center API using API keys:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **Security** tile.



The **Security Configuration** page appears.

4. In the **Authentication Settings** section, click **Allow API Keys** to enable the toggle.
5. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Generate API keys for a user, as described in [Manage API Keys](#).

Disable API Key Authentication

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

**Caution:** Disabling API keys prevents users from authenticating API requests with API keys. Disabling API keys does not delete existing API keys. If you re-enable API keys, Tenable Security Center reauthorizes any API keys they were active before you disabled API key authentication.

For more information, see [API Key Authentication](#).

To disable API key authentication:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Configuration**.

The **Configuration** page appears.

3. Click the **Security** tile.

The **Security Configuration** page appears.

4. In the **Authentication Settings** section, click **Allow API Keys** to disable the toggle.
5. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Diagnostics Settings

This page displays and creates information that assists in troubleshooting issues that may arise while using Tenable Security Center Director.



## System Status

You can use this section to view the current status of system functions.

System Function	Description
Correct Java Version	<p>Indicates whether the minimum version of Java required to support Tenable Security Center Director functionality is installed.</p> <p>For more information, see <a href="#">Before You Upgrade</a>.</p>
Sufficient Disk Space	<p>Indicates whether you have enough disk space to support Tenable Security Center Director functionality. A red X indicates the disk is at 95% capacity or higher.</p> <p>For more information, see <a href="#">Hardware Requirements</a>.</p>
Correct RPM Package Installed	<p>Indicates whether you have the correct Tenable Security Center Director RPM installed for your operating system.</p> <p>For more information, see <a href="#">System Requirements</a>.</p>
Debugging	<p>Indicates whether debugging is enabled. You may experience performance and storage issues if you leave debugging enabled for extended periods of time.</p> <p>For more information, see <a href="#">Debugging LogsDebugging Logs</a>.</p>
Migration Errors	<p>Indicates whether an error occurred during a recent Tenable Security Center Director update.</p>
PHP Integrity Errors	<p>Indicates whether any PHP files have been modified from the original version included in the Tenable Security Center Director RPM.</p>
PostgreSQL Connection Errors	<p>Indicates whether any database connection errors have occurred.</p>

## Diagnostics File



You can use this section to generate a diagnostics file for troubleshooting with Tenable Support. For more information, see [Generate a Diagnostics File](#).

## Debugging Logs

You can use this section to enable or disable debugging logs for troubleshooting with Tenable Support. For more information, see [Enable Debugging Logs](#) and [Disable Debugging Logs](#).

**Note:** Tenable does not recommend leaving debugging enabled on Tenable Security Center Director after you send the log files to Tenable Support. You may experience performance and storage issues if you leave debugging enabled for extended periods of time.

### Generate a Diagnostics File

**Required Tenable Security Center User Role:** Administrator

Tenable Support may ask you to generate a diagnostics file to assist with troubleshooting. The `debug.zip` diagnostics file contains files related to the selected chapters. For more information about diagnostics file options, see [Diagnostics File Options](#).

For more information about Tenable Security Center diagnostics, see [Diagnostics Settings](#).

To generate a diagnostics file for Tenable Support:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Diagnostics**.

The **Diagnostics** page appears.

3. In the **Diagnostics File** section, click **Create Diagnostics File**.

The page updates with options to configure the diagnostics file.

4. In the **General** section, if you want to omit IP addresses from the diagnostics file, click to enable the **Strip IPs from Chapters** toggle.
5. In the **Chapters** section, click the toggles to enable or disable the chapters you want to include in the diagnostics file.
6. Click **Generate File**.



Tenable Security Center Director generates the diagnostics file.

7. Click **Download Diagnostics File**.

The `debug.zip` file downloads.

What to do next:

- Share the `debug.zip` file with Tenable Support for troubleshooting.

## Diagnostics File Options

For more information, see [Diagnostics Settings](#) and [Generate a Diagnostics File](#).

Option	Description	Default
<b>General</b>		
<b>Strip IPs from Chapters</b>	<p>When enabled, Tenable Security Center omits IP addresses from the following files:</p> <ul style="list-style-type: none"><li>• <code>sc-configuration.txt</code></li><li>• <code>sc-scans.txt</code></li><li>• <code>sc-setup.txt</code></li><li>• <code>sc-logs.txt</code></li><li>• <code>sc-error.log</code></li><li>• <code>cert.log</code></li><li>• <code>install.log</code></li><li>• <code>upgrade.log</code></li><li>• <code>schemaUpdates*.log</code></li><li>• <code>sc-environment.txt</code></li><li>• <code>sc-telemetry.txt</code></li><li>• <code>/opt/sc/support/error_Log</code></li><li>• <code>/opt/sc/support/*.conf</code></li></ul>	Disabled



Option	Description	Default
<b>Chapters</b>		
<b>System Information</b>	Include information about the Tenable Security Center host system in the diagnostic file ( <code>sc-systeminfo.txt</code> ).	Enabled
<b>Scan Information</b>	Include information about scans, scan results, and freeze windows in the diagnostic file ( <code>sc-sscaninfo.txt</code> ).  For more information, see Active Scans, Agent Scanning, and Freeze Windows.	Enabled
<b>Setup</b>	Include information about the following Tenable Security Center resources in the diagnostic file ( <code>sc-setup.txt</code> ): <ul style="list-style-type: none"><li>• Active users</li><li>• <a href="#">Tenable Nessus Scanners</a></li><li>• Tenable Network Monitor Instances</li><li>• <a href="#">Scan Zones</a></li><li>• Schedules</li><li>• <a href="#">Job Queue Events</a></li><li>• <a href="#">Assets</a></li><li>• <a href="#">Repositories</a></li><li>• <a href="#">Organizations</a></li><li>• <a href="#">User Roles</a></li><li>• <a href="#">Reports</a></li><li>• Report results</li><li>• <a href="#">Audit Files</a></li></ul>	Enabled
<b>Logs</b>	Include administrator logs, organization logs, Tenable Security Center error logs, and the certificate log in the	Enabled





Option	Description	Default
	diagnostic file ( <code>sc-logs.txt</code> , <code>sc-error.log</code> , and <code>cert.log</code> ).	
<b>Environment</b>	Include information about the <code>tns</code> user environment in the diagnostic file ( <code>sc-environment.txt</code> ).	Enabled
<b>Directory Listing</b>	Include a directory listing in the diagnostic file ( <code>sc-dirlisting.txt</code> ).  For more information, see <a href="#">Tenable Security Center Communications and Directories</a> .	Enabled
<b>Dependency</b>	Include information about Tenable Security Center dependencies in the diagnostic file ( <code>sc-depsinfo.txt</code> ).  For more information, see <a href="#">Dependencies</a> .	Enabled
<b>Upgrade Log</b>	Include a log of Tenable Security Center upgrade events in the diagnostic file ( <code>upgrade.log</code> ).	Enabled
<b>Install Log</b>	Include a log of Tenable Security Center installation events in the diagnostic file ( <code>install.log</code> ).	Enabled
<b>Apache Log</b>	Include a log of web server requests in the diagnostic file ( <code>/opt/sc/support/error_Log</code> ).	Enabled
<b>Application Conf</b>	Include Tenable Security Center configuration details in the diagnostic file ( <code>sc-configuration.txt</code> ).	Enabled
<b>Server Conf</b>	Include server configuration details in the diagnostic file ( <code>/opt/sc/support/*.conf</code> ).	Enabled
<b>User Information</b>	Include a list of users in the diagnostic file ( <code>sc-users.txt</code> ). The list includes the following details: <ul style="list-style-type: none"><li>• For administrators, the user ID and role ID</li><li>• For organizational users, the user ID, role ID, and group ID</li></ul>	Enabled



Option	Description	Default
	For more information about ID values, see <a href="#">View User Account Details</a> , <a href="#">View User Role Details</a> , and <a href="#">View Group Details</a> .	
<b>Include Names</b>	(If <b>User Information</b> is enabled) Include usernames and user display names for each user in the diagnostic file.  For more information, see <a href="#">User Account Options</a> .  <b>Tip:</b> The display name combine's the user's <b>First Name</b> and <b>Last Name</b> .	Disabled
<b>Director Information</b>	Include details about your Tenable Security Center Director license and managed Tenable Security Center instances in the diagnostic file ( <code>sc-director.txt</code> ).	Enabled

## Enable Debugging Logs

**Required Tenable Security Center User Role:** Administrator

You can enable debugging to generate logs for troubleshooting with Tenable Support.

**Caution:** Tenable does not recommend enabling debugging logs unless instructed by Tenable Support.

To enable debugging:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Diagnostics**.

The **Diagnostics** page appears.

3. In the **Debugging Logs** section, select one or more debugging logs Tenable Support asked you to enable.
4. Click **Save Debug Settings**.



Tenable Security Center Director enables the debugging logs you selected and saves the corresponding log files to `/opt/sc/admin/logs`.

What to do next:

- Download the debugging logs, as described in [Download Debugging Logs](#).
- Share the debugging log files with Tenable Support.
- Disable any unneeded debugging logs, as described in [Disable Debugging Logs](#).

**Note:** Tenable does not recommend leaving debugging enabled on Tenable Security Center Director after you send the log files to Tenable Support. You may experience performance and storage issues if you leave debugging enabled for extended periods of time.

**Note:** Collected debug logs contained in the debug archive are automatically deleted during the scheduled nightly cleanup.

## Download Debugging Logs

**Required Tenable Security Center User Role:** Administrator

You can download debugging logs for troubleshooting with Tenable Support.

Before you begin:

- Enable debugging logs, as described in [Enable Debugging Logs](#).

To download debugging logs:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Diagnostics**.

The **Diagnostics** page appears.

3. In the **Download Debugging Logs** section, click **Collect Log Files**.

Tenable Security Center generates the debugging log files you selected.



#### 4. Click **Download Debug File**.

The debugging logs download.

What to do next:

- Share the files with Tenable Support.
- Disable any debugging logs as needed, as described in [Disable Debugging Logs](#).

**Note:** Tenable does not recommend leaving debugging enabled on Tenable Security Center Director after you send the log files to Tenable Support. You may experience performance and storage issues if you leave debugging enabled for extended periods of time.

**Note:** Collected debug logs contained in the debug archive are automatically deleted during the scheduled nightly cleanup.

### Disable Debugging Logs

**Required Tenable Security Center User Role:** Administrator

Tenable does not recommend leaving debugging enabled on Tenable Security Center Director after you send the log files to Tenable Support. You may experience performance and storage issues if you leave debugging enabled for extended periods of time.

For more information about debugging logs, see [Debugging Logs](#).

To disable debugging:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Diagnostics**.

The **Diagnostics** page appears.

3. In the **Debugging Logs** section:
  - To disable individual debugging logs, deselect the logs.
  - To disable all debugging logs, click **Deselect All**.
4. Click **Save Debug Settings**.

Tenable Security Center Director disables the debugging logs you deselected.




What to do next:

- Follow Tenable Support's instructions to manually remove old debugging log files from `/opt/sc/admin/logs`.

## Job Queue Events

Path: **System** > **Job Queue**

Job Queue is a Tenable Security Center Director feature that displays specified events in a list for review.

You can view and sort Job Queue notifications in several ways by clicking on the desired sort column. Using the  menu next to an item, that item may be viewed for more detail or, if the job is running, the process may be killed. Killing a process should be done only as a last resort, as killing a process may have undesirable effects on other Tenable Security Center Director processes.

## System Logs

Tenable Security Center Director logs contain detailed information about functionality to troubleshoot unusual system or user activity. You can use the system logs for debugging and for maintaining an audit trail of users who access Tenable Security Center Director or perform basic functions (for example, changing passwords). Administrators in Tenable Security Center Director can view system logs for managed Tenable Security Center instances.

To view system logs:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System** > **System Logs** (Administrator users) or **Username** > **System Logs** (Organizational users).

The **System Logs** page appears.

3. To filter the logs, see [Apply a Filter](#).

The page updates to reflect the filter you applied.

## View System Logs

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).



For more information, see [System Logs](#).

To view system logs:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > System Logs** (Administrator users) or **Username > System Logs** (Organizational users).

The **System Logs** page appears and shows the 50 most recent system logs.

3. To filter the logs, see [Apply a Filter](#).

The page updates to reflect the filter you applied.

## Publishing Sites Settings

Path: **System > Publishing Sites**

Organizations may configure publishing sites as targets to send report results to a properly configured web server or a Defense Information Systems Agency (DISA) Continuous Monitoring and Risk Scoring (CMRS) site.

Option	Description
<b>Name</b>	Type a name for the publishing site.
<b>Description</b>	Type a description of the publishing site.
<b>Type</b>	The method Tenable Security Center Director uses to publish to the site. Available options are <b>HTTP Post</b> or <b>CMRS</b> . Use the selection appropriate for the configuration of the publishing site.
<b>Max Chunk Size (MB)</b>	If the target is a CMRS site, Tenable sends the report in chunks sized according to this value.
<b>URI</b>	The target address to send the report to when completed.
<b>Use Proxy</b>	When enabled, the publishing site leverages the web proxy defined in the <a href="#">Web Proxy</a> settings.
<b>Authentication</b>	There are two methods of authentication available: <b>SSL Certificate</b> and <b>Password</b> .



Option	Description
<b>Username / Password</b>	If you select <b>Password</b> as the <b>Authentication</b> method, the credentials to authenticate to the target publishing server.
<b>Certificate</b>	If you selected <b>SSL Certificate</b> as the <b>Authentication</b> method, the certificate you want to use for authentication.
<b>Organizations</b>	Select the organization(s) that are allowed to publish to the configured site.
<b>Verify Host</b>	When enabled, Tenable Security Center Director verifies that the target address specified in the <b>URI</b> option matches the CommonName (CN) in the SSL certificate from the target publishing server.

## Keys Settings

Keys allow administrator users to use key-based authentication with a remote Tenable Security Center. This also removes the need for Tenable Security Center administrators to know the administrator login or password of the remote system.

Tenable Security Center Director uses Elliptic Curve Digital Signature Algorithm (ECDSA) keys to authenticate to other Tenable Security Center Director instances.

**Note:** The ECDSA public key from the local Tenable Security Center must be added to the **Keys** section of the Tenable Security Center from which you wish to retrieve a repository. If the keys are not added properly, the remote repository add process prompts for the root username and password of the remote host to perform a key exchange before the repository add/sync occurs.

For more information, see [Add a Key](#), [Delete a Key](#), and [Download the Tenable Security Center Director SSH Key](#).

### Add a Key

**Required Tenable Security Center User Role:** Administrator

For more information, see [Keys Settings](#).

To add a new key:



1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **System > Keys**.

The **Keys** page appears.

3. At the top of the table, click **Add**.

The **Add Key** page appears.

4. In the **Type** drop-down, select **DSA,RSA**, or **ECDSA**.
5. In the **Comment** box, add a description or note about the key.
6. In the **Public Key** box, type the text of your public key from your remote Tenable Security Center.
7. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Delete a Key

**Required Tenable Security Center User Role:** Administrator

For more information, see [Keys Settings](#).

To delete a key:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Keys**.
3. Select the key you want to delete:
  - To delete a single key:
    - a. In the table, right-click the row for the key you want to delete.

The actions menu appears.
    - b. Click **Delete**.
  - To delete multiple keys:





- a. In the table, select the check box for each key you want to delete.

The available actions appear at the top of the table.

- b. At the top of the table, click **Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center deletes the key.

## Download the Tenable Security Center Director SSH Key

**Required Tenable Security Center User Role:** Administrator

You can download the Tenable Security Center Director ECDSA key on the **Keys** page. For more information about keys, see [Keys Settings](#).


**Note:** Tenable Security Center Director authenticates to Tenable Security Center Director with ECDSA keys. If your Tenable Security Center Director remote repository still uses an RSA key, it will continue to use the RSA key until you add the ECDSA key to the remote repository.

To download the Tenable Security Center Director SSH key:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **System > Keys**.
3. At the top of the table, click **Download Tenable Security Center Key**.

The Tenable Security Center Director ECDSA key downloads.

## User Profile Menu Settings

The user profile  icon in the top navigation bar opens a menu with options to manage your user account.

**Note:** Depending on the screen resolution, the username may not appear next to the user icon in the top navigation bar.

## About



Path: Your user profile  icon > **About**

The **About** menu item displays the Tenable Security Center Director version, Server Build ID, and copyright information.

### System Logs (Organizational Users Only)

Path: Your user profile  icon > **System Logs**

For a complete discussion about system logs, see [System Logs](#).

### Profile (Organizational Users Only)

Path: Your user profile  icon > **Profile**

The **Profile** option launches the **Edit User Profile** page, where you can modify some of your user account information and permissions. For more information about user account options, see [User Account Options](#).

### Feeds (Organizational Users Only)

Path: Your user profile  icon > **Feeds**

The **Feeds** option displays information about the Tenable Security Center Director feeds and plugin sets and, if permitted, a link to update the plugins either through Tenable Security Center Director or by manually uploading plugins. The displayed feeds are for Tenable Security Center Feed, Active Plugins, Passive Plugins, and Event Plugins. You can only update feeds with valid Activation Codes.

Plugins are scripts used by the Tenable Nessus and Tenable Network Monitor servers to interpret vulnerability data. For ease of operation, Tenable Security Center Director centrally manages Tenable Nessus and Tenable Network Monitor plugins and pushes the plugins out to their respective scanners.


For more information about plugin/feed settings, see [Configuration Settings](#) and [Edit Plugin and Feed Settings and Schedules](#).

### Notifications

Path: Your user profile  icon > **Notifications** or  icon > **Show More**

In Tenable Security Center, specified events can display a pop-up in the lower right-hand corner of the Tenable Security Center user interface.



Some events in Tenable Security Center Director will cause a notification to appear in the  icon in the top navigation bar.

For more information, see [Notifications](#).

## Plugins

Path: Your user profile  icon > **Plugins**

Plugins are scripts used by the Tenable Nessus and Tenable Network Monitor servers to interpret vulnerability data. For ease of operation, Tenable Nessus and Tenable Network Monitor plugins are managed centrally by Tenable Security Center and pushed out to their respective scanners.

Within the Plugins interface, click the information icon next to the Plugin ID and search for specific plugins utilizing the filtering tools to view plugin details/source.


For more information about custom plugins, see [Custom Plugin Packages for NASL and CA Certificate Upload](#).

## Help

Path: Your user profile  icon > **Help**

The **Help** option opens the *Tenable Security Center Director User Guide* section for your page. To access other Tenable documentation, see [docs.tenable.com](https://docs.tenable.com).

## Logout

To end your session in Tenable Security Center Director, click your user profile  icon > **Logout**. Tenable recommends closing your browser window after logging out.

## Custom Plugin Packages for NASL and CA Certificate Upload

**Note:** Tenable does not support troubleshooting custom plugin packages for NASL.

You can upload a custom plugin package as a `.tar.gz` or `.tgz` file. Depending on your needs, you must include a combination of the following files:



- A `custom_feed_info.inc` file. Always include this file to time stamp your upload to Tenable Security Center Director.
- (Optional) A `custom_nasl_archive.tar.gz` or `custom_nasl_archive.tgz` file. Include this file if you are uploading one or more custom plugins.
- (Optional) A `custom_CA.inc` file. Include this file if you are uploading one or more CA certificates to solve a Tenable Nessus scanning issue.

After you [Create the Custom Plugin Package](#) and [Upload the Custom Plugin Package](#), Tenable Security Center Director pushes the package to Tenable Nessus for use when scanning.

**Note:** The system untars the files within your custom plugin package and overwrites any identically named files already in Tenable Security Center Director or Tenable Nessus.

#### `custom_feed_info.inc` Guidelines

Always include this file to time stamp your upload to Tenable Security Center Director. This text file must contain the following lines:

```
PLUGIN_SET = "YYYYMMDDHHMM";  
PLUGIN_FEED = "Custom";
```

The `PLUGIN_SET` variable `YYYYMMDDHHMM` is the date and time 2 minutes in the future from when you plan to upload the file to Tenable Security Center Director.

#### `custom_nasl_archive.tar.gz` or `custom_nasl_archive.tgz` Guidelines

Include this file if you are uploading one or more custom plugins. This package must contain one or more custom plugin NASL files.

All custom plugins must have unique Plugin ID numbers and have family associations based on existing Tenable Security Center families.

**Note:** Tenable Support does not assist with creating custom plugin NASL files.

#### `custom_CA.inc` Guidelines

Include this file if you are uploading one or more CA certificates to solve a Tenable Nessus scanning issue. This text file must contain PEM-encoded (Base64) CA certificate text.



For troubleshooting information, see [Troubleshooting Issues with the custom\\_CA.inc File](#).

## One CA Certificate

If you need to include a single CA certificate, paste the PEM-encoded (Base64) certificate directly into the file.

```
-----BEGIN CERTIFICATE-----  
certificatetext  
certificatetext  
certificatetext  
certificatetext  
-----END CERTIFICATE-----
```

## Multiple CA Certificates

If you need to include two or more CA certificates, include the PEM-encoded (Base64) certificates back-to-back.

```
-----BEGIN CERTIFICATE-----  
certificate1text  
certificate1text  
certificate1text  
certificate1text  
-----END CERTIFICATE-----  
-----BEGIN CERTIFICATE-----  
certificate2text  
certificate2text  
certificate2text  
certificate2text  
-----END CERTIFICATE-----
```

Create the Custom Plugin Package

**Required Tenable Security Center User Role:** Administrator

For complete information, see [Custom Plugin Packages for NASL and CA Certificate Upload](#).

To create the .tar.gz or .tgz custom plugin package:



1. Prepare the individual text files you want to include in the custom plugins package.

- `custom_nasl_archive.tar.gz` or `custom_nasl_archive.tgz`
- `custom_feed_info.inc`
- `custom_CA.inc`

Confirm the files meet the requirements described in [Custom Plugin Packages for NASL and CA Certificate Upload](#).

**Note:** After upload, the system untars the files within your custom plugin package and overwrites any identically named files already in Tenable Security Center Director or Tenable Nessus.

2. In the command line interface (CLI), tar and compress the files together. (7-Zip or running tar on a Mac does not work for this.) For example:

```
# tar -zcvf upload_this.tar.gz custom_feed_info.inc custom_CA.inc
```

The system generates a `.tar.gz` or `.tgz` file.

What to do next:

- Upload the `.tar.gz` or `.tgz` file, as described in [Upload the Custom Plugin Package](#).

Upload the Custom Plugin Package

**Required Tenable Security Center User Role:** Administrator

For complete information, see [Custom Plugin Packages for NASL and CA Certificate Upload](#).

Before you begin:

- Create the `.tar.gz` or `.tgz` custom plugin file, as described in [Create the Custom Plugin Package](#).

Upload the `.tar.gz` or `.tgz` file to Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Username** > **Plugins**.



The **Plugins** page appears.

3. Click **Upload Custom Plugins** and select the `.tar.gz` or `.tgz` file.
4. Click **Submit**.

Tenable Security Center Director uploads the package and pushes it to Tenable Nessus.

What to do next:

- To verify the upload succeeded, click **System > System Logs**.
- To verify the upload resolved a validation issue, run another scan that includes plugin 51192. Verify that Nessus has the custom plugin bundle by checking its plugin directory.

## Backup and Restore

Tenable recommends performing regular backups of the Tenable Security Center Director data in your `/opt/sc` directory. When you restore a backup, the file overwrites the content in your `/opt/sc` directory.

Data backup requirements:

- You must restore a backup file to a Tenable Security Center Director running the same version. For example, you cannot restore a backup file created on version 6.0.0 to a Tenable Security Center Director running Tenable Security Center 6.1.0.
- You must restore a backup file to the same Tenable Security Center Director where you created the backup file. The hostname associated with the backup file must match the hostname on the receiving Tenable Security Center Director. For example, you cannot restore a backup file created on a Tenable Security Center Director with the hostname *Example1* to a Tenable Security Center Director with the hostname *Example2*.

For more information, see [Perform a Backup](#) and [Restore a Backup](#).

## Configuration Backups

Tenable recommends performing regular backups of your Tenable Security Center Director configuration and managed Tenable Security Center instance configurations in addition to your



Tenable Security Center Director data. You can restore a configuration backup to quickly resume normal Tenable Security Center Director operation as part of your disaster recovery plan.

Tenable Security Center Director configuration backups do not include configurations for managed Tenable Security Center instances, such as scans, scan policies, or credentials. You must perform a separate backup for each Tenable Security Center instance.

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

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

## Configuration backup requirements

You must restore a backup file to a Tenable Security Center Director running the same version. For example, you cannot restore a backup file created on version 6.2.0 to a Tenable Security Center Director running Tenable Security Center 6.2.1.

**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 Security Center Director.

For more information, see [Perform a Configuration Backup](#) and [Restore a Configuration Backup](#).

## Configurations Included in a Configuration Backup

Category	Configurations
Users	<a href="#">User accounts</a> , <a href="#">user roles</a> , <a href="#">groups</a> , and <a href="#">organizations</a>
Resources	<a href="#">Managed Tenable Security Center instances</a> , <a href="#">LDAP servers</a>
System	Configuration settings (including <a href="#">data expiration settings</a> , <a href="#">mail settings</a> , <a href="#">miscellaneous settings</a> , <a href="#">license settings</a> , <a href="#">plugins/feed settings</a> , <a href="#">SAML settings</a> , and <a href="#">security settings</a> ), <a href="#">publishing sites settings</a> , <a href="#">keys settings</a> , and schedules





Scanning	<a href="#">Audit files</a> , <a href="#">assets</a> , and <a href="#">repositories</a>
Reporting	<a href="#">Dashboards</a> , <a href="#">report definitions</a> , <a href="#">report images</a> , and <a href="#">CyberScope and DISA report attributes</a>
Workflow	<a href="#">Alerts</a>
Analysis	<a href="#">Queries</a>

## Automatic Backups

Tenable Security Center Director performs automatic nightly backups of the following databases:

- `/opt/sc/application.db`
- `/opt/sc/hosts.db`
- `/opt/sc/jobqueue.db`
- `/opt/sc/plugins.db`
- `/opt/sc/remediationHierarchy.db`
- `/opt/sc/orgs/<orgID>/organization.db` (for each organization in your Tenable Security Center Director)
- `/opt/sc/orgs/<orgID>/assets.db` (for each organization in your Tenable Security Center Director)

Automatic backups run nightly at 1:20 AM local time. This schedule cannot be changed.

Tenable Security Center Director stores backups in the same directory as the database.

## Perform a Backup

**Required Tenable Security Center User Role:** Root user

For more information about the backup and restore process, see [Backup and Restore](#).

To perform a backup of Tenable Security Center Director data:



1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director with the following command:

```
# /bin/systemctl stop SecurityCenter
```

Tenable Security Center Director stops.

3. In the CLI in Tenable Security Center Director, run the following command to view all running processes:

```
# ps -fu tns
```

4. If any processes are listed, run the following commands to stop them:

```
# killall -u tns
```

```
# killall httpd
```

**Note:** These commands stop all jobs (including scans) running on Tenable Security Center Director.

5. If necessary, repeat step 4 to confirm all processes stopped.
6. If you have configured an external PostgreSQL database, back up the database using `pg_dump` or a similar utility. Save the database backup file in a secure location.
7. Run the following command to create a `.tar` file for your `/opt/sc` directory:

```
# tar -pzcf sc_backup.tar.gz /opt/sc
```

**Note:** The `.tar` file switches are case-sensitive.

Tenable Security Center Director creates the backup file.

8. Run the following command to confirm the backup file is not corrupted:



```
# tar -tvf sc_backup.tar.gz
```

9. Move the backup file to a secure location.
10. Start Tenable Security Center Director with the following command:

```
# /bin/systemctl start SecurityCenter
```

Tenable Security Center Director starts.

What to do next:

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

## Restore a Backup

**Required Tenable Security Center User Role:** Root user

For more information about the backup and restore process, see [Backup and Restore](#).

Before you begin:

- Perform a backup of your Tenable Security Center Director, as described in [Perform a Backup](#).
- Confirm your receiving Tenable Security Center Director meets the requirements described in [Backup and Restore](#).
- Move the backup file to your receiving Tenable Security Center Director's /tmp directory.

To restore a backup file:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director stops.

3. In the CLI in Tenable Security Center Director, run the following command to view all running processes:



```
# ps -fu tns
```

4. If any processes are listed, run the following commands to stop them:

```
# killall -u tns
```

```
# killall httpd
```

**Note:** These commands stop all jobs running on Tenable Security Center Director.

5. If necessary, repeat step 4 to confirm all processes are stopped.
6. Empty the `/opt/sc` folder of all contents.
7. If you have configured an external PostgreSQL database, restore the database from the backup file you created in [Perform a Backup](#).
8. Run the following commands to decompress the `.tar` file:

```
# cd /
```

```
# tar -xvf /tmp/sc_backup.tar.gz
```

**Note:** The `.tar` file switches are case-sensitive.

The restore finishes.

9. Start Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director starts.

## Perform a Configuration Backup

**Required Tenable Security Center User Role:** Root user

For more information about the backup and restore process and the configurations included in a configuration backup, see [Backup and Restore](#).



Before you begin:

- If you uploaded custom plugins, save a copy of your custom plugins in a safe location.

To perform a backup of your Tenable Security Center Director configuration:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director with the following command:

```
# /bin/systemctl stop SecurityCenter
```

Tenable Security Center Director stops.

3. In the CLI in Tenable Security Center Director, do one of the following:
  - To save the configuration backup file to a local directory, run the following command, where *[local directory path]* is the local directory where you want to save the backup file:

```
/opt/sc/support/bin/php /opt/sc/src/tools/backupSCConfiguration.php -l [local directory path]
```

For example:

```
/opt/sc/support/bin/php /opt/sc/src/tools/backupSCConfiguration.php -l /tmp/
```

- To save the configuration backup file to a remote directory, run the following command, where *[remote directory absolute path]* is the absolute path to the remote directory where you want to save the backup file:

```
/opt/sc/support/bin/php /opt/sc/src/tools/backupSCConfiguration.php -r [user]@[host]:  
[remote absolute path to configuration backups directory]
```

For example:

```
/opt/sc/support/bin/php /opt/sc/src/tools/backupSCConfiguration.php -r
```



```
tns@100.100.100.100:/tmp/
```

Tenable Security Center creates the configuration backup file and saves it to the specified directory.

**Tip:** The configuration backup file name includes the backup date and time, the Tenable Security Center hostname, and the Tenable Security Center version (for example, SC-config-20211101-165111-sc-hostname-5\_20\_0.tar.gz).

4. Start Tenable Security Center Director with the following command:

```
# /bin/systemctl start SecurityCenter
```

Tenable Security Center Director starts.

What to do next:

- Perform a backup for your managed Tenable Security Center instances, as described in [Perform a Configuration Backup](#) in the *Tenable Security Center User Guide*.
- (Optional) Restore the configuration backup file, as described in [Restore a Configuration Backup](#).

## Restore a Configuration Backup

**Required Tenable Security Center User Role:** Root user

For more information about the backup and restore process and the configurations included in a configuration backup, see [Backup and Restore](#).

**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 Security Center Director.

Before you begin:



- Perform a configuration backup of your Tenable Security Center Director, as described in [Perform a Configuration Backup](#).
- Confirm your receiving Tenable Security Center Director meets the requirements described in [Backup and Restore](#).
- If needed, restore configuration backups for your managed Tenable Security Center instances, as described in [Restore a Configuration Backup](#) in the *Tenable Security Center User Guide*.

To restore a configuration backup file:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Stop Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director stops.

3. In the CLI in Tenable Security Center Director, run the following command to restore the configuration backup, where *[path to backup file]* is the path to the backup file you want to restore:

```
/opt/sc/support/bin/php /opt/sc/src/tools/restoreSCConfiguration.php -l [path to backup file]
```

For example:

```
/opt/sc/support/bin/php /opt/sc/src/tools/restoreSCConfiguration.php -l /tmp/SC-config-20211101-165111-sc-hostname-5_20_0.tar.gz
```

Tenable Security Center Director restores the configuration backup.

4. Start Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director starts.

What to do next:



1. If you uploaded custom plugins before restoring your Tenable Security Center Director configuration, re-upload the custom plugins. For more information, see [Custom Plugin Packages for NASL and CA Certificate Upload](#).
2. Perform discovery scans on your managed Tenable Security Center instances to re-populate your repositories with vulnerability data. For more information, see [Scanning Overview](#).





## Monitor Scans

See the following sections to monitor scans running on your managed Tenable Security Center instances.

- [Scanning Overview](#)
- [Resources](#)
- [Repositories](#)
- [Active Scan Objects](#)
- [Tags](#)

### Scanning Overview

You can perform two types of scans using Tenable products: *discovery scans* and *assessment scans*. Tenable recommends performing discovery scans to get an accurate picture of the assets on your network and assessment scans to understand the vulnerabilities on your assets.

Configuring both methods provides a comprehensive view of the organization's security posture and reduces false positives. For more information about Tenable Security Center Director scanning strategies, see the [Tenable Security Center Scan Tuning Guide](#).

In Tenable Security Center Director, you can monitor the scans running on your managed Tenable Security Center instances. Tenable Security Center Director cannot run scans.

**Tip:** You can manage scan policy configurations for active scans on your managed Tenable Security Center instances from Tenable Security Center Director using the Tenable Security Center Director API. For more information, see the [Tenable Security Center API Guide](#).

Scan Type	Description	Licensing
Discovery Scan	Find assets on your network. For example: <ul style="list-style-type: none"><li>• a scan configured with the <b>Host Discovery</b> template.</li><li>• a scan configured to use only discovery plugins.</li><li>• an Tenable Network Monitor instance in discovery</li></ul>	Assets identified by discovery scans do not count toward your license.



	mode.	
Assessment Scan	<p>Find vulnerabilities on your assets. For example:</p> <ul style="list-style-type: none"><li>• an <i>authenticated</i> or <i>unauthenticated</i> active scan using a Tenable Nessus or Tenable Vulnerability Management scanner.</li><li>• an agent scan using an agent-capable Tenable Vulnerability Management or Tenable Nessus Manager scanner.</li></ul> <p><b>Authenticated Active Scans</b></p> <p>Configure authenticated scans, also known as credentialed scans, by adding access credentials to your assessment scan configuration.</p> <p>Credentialed scans can perform a wider variety of checks than non-credentialed scans, which can result in more accurate scan results. This facilitates scanning of a very large network to determine local exposures or compliance violations.</p> <p>Credentialed scans can perform any operation that a local user can perform. The level of scanning depends on the privileges granted to the user account. The more privileges the scanner has via the login account (e.g., root or administrator access), the more thorough the scan results.</p> <p>For more information, see <a href="#">Credentials</a>.</p> <p><b>Unauthenticated Active Scans</b></p> <p>If you do not add access credentials to your assessment scan configuration, Tenable Vulnerability Management performs a limited number of checks when scanning your assets.</p>	In general, assets assessed by assessment scans count toward your license.



For more information about how discovered and assessed assets are counted towards your license, see [License Requirements](#).

## Resources

Administrator users can view supporting resources on managed Tenable Security Center instances.

### [Tenable Nessus Scanners](#)

Scan zone resources are considered active scan objects. For more information, see [Active Scan Objects](#) and [Scan Zones](#).

LDAP server resources are part of user account configuration. For more information, see [User Accounts](#) and [LDAP Authentication](#).

## Tenable Nessus Scanners

In the Tenable Security Center framework, the Tenable Nessus scanner behaves as a server, while Tenable Security Center serves as a client that schedules and initiates scans, retrieves results, reports results, and performs a wide variety of other important functions.

If your deployment includes Tenable Security Center Director, you can use it to manage the Tenable Nessus scanners on your managed Tenable Security Center instances.

You can add managed or unmanaged Tenable Nessus deployments to Tenable Security Center as Tenable Nessus scanners in Tenable Security Center.

**Note:** Tenable Security Center cannot perform scans with or update plugins for scanners running unsupported versions of Tenable Nessus. For minimum Tenable Nessus scanner version requirements, see the [Tenable Security Center Release Notes](#) for your version.

For more information, see:

- [Add a Tenable Nessus Scanner](#)
- [Manage Nessus Scanners](#)
- [View Your Nessus Scanners](#)
- [View Details for a Nessus Scanner](#)
- [Delete a Nessus Scanner](#)



For information about Tenable Security Center-Tenable Nessus communications encryption, see [Encryption Strength](#).

## Tenable Nessus Scanner Settings

Option	Description
<b>General</b>	
<b>Tenable Security Center Instance</b>	The name of the managed Tenable Security Center instance where you configured the Tenable Nessus scanner.
<b>Name</b>	A descriptive name for the scanner.
<b>Description</b>	A scanner description, location, or purpose.
<b>Host</b>	The hostname or IP address of the scanner.
<b>Port</b>	The TCP port that the scanner listens on for communications from Tenable Security Center. The default is port 8834.
<b>Enabled</b>	A scanner may be <b>Enabled</b> or <b>Disabled</b> within Tenable Security Center to allow or prevent access to the scanner.
<b>Verify Hostname</b>	<p>Adds a check to verify that the hostname or IP address entered in the <b>Host</b> option matches the CommonName (CN) presented in the SSL certificate from the Nessus server.</p> <div><b>Note:</b> Confirm that the correct CA certificate is configured for use by Tenable Security Center. If you are using a custom CA, configure Tenable Security Center to trust your custom CA, as described in <a href="#">Trust a Custom CA</a>. You do not need to perform this step when using the default certificates for Tenable Nessus servers.</div>
<b>Use Proxy</b>	Instructs Tenable Security Center to use its configured proxy for communication with the scanner.
<b>Authentication</b>	
<b>Type</b>	Select <b>Password</b> , <b>SSL Certificate</b> , or <b>API Keys</b> for the authentication type to connect to the scanner.



Option	Description
	For complete information about Tenable Nessus SSL certificate authentication, see Manual Nessus SSL Certificate Exchange.
<b>Username</b>	Username generated during the install for daemon to client communications. This must be an administrator user in order to send plugin updates to the scanner. If the scanner is updated by a different method, such as through another Tenable Security Center, a standard user account may be used to perform scans. This option is only available if the <b>Authentication Type</b> is set to <b>Password</b> .
<b>Password</b>	The login password must be entered in this option. This option is only available if the <b>Authentication Type</b> is set to <b>Password</b> .
<b>Certificate</b>	<p>If you set <b>Authentication Type</b> to <b>SSL Certificate</b>, specifies the <code>nessuscert.pem</code> file you want to use for authentication to the scanner.</p> <p>For complete information about Tenable Nessus SSL certificate authentication, see Manual Nessus SSL Certificate Exchange.</p>
<b>Certificate Passphrase</b>	If you selected <b>SSL Certificate</b> as the <b>Authentication Type</b> and the private key that decrypts your SSL certificate is encrypted with a passphrase, the passphrase for the private key.
<b>Active Scans</b>	
<b>Zones</b>	The scan zones that can use this scanner. For more information, see <a href="#">Scan Zones</a> .
<b>Agents</b>	
<b>Agent Capable</b>	<p>Specifies whether you want this scanner to provide Tenable Agent scan results to Tenable Security Center.</p> <p>Agent capable scanners must be Nessus Manager 6.5 or later. When using Nessus Manager, you must use an organizational user account to connect from Tenable Security Center.</p>
<b>Organizations</b>	When the <b>Agent Capable</b> option is enabled, or you select <b>API Keys</b> as the



Option	Description
	<b>Authentication Type</b> , specifies one or more organizations that you want to grant access to import Tenable Agent data into Tenable Security Center.
<b>API Keys</b>	<p>When the <b>Agent Capable</b> option is enabled, specifies whether you want to use secure API keys when importing agent scan data from Tenable Nessus scanners.</p> <p>For more information about retrieving your access key and secret key from Tenable Nessus, see <a href="#">Generate a Nessus API Key</a> in the <i>Tenable Nessus User Guide</i> .</p>
<b>Access Key</b>	<p>When the <b>API Keys</b> option is enabled, specifies the access key for the Tenable Nessus scanner.</p> <p>When you select <b>API Keys</b> as the <b>Authentication Type</b>, specifies the access key for the Tenable Agent.</p>
<b>Secret Key</b>	<p>When the <b>API Keys</b> option is enabled, specifies the secret key for the Tenable Nessus scanner.</p> <p>When you select <b>API Keys</b> as the <b>Authentication Type</b>, specifies the secret key for the Tenable Agent.</p>
<b>Web Application Scanning</b>	
<b>Capable</b>	Specifies whether you want this scanner to provide Tenable Web App Scanning scan results to Tenable Security Center.

## Add a Tenable Nessus Scanner

**Required Tenable Security Center User Role:** Administrator

You can add a Tenable Nessus scanner to a managed Tenable Security Center instance. For more information, see [Tenable Nessus Scanners](#).

**Note:** Tenable Security Center cannot perform scans with or update plugins for scanners running unsupported versions of Tenable Nessus. For minimum Tenable Nessus scanner version



requirements, see the [Tenable Security Center Release Notes](#) for your version.

**Note:** Tenable Security Center does not send plugins to linked Nessus Managers. Nessus Manager pulls plugins directly from Tenable's plugin sites. Therefore, to update plugin sets, Nessus Manager needs access to the internet and Tenable's plugin sites (for more information, see the [Which Tenable sites should I allow?](#) community article). If your Nessus Manager does not have internet access, you can manually update its version and plugins offline (for more information, see [Manage Nessus Offline](#) in the *Nessus User Guide*).

To add a Tenable Nessus scanner to a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure**> **Scanners**.

The **Tenable Nessus Scanners** page appears.

3. At the top of the table, click **Add**.

The **Add Tenable Nessus Scanner** page appears.

4. Configure Tenable Nessus scanner options, as described in [Tenable Nessus Scanners](#).
  - a. In the **Tenable Security Center Instance** drop-down box, select a managed Tenable Security Center instance for the scanner.

**Tip:** If you arrived at the **Add Tenable Nessus Scanner** page from the **Scanners** tab on a [Tenable Security Center instance details page](#), you cannot modify the **Tenable Security Center Instance** option.

- b. In the **Name** box, type a name for the scanner.
- c. In the **Description** box, type a description for the scanner.
- d. In the **Host** box, type the hostname or IP address for the scanner.
- e. In the **Port** box, view the default (**8834**) and modify, if necessary.
- f. If you want to disable this scanner's connection to Tenable Security Center, click **Enabled** to disable the connection.



- g. If you want to verify that the hostname or IP address entered in the **Host** option matches the CommonName (CN) presented in the SSL certificate from the Tenable Nessus scanner, click **Verify Hostname** to enable the toggle.
- h. If you want to use the proxy configured in Tenable Nessus for communication with the scanner, click **Use Proxy** to enable the toggle.
- i. In the **Type** drop-down box, select the authentication type.
- j. If you selected **Password** as the **Type**:
  - i. In the **Username** box, type the username for the account generated during the Tenable Nessus installation for daemon-to-client communications.
  - ii. In the **Password** box, type the password associated with the username you provided.
- k. If you selected **SSL Certificate** as the **Type**:
  - i. Click **Choose File** to upload the `nessuscert.pem` file you want to use for authentication to the scanner.
  - ii. (Optional) If the private key that decrypts your SSL certificate is encrypted with a passphrase, in the **Certificate Passphrase** box, type the passphrase for the private key.
- l. Check the box for all active scan zones you want to use this scanner.
- m. If you want this scanner to provide Tenable Agent scan results to Tenable Security Center:
  - i. Click **Agent Capable** to enable the toggle.
  - ii. Check the box for one or more **Organizations** that you want to grant access to import Tenable Agent data into Tenable Security Center.
  - iii. If you want to use secure API keys when importing agent scan data from Tenable Nessus scanners:





- a. Click **API Keys** to enable the toggle.
- b. In the **Access Key** box, type the access key.
- c. In the **Secret Key** box, type the secret key.

5. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Configure a scan zone, repository, and active scan objects on the managed Tenable Security Center instance, as described in [Active Scans](#) in the *Tenable Security Center User Guide*.

## Tenable Nessus Scanner Statuses

You can view the status for scanners, as described in [View Your Nessus Scanners](#).

Status	Description	Recommended Action
<b>Authentication Error</b>	Tenable Security Center could not authenticate to the scanner using the credentials you provided.	Check your <a href="#">scanner configuration settings</a> and confirm the <b>Username</b> and <b>Password</b> options specify valid login credentials for the scanner.
<b>Certificate Mismatch</b>	Tenable Security Center could not confirm the validity of the SSL certificate presented by the scanner.	Do one of the following: <ul style="list-style-type: none"><li>• <a href="#">Edit your scanner configuration</a> and select a different authentication type.</li><li>• (Tenable Nessus scanners only) Check your <a href="#">scanner configuration settings</a> and confirm the <b>Certificate</b> option specifies the correct <code>nessuscert.pem</code> file. For more information about managing SSL certificates in Nessus, see <a href="#">Manage SSL</a>.</li></ul>



		<a href="#">Certificates</a> in the <i>Tenable Nessus User Guide</i> .
<b>Connection Error</b>	Tenable Security Center cannot connect to the scanner because the scanner is unreachable or does not exist at the IP address or hostname provided.	<p>Do one or both of the following:</p> <ul style="list-style-type: none"><li>• <a href="#">Check your scanner configuration</a> and confirm the <b>Host</b> option specifies the correct IP address or hostname for the scanner.</li><li>• Confirm the network devices and firewalls between Tenable Security Center and the scanner are configured to permit network traffic.</li></ul>
<b>Connection Timeout</b>	Tenable Security Center connected to the scanner but timed out waiting for a reply.	Contact your network administrator for troubleshooting assistance.
<b>Invalid Configuration</b>	The scanner attempted to connect to a scanner on port 0, or the provided API key is for a scanner that does not support agent scans.	<p>Do one or both of the following:</p> <ul style="list-style-type: none"><li>• <a href="#">Check your scanner configuration</a> and confirm the <b>Port</b> option specifies a valid TCP port to connect to your scanners. For more information, see <a href="#">Port Requirements</a>.</li><li>• <a href="#">Check your scanner configuration</a> and confirm the <b>Access Key</b> and <b>Secret Key</b> options specify valid keys for a Tenable Nessus Manager or cloud scanner.</li></ul>



<b>Permission Error</b>	The provided API keys do not have the correct permissions to run agent scans.	<a href="#">Check your scanner configuration</a> and confirm the <b>Access Key</b> and <b>Secret Key</b> options specify valid keys for the scanner.
<b>Plugins Out of Sync</b>	The plugin sets on the scanner do not match the plugin sets in Tenable Security Center.	For troubleshooting assistance, see the <a href="#">knowledge base</a> article.
<b>Protocol Error</b>	Tenable Security Center connected to the scanner but the scanner returned an HTTPS protocol negotiation error.	Contact your network administrator for troubleshooting assistance.
<b>Reloading Scanner</b>	The scanner is temporarily unable to run scans because Tenable Nessus is restarting on the scanner.	None.
<b>Updating Plugins</b>	Tenable Security Center is performing a plugin update on the scanner.	<p>You may want to schedule plugin updates to run a few hours before your scheduled scans. For more information, see <a href="#">Edit Plugin and Feed Settings and Schedules</a>.</p> <p>If a scanner has a persistent <b>Updating Plugins</b> status, the plugin update have been interrupted. For troubleshooting assistance, see the <a href="#">knowledge base</a> article.</p>
<b>Updating Status</b>	Tenable Security Center is refreshing the status of the scanner. Scanners can continue to run scans while Tenable Security Center refreshes the status.	None.



	<p><b>Note:</b> Tenable Security Center automatically refreshes scanner statuses every 15 minutes.</p> <p>If you create a new scanner, edit a scanner, or manually refresh the status using the <b>Update Status</b> option, Tenable Security Center refreshes the status of the scanner on demand.</p>	
<b>Upgrade Required</b>	<p>The version of Tenable Nessus on the scanner is unsupported and requires an upgrade.</p> <p>Tenable Security Center cannot perform scans with or update plugins for scanners running unsupported versions of Tenable Nessus. For minimum Tenable Nessus scanner version requirements, see the <a href="#">Tenable Security Center Release Notes</a> for your version.</p>	<p>Upgrade to a supported version of Tenable Nessus, as described in <a href="#">Upgrade Nessus</a> in the <i>Tenable Nessus User Guide</i>.</p>
<b>User Disabled</b>	<p>A Tenable Security Center user disabled the scanner.</p>	<p><a href="#">Edit your scanner configuration</a> and click the <b>Enabled</b> toggle to re-enable the scanner.</p> <p>For more information about scanner options, see <a href="#">Tenable Nessus Scanners</a>.</p>
<b>Working</b>	<p>The scanner is connected to Tenable Security Center and able to run scans.</p>	<p>None.</p>

## Manage Nessus Scanners



## Required Tenable Security Center User Role: Administrator

You can manage the Tenable Nessus scanners on your managed Tenable Security Center instances. For more information, see [Tenable Nessus Scanners](#).

To manage the Tenable Nessus scanners on your managed Tenable Security Center instances:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure > Scanners**.

The **Tenable Nessus Scanners** page appears.

3. To filter the scanners that appear on the page, apply a filter as described in [Apply a Filter](#).
4. To view the list of configured scanners, see [View Your Nessus Scanners](#).
5. To view details for a scanner, see [View Details for a Nessus Scanner](#).
6. To edit a scanner:

- a. Right-click the row for the scanner.

The actions menu appears.

-or-

Select the check box for the scanner.

The available actions appear at the top of the table.

- b. Click **More > Edit**.

The **Edit Tenable Nessus Scanner** page appears.

- c. Modify the scanner options. For more information about scanner options, see [Tenable Nessus Scanners](#).

**Note:** You cannot move a scanner from one managed Tenable Security Center instance to another. To change the **Tenable Security Center Instance**, delete the scanner and add a new



scanner with the same settings on a different Tenable Security Center instance.

d. Click **Submit**.

7. To delete a scanner from a managed Tenable Security Center instance, see [Delete a Nessus Scanner](#).

## View Your Nessus Scanners

**Required Tenable Security Center User Role:** Administrator

You can view the Tenable Nessus scanners on your managed Tenable Security Center instances. For more information, see [Tenable Nessus Scanners](#).

To view a list of configured Tenable Nessus scanners on your managed Tenable Security Center instances:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure > Tenable Nessus Scanners**.

The **Tenable Nessus Scanners** page appears.

3. View details about each Tenable Nessus scanner.
  - **Name** — The name for the scanner.
  - **Tenable Security Center Instance** — The name of the Tenable Security Center instance where the scanner is configured. For more information, see [Tenable Security Center Director Deployments](#).
  - **Features** — Specifies whether the scanner is a **Standard** scanner or an **Agent Capable** scanner. Agent capable scanners provide Tenable Agent scan results to Tenable Security Center.
  - **Status** — The status of the scanner. For more information, see [Tenable Nessus Scanner Statuses](#).
  - **Host** — The IP address or hostname of the scanner.
  - **Version** — The scanner's Tenable Nessus version.



- **Type** – The type of scanner connection.

Type	Description
Unknown	Tenable Security Center could not identify the scanner.
Nessus (Unmanaged Plugins)	<p>Tenable Security Center accesses the scanner using a Tenable Nessus user account with <b>Standard</b> permissions.</p> <p>Tenable Security Center cannot send plugin updates to the scanner or manage the scanner's activation code.</p>
Nessus (Managed Plugins)	<p>Tenable Security Center manages the scanner and authenticates via a Tenable Nessus user account.</p> <p>Tenable Security Center sends plugin updates to the scanner and manages the scanner's activation code.</p>

- **Uptime** – The value indicates the number of days or the amount of time the scanner has been active. This duration corresponds to the Nessus service (nessusd) process running time.
- **Last Modified** – The date and time the scanner was last modified.

4. To view details of a specific Tenable Nessus scanner, see [View Details for a Nessus Scanner](#).
5. To filter the scanners that appear on the page, apply a filter as described in [Apply a Filter](#).
6. To manually refresh the **Status** data, at the top of the table, click **Update Status**.

Tenable Security Center Director refreshes the **Status** data.

View Details for a Nessus Scanner

**Required Tenable Security Center User Role:** Administrator

For more information, see [Tenable Nessus Scanners](#).

To view details for a Tenable Nessus scanner:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure > Tenable Nessus Scanners**.



The **Tenable Nessus Scanners** page appears.

3. Right-click the row for the scanner you want to view.

The actions menu appears.

-or-

Select the check box for the scanner you want to view.

The available actions appear at the top of the table.


4. Click **View**.

The **View Tenable Nessus Scanner** page appears.

Section	Action
<b>Options</b> drop-down box	<ul style="list-style-type: none"><li>• To edit the scanner, click <b>Edit</b>.</li><li>• To delete the scanner, click <b>Delete</b>, as described in <a href="#">Delete a Nessus Scanner</a>.</li><li>• To download logs for the scanner, click <b>Download Logs</b>. For more information, see Download Tenable Nessus Scanner Logs.</li></ul>
<b>General</b>	View general information about the scanner.
<b>Authentication</b>	View authentication information for the scanner.
<b>Active Scans</b>	View active scan information for the scanner.
<b>Agents</b>	<p>View agent information for the scanner.</p> <ul style="list-style-type: none"><li>• <b>Agent Capable</b> — Specifies whether the scanner is agent capable: <b>Yes</b> or <b>No</b>.</li><li>• <b>Organizations</b> — If the scanner is agent capable, the organization configured for the scanner.</li><li>• <b>API Keys Set</b> — If the scanner is agent capable, specifies whether API keys are configured for the scanner: <b>Yes</b> or <b>No</b>.</li></ul>





Section	Action
Data summary	<p>View metadata and performance metrics for the scanner.</p> <div><b>Note:</b> Tenable Security Center Director refreshes the load information every 15 minutes.</div>
<b>Nessus Scanner Health</b>	<p>If you are viewing details for a managed Tenable Nessus scanner running version 8.2.0 or later, view scanner health summary data:</p> <ul style="list-style-type: none"><li>• <b>Running Scans</b> – The number of scans currently running on the scanner.</li><li>• <b>Hosts Being Scanned</b> – The number of hosts currently being scanned by the scanner.</li><li>• <b>CPU Load</b> – The percent of the total CPU currently in use by the scanner.</li><li>• <b>Total Memory</b> – The total memory installed on the scanner.</li><li>• <b>Memory Used</b> – The percent of the total memory currently in use by the scanner.</li><li>• <b>Total Disk Space</b> – The total disk space installed on the scanner.</li><li>• <b>Disk Space Used</b> – The percent of the total disk space currently in use by the scanner.</li><li>• <b>Last Updated</b> – The date and time Tenable Security Center last updated the scanner data.</li></ul> <p>Tenable Security Center refreshes the data when you load the <b>View Nessus Scanner</b> page. To force a manual refresh, click the  button.</p>

Delete a Nessus Scanner

**Required Tenable Security Center User Role:** Administrator



You can delete a Tenable Nessus scanner to permanently remove it from a managed Tenable Security Center instance. For more information, see [Tenable Nessus Scanners](#).

To delete a Tenable Nessus scanner from a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure > Scanners**.

The **Nessus Scanners** page appears.

3. Select the scanner you want to delete:

- To delete a single scanner:
  - a. In the table, right-click the row for the scanner you want to delete.  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple scanners:
  - a. In the table, select the check box for each scanner you want to delete.  
The available actions appear at the top of the table.
  - b. At the top of the table, click **More > Delete**.

A confirmation window appears.

4. Click **Delete**.

A confirmation window appears.

5. Click **Delete**.

Tenable Security Center Director deletes the scanner from the managed Tenable Security Center instance.

## Pause, Resume, or Stop Scans on a Managed Tenable Security Center Instance

**Required Tenable Security Center Director User Role:** Administrator

From Tenable Security Center Director, you can pause, resume, and stop scans that are running on managed Tenable Security Center instances.



- If you pause a scan, the scan temporarily stops scanning targets. You can resume a paused scan at any time.
- If you stop a scan, you can choose to create a rollover scan.

For more information about connecting managed Tenable Security Center instances to Tenable Security Center Director, see [Tenable Security Center Director Deployments](#).

To pause, resume, or stop scans on a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Results**.

The **Scan Results** page appears.

3. To pause a running scan:

- In the row for the scan you want to pause, click the  button.

Tenable Security Center pauses the scan on the managed Tenable Security Center instance.

4. To resume a paused scan:

- In the row for the scan you want to resume, click the  button.

Tenable Security Center resumes the paused scan on the managed Tenable Security Center instance.

5. To stop a running scan:

- a. In the row for the scan you want to stop, click the  menu.

The actions menu appears.

- b. Click **Stop**.
- c. Click one of the following options to determine how the managed Tenable Security Center instance handles the results of the stopped scan:
  - **Discard Results** — The managed Tenable Security Center instance does not import any of the results obtained by the scan to the database.



- **Import Results** – The managed Tenable Security Center instance imports the results of the current scan and discards the information for the unscanned hosts.
- **Import Results and Create Rollover** – The managed Tenable Security Center instance imports the results from the scan into the database and creates a rollover scan that you can launch manually to complete the scan.

Tenable Security Center stops the scan on the managed Tenable Security Center instance.

## Repositories

*Repositories* are databases within Tenable Security Center Director that contain vulnerability data. You can share repositories with users and organizations based on admin-defined assets. Repositories provide scalable and configurable data storage. Optionally, you can share repository data between multiple Tenable Security Centers.

**Note:** The maximum repository size is 64 GB. For best performance, Tenable recommends splitting repositories larger than 32 GB (greater than 50% capacity).

When adding an *external repository*, you access a local repository from another Tenable Security Center. Remote repositories allow you to share repository data from one Tenable Security Center deployment to your primary Tenable Security Center deployment via an SSH session. By default, Tenable Security Center Director uses ECDSA keys for remote repository authentication.

External repository data is static and used solely for reporting purposes. For more information, see [External Repositories](#).

For more information, see [Manage Repositories](#). For information about Tenable Security Center Director repository data encryption, see [Encryption Strength](#).

**Tip:** If you need to remove data from a repository (for example, to remove retired asset data or to resolve a license issue), see the [knowledge base](#) article.

## Manage Repositories

**Required Tenable Security Center User Role:** Administrator



**Note:** By default, Tenable Security Center Director uses ECDSA keys for remote repository authentication regardless of FIPS mode settings.

For more information, see [Repositories](#).

## Add a Repository

To add a repository:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories**.

The **Repositories** page appears.

3. At the top of the table, click **Add**.

The **Add Repository** page appears.

4. Click the tile for the repository type you want to add.

The **Add Repository** page appears.

5. Configure the options for your repository. For more information, see [Remote Repositories](#).
6. Click **Submit**.

Tenable Security Center Director saves your configuration.

## View Your Repositories

To view a list of your repositories:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories > Repositories**.

The **Repositories** page appears.

3. (Optional) To filter the repositories that appear on the page, apply a filter as described in [Apply a Filter](#).
4. View details about each repository.



- **Name** – The name of the repository.
- **Vulnerability Count** – The total number of vulnerability instances in the repository.

**Tip:** A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.

- **IP/Device Count** – The total number of assets for which the repository contains vulnerability data.
- **Type** – The repository type.
- **Capacity** – (IPv4, IPv6, Agent, and Universal repositories only) The percentage of maximum available repository space you are currently using. The maximum repository size is 64 GB.

**Tip:** For best performance, Tenable recommends splitting repositories larger than 32 GB.

- **Last Updated** – The date and time the repository was last updated.

## View Repository Details

To view repository details:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories > Repositories**.

The **Repositories** page appears.

3. (Optional) To filter the repositories that appear on the page, apply a filter as described in [Apply a Filter](#).
4. Right-click the row for the repository you want to view.

The actions menu appears.

-or-

Select the check box for the repository you want to view.

The available actions appear at the top of the table.



5. Click **View**.

The **View Repository** page appears.

Section	Action
General	<p>View general information for the repository.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The repository name.</li><li>• <b>Description</b> – The repository description.</li><li>• <b>IP Count</b> – The total number of assets for which the repository contains vulnerability data.</li><li>• <b>Last Vuln Update</b> – The date and time the repository was last updated.</li><li>• <b>Vulnerability Count</b> – The total number of vulnerability instances in the repository.</li></ul> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</div> <ul style="list-style-type: none"><li>• <b>Repository Capacity</b> – (IPv4, IPv6, Agent, and Universal repositories only) The percentage of maximum available repository space you are currently using. The maximum repository size is 64 GB.</li></ul> <div><b>Tip:</b> For best performance, Tenable recommends splitting repositories larger than 32 GB.</div> <ul style="list-style-type: none"><li>• <b>Created</b> – The date the repository was created.</li><li>• <b>Last Modified</b> – The date the repository was last modified.</li><li>• <b>ID</b> – The repository ID.</li></ul>
Data	<p>View a summary of the repository data (for example, the IP address range). For more information, see <a href="#">Remote Repositories</a>.</p>



Section	Action
<b>Access</b>	View the name of the organizations with access to this repository.
<b>Advanced Settings</b>	View a summary of your settings for the repository. For more information about a setting, see <a href="#">Remote Repositories</a> .

## Edit a Repository

To edit a repository:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories > Repositories**.

The **Repositories** page appears.

3. (Optional) To filter the repositories that appear on the page, apply a filter as described in [Apply a Filter](#).
4. Right-click the row for the repository you want to edit.

The actions menu appears.

-or-

Select the check box for the repository you want to edit.

The available actions appear at the top of the table.

5. Click **More > Edit**.

The **Edit Repository** page appears.

6. Modify the repository options, as described in [Remote Repositories](#).
7. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Export a Repository





You can export a repository from one Tenable Security Center and import it as an offline repository on another Tenable Security Center. You can export repositories via the Tenable Security Center user interface or the CLI. For more information, see [Offline Repositories](#).

**Note:** Depending on the size of the repository database, this file can be quite large. It is important to save the file to a location with sufficient free disk space.

## Export via the User Interface

To export a repository via the user interface:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories** > **Repositories**.

The **Repositories** page appears.

3. Right-click the row for the repository you want to export.

The actions menu appears.

-or-

Select the check box for the repository you want to export.

The available actions appear at the top of the table.

4. Click **Export**.

Tenable Security Center Director exports the repository.

## Export via the CLI

To export a repository via the CLI:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. Prepare the command you want to run.

```
sh /opt/sc/customer-tools/exportRepository.sh [repID] [trendingDays]
[trendWithRaw]
```



Variable	Description
<i>replID</i>	The repository ID of the repository you want to export. To locate the repository ID, view the details for the repository, as described in <a href="#">View Repository Details</a> .
<i>trendingDays</i>	(IP, Agent, and Universal repositories only) The number of days of vulnerability trending data to include. To use the preconfigured repository setting, type <b>default</b> .  <b>Note:</b> The number of days of trending data included in the export cannot exceed the <b>Days Trending</b> setting for the repository or the number of days of trending data available for the repository. For example, if you request 30 days of trending data, but trending data has been enabled for only 15 days, then the export includes only 15 days of trending data. For more information about repository settings, see IPv4/IPv6 Repositories, Agent Repositories, and Universal Repositories.
<i>trendWithRaw</i>	(IP, Agent, and Universal repositories only) Specify whether you want the export to include plugin output data: <b>yes</b> or <b>no</b> . To use the preconfigured repository setting, type <b>default</b> .

(Optional) To automatically overwrite an existing repository file with the same name, include the optional argument **-f**.

3. In the CLI in Tenable Security Center Director, run the export command.

For example:

```
/opt/sc/customer-tools/exportRepository.sh -f 1 default default
```

Tenable Security Center Director exports the repository.

## Delete a Repository

To delete a repository:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Repositories > Repositories**.

The **Repositories** page appears.

3. Select the repository you want to delete:

- To delete a single repository:
  - a. In the table, right-click the row for the repository you want to delete.  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple repositories:
  - a. In the table, select the check box for each repository you want to delete.  
The available actions appear at the top of the table.
  - b. At the top of the table, click **More > Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center Director deletes the repository.

## External Repositories

When adding an *external repository*, you access a local repository from another Tenable Security Center:

- Offline repositories allow you to share repository data from one Tenable Security Center deployment to your primary Tenable Security Center deployment via manual export and import (a `.tar.gz` archive file). You can combine data from several repository files into a single offline repository by importing multiple files to the offline repository.
- Remote repositories allow you to share repository data from one Tenable Security Center deployment to your primary Tenable Security Center deployment via an SSH session. By default, Tenable Security Center Director uses ECDSA keys for remote repository authentication.



External repository data is static and used solely for reporting purposes. For more information, see [Remote Repositories](#).

For more information, see [Repositories](#) and [Add a Repository](#).

## Remote Repositories

Remote repositories allow you to share repository data from one Tenable Security Center deployment to your primary Tenable Security Center deployment via an SSH session. By default, Tenable Security Center Director uses ECDSA keys for remote repository authentication.

**Note:** You cannot set a remote repository as the **Import Repository** for active scans. You can use remote repository data only for reporting purposes.

**Note:** Ensure all your Tenable Security Center Director deployments are running the same version. For example, if your remote repository exists on a Tenable Security Center Director running a later version than your primary Tenable Security Center Director deployment, upgrade your primary Tenable Security Center Director deployment to the same version.

For more information, see [Manage Repositories](#).

To use tiered remote repositories for large enterprise deployments of Tenable Security Center, see [Tiered Remote Repositories](#).

Option	Description
<b>General</b>	
<b>Name</b>	The repository name.
<b>Description</b>	(Optional) A description for the repository.
<b>Remote Tenable Security Center</b>	
<b>Host</b>	<p>The IP address for the host you want to synchronize with to obtain repository data. After you type the IP address:</p> <ol style="list-style-type: none"><li>1. Click <b>Request Repositories</b>.</li><li>2. Type the username and password for an administrator account on the remote Tenable Security Center.</li></ol>



Option	Description
	The Tenable Security Center deployments exchange SSH keys, and the system populates the <b>Repository</b> list with all available repositories from the remote Tenable Security Center.
<b>Repository</b>	The remote repository you want to collect IP addresses and vulnerability data from.
<b>Update Schedule</b>	Sets the schedule for the remote server to be queried for updated information.
<b>Access</b>	
<b>Organizations</b>	<p>Specifies which organizations have access to the vulnerability data stored in the repository.</p> <p>If groups are configured for the organization, Tenable Security Center prompts you to grant or deny access to all of the groups in the organization. For more granular control, grant access within the settings for that group.</p>

## Active Scan Objects

Complete Tenable Security Center scan configurations rely on the following scan objects. For information about active scans, see [Active Scans](#).

Scan Object	Description
assets	<p>Assets are lists of devices (for example, laptops, servers, tablets, or phones) within a Tenable Security Center organization. You can share assets with one or more users based on local security policy requirements.</p> <p>You can add an asset to group devices that share common attributes. Then, you can use the asset during scan configuration to target the devices in the asset.</p> <p>For more information, see <a href="#">Assets</a>.</p>
credentials	Credentials are reusable objects that facilitate a login to a scan target. You



	<p>can configure various types of credentials with different authentication methods for use within scan policies. You can also share credentials between users for scanning purposes.</p> <p>Tenable Security Center supports an unlimited number of SSH, Windows, and database credentials, and four SNMP credential sets per scan configuration.</p> <p>For more information, see Credentials.</p>
audit files	<p>During a configuration audit, auditors verify that your server and device configurations meet an established standard and that you maintain them with an appropriate procedure. Tenable Security Center can perform configuration audits on key assets by using local Tenable Nessus checks that can log directly on to a Unix or Windows server without an agent.</p> <p>Tenable Security Center supports several audit standards. Some of these come from best practice centers like the PCI Security Standards Council and the Center for Internet Security (CIS). Some of these are based on Tenable's interpretation of audit requirements to comply with specific industry standards such as PCI DSS or legislation such as Sarbanes-Oxley.</p> <p>In addition to base audits, you can create customized audits for the particular requirements of any organization. You can upload customized audits into Tenable Security Center and make them available to anyone performing configuration audits within an organization.</p> <p>You can upload and use NIST SCAP files in the same manner as an audit file. Navigate to NIST's SCAP website (<a href="http://scap.nist.gov">http://scap.nist.gov</a>) and under the SCAP Content section, download the desired SCAP security checklist zip file. You can then upload the file to Tenable Security Center and select it for use in Tenable Nessus scan jobs.</p> <p>Once you configure audit scan policies in Tenable Security Center, you can use them as needed. Tenable Security Center can also perform audits intended for specific assets. A Tenable Security Center user can use audit policies and asset lists to determine the compliance posture of any specified asset.</p>



	For more information, see <a href="#">Audit Files</a> .
scan zones	<p>Scan zones represent areas of your network that you want to target in an active scan, associating an IP address or range of IP addresses with one or more scanners in your deployment. Scan zones define the IP address ranges associated with the scanner along with organizational access.</p> <p>For more information, see <a href="#">Scan Zones</a>.</p>
scan policies	<p>Scan policies contain options related to performing an active scan. For example:</p> <ul style="list-style-type: none"><li>• Options that control technical aspects of the scan such as timeouts, number of hosts, type of port scanner, and more.</li><li>• Options that provide plugin family-based or individual plugin-based scan specifications.</li><li>• Options that control compliance policy checks (Windows, Linux, Database, etc.), report verbosity, service detection scan settings, audit files, patch management systems, and more.</li></ul> <p>For more information, see Scan Policies.</p>

## Assets

Tenable Security Center Director *assets* are lists of devices (for example, laptops, servers, tablets, or phones) within a Tenable Security Center Director organization. Assets can be shared with one or more users based on local security policy requirements.

You can add an asset to group devices that share common attributes. Then, you can use the asset during scan configuration to target the devices in the asset. Examples of common attributes include:

- IP address ranges
- hardware types
- vulnerabilities



- outdated software versions
- operating systems

Tenable Security Center Director supports template-based and custom asset. For more information, see [Add a Template-Based Asset](#) and [Add a Custom Asset](#). To view details for any of your asset, see [View Asset Details](#).

To view details about individual hosts that appear in your assets, see [View Host Details](#).

**Note:** When a scan import completes, it queues a job to calculate all dynamic and combination assets for the import repository. The next scan import does not begin until the previous scan import asset job completes. Usually the asset job runs quickly, but delays can occur due to extremely large repositories, a large quantity of assets, a backlogged job queue, or other system issues. This does not affect running scans.

Asset lists are calculated for each repository, and updating one repository does not affect other repositories.

## Template-Based Assets

Tenable provides asset templates that you can customize for your environment. Tenable-provided asset templates are updated via the Tenable Security Center feed and visible depending on other configurations.

## Custom Assets

Tenable Security Center Director supports the following custom asset types: [Static Assets](#), [DNS Name List Assets](#), [Combination Assets](#), [Dynamic Assets](#), [Watchlist Assets](#), and [Import Assets](#).

## Static Assets

Static assets are lists of IP addresses. You can use static assets immediately after configuration.

For example, if your organization assigns laptops within a defined IP address range, you can create a custom static asset for laptops using that IP address range.

Option	Description
<b>Name</b>	A name for the asset.
<b>Description</b>	A description for the asset.





Option	Description
<b>Tag</b>	A tag for the asset. For more information, see <a href="#">Tags</a> .
<b>IP Addresses</b>	<p>IP addresses to include within the asset (50,000 character limit).</p> <ul style="list-style-type: none"><li>• Type a comma-separated list of IP addresses, CIDR addresses, or ranges.</li><li>• Upload a <code>.txt</code> file containing a comma-separated list of IP addresses, CIDR addresses, or ranges.</li></ul>

## DNS Name List Assets

**Note:** You cannot select a DNS name list asset as the target of an agent scan or an agent synchronization job.

Option	Description
<b>Name</b>	A name for the asset.
<b>Description</b>	A description for the asset.
<b>DNS Names</b>	The DNS hostnames for the asset to be based on.

## Combination Assets

Combination assets allow you to create an asset based on existing assets and the AND, OR, and NOT operators.

Combination assets can include agent IDs if the asset contains exclusively dynamic assets. You may experience unexpected asset behavior if your combination asset contains other asset types and interacts with agent repository data.

Option	Description
<b>Name</b>	A name for the asset.
<b>Description</b>	A description for the asset.
<b>Combination</b>	This option accepts multiple existing assets utilizing the operators AND, OR, and NOT. You can use these operators and multiple existing assets to



Option	Description
	<p>create new unique assets . If the source assets change, the <b>Combination</b> asset updates to match the new conditions.</p> <p>To configure the query:</p> <ol style="list-style-type: none"><li>1. Click inside the <b>Combination</b> box.</li></ol> <p>A list of assets appears.</p> <ol style="list-style-type: none"><li>2. Click one of the options in the list to select it.</li><li>3. Press Space.</li><li>4. Continue selecting options and pressing space to describe the combination asset you want to configure.</li></ol> <div><b>Tip:</b> A red border around a combination option indicates there is a problem in the query logic.</div>

## Dynamic Assets

Dynamic assets are flexible groups of condition statements that Tenable Security Center Director uses to retrieve a list of devices meeting the conditions. Tenable Security Center Director refreshes dynamic asset lists using the results from Tenable Security Center scans. You cannot use dynamic assets until after Tenable Security Center performs an initial discovery scan and retrieves a list of devices.

**Note:** Before a scan can target a dynamic asset list, you must first run a host discovery scan in the associated repository. For more information, see the [troubleshooting article](#).

**Note:** If a dependent scan uses a dynamic asset list, the asset list will update before the scan runs.

Dynamic assets can include agent IDs.



## Add Dynamic Asset

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### General

Name\*

Description

Tag

### Asset Definition

All of the following are true:

Plugin ID

is equal to

✓ ✕

TCP Port

is equal to

80

Operating System

is equal to

Linux

Submit

Cancel

For example, in the asset above, Tenable Security Center Director retrieves a list of Linux systems listening on TCP Port 80.

Option	Description
<b>Name</b>	A name for the asset.
<b>Description</b>	A description for the asset.
<b>Asset Definition</b>	Defines the rules for creating a dynamic asset list. Hover over an existing rule to display the options to add, edit, or delete a group or a rule.

### Dynamic Asset Rule Logic

Valid Operators	Effect
<b>Plugin ID</b>	
<b>is equal to</b>	Value must be equal to value specified.



Valid Operators	Effect
<b>not equal to</b>	Value must be not equal to value specified.
<b>is less than</b>	Value must be less than the value specified.
<b>is greater than</b>	Value must be greater than the value specified.
<b>Plugin Text</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>not equal to</b>	Value must be not equal to value specified.
<b>contains the pattern</b>	Value must contain the text specified (for example, ABCDEF contains ABC).
<b>Posix regex</b>	Any valid Posix regex pattern contained within "/" and "/" (example: /. *ABC.*/).
<b>Perl compatible regex</b>	Any valid Perl compatible regex pattern.
<b>Operating System</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>not equal to</b>	Value must be not equal to value specified.
<b>contains the pattern</b>	Value must contain the text specified (for example, ABCDEF contains ABC).
<b>Posix regex</b>	Any valid Posix regex pattern contained within "/" and "/" (for example, /. *ABC.*/).
<b>Perl compatible regex</b>	Any valid Perl compatible regex pattern.
<b>IP Address</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>not equal to</b>	Value must be not equal to value specified.



Valid Operators	Effect
<b>DNS, NetBIOS Host, NetBIOS Workgroup, MAC, SSH v1 Fingerprint, SSH v2 Fingerprint</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>not equal to</b>	Value must be not equal to value specified.
<b>contains the pattern</b>	Value must contain the text specified (for example, 1.2.3.124 contains 124).
<b>Posix regex</b>	Any valid Posix regex pattern contained within "/" and "/" (for example, /. *ABC.*/).
<b>Perl compatible regex</b>	Any valid Perl compatible regex pattern.
<b>Port, TCP Port, UDP Port</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>not equal to</b>	Value must be not equal to value specified.
<b>is less than</b>	Value is less than value specified.
<b>is greater than</b>	Value is greater than the value specified.
<b>Days Since Discovery, Days Since Observation</b>	
<b>is equal to</b>	Value must be equal to value specified (maximum 365).
<b>not equal to</b>	Value must be not equal to value specified (maximum 365).
<b>is less than</b>	Value is less than value specified (maximum 365).
<b>is greater than</b>	Value is greater than the value specified (maximum 365).
<b>where Plugin ID is</b>	Any valid plugin ID number. You can enter multiple plugin IDs using a range or comma-separated plugin IDs (for example, 3, 10189, 34598, 50000-55000, 800001-800055).
<b>Severity</b>	
<b>is equal to</b>	Value must be equal to value specified: <b>Info, Low, Medium, High</b> , or



Valid Operators	Effect
	<b>Critical.</b>
<b>not equal to</b>	Value must be not equal to value specified: <b>Info</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Critical</b> .
<b>is less than</b>	Value must be less than the value specified: <b>Info</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Critical</b> .
<b>is greater than</b>	Value must be greater than the value specified: <b>Info</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Critical</b> .
<b>where Plugin ID is</b>	Any valid plugin ID number. You can enter multiple plugin IDs using a range or comma-separated plugin IDs (for example, <i>3, 10189, 34598, 50000-55000, 800001-800055</i> ).
<b>Exploit Available</b>	
<b>Is</b>	Click <b>True</b> or <b>False</b> in the drop-down box.
<b>Exploit Frameworks</b>	
<b>is equal to</b>	Value must be equal to value specified.
<b>Is not equal to</b>	Value must not be equal to value specified.
<b>contains the pattern</b>	Value must contain the pattern entered.
<b>XRef</b>	
<b>Value must be in the XRef option.</b>	

## Watchlist Assets

You can use a watchlist asset to maintain lists of IPs that are not in the user's managed range of IP addresses. You can filter for IPs from a watchlist regardless of your IP address range configuration to help analyze event activity originating outside of the user's managed range. For example, if a block of IP addresses is a known source of malicious activity, you could add it to a Malicious IPs watchlist and to a custom query.



**Note:** Watchlists only use event data to create the asset list.

Option	Description
<b>Name</b>	A name for the asset.
<b>Description</b>	A description for the asset.
<b>IP Addresses</b>	IP addresses to include within the asset list (20,000 character limit). You can enter one address, CIDR address, or range per line.  Click <b>Choose File</b> to import a list of IP addresses from a saved file.

## Import Assets

Option	Description
<b>Name</b>	The asset name.
<b>Asset</b>	Click <b>Choose File</b> to choose the asset that was previously exported for import into Tenable Security Center Director.

## Add a Template-Based Asset

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For information, see [Assets](#).

To add an asset from a Tenable-provided template:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Assets**.

The **Assets** page appears.

3. Click **Add**.

The **Asset Templates** page appears.










4. (Optional) If you want to search for a specific asset template, type a search phrase in the **Search Templates** box.

5. In the **Common** section, click a template type.

The **Add Asset Template** page for the template type appears.

6. View the available templates.

- The four square icon () on the left side indicates a collection of several assets.
- The data icons (   ) on the right side indicate the data required to build the asset. The Tenable Network Monitor (PVS) and NS icons indicate you must have Tenable Network Monitor or Tenable Nessus data. The key icon () indicates you must have credentials for the device. The notepad icon () indicates you must have compliance data.

7. (Optional) If you want to search for a specific asset template, type a search phrase in the **Search Templates** box or select a category from the **All** drop-down box.

8. Click the row for the template you want to use.

The detail page for the template type appears.

9. Click **Add**.

The **Assets** page appears.

10. Click the row for the asset you just added.

The **Edit** page appears.

11. View the details for the asset.

12. (Optional) If necessary, edit the asset to customize it for your environment. For more information about asset options, see [Assets](#).

13. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Add a Custom Asset





**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For information, see [Assets](#).

To add a custom asset:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Assets**.

The **Assets** page appears.

3. At the top of the table, click **Add**.

The **Asset Templates** page appears.

4. In the **Other** section, click an asset type.

The **Add Assets** page for the asset type appears.

5. Configure the required options for the asset type, as described in [Assets](#).
6. Click **Submit**.

Tenable Security Center Director saves your configuration.

View Asset Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

You can view details for any asset. For more information, see [Assets](#).

To view asset details:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Assets**.

The **Assets** page appears.

3. Right-click the row for the asset you want to view.

The actions menu appears.



-or-

Select the check box for the asset you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Asset** page appears.

Section	Action
General	<p>View general information for the asset.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The asset name.</li><li>• <b>Description</b> – The asset description.</li><li>• <b>Tag</b> – The tag applied to the asset. For more information, see <a href="#">Tags</a>.</li><li>• <b>IP Addresses</b> (static assets only) – The IP addresses specified in the asset. For more information, see <a href="#">Assets</a>.</li><li>• <b>Created</b> – The date the asset was created.</li><li>• <b>Last Modified</b> – The date the asset was last modified.</li><li>• <b>Owner</b> – The username for the user who created the asset.</li><li>• <b>Group</b> – The group in which the asset belongs.</li><li>• <b>ID</b> – The asset ID.</li></ul>

## View Hosts

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can view a list of hosts associated with asset lists. For more information, see [Assets](#).


To view details for an individual host, see [View Host Details](#).

To view the list of hosts:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Assets > Host Assets**.

The **Host Assets** page appears.

3. (Optional) To filter the list of hosts, [apply a filter](#). For more information, see [Host Asset Filter Components](#).
4. (Optional) To show or hide columns on the **Host Assets** page:
  - a. In the table, click the  button next to a column header.

A drop-down menu appears with a list of column names.
  - b. Check or uncheck the boxes to show or hide columns.
5. View details about each host asset.

- **Name** — The name of the host.
- **AES** — (Requires Tenable Security Center+ license) The host's Asset Exposure Score. For more information, see [Asset Exposure Score](#) in the *Tenable Vulnerability Management User Guide*.
- **ACR** — (Requires Tenable Security Center+ license) The host's Asset Criticality Rating. For more information, see [Asset Criticality Rating](#) in the *Tenable Vulnerability Management User Guide*.
- **IP Address** — The host's IP address, if available.
- **Repository** — The repository that contains vulnerability data associated with the host.
- **OS** — The operating system running on the host, if available.
- **System Type** — The host's device type, as determined by plugin 54615.
- **Net BIOS** — The host's NetBIOS name, if available.
- **DNS** — The host's DNS name, if available.
- **Last Seen** — The date and time last Tenable Security Center detected the host on your network.
- **Asset ID** — The ID of the host.



- **Source** – The type of scan that discovered the host on your network: **Tenable Nessus Scan, Tenable Network Monitor, Agent Scan, or Tenable OT Security Scan.**

**Tip:** The following columns are hidden by default: **System Type, Net BIOS, DNS, and Asset ID.**

## Export Hosts

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can export a list of hosts in a .csv file to share the data with others in your organization. For more information, see [Assets](#).

To view details for an individual host, see [View Host Details](#).

To view the list of hosts:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Assets > Host Assets**.

The **Host Assets** page appears.

3. (Optional) To filter the list of hosts, [apply a filter](#). For more information, see [Host Asset Filter Components](#).
4. At the top of the table, click **Export**.

Tenable Security Center Director exports the host assets in a CSV file.

## Host Asset Filter Components

For general information about using filters, see [Filters](#).

Filter Component	Description
<b>Asset Criticality Rating (ACR)</b>	(Requires Tenable Security Center+ license) Filters for hosts within the specified ACR range (for example, between 1 and 5). For more information, see <a href="#">Asset Criticality Rating</a> in the <i>Tenable Vulnerability Management User Guide</i> .



Filter Component	Description
	<b>Tip:</b> To edit the ACR for a host asset, see <a href="#">Edit an ACR Manually</a> .
<b>Address</b>	This filter specifies an IPv4 or IPv6 address, range, or CIDR block to limit the viewed hosts. For example, entering <i>198.51.100.28/24</i> and/or <i>2001:DB8::/32</i> limits any of the web tools to show only host data from the selected network(s). Addresses can be comma-separated or on separate lines.
<b>Asset Exposure Score (AES)</b>	(Requires Tenable Security Center+ license) Filters for hosts within the specified AES range (for example, between 400 and 600).
<b>DNS Name</b>	This filter specifies a DNS name to limit the viewed hosts. For example, entering <i>host.example.com</i> limits any of the web tools to show only host data from that DNS name.
<b>Name</b>	Filters for hosts with names that include the specified text.
<b>Operating System</b>	Filters for hosts running the specified operating system.
<b>Repositories</b>	Filters for hosts with associated vulnerability data in the specified repository.
<b>System Type</b>	Filters for hosts with the specified device type, as determined by plugin 54615.

## Audit Files

The Tenable Nessus vulnerability scanner allows you to perform compliance audits of numerous platforms including (but not limited to) databases, Cisco, Unix, and Windows configurations as well as sensitive data discovery based on regex contained in audit files. Audit files are XML-based text files that contain the specific configuration, file permission, and access control tests to be performed. For more information, see [Manage Audit Files](#).



After you create an audit file, you can reference the audit file in a template-based Policy Compliance Auditing scan policy or a custom scan policy. For more information about compliance options in custom scan policies, see [Compliance Options](#).

For more information on compliance checks and creating custom audits, see the [Compliance Checks Reference](#).

**Note:** The maximum number of audit files you can include in a single **Policy Compliance Auditing** scan is limited by the total runtime and memory that the audit files require. Exceeding this limit may lead to incomplete or failed scan results. To limit the possible impact, Tenable recommends that audit selection in your scan policies be targeted and specific for the scan's scope and compliance requirements.

## Template-Based Audit Files

You can add template-based audit files using templates embedded within Tenable Security Center Director. Tenable updates these templates regularly through the Tenable Security Center feed.

For more information, see [Add a Template-Based Audit File](#).

## Custom Audit Files

You can add custom audit files to upload any of the following:

- a Tenable-created audit file downloaded from the [Tenable downloads](#) page.
- a Security Content Automation Protocol (SCAP) Data Stream file downloaded from a SCAP repository (e.g., <https://nvd.nist.gov/ncp/repository>).

The file must contain full SCAP content (Open Vulnerability and Assessment Language (OVAL) and Extensible Configuration Checklist Description Format (XCCDF) content) or OVAL standalone content.

**Note:** XCCDF standalone content audit files lack automated checks and do not return scan results in Tenable Security Center.

- a custom audit file created or customized for a specific environment. For more information, see the [knowledge base](#) article.

For more information, see [Add a Custom Audit File](#).

### Add a Template-Based Audit File



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can add template-based audit files using templates embedded within Tenable Security Center Director. Tenable updates these templates regularly through the Tenable Security Center feed.

For more information, see [Audit Files](#).

**Note:** The maximum number of audit files you can include in a single **Policy Compliance Auditing** scan is limited by the total runtime and memory that the audit files require. Exceeding this limit may lead to incomplete or failed scan results. To limit the possible impact, Tenable recommends that audit selection in your scan policies be targeted and specific for the scan's scope and compliance requirements.

To add a template-based audit file:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Audit Files**.

The **Audit Files** page appears.

3. Click **Add**

The **Audit File Templates** page appears.

4. In the **Common** section, click a template category tile.

The **Add Audit Template** page appears.

5. In the **Name** box, type a name for the audit file.
6. (Optional) In the **Description** box, type a description for the audit file.
7. (Optional) Edit the template-specific options if you do not want to use the default values.
8. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:



- Reference the audit file in a template-based Policy Compliance Auditing scan policy or a custom scan policy. For more information about compliance options in custom scan policies, see Compliance Options.

## Add a Custom Audit File

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can add custom audit files to upload any of the following:

- a Tenable-created audit file downloaded from the [Tenable downloads](#) page.
- a Security Content Automation Protocol (SCAP) Data Stream file downloaded from a SCAP repository (e.g., <https://nvd.nist.gov/ncp/repository>).

The file must contain full SCAP content (Open Vulnerability and Assessment Language (OVAL) and Extensible Configuration Checklist Description Format (XCCDF) content) or OVAL standalone content.

**Note:** XCCDF standalone content audit files lack automated checks and do not return scan results in Tenable Security Center.

- a custom audit file created or customized for a specific environment. For more information, see the [knowledge base](#) article.

For more information, see [Audit Files](#).

**Note:** The maximum number of audit files you can include in a single **Policy Compliance Auditing** scan is limited by the total runtime and memory that the audit files require. Exceeding this limit may lead to incomplete or failed scan results. To limit the possible impact, Tenable recommends that audit selection in your scan policies be targeted and specific for the scan's scope and compliance requirements.

Before you begin:

- Download or prepare the file you intend to upload.

To add a custom audit file or SCAP Data Stream file:





1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Audit Files**.

The **Audit Files** page appears.

3. Click **Add**

The **Audit File Templates** page appears.

4. In the **Other** section, click the **Advanced** tile.
5. In the **Name** box, type a descriptive name for the audit file.
6. In the **Description** box, type a description for the audit file.
7. Click **Choose File** and browse to the **Audit File** you want to upload.

The system uploads the file. If you uploaded a SCAP Data Stream file, additional options appear.

8. If you uploaded a Data Stream file with full SCAP content, continue configuring options for the file:
  - a. If you uploaded SCAP 1.2 content or later, in the **Data Stream Name** box, select the Data Stream identifier found in the SCAP 1.2 Data Stream content.
  - b. In the **Benchmark Type** box, select the operating system that the SCAP content targets.
  - c. In the **Benchmark Name** box, select the benchmark identifier found in the SCAP XCCDF component.
  - d. In the **Profile** box, select the benchmark profile identifier found in the SCAP XCCDF component.
9. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Reference the audit file in a template-based Policy Compliance Auditing scan policy or a custom scan policy. For more information about compliance options in custom scan policies, see Compliance Options.

Manage Audit Files



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For more information, see [Audit Files](#).

To manage your audit files:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Audit Files**.

The **Audit Files** page appears.

3. To filter the audit files that appear on the page, apply a filter as described in [Apply a Filter](#).
4. To add an audit file, see [Add a Template-Based Audit File](#) or [Add a Custom Audit File](#).
5. To view details for an audit file:

- a. Right-click the row for the audit file.

The actions menu appears.

-or-

Select the check box for the audit file.

The available actions appear at the top of the table.

- b. Click **View**.

The **View Audit File** page appears.

6. To edit or replace an audit file:

- a. Right-click the row for the audit file.

The actions menu appears.

-or-

Select the check box for the audit file.

The available actions appear at the top of the table.

- b. Click **Edit**.



The **Edit Audit File** page appears.

- c. To edit the name or description, type a new **Name** or **Description**.
- d. To replace the audit file, click the delete button (✕) next to the file and upload a new audit file.
- e. Click **Submit**.

Tenable Security Center Director saves your configuration.

7. To share or revoke access to an audit file:

- a. Right-click the row for the audit file.

The actions menu appears.

-or-

Select the check box for the audit file.

The available actions appear at the top of the table.

- b. Click **Share**.
- c. Share or revoke access for each group in your organization.
- d. Click **Submit**.

Tenable Security Center Director saves your configuration.

8. To export an audit file:

- a. Right-click the row for the audit file.

The actions menu appears.

-or-

Select the check box for the audit file.

The available actions appear at the top of the table.

- b. Click **Export**.

Tenable Security Center Director exports the audit file.



9. To delete an audit file:

- a. Right-click the row for the audit file.

The actions menu appears.

-or-

Select the check box for the audit file.

The available actions appear at the top of the table.

- b. Click **Delete**.

A confirmation window appears.

- c. Click **Delete**.

Tenable Security Center Director deletes the audit file.

## Scan Zones

*Scan zones* are areas of your network that you want to target in an active scan, associating an IP address or range of IP addresses with one or more scanners in your deployment. You must create scan zones in order to run active scans on your managed Tenable Security Center instances.

If your deployment includes Tenable Security Center Director, you can use it to manage the scan zones on your managed Tenable Security Center instances.

For more information, see [Add a Scan Zone](#), [View Your Scan Zones](#), [Edit a Scan Zone](#), and [Delete a Scan Zone](#).

Option	Description
<b>Tenable Security Center Instance</b>	The name of the managed Tenable Security Center instance where you configured the scan zone.
<b>Name</b>	A name for the scan zone.
<b>Description</b>	(Optional) A description for the scan zone.
<b>Ranges</b>	One or more IP addresses that you want the scan zone to target. Supported



	<p>formats:</p> <ul style="list-style-type: none"><li>• a comma-separated list of IP addresses and/or CIDR addresses.</li><li>• a newline-separated list of IP addresses and/or CIDR addresses.</li><li>• a hyphenated range of IP addresses (e.g., 192.0.2.0-192.0.2.25).</li></ul>
<b>Scanners</b>	<p>One or more scanners that you want to use to scan the <b>Ranges</b> in this scan zone.</p> <div><p><b>Note:</b> Do not choose scanners that cannot reach the areas of your network identified in the <b>Ranges</b>. Similarly, consider the quality of the network connection between the scanners you choose and the <b>Ranges</b>.</p></div>

## Best Practices

Tenable recommends pre-planning your scan zone strategy to efficiently target discrete areas of your network. If configured improperly, scan zones prevent scanners from reaching their targets. Consider the following best practices:

- It is simplest to configure and manage a small number of scan zones with large ranges.
- It is simplest to target ranges (versus large lists of individual IP addresses).
- If you use Nessus Manager for agent management, do not target Nessus Manager in any scan zone ranges.

## Overlapping Scan Zones

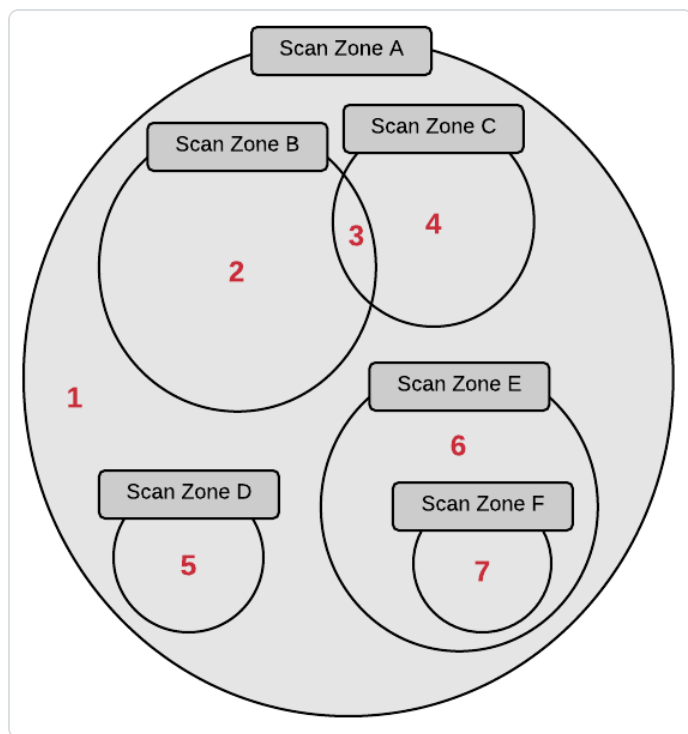
In some cases, you may want to configure overlapping scan zones to ensure scanning coverage or redundancy.

**Note:** Do not configure overlapping scan zones without pre-planning your scan zone and **Distribution Method** strategy.

Two or more scan zones are redundant if they target the same area of your network. If Tenable Security Center executes a scan with redundant scan zones, it first attempts the scan using the narrowest, most specific scan zone.



In this example, the red numbers represent specific IP addresses on your network. The grey circles represent the network coverage of individual scan zones.



See the following table to understand the primary and redundant scan zones for the IP addresses in this example.

IP Address	Primary Scan Zone	Redundant Scan Zones
1	Scan Zone A	None.
2	Scan Zone B	Scan Zone A.
3	Scan Zone C	Scan Zone B, then Scan Zone A.
4	Scan Zone C	Scan Zone A.
5	Scan Zone D	Scan Zone A.
6	Scan Zone E	Scan Zone A.
7	Scan Zone F	Scan Zone E, then Scan Zone A.

Add a Scan Zone



## Required Tenable Security Center User Role: Administrator

You can add a scan zone to a managed Tenable Security Center instance. For more information about scan zone options, see [Scan Zones](#).

To add a scan zone to a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure** > **Scan Zones**.

The **Scan Zones** page appears.

3. At the top of the table, click **Add**.

The **Add Scan Zone** page appears.

4. In the **Tenable Security Center Instance** drop-down, select the name of the managed Tenable Security Center instance where you want to add the scan zone.

**Tip:** If you arrived at the **Add Scan Zone** page from the **Scan Zones** tab on a [Tenable Security Center instance details page](#), you cannot modify the **Tenable Security Center Instance** option.

5. In the **Name** box, type a name for the scan zone.
6. In the **Description** box, type a description for the scan zone.
7. In the **Ranges** box, type one or more IP addresses, CIDR addresses, or ranges to target with the scan zone.
8. In the **Scanners** box, choose one or more scanners to associate with the scan zone.
9. Click **Submit**.

Tenable Security Center Director saves your configuration.

What to do next:

- Configure scan zone-related organization settings, as described in [Organizations](#).

View Your Scan Zones



**Required Tenable Security Center User Role:** Administrator

For more information, see [Scan Zones](#).

To view a list of configured scan zones:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure** > **Scan Zones**.

The **Scan Zones** page appears.

3. View details about each scan zone.
  - **Name** – The name of the scan zone.
  - **Tenable Security Center Instance** – The name of the Tenable Security Center instance where your scan zone is configured. For more information, see [Tenable Security Center Director Deployments](#).
  - **Status** – The status of the scan zone.

Scan Zone Status	Description
<b>All Scanners Available</b>	All of the scanners in the scan zone are <b>Working</b> .
<b>x/y Scanners Available</b>	Only some of the scanners in the scan zone are <b>Working</b> .
<b>No Scanners Available</b>	None of the scanners in the scan zone are <b>Working</b> .

For information about **Working** and other scanner statuses, see [Tenable Nessus Scanner Statuses](#).

- **Scanners** – The number of Tenable Nessus scanners in the scan zone.
- **Last Modified** – The date and time the scan zone was last modified.

Edit a Scan Zone

**Required Tenable Security Center User Role:** Administrator

You can modify the options for scan zones on your managed Tenable Security Center instances. For more information about scan zone options, see [Scan Zones](#).





To edit a scan zone on a managed Tenable Security Center instance:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure > Scan Zones**.

The **Scan Zones** page appears.

3. Right-click the row for the scan zone you want to edit.

The actions menu appears.

-or-

Select the check box for the scan zone you want to edit.

The available actions appear at the top of the table.

4. Click **Edit**.

The **Edit Scan Zone** page appears.

5. Modify the following scan zone options. For more information, see [Scan Zones](#).

- **Name**
- **Description**
- **Ranges**
- **Scanners**

**Note:** You cannot move a scan zone from one managed Tenable Security Center instance to another. To change the **Tenable Security Center Instance**, delete the scan zone and add a new scan zone with the same settings on a different Tenable Security Center instance.

6. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Delete a Scan Zone

**Required Tenable Security Center User Role:** Administrator

You can delete a scan zone to permanently remove it from a managed Tenable Security Center instance. For more information, see [Scan Zones](#).



Before you begin:

- Confirm that no scans target the scan zone you want to delete. Tenable Security Center scans may fail if you delete an actively targeted scan zone.

To delete a scan zone:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Infrastructure** > **Scan Zones**.

The **Scan Zones** page appears.

3. Select the scan zone you want to delete:

- To delete a single scan zone:
  - a. In the table, right-click the row for the scan zone you want to delete.  
  
The actions menu appears.
  - b. Click **Delete**.
- To delete multiple scan zones:
  - a. In the table, select the check box for each scan zone you want to delete.  
  
The available actions appear at the top of the table.
  - b. At the top of the table, click **Delete**.

A confirmation window appears.

4. Click **Delete**.

Tenable Security Center Director deletes the scan zone from the managed Tenable Security Center instance.

## Tags

You can use tags in Tenable Security Center Director to label assets or queries with a custom descriptor to improve filtering and object management. For example, you could add a tag named **East Coast Employees** to label all of your assets in that geographic area.



After you create a tag and apply it to an object, the tag is visible to all users who can view or modify that object. However, tags are not shared across object types.

For instructions on creating a new tag or adding an existing tag, see [Add a Tag](#). For instructions on how to delete a tag, see [Remove or Delete a Tag](#).

## Add a Tag

**Required Tenable Security Center Director User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Tags](#).

To add a tag:

1. Log in to Tenable Security Center Director.
2. Navigate to the assets or queries page:

- Click **Assets**.

**Note:** The **Assets** page is available only to Security Manager users.

- Click **Analysis > Queries**.

3. Right-click the row for the asset or query you want to tag.

The actions menu appears.

-or-

Select the check box for the asset or query you want to tag.

The available actions appear at the top of the table.

4. Click **Edit**.
5. In the **Tag** drop-box, select an existing tag or type a new tag.
6. Click **Submit**.

The tag appears, applied to the asset or query.

## Remove or Delete a Tag



**Required Tenable Security Center Director User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can remove a tag from an asset or query to stop associating that object with the tag. To completely delete a tag from Tenable Security Center Director, you must remove the tag from all assets or queries. For more information, see [Tags](#).

To remove a tag or completely delete a tag from Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the user interface.
2. Navigate to the assets or queries page:
  - Click **Assets**.
  - Click **Analysis > Queries**.
3. In the table, right-click the row for the asset or query where you want to remove the tag.

The actions menu appears.

4. Click **Edit**.
5. In the **Tag** drop-box, remove the tag from the asset or query.
6. Click **Submit**.

Tenable Security Center Director removes the tag from the asset or query.

7. (Optional) If you want to delete the tag from Tenable Security Center Director, repeat steps 2 through 6 until you have removed all uses of the tag for the object type.

Tenable Security Center Director deletes the tag.



## Analyze Data

**Note:** To enable cumulative vulnerability data analysis, add the repositories of your managed Tenable Security Center instances as [Remote Repositories](#).

See the following sections to analyze and respond to Tenable Security Center Director data.

Analysis Tool	Description
<a href="#">Scan Results</a>	View a table of scan results from active and agent scans.
<a href="#">Dashboards</a>	View graphical summaries of scans, scan results, and system activity.
<a href="#">Solutions Analysis</a>	View recommended solutions for all vulnerabilities on your network.
<a href="#">Vulnerability Analysis</a>	View a table of cumulative or mitigated vulnerability data.
<a href="#">Reports</a>	Create custom or template-based reports to export Tenable Security Center data for further analysis.

You can use [Filters](#) and [Queries](#) to manipulate the data you see in analysis tools and save views for later access. You can perform [Workflow Actions](#) (alerting and ticketing) from some analysis tools.

## Dashboards

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

Administrator users can view Tenable-provided **Insights** dashboard. For more information, see [Insights Dashboard](#).

Organizational users can configure custom or template-based *dashboards* that contain *dashboard components*, which display vulnerability, event, ticket, user, and alert data for analysis. When viewing vulnerability or event data, you can drill into the underlying dataset for further evaluation.

**Tip:** Tenable provides many dashboard templates (for example, the VPR Summary dashboard). For a complete index of Tenable-provided dashboard templates, see the [Tenable Security Center Dashboards](#) blog.



Dashboards allow you to organize similar dashboard components to streamline your analysis. Instead of creating a single dashboard with several dozen dashboard components, you can create several dashboards that group similar dashboard components together. For example, you can create two separate dashboards to view active scanning data and passive scanning data.

**Note:** Dashboards display vulnerability, event, and other scan data. Tenable recommends configuring several data sources to optimize the data you see in dashboards. For more information, see [Scanning Overview](#).

**Tip:** Tenable Security Center automatically refreshes dashboard data once per day. To refresh all dashboard components on demand as an organizational user, click **Refresh All**.

For more information, see:

- [View a Dashboard](#)
- [Add a Template-Based Dashboard](#)
- [Add a Custom Dashboard](#)
- [Import a Dashboard](#)
- [Manage Dashboards](#)
- [Manage Dashboard Components](#)

## Dashboard Options

Option	Description
<b>General</b>	
<b>Name</b>	The name of the dashboard.
<b>Description</b>	(Optional) A description for the dashboard.
<b>Layout</b>	The number and arrangement of dashboard columns.

### View a Dashboard

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).



For more information, see [Dashboards](#).

To view a dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard**.

The **Dashboards** page appears, displaying your default dashboard.

3. If you want to switch to a different dashboard:
  - a. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
  - b. Click the dashboard you want to view.

The dashboard appears.

If you are an organizational user, you can:

- Add a dashboard component to the dashboard in view, as described in [Add a Template-Based Dashboard Component](#) or [Add a Custom Dashboard Component](#).
- Manage dashboard components on the dashboard in view, as described in [Manage Dashboard Components](#).
- Edit the dashboard settings for the dashboard in view, as described in [Edit Settings for a Dashboard](#).
- Share or revoke access to the dashboard in view, as described in [Share or Revoke Access to a Dashboard](#).
- Create a report from the dashboard in view:
  - a. In the upper-right corner of the page, click the **Options** drop-down box.
  - b. Click **Send to Report**.

For more information about reports, see [Reports](#).

- Delete the dashboard in view, as described in [Delete a Dashboard](#).
- Customize the table, as described in [Interact with a Customizable Table](#).

Insights Dashboard



Tenable Security Center Director provides the **Insights** dashboard to administrators. For more information, see [View a Dashboard](#).

Widget	Action
<b>Scanners Connection Status</b>	<ul style="list-style-type: none"><li>View the total number of scanners on all managed Tenable Security Center instances and the percentage of scanners that are <b>Working</b> or <b>Not Working</b>.  For more information, see <a href="#">Tenable Nessus Scanner Statuses</a>.</li><li>To view the list of all <b>Working</b> scanners, click the green section of the circle graph.</li><li>To view the list of all <b>Not Working</b> scanners, click the red section of the circle graph.</li></ul> <div><b>Note:</b> <b>Not Working</b> includes all scanner statuses other than <b>Working</b>. For more information about all possible scanner statuses, see <a href="#">Tenable Nessus Scanner Statuses</a>.</div>
<b>Scan Zones Status</b>	<ul style="list-style-type: none"><li>View the total number of scan zones on all managed Tenable Security Center instances and the percentage of scan zones that are <b>Working</b>, <b>Degraded</b>, or <b>Not Working</b>.  For more information, see <a href="#">View Your Scan Zones</a>.</li><li>To navigate to a list of all <b>Working</b> scan zones, click the green section of the circle graph.</li><li>To navigate to a list of all <b>Degraded</b> scan zones, click the orange section of the circle graph.</li><li>To navigate to a list of all <b>Not Working</b> scan zones, click the red section of the circle graph.</li></ul>
<b>Tenable Security Center Instance Status</b>	View the total number of managed Tenable Security Center instances and the percentage of instances that are <b>Connected</b> or experiencing a <b>Connection Error</b> .





Widget	Action
Tenable Security Center Instance Plugin Set Age	<p>View the elapsed time since the last plugin update on your managed Tenable Security Center instances, by plugin age:</p> <ul style="list-style-type: none"><li>• <b>Within 24 Hours</b> – The number of instances with plugins updated within the last 24 hours.</li><li>• <b>1-7 Days Old</b> – The number of instances with plugins updated between 1 day and 7 days ago.</li><li>• <b>8-14 Days Old</b> – The number of instances with plugins updated between 8 days and 14 days ago.</li><li>• <b>Older Than 14 Days</b> – The number of instances with plugins updated more than 14 days ago.</li></ul>
Scan Results Trend	<ul style="list-style-type: none"><li>• View the status of scan results on your managed Tenable Security Center instances, by date, within the selected time frame (last 24 hours or last 7 days). For more information about scan result statuses, see <a href="#">Scan Result Statuses</a>.<ul style="list-style-type: none"><li>• <b>Completed</b> – The number of scans that completed successfully.</li><li>• <b>Partial</b> – The number of scans that ran, but did not complete.</li><li>• <b>Failed</b> – The number of scans that failed to run.</li></ul></li><li>• To change the time frame of the scan results shown, click the selectors above the graph:<ul style="list-style-type: none"><li>• <b>24H</b> – View scan result statuses from the last 24 hours.</li><li>• <b>7D</b> – View scan result statuses from the last 7 days.</li></ul></li><li>• To show or hide a status in the graph, click the name of the status in the key below the graph.</li><li>• To navigate to a list of <b>Completed</b> scan results, click the green section of the graph.</li><li>• To navigate to a list of <b>Partial</b> scan results, click the orange section of</li></ul>



Widget	Action
	<p>the graph.</p> <ul style="list-style-type: none"><li>To navigate to a list of <b>Failed</b> scan results, click the red section of the graph.</li></ul>
<b>Scanning Overview</b>	<ul style="list-style-type: none"><li>View a list of all scans that are <b>Running</b> or <b>Paused</b> on your managed Tenable Security Center instances, by Tenable Security Center instance name and scan name. Scans with a purple bar are <b>Running</b> and scans with a grey bar are <b>Paused</b>.</li><li>Hover over the timeline for a scan to view additional details:<ul style="list-style-type: none"><li><b>Tenable Security Center Instance</b> – The name of the managed Tenable Security Center instance where the scan is running.</li><li><b>Progress</b> – The number of scanned hosts compared to the total number of hosts to scan.</li><li><b>Started</b> – The date and time the scan started.</li><li><b>Estimated Remaining Time</b> – The estimated time to scan completion.</li></ul></li></ul>
<b>Licensing Status</b>	View a graph showing the total number of assets counting toward your license compared to your total license size. For more information about Tenable Security Center licenses, see <a href="#">License Requirements</a> .

## Set a Dashboard as Your Default Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Dashboards](#).

To set a dashboard as your default dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard > Dashboard**.



The **Dashboards** page appears, displaying your default dashboard.

3. If you want to switch to a different dashboard:
  - a. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
  - b. Click the dashboard you want to view.

The dashboard appears.

4. In the upper-right corner of the page, click the **Options** drop-down box.
5. Click **Set as Default**.

The system sets the dashboard as your default.

## Add a Template-Based Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

You can add a dashboard by configuring a Tenable-provided dashboard template. To add a custom dashboard instead, see [Add a Custom Dashboard](#). To import a dashboard, see [Import a Dashboard](#).

For more information, see [Dashboards](#) and [Dashboard and Component Templates](#).

To add a template-based dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Dashboard > Dashboard**.

The **Dashboards** page appears.

3. In the upper-right corner of the page, click the **Options** drop-down button.
4. Click **Add Dashboard**

The **Dashboard Templates** page appears.

5. In the **Common** section, click a template category tile.

The **Add Dashboard Template** page appears.

6. Click a template.



The **Add Dashboard Template** page updates to reflect the template you selected.

7. Modify the dashboard template:

- To edit the dashboard name, click the name box and edit the name.
- To edit the dashboard description, click the **Description** box and edit the description.
- To restrict the target data displayed in the dashboard, click the **Targets** drop-down box.
- To edit the dashboard refresh schedule, click the **Schedule** link.

8. Click **Add**.

Tenable Security Center Director saves your configuration and the **Dashboards** page appears.

9. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.

10. Click the name of the dashboard you just created.

The page for the dashboard appears.

What to do next:

- Add dashboard components, as described in [Add a Template-Based Dashboard Component](#) or [Add a Custom Dashboard Component](#).

## Add a Custom Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can add a fully customized dashboard. To add a dashboard from a Tenable-provided template instead, see [Add a Template-Based Dashboard](#).

For more information, see [Dashboards](#).

To add a custom dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Dashboard > Dashboard**.

The **Dashboards** page appears.



3. In the upper-right corner of the page, click the **Options** drop-down button.
4. Click **Add Dashboard**

The **Dashboard Templates** page appears.

5. In the **Other** section, click the **Advanced** tile.
6. In the **Name** box, type a name for the dashboard.
7. In the **Description** box, type a description for the dashboard.
8. In the **Layout** section, select the layout you want to use for the dashboard.
9. Click **Submit**.

Tenable Security Center Director saves your configuration and the **Dashboards** page appears.

10. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
11. Click the name of the dashboard you just created.

The page for the dashboard appears.

What to do next:

- Add dashboard components, as described in [Add a Template-Based Dashboard Component](#) or [Add a Custom Dashboard Component](#).

## Dashboard and Component Templates

Tenable Security Center provides a selection of dashboards and dashboard component templates. You can configure a Tenable-provided dashboard template or you can create a fully customized dashboard. For more information, see [Dashboards](#) and [Custom Dashboard Component Options](#).

For a complete index of Tenable-provided report templates, see the [Tenable Security Center Dashboards](#) blog.

Template	Description
<b>Common</b>	
<b>Compliance &amp; Configuration Assessment</b>	Dashboards that aid with configuration, change, and compliance management.



<b>Discovery &amp; Detection</b>	Dashboards that aid in trust identification, rogue detection, and new device discovery.
<b>Executive</b>	Dashboards that provide operational insight and metrics geared towards executives.
<b>Monitoring</b>	Dashboards that provide intrusion monitoring, alerting, and analysis.
<b>Security Industry Trends</b>	Dashboards related to trends, reports, and analysis from industry leaders.
<b>Threat Detection &amp; Vulnerability Assessments</b>	Dashboards that aid with identifying vulnerabilities and potential threats.
<b>Other</b> (Dashboards)	
<b>Advanced</b>	A custom dashboard with no pre-configured settings.
<b>Import</b>	Import a dashboard. For more information, see <a href="#">Import a Dashboard</a> .
<b>Other</b> (Dashboard Components)	
<b>Table</b>	Add a table to your dashboard.
<b>Bar Chart</b>	Add a bar chart to your dashboard.
<b>Pie Chart</b>	Add a pie chart to your dashboard.
<b>Matrix</b>	Add a matrix to your dashboard.
<b>Line Chart</b>	Add a line chart to your dashboard.
<b>Area Chart</b>	Add an area chart to your dashboard.

## Import a Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Dashboards](#).

To import a dashboard:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard**.

The **Dashboards** page appears.

3. In the upper-right corner of the page, click the **Options** drop-down button.
4. Click **Add Dashboard**

The **Dashboard Templates** page appears.

5. In the **Other** section, click **Import**.

The **Import Dashboard** page appears.

6. In the **Name** box, type a name for the dashboard.
7. Click **Choose File** and browse to the dashboard file you want to import.
8. Click **Submit**.

Tenable Security Center Director imports the dashboard.

## Manage Dashboards

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For more information, see [Dashboards](#).

To manage dashboards:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard**.

The **Dashboards** page appears.

3. In the upper-right corner of the page, click the **Options** drop-down button.
4. Click **Manage Dashboards**

The **Manage Dashboards** page appears.



5. To add a dashboard, click **Add**. For more information, see [Add a Template-Based Dashboard](#) or [Add a Custom Dashboard](#).
6. To filter the dashboards in the table, see [Apply a Filter](#).
7. To manage a single dashboard, right-click the dashboard.

-or-

To manage multiple dashboards, select the check box for the dashboard.

The actions menu appears.

From this menu, you can:

- Click **View** to view details for the dashboard.
- Click **Share** to share or revoke access to the dashboard.
- Click **Export** to download an XML version of the dashboard.
- Click **Copy** to copy the dashboard.
- Click **Edit** to edit the dashboard.
- Click **Hide from Dashboard** to hide the dashboard from the **Switch Dashboard** drop-down on the **Dashboards** page.
- Click **Show on Dashboard** to show the dashboard on the **Switch Dashboard** drop-down on the **Dashboards** page.
- Click **Delete** to delete the dashboard.

8. To export the dashboard as an XML file:
  - a. Click **Export**.
  - b. Then, identify how you want Tenable Security Center to handle object references:
    - **Remove All References** – all object references are removed, altering the definitions of the components. Importing users do not need to make any changes for components to be useable.





- **Keep All References** – object references are kept intact. Importing users must be in the same organization and have access to all relevant objects for the components to be useable.
- **Replace With Placeholders** – object references are removed and replaced with their respective names. Importing users see the name of the reference object, but need to replace it with an applicable object within their organization before the component is useable.

**Note:** Due to version-specific changes in dashboard XML file formats, exported dashboards are not always compatible for import between Tenable Security Center Director versions.

## Share or Revoke Access to a Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can share access to a dashboard to give users in a group the ability to view the dashboard. The user's role and custom permissions determine if they can drill down into other pages with more information. For more information, see [Dashboards](#).

To share or revoke access to a dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard > Dashboard**.

The **Dashboards** page appears, displaying your default dashboard.

3. If you want to switch to a different dashboard:
  - a. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
  - b. Click the dashboard you want to view.

The dashboard appears.

4. In the upper-right corner of the page, click the **Options** drop-down box.
5. Click **Share**.



The **Share Dashboard** window appears.

6. In the box, search for and select the groups for which you want to share or revoke access.
7. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Delete a Dashboard

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For more information, see [Dashboards](#).

To delete a dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard > Dashboard**.

The **Dashboards** page appears, displaying your default dashboard.

3. If you want to switch to a different dashboard:
  - a. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
  - b. Click the dashboard you want to view.

The dashboard appears.

4. In the upper-right corner of the page, click the **Options** drop-down box.
5. Click **Delete**.

A confirmation window appears.

6. Click **Delete**.

The system deletes the dashboard.

## Manage Dashboard Components

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).



For more information, see [Dashboards](#).

To manage dashboard components:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard**.

The **Dashboards** page appears.

3. To edit a dashboard component:

- a. Hover over the dashboard component.
- b. Click the **•••** menu.

The actions menu appears.

- c. Click **Edit**.
- d. Edit the dashboard component options. For more information, see [Custom Dashboard Component Options](#).

4. To view the data behind a dashboard component:

- a. Hover over the dashboard component.
- b. In the lower right corner, click **View Data**.

The analysis page appears.

**Note:** Only dashboard components that display vulnerability analysis or event analysis data support viewing the data behind a dashboard component.

5. To reorder a dashboard component:

- a. Click the title of a dashboard component.
- b. Drag the dashboard component around the page.

6. To copy a dashboard component to the dashboard in view or a different dashboard:

- a. Hover over the dashboard component.
- b. Click the **•••** menu.



The actions menu appears.

- c. Click **Copy**.
- d. In the **Name** box, edit the name for the copied dashboard component.
- e. In the **Dashboard** drop-down box, click the name of the dashboard where you want to copy the dashboard component.
- f. Click **Copy**.

Tenable Security Center Director copies the dashboard component.

7. To refresh the dashboard component data:

- a. Hover over the dashboard component.
- b. Click the **...** menu.

The actions menu appears.

- c. Click **Refresh**.

Tenable Security Center Director refreshes the dashboard component data.

8. To delete the dashboard component:

- a. Hover over the dashboard component.
- b. Click the **...** menu.

The actions menu appears.

- c. Click **Delete**.

A confirmation window appears.

- d. Click **Delete**.

Tenable Security Center Director deletes the dashboard component.

## Add a Template-Based Dashboard Component

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).



You can add a dashboard component by configuring a Tenable-provided dashboard component template. To add a custom dashboard component instead, see [Add a Custom Dashboard Component](#).

For more information, see [Dashboards](#) and [Dashboard and Component Templates](#).

Before you begin:

- Add a dashboard, as described in [Add a Template-Based Dashboard](#), [Add a Custom Dashboard](#), or [Import a Dashboard](#).

To add a template-based dashboard component to a dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Dashboard**.

The **Dashboards** page appears.

3. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
4. Click the name of the dashboard for which you want to add a component.

The dashboard appears.

5. In the upper-right corner of the page, click the **Options** drop-down box.
6. Click **Add Component**.

The **Component Templates** page appears.

7. In the **Common** section, click the template you want to use for the dashboard component.

The **Add Component Template** page updates to reflect the template you selected.

8. Modify the dashboard component template:
  - To edit the dashboard component name, click the name box and edit the name.
  - To edit the dashboard component description, click the **Description** box and edit the description.
  - To restrict the target data displayed in the dashboard component, click the **Targets**



drop-down box.

- To edit the dashboard component refresh schedule, click the **Schedule** link.

9. Click **Add**.

Tenable Security Center Director saves your configuration and the **Dashboards** page appears.

## Add a Custom Dashboard Component

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can configure a custom dashboard component to add a table, bar chart, pie chart, line chart, area chart, or matrix to a dashboard. For more information, see [Dashboards](#) and [Dashboard and Component Templates](#).

For an example matrix component configuration, see [Configure a Simple Matrix Dashboard Component](#).

Before you begin:

- Add a dashboard, as described in [Add a Template-Based Dashboard](#), [Add a Custom Dashboard](#), or [Import a Dashboard](#).

To add a custom dashboard component to a dashboard:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Dashboard**.

The **Dashboards** page appears.

3. In the upper-right corner of the page, click the **Switch Dashboard** drop-down box.
4. Click the name of the dashboard for which you want to add a component.

The dashboard page appears.

5. In the upper-right corner of the page, click the **Options** drop-down box.
6. Click **Add Component**.

The **Component Templates** page appears.



7. In the **Other** section, click the type of component you want to configure.

The component configuration page appears.

8. Configure the options for your component type, as described in [Custom Dashboard Component Options](#).
9. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Custom Dashboard Component Options

Use the following options to configure custom dashboard components. For more information about dashboard component types, see [Dashboard and Component Templates](#).

Tenable Security Center supports the following custom dashboard components:

- [Table Component Options](#)
- [Bar Chart Component Options](#)
- [Pie Chart Component Options](#)
- [Matrix Component Options](#)
- [Line and Area Chart Component Options](#)

## General Options

Configure the following options for all custom dashboard component types.

Option	Description	Default
<b>Name</b>	(Required) A name for the dashboard component.	--
<b>Description</b>	A description for the dashboard component. The description appears on the <b>Dashboards</b> page when you hover over a dashboard component.	--
<b>Schedule</b>	(Required for all except <b>Matrix</b> components) Specifies how often the component polls the data source to obtain updates: <ul style="list-style-type: none"><li>• <b>Never</b> — The component never polls the data source.</li></ul>	Daily



Option	Description	Default
	<ul style="list-style-type: none"><li>• <b>Minutely</b> – Polls every 15, 20, or 30 minutes.</li><li>• <b>Hourly</b> – Polls every 1, 2, 4, 6, or 12 hours.</li><li>• <b>Daily</b> – Polls daily or every specified number of days at the specified time.</li><li>• <b>Weekly</b> – Polls weekly or every specified number of weeks at the specified time.</li><li>• <b>Monthly</b> – Polls monthly or every specified number of months at the specified day and time.</li></ul> <div><b>Caution:</b> Excessively frequent updates may cause the application to become less responsive due to the added processing load imposed on the host OS.</div>	

## Table Component Options

Option	Description	Default
<b>Data</b>		
<b>Type</b>	The type of data: <b>Vulnerability</b> , <b>Event</b> , <b>Mobile</b> , <b>User</b> , <b>Ticket</b> , or <b>Alert</b> .	Vulnerability
<b>Query</b>	Predefined query used to further narrow down the data source options. If a query does not exist or is not desired, it may be left unselected. The query may be used as is or as a template on which to base the <b>Filters</b> option.	--
<b>Source</b>	(If <b>Type</b> is <b>Vulnerability</b> or <b>Event</b> ) Specifies the data source.  For vulnerability data, select <b>Cumulative</b> or <b>Mitigated</b> .  For event data, the data source is <b>Active</b> . Tenable Security Center can use only active event data for event-based components.	Cumulative





Option	Description	Default
<b>Tool</b>	The analysis tool to use for creating the chart. For more information, see <a href="#">Vulnerability Analysis Tools</a> and Event Analysis Tools.	Vulnerability Summary
<b>Filters</b>	Additional filters to use on the data source. For more information, see <a href="#">Filters</a> .	--
<b>Display</b>		
<b>Results Displayed</b>	<p>The number of displayed results. You can choose to display up to 999 results.</p> <p>If the <b>Viewport Size</b> setting is smaller than this setting, the results display is limited to the <b>Viewport Size</b> setting with a scrollbar to display the additional results.</p>	10
<b>Viewport Size</b>	The number of records (maximum: 50) to display along with a scrollbar to handle additional records. For example, if <b>Results Displayed</b> is set to <b>100</b> and <b>Viewport Size</b> is <b>15</b> , 15 records are displayed with a scrollbar to view the additional 85 records.	10
<b>Sort Column</b>	(Not available if <b>Type</b> is <b>Event</b> ) The column Tenable Security Center uses to sort the results.	Plugin ID
<b>Sort Direction</b>	(Not available if <b>Type</b> is <b>Event</b> ) The sort direction: <b>Descending</b> or <b>Ascending</b> .	Descending
<b>Display Columns</b>	The columns to display in the component output.	--

## Bar Chart Component Options

Option	Description	Default
<b>Data</b>		
<b>Type</b>	The type of data: <b>Vulnerability</b> , <b>Event</b> , <b>Mobile</b> , or <b>Ticket</b> .	Vulnerability



Option	Description	Default
<b>Query</b>	Predefined query used to further narrow down the data source options. If a query does not exist or is not desired, it may be left unselected. The query may be used as is or as a template on which to base the <b>Filters</b> option.	--
<b>Source</b>	(If <b>Type</b> is <b>Vulnerability</b> or <b>Event</b> ) Specifies the data source.  For vulnerability data, select <b>Cumulative</b> or <b>Mitigated</b> .  For event data, the data source is <b>Active</b> . Tenable Security Center can use only active event data for event-based components.	Cumulative
<b>Tool</b>	The analysis tool to use for creating the chart. For more information, see <a href="#">Vulnerability Analysis Tools</a> and Event Analysis Tools.	Vulnerability Summary
<b>Filters</b>	Additional filters to use on the data source. For more information, see <a href="#">Filters</a> .	--
<b>Display</b>		
<b>Results Displayed</b>	The number of displayed results. You can choose to display up to 100 results.	10
<b>Sort Column</b>	(If <b>Type</b> is <b>Vulnerability</b> or <b>Ticket</b> ) The column Tenable Security Center uses to sort the results.	Plugin ID
<b>Sort Direction</b>	(If <b>Type</b> is <b>Vulnerability</b> or <b>Ticket</b> ) The sort direction: <b>Descending</b> or <b>Ascending</b> .	Descending
<b>Display Column</b>	The columns to display in the component output.	--

## Pie Chart Component Options



Option	Description	Default
<b>Data</b>		
<b>Type</b>	The type of data: <b>Vulnerability</b> , <b>Event</b> , <b>Mobile</b> , or <b>Ticket</b> .	Vulnerability
<b>Query</b>	Predefined query used to further narrow down the data source options. If a query does not exist or is not desired, it may be left unselected. The query may be used as is or as a template on which to base the <b>Filters</b> option.	--
<b>Source</b>	(If <b>Type</b> is <b>Vulnerability</b> or <b>Event</b> ) Specifies the data source.  For vulnerability data, select <b>Cumulative</b> or <b>Mitigated</b> .  For event data, the data source is <b>Active</b> . Tenable Security Center can use only active event data for event-based components.	Cumulative
<b>Tool</b>	The analysis tool to use for creating the chart. For more information, see <a href="#">Vulnerability Analysis Tools</a> and Event Analysis Tools.	Vulnerability Summary
<b>Filters</b>	Additional filters to use on the data source. For more information, see <a href="#">Filters</a> .	--
<b>Display</b>		
<b>Results Displayed</b>	The number of displayed results.	10
<b>Sort Column</b>	The column Tenable Security Center uses to sort the results.	Plugin ID
<b>Sort Direction</b>	The sort direction: <b>Descending</b> or <b>Ascending</b> .	Descending
<b>Display Column</b>	The columns to display in the component output.	--

## Matrix Component Options



For information about configuring matrix components and to download samples, visit the [Tenable Security Center Dashboards](#) blog. For an example matrix component, see [Configure a Simple Matrix Dashboard Component](#).

When you create a matrix component, you define rules to determine what displays in each cell in a table of customizable columns and rows.



- Use columns to define a group of vulnerability, mobile, event, ticket, user, or alert data. For example, you could create columns for critical, high, medium, low, and informational vulnerabilities.
- Use rows to define the operations performed against each column element for that row. For example, if each column determines the vulnerability type (critical, high, medium, low, and informational), you can create a row to calculate the ratio of the particular vulnerability type count against the total vulnerability count.

By default, each cell definition includes a single customizable rule that defines what appears in the cell if no other conditions have been defined or triggered.

Tenable Security Center reviews each rule in a cell from top to bottom and triggers the display rule on the first rule match. Once a rule triggers, Tenable Security Center stops reviewing rules for the cell. If none of the added rules match, Tenable Security Center performs the default rule.

Option	Action
<b>Cells</b>	
<b>Size</b>	<p>Use the drop-down menus to select the number of columns and rows for the matrix. Tenable Security Center supports matrices from 1x1 to 10x10.</p> <p>Click <b>Generate Cells</b> create a blank matrix with customizable cells.</p>
<b>⋮ icon</b>	<p>Click the <b>⋮</b> icon in a row or column header cell to manage the column or row.</p> <ul style="list-style-type: none"><li>• To edit the header name or refresh frequency, click <b>Edit Header</b>.</li></ul> <div><p><b>Tip:</b> You can choose to refresh the data more often to see the most current view. However, frequent refreshes can cause slow system performance.</p></div> <ul style="list-style-type: none"><li>• To delete the row or column, click <b>Delete Cells</b>.</li></ul> <p>Tenable Security Center deletes the row or column.</p>



Option	Action
	<ul style="list-style-type: none"><li>To copy the row or column, click <b>Copy</b>.</li></ul> Tenable Security Center copies the row or column.
 icon	Click the  icon inside a cell to configure rules for the cell. For more information, see <a href="#">Matrix Component Query Options</a> .

## Matrix Component Query Options

Option	Description	Default
<b>Data</b>		
<b>Data Type</b>	The type of data: <b>Vulnerability</b> , <b>Mobile</b> , <b>Event</b> , <b>User</b> , <b>Alert</b> , or <b>Ticket</b> .  The <b>Data Type</b> determines which query values are available in the <b>Condition</b> option.	Vulnerability
<b>Type</b>	The matrix component display type: <b>Count</b> or <b>Ratio</b>	Count
<b>Source</b>	(If <b>Data Type</b> is <b>Vulnerability</b> or <b>Event</b> ) Specifies the data source.  For vulnerability data, select <b>Cumulative</b> or <b>Mitigated</b> .  For event data, the data source is <b>Active</b> . Tenable Security Center can use only active event data for event-based components.	Cumulative
<b>Filters</b>	(If <b>Type</b> is <b>Count</b> ) Additional filters to use on the data source. For more information, see <a href="#">Filters</a> .	--
<b>Numerator Filters</b>	(If <b>Type</b> is <b>Ratio</b> ) The filters to apply to the ratio numerator. For more information, see <a href="#">Filters</a> .	--
<b>Denominator Filters</b>	(If <b>Type</b> is <b>Ratio</b> ) The filters to apply to the ratio denominator. For more information, see <a href="#">Filters</a> .	--
<b>Rules</b>		



Option	Description	Default
<b>Condition</b>	<p>Specifies the conditions for the matrix component. Use the drop-down menus to define the quantity and query value to use for the rule.</p> <p>Quantities: <b>Less than or equal to</b>, <b>Greater than or equal to</b>, <b>Exactly</b>, or <b>Not Equal to</b>.</p> <p>Query values: <b>Events</b>, <b>Hosts</b>, <b>Vulnerabilities</b>, <b>Ports</b>, <b>Devices</b>, <b>Users</b>, <b>Alerts</b>, or <b>Tickets</b>.</p> <div><b>Note:</b> The available query values depend on the <b>Data Type</b>.</div>	--
<b>Display</b>	<p>Specifies the appears of the matrix component when the rule <b>Condition</b> is met.</p> <ul style="list-style-type: none"><li>• <b>Text</b> – Displays the <b>Query Value</b> or custom <b>User-Defined</b> text.</li><li>• <b>Icon</b> – Displays the selected indicator icon.</li><li>• (If <b>Type</b> is <b>Ratio</b>) <b>Indicator</b> – Displays a percentage.</li></ul>	Text
<b>Text Color</b>	(If <b>Display</b> is <b>Text</b> ) The matrix component text color.	#1a1a40
<b>Background</b>	(If <b>Display</b> is <b>Text</b> ) The matrix component background color.	#333333 or #ffffff

## Line and Area Chart Component Options

Option	Description	Default
<b>Data</b>		
<b>Date Type</b>	<p>The date type:</p> <ul style="list-style-type: none"><li>• <b>Relative</b> – A date relative to the current time when the chart is loaded.</li></ul>	Relative



Option	Description	Default
	<ul style="list-style-type: none"><li>• <b>Absolute</b> – An absolute time frame that is the same on each page visit.</li></ul>	
<b>Date Range</b>	<p>The date range for the line or area chart.</p> <p>If <b>Date Type</b> is <b>Relative</b>, select from the following options:</p> <ul style="list-style-type: none"><li>• <b>Within x Minutes</b> – Display data within the last 15, 20, or 30 minutes.</li><li>• <b>Within x Hours</b> – Display data within the last 1, 2, 4, 6, 12, 24, 48, or 72 hours.</li><li>• <b>Within x Days</b> – Display data within the last 5, 7, 25, or 50 days.</li><li>• <b>Within x Months</b> – Display data within the last 3 or 6 months.</li><li>• <b>Within 1 Year</b> – Display data within the last year.</li></ul> <p>If <b>Date Type</b> is <b>Absolute</b>, select a date and time for the beginning and end of the range.</p>	Within 24 Hours
<b>Series</b>	Click to add a series to the line or area chart. For more information, see <a href="#">Line and Area Chart Series Options</a> .	--

## Line and Area Chart Series Options

Option	Description	Default
<b>Name</b>	The name of the series.	--
<b>Data</b>		
<b>Data Type</b>	<p>The type of data: <b>Vulnerability</b> or <b>Event</b>.</p> <div><p><b>Note:</b> For line/area charts, vulnerability data analysis often requires that the underlying repository be a trending repository. If the selected repository is not a trending repository, no historical analysis is available.</p></div>	Vulnerability



<b>Query</b>	Predefined query used to further narrow down the data source options. If a query does not exist or is not desired, it may be left unselected. The query may be used as is or as a template on which to base the <b>Filters</b> option.	--
<b>Filters</b>	Additional filters to use on the data source. For more information, see <a href="#">Filters</a> .	--
<b>Display</b>		
<b>Series Data</b>	Data to display in the chart: <b>Total, Info, Low, Medium, High,</b> or <b>Critical</b> .	All

### Configure a Simple Matrix Dashboard Component

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Dashboards](#) and [Matrix Component Options](#).

Before you begin:

- Begin adding a custom matrix dashboard component, as described in [Add a Custom Dashboard Component](#).

To construct a simple matrix dashboard component:

1. On the **Add Matrix Component** page, in the **Name** box, type a name for the dashboard component.
2. Type a **Description** for the dashboard component.
3. In the **Cells** section, select the number of **Columns** and **Rows** for the matrix.





## Add Matrix Component

Name\*

Exectuive 7 Day - Exploitable Vulnerability

Description

Percentages of hosts with exploitable vulnerabilities over the last 7 day and the frameworks that can be used to exploit them.

### Cells

Size\*

5

Columns x

3

Rows

[Generate Cells](#)

[Submit](#)

[Cancel](#)

For example, 5 columns and 3 rows.

4. Click **Generate Cells**.

The matrix editor appears.

5. Next to the header label, click the **...** menu.

The actions menu appears.

6. Click **Edit Header**.

7. Type a **Label** for the column or row header.

8. Click **Submit**.

The matrix editor appears, with the new header label displayed.



### Cells

	Exploit %	Metasploit	Core Impact	Canvas	Malware
Critical					
High					
Medium					

SubmitCancel

- Repeat the header label steps for the other header cells.
- Hover over the body cells and click the edit icon.

The **Add Matrix Component** page appears.

- Customize the matrix component options.

For example, this matrix component displays Vulnerability data by a ratio from the Cumulative database. The numerator filters are looking for vulnerabilities that have an exploit available with a Critical severity discovered within the last 7 days. The Denominator filters are for vulnerabilities that have a Critical severity discovered within the last 7 days. The rules are looking for percentages of the vulnerabilities that match and designate the ratio value with the corresponding color based on the percentages found.

Add Matrix Component
Back

Data

Data Type: Vulnerability  
Type: Ratio  
Source: Cumulative

Numerator Filters

Exploit Available: Yes  
Severity: Critical  
Vulnerability Discovered: Within the last 7 days  
+ Add Filter

Denominator Filters

Severity: Critical  
Vulnerability Discovered: Within the last 7 days  
+ Add Filter

Rules

Greater than or equal to 50 % of Vulnerabilities match: Display Ratio Value: Vulnerabilities  
Greater than or equal to 10 % of Vulnerabilities match: Display Ratio Value: Vulnerabilities  
Greater than or equal to 1 % of Vulnerabilities match: Display Ratio Value: Vulnerabilities  
Default: Display Ratio Value: Vulnerabilities  
+ Add Rule

Submit Cancel

12. Repeat the body cell steps for the other body cells.

In the example above, the other cells are similar with many of the same rules. The differences are adding a Numerator filter to include the Exploit Framework we are looking for and a Denominator filter for the Exploit Available option.

Cells

	Exploit %	Metasploit	Core Impact	Canvas	Malware
Critical					
High					
Medium					

Submit Cancel



13. Click **Submit**.

The matrix element appears.

## Scan Results

The **Scan Results** page displays scan results and statuses from scans running on your managed Tenable Security Center instances.

**Note:** For each agent synchronization job result for a child node, Tenable Security Center imports a metadata record containing no vulnerability data. This metadata record appears as a second result on the **Scan Results** page. To prevent Tenable Security Center from importing the metadata file, configure and launch agent scans from Tenable Security Center, as described in Agent Scans.

For more information, see [Manage Scan Results](#) and [Scan Result Statuses](#).

### Scan Result Statuses

You can view the scan status and the import status for scans running on your managed Tenable Security Center instances, as described in [View Scan Result Details](#).

- [Scan Status](#)
- [Import Status](#)
- [Availability](#)

## Scan Status

The scan status specifies the status of the scan.

Status	Description
Active Scans	
<b>Queued</b>	The scan is queued.
<b>Preparing</b>	Tenable Security Center is preparing to run the scan.
<b>Resolving Hostnames</b>	Tenable Security Center is resolving hostnames before running the scan.



Status	Description
<b>Verifying Targets</b>	Tenable Security Center is verifying targets before running the scan.
<b>Initializing Scanners</b>	Tenable Security Center is initializing scanners before running the scan.
<b>Running</b>	The scan is running.
<b>Pausing</b>	You paused the scan and Tenable Security Center is pausing the scan.
<b>Paused</b>	The scan is paused.
<b>Resuming</b>	You resumed the scan and Tenable Security Center is resuming the scan.
<b>Stopping</b>	Tenable Security Center is stopping the scan.
<b>Completed</b>	The scan finished successfully.
<b>Partial</b>	The scan finished and some results are available.
<b>Error</b>	The scan did not finish.
Agent Scans	
<b>Queued</b>	The scan is queued.
<b>Running</b>	The scan is running.
<b>Completed</b>	The scan finished successfully.
<b>Error</b>	The scan did not finish.

## Import Status

The scan status specifies the status of the scan result import to Tenable Security Center.

Status	Description
Active and Agent Scans	
<b>No Results</b>	The scan finished successfully but yielded no results.



Status	Description
<b>Import Pending</b>	Tenable Security Center is preparing to start the import.
<b>Importing</b>	Tenable Security Center is importing the scan result data.
<b>Finished</b>	The import finished successfully.
<b>Blocked</b>	<p>Tenable Security Center did not import the scan result for one of the following reasons:</p> <ul style="list-style-type: none"><li>• You have exceeded your license limit.</li><li>• The scan result import would cause you to exceed your license.</li></ul> <p>For more information about license limits, see <a href="#">License Requirements</a>.</p>
<b>Error</b>	The import did not finish.

## Availability

The scan result availability specifies whether the scan result can be viewed in Tenable Security Center Director.

Status	Description
<b>Available</b>	<p>Tenable Security Center Director successfully imported the scan result data.</p> <div><b>Note:</b> By default, Tenable Security Center Director retains scan results from managed Tenable Security Center instances for 30 days. For more information, see <a href="#">Data Expiration Settings</a>.</div>
<b>Syncing</b>	Tenable Security Center Director is importing the scan result data from a managed Tenable Security Center instance.
<b>Not Synced</b>	<p>The scan result is not imported to Tenable Security Center Director.</p> <p>If the scan status is <b>Partial</b> or <b>Completed</b>, you can manually retrieve the scan result. For more information, see <a href="#">Manage Scan Results</a>.</p>

## Manage Scan Results



**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

Depending on the state of a scan result, you can perform different management actions (for example, you cannot download results for a scan with errors).

For more information, see [Scan Results](#).

To manage scan results:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Results** (administrator users) or **Scans > Scan Results** (organizational users).

The **Scan Results** page appears.

3. Manage the results:

- To filter the scan results:

Click the filter icon. Filters allow you to view only desired scan results. Filter parameters include:

- **Access** - filters by whether the scan is manageable or usable.
  - **Group** - filters by the groups that can access the scans.
  - **Name** - filters by the scan name.
  - **Owner** - filters by the scan owner.
  - **Scan Policy** - filters by the scan policy.
  - **Status** - filters by the scan status.
  - **Time (Created)** - filters by when the scan result was created.
  - **Time (Finished)** - filters by when the scan finished running.
  - **Type** - filters by the type of scan.
- To remove all filters:



- Under the filter options, click **Clear Filters**.

**Note:** To return to the default filter for your user account, refresh your browser window. The number in grey next to the filter displays how many filters are currently in use.

- To view a set of scan results:

- a. Right-click the row for the scan.

The actions menu appears.

-or-

Select the check box for the scan.

The available actions appear at the top of the table.

- b. Select **Browse**.

The Vulnerability Summary analysis tool appears, populated with data from the scan.

- To view scan result details for a set of scan results:

- a. Right-click the row for the scan.

The actions menu appears.

-or-

Select the check box for the scan.

The available actions appear at the top of the table.

- b. Click **View**.

The **View Scan Result** page appears. For more information, see [Scan Result Details](#).

- To retrieve a scan result from a managed Tenable Security Center instance:





- a. Right-click the row for a **Partial** or **Completed** scan that is **Not Synced**.

The actions menu appears.

-or-

Select the check box for a **Partial** or **Completed** scan that is **Not Synced**.

The available actions appear at the top of the table.

- b. Click **Retrieve**.

Tenable Security Center Director imports the scan result.

**Note:** By default, Tenable Security Center Director retains scan results from managed Tenable Security Center instances for 30 days. For more information, see [Data Expiration Settings](#).

- To download the results of a scan:

- a. Right-click the row for the scan.

The actions menu appears.

-or-

Select the check box for the scan.

The available actions appear at the top of the table.

- b. Select **Download**.

**Tip:** On a standard scan, you can download a Tenable Nessus results file. If the scan contains SCAP results, you can use an additional option to download the SCAP results.

- To send a copy of the scan results to users without access to Tenable Security Center:

- a. Right-click the row for the scan.

The actions menu appears.

-or-



Select the check box for the scan.

The available actions appear at the top of the table.

b. Select **Email**.

- To generate a report for the scan results based off a preconfigured report:

a. Right-click the row for the scan.

The actions menu appears.

-or-

Select the check box for the scan.

The available actions appear at the top of the table.

b. Select **Send to Report**.

Tenable Security Center Director sends the scan results to a report.

- To upload Tenable Nessus scan results performed by other systems:
  - See Upload Scan Results.
- To pause or resume a running scan:
  - In the row for the scan, click the pause or play button, as described in Start or Pause a Scan.

## View Scan Results

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Scan Results](#).

**Note:** For each agent synchronization job result for a child node, Tenable Security Center imports a metadata record containing no vulnerability data. This metadata record appears as a second result on the **Scan Results** page. To prevent Tenable Security Center from importing the metadata file, configure and launch agent scans from Tenable Security Center, as described in Agent Scans.

To view a list of scan results:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Results** (administrator users) or **Scans > Scan Results** (organizational users).

The **Scan Results** page appears.

3. View details about each scan result.
  - **Name** – The name for the scan associated with the result.
  - **Availability** – The status of the scan result. For more information, see [Scan Result Statuses](#).
  - **Tenable.sc Instance** – The name of the Tenable Security Center instance where the scan was run.
  - **Type** – The type of scan that generated the scan result.
  - **Scan Policy** – The name of the scan policy that generated the scan result.
  - **Scanned IPs** – The number of IP addresses scanned.
  - **Owner** – The username for the user who added the scan.
  - **Duration** – The total time elapsed while running the scan.
  - **Import Time** – The date and time Tenable Security Center completed the scan result import.
  - **Status** – The status of the scan that generated the scan result. For more information, see [Scan Status](#).
4. To retrieve a scan result from a managed Tenable Security Center instance, see [Retrieve Scan Results](#).
5. To view additional details for a scan result, see [View Scan Result Details](#).

## View Scan Result Details

**Required Tenable Security Center User Role:** Administrator or organizational user with appropriate permissions. For more information, see [User Roles](#).

You can view details for any scan result. For more information, see [Scan Results](#).

To view scan result details:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Scan Results** (administrator users) or **Scans > Scan Results** (organizational users).

The **Scan Results** page appears.

3. Right-click the row for the scan result.

The actions menu appears.

-or-

Select the check box for the scan result.

The available actions appear at the top of the table.

4. Click **View**.

The **View Scan Result** page appears.

Section	Action
<b>General</b>	<p>View general information for the scan result.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The scan result name.</li><li>• <b>Type</b> – The type of scan that generated the scan result.</li><li>• <b>Tenable Security Center Instance</b> – The name of the Tenable Security Center instance where the scan was run.</li><li>• <b>Scan Policy</b> – The name of the scan policy that generated the scan result.</li><li>• <b>Repository</b> – The name of the repository associated with the scan policy that generated the scan result.</li><li>• <b>Scanned IPs / Total IPs</b> – The number of IP addresses scanned compared to the total number of IP addresses targeted in the scan.</li><li>• <b>Status</b> – The scan status. For more information, see <a href="#">Scan Status</a>.</li><li>• <b>Scanner Summary</b> – The name of the scan and how many IPs were scanned.</li></ul>



Section	Action
	<ul style="list-style-type: none"><li>• <b>Start Time</b> – The date and time Tenable Security Center started the scan.</li><li>• <b>Finish Time</b> – The date and time Tenable Security Center completed the scan.</li><li>• <b>Status</b> – The scan status. For more information, see <a href="#">Scan Status</a>.</li><li>• <b>Duration</b> – The total time elapsed while running the scan.</li><li>• <b>Import Start</b> – The date and time Tenable Security Center started the scan result import.</li><li>• <b>Import Finish</b> – The date and time Tenable Security Center completed the scan result import.</li><li>• <b>Import Status</b> – The scan result import status. For more information, see <a href="#">Import Status</a>.</li><li>• <b>Import Duration</b> – The total time elapsed during scan result import.</li><li>• <b>Owner</b> – The username for the user who added the scan.</li><li>• <b>Group</b> – The group associated with the scan.</li><li>• <b>ID</b> – The scan result ID.</li></ul>

## Solutions Analysis

Tenable provides recommended solutions for all vulnerabilities on your network. You can perform the recommended action in a solution to lower the risk on your network.

For more information, see:

- [View Solutions](#)
- [View Solution Details](#)

### View Solutions



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can use the **Solutions** page to view solutions for specific assets on your network or drill into solution details.

To view solutions for assets on your network:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Solutions**.

The **Solutions** page appears.

3. To filter the solutions in the table by an asset list, in the **Targeted Assets** drop-down box, click an asset list name.

The system refreshes the page and filters the table by the asset list you selected. For more information about asset lists, see [Assets](#).

4. To customize the table, see [Interact with a Customizable Table](#).
5. View information about each solution.

- **Solution** — A description for the solution.
- **Risk Reduction** — The percent you would reduce your risk by addressing the vulnerability in the solution. Tenable Security Center calculates the risk reduction percentage by dividing the score of the vulnerabilities in the solution by the score of all of the vulnerabilities on your network.
- **Hosts Affected** — The number of devices affected by the solution.
- **Vulnerabilities** — The number of vulnerability instances included in the solution.

**Tip:** A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.

- **VPR** — The highest VPR for a vulnerability included in the solution.
- **EPSS** — The EPSS score for the vulnerability.



- **CVSSv3 Base Score** – The highest CVSSv3 or CVSS 4 score for a vulnerability included in the solution. If only CVSSv2 or CVSS v4 is available, the column is blank.
- **CVSSv4 Base Score** – The CVSSv4 score for the vulnerability included in the solution. If only CVSSv2 or CVSSv3 is available, the column is blank.

6. To view details for a solution, click a row.

The **Solution Details** page appears. For more information, see [Solution Details](#).

## View Solution Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can use the **Solution Details** page to view details for a specific solution. To export the details for a solution, see [Export Hosts Affected by a Solution](#).

To view details for a specific solution:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Solutions**.

The **Solutions** page appears.

3. Click a solution row.

The **Solution Details** page appears.

Section	Action
Metrics summary	<p>View summary statistics for the recommended solution.</p> <ul style="list-style-type: none"><li>• <b>Hosts Affected</b> – The number of devices affected by the solution.</li><li>• <b>Vulnerabilities</b> – The total number of vulnerability instances included in the solution.</li></ul> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and</div>



Section	Action
	<div>protocol.</div> <ul style="list-style-type: none"><li>• <b>VPR</b> – The highest VPR for a vulnerability included in the solution.</li><li>• <b>CVSSv3 Base Score</b> – The highest CVSSv3 score for a vulnerability included in the solution. If only CVSSv2 is available, the column is blank.</li></ul>
<b>Vulnerabilities Included</b> table	<p>View all vulnerabilities related to the recommended solution, sorted by decreasing VPR.</p> <ul style="list-style-type: none"><li>• <b>Plugin</b> – The plugin ID.</li><li>• <b>Hosts Affected</b> – The number of devices affected by the solution.</li><li>• <b>VPR</b> – The VPR for the vulnerability.</li><li>• <b>EPSS</b> – The EPSS score for the vulnerability.</li><li>• <b>CVSSv3 Base Score</b> – The CVSSv3 score for the vulnerability included in the solution. If only CVSSv2 or CVSS v4 is available, the column is blank.</li><li>• <b>CVSSv4 Base Score</b> – The CVSSv4 score for the vulnerability included in the solution. If only CVSSv2 or CVSSv3 is available, the column is blank.</li></ul>
<b>Hosts Affected</b> table	<p>View device information.</p> <ul style="list-style-type: none"><li>• <b>IP Address</b> – The IP address for the device.</li><li>• <b>NetBIOS</b> – The NetBIOS name, if known.</li><li>• <b>DNS</b> – The DNS name, if known.</li><li>• <b>OS CPE</b> – The operating system common platform enumeration (CPE) name.</li></ul>





Section	Action
	<ul style="list-style-type: none"><li>• <b>Repository</b> – The repository name where device's scan data is stored.</li></ul> <p>A device appears in multiple rows if the device's scan data is stored in multiple repositories.</p>

What to do next:

- (Optional) Export the hosts affected by the solution to share with others in your organization, as described in [Export Hosts Affected by a Solution](#).

### Export Hosts Affected by a Solution

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can export a list of hosts affected by a solution as a `.csv` file to share the data with others in your organization. For more information, see [Solutions Analysis](#).

To export hosts affected by a solution:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Solutions**.

The **Solutions** page appears.

3. Click the row for the solution for which you want to export a list of affected hosts.

The **Solution Details** page appears.

4. In the upper-right corner, click **Export as CSV**.

A confirmation window appears.

**Note:** If the number of affected hosts is greater than 1,000, Tenable Security Center Director prompts you to type a name for the CSV report result you want to generate. After generation, you can download the report result, as described in [Download a Report Result](#).



5. Select or clear the check boxes to indicate which columns you want to appear in the exported file.

Column Name	Description
Solution ID	The plugin ID associated with the recommended solution.
Solution	A description for the solution.
Tenable UUID	The Tenable UUID, if applicable. A Tenable UUID uniquely identifies: <ul style="list-style-type: none"><li>• Agent-detected assets that may share a common IP address.</li><li>• OT Security assets that may not have an IP address. For more information, see OT Security Instances.</li></ul>
DNS	The DNS name of the device, if known.
IP Address	The IP address for the device.
OS	The operating system running on the device.
CVEs	The number of unique CVEs associated with vulnerabilities on the affected host that are addressed by the solution.
CVE Instances	<div>The total number of CVE instances associated with vulnerabilities on the affected host that are addressed by the solution.</div> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</div>
OS CPE	The operating system common platform enumeration (CPE) name of the device.
Repository	The name of the repository that stores the device's scan data.
MAC	The MAC address of the device, if known.
NetBIOS	The NetBIOS name of the device, if known.



Vulnerabilities	<p>The total number of vulnerability instances on the affected host addressed by the solution.</p> <p><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</p>
Vulnerability Percentage	<p>The number of vulnerability instances on the affected host addressed by the solution as a percentage of total vulnerability instances.</p> <p><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</p>
Score	<p>The sum of the weighted <a href="#">CVSS</a> score across vulnerability instances on the affected host addressed by the solution.</p> <p><b>Note:</b> Tenable Security Center Director uses either CVSSv2 or CVSSv3 to assess the severity of vulnerabilities, depending on your configuration. For more information, see <a href="#">Organizations</a>.</p> <p><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</p>
Risk Reduction	<p>The percent you would reduce your risk across all solutions and affected hosts by addressing the vulnerabilities on this affected host associated with the solution. Tenable Security Center Director calculates the risk reduction percentage by dividing the total <a href="#">CVSS</a> score of the vulnerabilities on the affected host addressed by the solution by the total CVSS score of all of the vulnerabilities on your network.</p> <p><b>Note:</b> Tenable Security Center Director uses either CVSSv2 or CVSSv3 to assess the severity of vulnerabilities, depending on your</p>



	configuration. For more information, see <a href="#">Organizations</a> .
MS Bulletins	The number of unique MS Bulletins associated with vulnerabilities on the affected host that are addressed by the solution.
MS Bulletin Instances	The total number of vulnerabilities with associated MS Bulletins on the affected host that are addressed by the solution.
VPR	The highest <a href="#">VPR</a> of all vulnerabilities on the affected host that are addressed by the solution. If no VPR is available, the column is blank.
CVSS v3	The highest <a href="#">CVSSv3</a> score of all vulnerabilities on the affected host that are addressed by the solution. If only a CVSSv2 score is available, the column is blank.

6. Click **Download**.

Tenable Security Center Director exports the list of hosts affected by the solution.

## Vulnerability Analysis

The **Vulnerabilities** page displays vulnerabilities from either the cumulative or mitigated vulnerability database. For more information, see [Cumulative vs. Mitigated Vulnerabilities](#).

**Note:** If multiple vulnerabilities share the same **IP Address** or **Agent ID** data, Tenable Security Center Director assumes they are from the same host.

To perform a common type of vulnerability analysis, see [View Vulnerabilities by Plugin](#) or [View Vulnerabilities by Host](#).

To view a specific vulnerability analysis tool, see [Vulnerability Analysis Tools](#).

## Cumulative vs. Mitigated Vulnerabilities

Tenable Security Center stores vulnerabilities in two databases: the cumulative database and the mitigated database. You can choose to view cumulative vulnerabilities or mitigated vulnerabilities in any vulnerability analysis tool. For more information, see [View Cumulative or Mitigated Vulnerabilities](#).



## Cumulative Vulnerabilities

The cumulative database contains currently vulnerable vulnerabilities, including recast, accepted, or previously mitigated vulnerabilities.

## Mitigated Vulnerabilities

The mitigated database contains vulnerabilities that Tenable Security Center Director determines are not vulnerable, based on the scan definition, the results of the scan, the current state of the cumulative view, and authentication information.

A vulnerability is mitigated if:

- The IP address of the vulnerability was in the target list of the scan.
- The plugin ID of the vulnerability was in the list of scanned plugins.
- The port of the vulnerability was in the list of scanned ports.
- The vulnerability with that IP address/port/plugin ID combination was not in the scan result.

To start, the vulnerability must appear in the cumulative view to be considered for mitigation. The import process then looks at each vulnerability in the import repository. The import process also verifies that authentication was successful before mitigating any local check vulnerabilities that meet the above criteria.

**Note:** Mitigation logic works with scans using policies defined by templates, advanced policies, and remediation scans. These policies are set up to take advantage of this new mitigation logic.

For more information about mitigation, see the [knowledge base](#) article.

### View Cumulative or Mitigated Vulnerabilities

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For general information about cumulative vulnerabilities and mitigated vulnerabilities, see [Cumulative vs. Mitigated Vulnerabilities](#).

To switch between viewing mitigated or cumulative vulnerabilities:



1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the upper-right corner, click **Cumulative** or **Mitigated**.

The page updates to display data from the mitigated or cumulative vulnerability database.

## CVSS vs. VPR

Tenable uses CVSS scores and a dynamic Tenable-calculated Vulnerability Priority Rating (VPR) to quantify the risk and urgency of a vulnerability.

**Note:** When you view these metrics on an analysis page organized by plugin (for example, the **Vulnerabilities** page), the metrics represent the highest value assigned or calculated for a vulnerability associated with the plugin.

## CVSS

Tenable uses and displays third-party Common Vulnerability Scoring System (CVSS) values retrieved from the National Vulnerability Database (NVD) to describe risk associated with vulnerabilities.

Tenable assigns all vulnerabilities a severity (**Info**, **Low**, **Medium**, **High**, or **Critical**) based on the vulnerability's static CVSS score (the CVSS version depends on your configuration). For more information, see [Organizations](#).

Tenable Security Center analysis pages provide summary information about vulnerabilities using the following CVSS categories.

Severity	CVSSv2 Range	CVSSv3 Range
Critical	The plugin's highest vulnerability CVSSv2 score is 10.0.	The plugin's highest vulnerability CVSSv3 score is between 9.0 and 10.0.
High	The plugin's highest vulnerability CVSSv2 score is between 7.0 and 9.9.	The plugin's highest vulnerability CVSSv3 score is between 7.0 and 8.9.
Medium	The plugin's highest vulnerability CVSSv2 score is between 4.0 and 6.9.	The plugin's highest vulnerability CVSSv3 score is between 4.0 and 6.9.



Low	The plugin's highest vulnerability CVSSv2 score is between 0.1 and 3.9.	The plugin's highest vulnerability CVSSv3 score is between 0.1 and 3.9.
Info	The plugin's highest vulnerability CVSSv2 score is 0.  - or -  The plugin does not search for vulnerabilities.	The plugin's highest vulnerability CVSSv3 score is 0.  - or -  The plugin does not search for vulnerabilities.

## Vulnerability Priority Rating

Tenable calculates a dynamic VPR for most vulnerabilities. The VPR is a dynamic companion to the data provided by the vulnerability's CVSS score, since Tenable updates the VPR to reflect the current threat landscape. VPR values range from 0.1-10.0, with a higher value representing a higher likelihood of exploit.

VPR Category	VPR Range
Critical	9.0 to 10.0
High	7.0 to 8.9
Medium	4.0 to 6.9
Low	0.1 to 3.9

**Note:** Vulnerabilities without CVEs (for example, many vulnerabilities with the **Info** severity) do not receive a VPR. Tenable recommends remediating these vulnerabilities according to their CVSS-based severity.

**Note:** You cannot edit VPR values.

Tenable Security Center provides new and updated VPR values through the Tenable Security Center feed. For more information, see [Edit Plugin and Feed Schedules](#).

Tenable recommends resolving vulnerabilities with the highest VPRs first. You can view VPR scores and summary data in:



- The Tenable-provided **Vulnerability Priority Rating (VPR) Summary** dashboard, described in [Dashboards](#).
- The **Vulnerability Summary**, **Vulnerability List**, and **Vulnerability Detail List** tools, described in [View Vulnerabilities by Plugin](#).

## VPR Key Drivers

Some key drivers that you can view to explain a vulnerability's VPR include, but are not limited to:

**Note:** Tenable does not customize these values for your organization; VPR key drivers reflect a vulnerability's global threat landscape.

Key Driver	Description
<b>Vulnerability Age</b>	The number of days since the National Vulnerability Database (NVD) published the vulnerability.
<b>CVSSv3 Impact Score</b>	The NVD-provided CVSSv3 impact score for the vulnerability. If the NVD did not provide a score, Tenable Security Center displays a Tenable-predicted score.
<b>Exploit Code Maturity</b>	The relative maturity of a possible exploit for the vulnerability based on the existence, sophistication, and prevalence of exploit intelligence from internal and external sources (e.g., Reversinglabs, Exploit-db, Metasploit, etc.). The possible values ( <b>High</b> , <b>Functional</b> , <b>PoC</b> , or <b>Unproven</b> ) parallel the CVSS Exploit Code Maturity categories.
<b>Product Coverage</b>	The relative number of unique products affected by the vulnerability: <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Very High</b> .
<b>Threat Sources</b>	A list of all sources (e.g., social media channels, the dark web, etc.) where <a href="#">threat events</a> related to this vulnerability occurred. If the system did not observe a related threat event in the past 28 days, the system displays <b>No recorded events</b> .
<b>Threat Intensity</b>	The relative intensity based on the number and frequency of recently observed <a href="#">threat events</a> related to this vulnerability: <b>Very Low</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Very High</b> .





<b>Threat Recency</b>	The number of days (0-180) since a <a href="#">threat event</a> occurred for the vulnerability.
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## Threat Event Examples

Common threat events include:

- An exploit of the vulnerability
- A posting of the vulnerability exploit code in a public repository
- A discussion of the vulnerability in mainstream media
- Security research about the vulnerability
- A discussion of the vulnerability on social media channels
- A discussion of the vulnerability on the dark web and underground
- A discussion of the vulnerability on hacker forums

## Vulnerability Analysis Tools

On the **Vulnerabilities** page, you can use the drop-down box to select the vulnerability analysis tool you want to view.

To perform a common type of vulnerability analysis, see [View Vulnerabilities by Plugin](#) or [View Vulnerabilities by Host](#).

Analysis Tool	Description
<b>Asset Summary</b>	<p>This tool summarizes the scores and counts of vulnerabilities for all dynamic or static asset lists.</p> <p>A breakdown of each asset's specific vulnerabilities and counts for each severity level is also included.</p> <p>You can click a count to view the <b>IP Summary</b> tool, filtered by the asset list you selected.</p>
<b>CCE Summary</b>	<p>This displays a summary of hosts which have Common Configuration Enumeration (CCE) vulnerabilities.</p>



Analysis Tool	Description
	You can click a count to view the <b>Vulnerability Summary</b> tool, filtered by the CCE vulnerability you selected.
<b>Class A Summary</b> <b>Class B Summary</b> <b>Class C Summary</b>	<p>Summarizes host information.</p> <p>The vulnerability score for an address is computed by adding up the number of vulnerabilities at each severity level and multiplying it with the organization's severity score.</p> <p>Starting out with a Class A or Class B summary can identify more active network ranges for networks with a large number of active IP addresses.</p> <p>You can click a <b>Class A</b> or <b>Class B</b> row to view the <b>Class B</b> or <b>Class C</b> tool, filtered by the asset list you selected. You can click a <b>Class C</b> row to view the <b>IP Summary</b> tool, filtered by the asset list you selected.</p>
<b>CVE Summary</b>	This view groups vulnerabilities based on their CVE ID, severity, and vulnerability count.
<b>DNS Name Summary</b>	<p>Tenable Security Center includes the ability to summarize information by vulnerable DNS name. The DNS Name Summary lists the matching hostnames, the repository, vulnerability count, and a breakdown of the individual severity counts.</p> <p>You can click a DNS name to view the <b>Vulnerability List</b> tool, filtered by the DNS name you selected.</p>
<b>IAVM Summary</b>	This view groups vulnerabilities based on their IAVM ID, severity, and vulnerability count.
<b>IP Summary</b>	<p>Summarizes host information, organized by IP address/agent ID. You can click the <b>IP Address</b> to view host details, as described in <a href="#">View Host Details</a>.</p> <p>For more information, see <a href="#">View Vulnerabilities by Host</a>.</p>
<b>List Mail Clients</b>	Tenable Security Center uses Tenable Network Monitor to determine a unique list of email clients. The list contains the email client name, count of detections, and the detection method.



Analysis Tool	Description
	You can click a count to view the <b>IP Summary</b> tool, filtered by the email client you selected.
<b>List OS</b>	<p>Tenable Security Center understands both actively and passively fingerprinted operating systems. This tool lists what has been discovered.</p> <p>The method (active, passive, or event) of discovery is also indicated.</p> <p>You can click a count to view the <b>IP Summary</b> tool, filtered by operating system.</p>
<b>List Services</b>	<p>Tenable Security Center processes information from scans and creates a summary of unique services discovered. The service discovered, count of hosts, and detection method are listed.</p> <p>You can click a service to view the <b>IP Summary</b> tool, filtered by the service you selected.</p>
<b>List Software</b>	<p>Tenable Security Center processes information from scans and creates a summary of unique software packages discovered. The software name, count of hosts, and detection method are listed.</p> <p>You can click a software name to view the <b>IP Summary</b> tool, filtered by the software you selected.</p>
<b>List SSH Servers</b>	<p>This tool utilizes active and passive scan results to create a unique list of known SSH servers. The list contains the ssh server name, count of detections, and the detection method.</p> <div><b>Tip:</b> Not all SSH servers run on port 22. Do not be surprised if you encounter SSH servers running on unexpected ports.</div> <p>You can click a count to view the <b>IP Summary</b> tool, filtered by the SSH server you selected.</p>
<b>List Web Clients</b>	Tenable Security Center understands Tenable Network Monitor plugin ID 1735, which passively detects the web client in use. This tool lists the unique web clients detected. The list contains the user-agents, count of



Analysis Tool	Description
	<p>detections, and the detection method.</p> <p>You can click a count to view the <b>IP Summary</b> tool, filtered by the web client you selected.</p>
<b>List Web Servers</b>	<p>This tool takes the passive output from passive and active scans to create a unique list of known web servers. The list contains the web server name, count of detections, and the detection method.</p> <div><b>Tip:</b> Not all web servers run on port 80 or 443. Do not be surprised if you encounter web servers running on unexpected ports.</div> <p>You can click a count to view the <b>IP Summary</b> tool, filtered by the web server you selected.</p>
<b>MS Bulletin Summary</b>	<p>This tool filters vulnerabilities based on Microsoft Bulletin ID. Displayed are the IDs, Vulnerability Totals, Host Total, and Severity. This view is particularly useful in cases where Microsoft releases a new bulletin and a quick snapshot of vulnerable hosts is required.</p>
<b>Plugin Family Summary</b>	<p>This tool charts the Nessus, Tenable Network Monitor, or Event plugin family as well as their relative counts based on severity level for all matching vulnerabilities.</p> <p>You can click a count to view the <b>Vulnerability List</b> tool, filtered by the plugin family you selected.</p>
<b>Port Summary</b>	<p>A summary of the ports in use is displayed for all matched vulnerabilities. Each port has its count of vulnerabilities as well as a breakdown for each severity level.</p> <p>You can click a port to view the <b>IP Summary</b> tool, filtered by the port you selected.</p>
<b>Protocol Summary</b>	<p>This tool summarizes the detected IP protocols such as TCP, UDP, and ICMP. The tool also breaks out the counts for each protocol's severity levels.</p>



Analysis Tool	Description
	You can click a count to view the <b>IP Summary</b> tool, filtered by the count you selected.
<b>Remediation Summary</b>	<p>The Remediation Summary tool provides a list of remediation actions that may be taken to prioritize tasks that have the greatest effect to reduce vulnerabilities in systems. This list provides a solution to resolve a particular CPE on a given OS platform. The data provided includes:</p> <ul style="list-style-type: none"><li>• <b>Risk Reduction</b> – The percent you would reduce your risk by addressing the vulnerability in the solution. Tenable Security Center calculates the risk reduction percentage by dividing the score of the vulnerabilities in the solution by the score of all of the vulnerabilities on your network.</li><li>• <b>Hosts Affected</b> – The number of unique hosts that would be affected by performing the remediation action.</li><li>• <b>Vulnerabilities</b> – The count of vulnerabilities (Tenable Nessus plugins) that would be remediated by performing the remediation action.</li><li>• <b>Score</b> – This is calculated by adding up the score for each vulnerability that would be remediated by performing the remediation action.</li><li>• <b>CVE</b> – The number of distinct CVEs that would be remediated by performing the remediation action.</li><li>• <b>MS Bulletin</b> – The number of unique MS Bulletins that would be remediated by performing the remediation action.</li><li>• <b>Vulnerability %</b> – The count of vulnerabilities (Tenable Nessus plugins) that would be remediated by performing the remediation action over the total vulnerability count returned by the query as a percentage.</li></ul>
<b>Severity Summary</b>	This tool considers all of the matching vulnerabilities and then charts the total number of info, low, medium, high, and critical vulnerabilities.



Analysis Tool	Description
	You can click a count to view the <b>Vulnerability Summary</b> tool, filtered by the severity you selected.
<b>User Responsibility Summary</b>	This displays a list of the users who are assigned responsibility for the vulnerability based on the user's assigned asset list. Multiple users with the same responsibility are displayed on the same line. Users without any assigned responsibilities are not displayed in the list. Tenable Security Center populates this list after you assign an asset to a user account.
<b>Vulnerability Detail List</b>	<p>Displays the details for a specific vulnerability instance on your network.</p> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</div> <p>Important options include CVSS v2/CVSS v3 score, CVSS v2/CVSSv3 temporal score, VPR, VPR key drivers, availability of public exploit, CVE, BID, synopsis, description, and solution.</p> <p>For more information, see <a href="#">View Vulnerability Instance Details</a>.</p>
<b>Vulnerability List</b>	<p>Displays a table of all vulnerability instances found on your network, organized by plugin ID.</p> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</div> <p>For more information, see <a href="#">View Vulnerabilities by Plugin</a>.</p>
<b>Vulnerability Summary</b>	<p>Displays a table of all plugins associated with vulnerabilities on your network, organized by plugin ID.</p> <p>For more information, see <a href="#">View Vulnerabilities by Plugin</a>.</p>

## Vulnerability Analysis Filter Components

For general information about using filters, see [Filters](#).



Filter Component	Availability	Description
<b>Accept Risk</b>	Cumulative View	Displays vulnerabilities based on their Accepted Risk workflow status. Available choices include <b>Accepted Risk</b> or <b>Non-Accepted Risk</b> . Choosing both options displays all vulnerabilities regardless of acceptance status.
<b>Address</b>	All	This filter specifies an IPv4 or IPv6 address, range, or CIDR block to limit the viewed vulnerabilities. For example, entering <i>198.51.100.28/24</i> and/or <i>2001:DB8::/32</i> limits any of the web tools to show vulnerability data from the specified networks. You can enter addresses in a comma-separated list or on separate lines.
<b>Agent ID</b>	All	Displays results matching the specified agent UUID (Tenable UUID). An agent UUID uniquely identifies: <ul style="list-style-type: none"><li>• Agent-detected assets that may share a common IP address.</li><li>• OT Security assets that may not have an IP address. For more information, see OT Security Instances.</li></ul>
<b>Application CPE</b>	All	Allows a text string search to match against available CPEs. The filter may be set to search based on a <b>contains</b> , <b>Exact Match</b> , or <b>Regex Filter</b> filter. The <b>Regex Filter</b> is based on Perl-compatible regular expressions (PCRE).
<b>Asset</b>	All	This filter displays systems from the assets you select. If more than one asset contains the systems from the primary asset (i.e., there is an intersect between the asset lists), those assets are displayed as well. <div><b>Tip:</b> Use NOT, OR, and AND operators to exclude</div>



Filter Component	Availability	Description
		unwanted assets from the view.
<b>Asset Exposure Score (AES)</b>	All	<p>(Requires Tenable Security Center+ license) Filters for hosts within the specified AES range, between 0 and 1000.</p> <p>For more information, see <a href="#">Asset Exposure Score</a> in the <i>Tenable Vulnerability Management User Guide</i>.</p>
<b>AES Severity</b>	All	<p>(Requires Tenable Security Center+ license) Filters for hosts with the specified AES severity.</p> <p>For more information, see <a href="#">Asset Exposure Score</a> in the <i>Tenable Vulnerability Management User Guide</i>.</p>
<b>Audit File</b>	All	Filters vulnerabilities by plugin IDs associated with the audit file used to perform a scan.
<b>CCE ID</b>	All	Displays results matching the entered CCE ID.
<b>CVE ID</b>	All	Displays vulnerabilities based on one or more CVE IDs. Type multiple IDs as a comma-separated list (e.g., <b>CVE-2011-3348,CVE-2011-3268,CVE-2011-3267</b> ).
<b>CVSS v2 Score</b>	All	Displays vulnerabilities within the chosen Common Vulnerability Scoring System version 2 (CVSS v2) score range.
<b>CVSS v2 Vector</b>	All	Filters results based on a search against the CVSS v2 vector information.
<b>CVSS v3 Score</b>	All	Displays vulnerabilities within the chosen CVSS v3 score range.
<b>CVSS v3 Vector</b>	All	Filters results based on a search against the CVSS v3 vector information.
<b>CVSS v4 Score</b>	All	Displays vulnerabilities within the chosen CVSS v4





Filter Component	Availability	Description
		score range.
<b>CVSS v4 Supplemental</b>	All	Filters results based on a search against the CVSS v4 supplemental information.
<b>CVSS v4 Threat Score</b>	All	Displays vulnerabilities within the chosen CVSS v4 threat score range.
<b>CVSS v4 Threat Vector</b>	All	Filters results based on a search against the CVSS v4 threat vector information.
<b>CVSS v4 Vector</b>	All	Filters results based on a search against the CVSS v4 vector information.
<b>Cross References</b>	All	Filters results based on a search against the cross reference information in a vulnerability.
<b>Data Format</b>	All	Displays results matching the specified data type: <b>IPv4</b> , <b>IPv6</b> , or <b>Agent</b> .
<b>DNS Name</b>	All	This filter specifies a DNS name to limit the viewed vulnerabilities. For example, entering host.example.com limits any of the web tools to only show vulnerability data from that DNS name.
<b>Exploit Prediction Scoring System (EPSS)</b>	All	Filters results by the EPSS score, which predicts how likely a vulnerability is to be exploited.
<b>Exploit Available</b>	All	If set to yes, displays only vulnerabilities for which a known public exploit exists.
<b>Exploit Frameworks</b>	All	When set, the text option can be equal to or contain the text entered in the option.
<b>IVAM ID</b>	All	Displays vulnerabilities based on one or more IVAM IDs. Type multiple IDs as a comma-separated list (e.g., 2011-



Filter Component	Availability	Description
		<i>A-0005,2011-A-0007,2012-A-0004).</i>
<b>MS Bulletin ID</b>	All	Displays vulnerabilities based on one or more Microsoft Bulletin IDs. Type multiple IDs as a comma-separated list (e.g., <i>MS10-012,MS10-054,MS11-020</i> ).
<b>Mitigated</b>	All	<p>Displays vulnerabilities for a specific mitigation status:</p> <ul style="list-style-type: none"><li>• <b>Previously Mitigated</b> – the vulnerability was previously mitigated but it reappeared in a scan and is currently vulnerable</li><li>• <b>Never Mitigated</b> – the vulnerability is currently vulnerable and has never been mitigated</li></ul> <p>For more information about mitigation, see <a href="#">Mitigated Vulnerabilities</a>.</p>
<b>Nessus Web Tests</b>	All	Displays vulnerabilities that are detected by a scan with Nessus Web Tests enabled in the scan policy.
<b>NetBIOS Name</b>	All	<p>Displays vulnerabilities that match the specified NetBIOS name.</p> <p>In the drop-down, select <b>Exact Match</b>, <b>Contains</b>, or <b>Regex Match</b>. <b>Regex Match</b> is based on Perl-compatible regular expressions (PCRE).</p> <div><b>Note:</b> You cannot filter NetBIOS Name by UNKNOWN. The NetBIOS workgroup is labeled UNKNOWN when a workgroup or domain cannot be detected.</div>
<b>Output Assets</b>	Asset Summary Analysis Tool	This filter displays only the desired asset list systems.
<b>Patch Published</b>	All	Some plugins contain information about when a patch was published for a vulnerability. This filter allows the



Filter Component	Availability	Description
		<p>user to search based on when a vulnerability's patch became available:</p> <ul style="list-style-type: none"><li>• <b>None</b> (displays vulnerabilities that do not have a patch available)</li><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Plugin Family</b>	All	This filter chooses a Nessus or Tenable Network Monitor plugin family. Only vulnerabilities from that family display.
<b>Plugin ID</b>	All	Type the plugin ID desired or range based on a plugin ID. Available operators are equal to (=), not equal to (!=),



Filter Component	Availability	Description
		greater than or equal ( $\geq$ ) and less than or equal to ( $\leq$ ).
<b>Plugin Modified</b>	All	<p>Tenable plugins contain information about when a plugin was last modified. This filter allows users to search based on when a particular plugin was modified:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Plugin Name</b>	All	<p>Using the <b>Contains</b> option, type all or a portion of the actual plugin name. For example, entering <b>MS08-067</b> in the plugin name filter displays vulnerabilities using the plugin named <b>MS08-067: Microsoft Windows Server Service Crafted RPC Request Handling Remote Code Execution (958644) (uncredentialed check)</b>. Similarly,</p>



Filter Component	Availability	Description
		<p>entering the string <b>uncredentialed</b> displays a list of vulnerabilities with that string in the plugin name.</p> <p>Use the <b>Regex Match</b> option to filter plugin names based on Perl-compatible regular expressions (PCRE).</p>
<b>Plugin Published</b>	All	<p>Tenable plugins contain information about when a plugin was first published. This filter allows users to search based on when a particular plugin was created:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Plugin Type</b>	All	Select whether to view all plugin types or passive, active, event, or compliance vulnerabilities.



Filter Component	Availability	Description
<b>Port</b>	All	<p>This filter is in two parts. First the equality operator is specified to allow matching vulnerabilities with the same ports, different ports, all ports less than or all ports greater than the port filter. The port filter allows a comma separated list of ports. For the <b>larger than</b> or <b>less than</b> filters, only one port may be used.</p> <div><b>Note:</b> All host-based vulnerability checks are reported with a port of 0 (zero).</div>
<b>Protocol</b>	All	This filter provides boxes to select TCP, UDP, or ICMP-based vulnerabilities.
<b>Recast Risk</b>	Cumulative View	Displays vulnerabilities based on their Recast Risk workflow status. Available choices include <b>Recast Risk</b> or <b>Non-Recast Risk</b> . Choosing both options displays all vulnerabilities regardless of recast risk status.
<b>Repositories</b>	All	Displays vulnerabilities from the chosen repositories.
<b>STIG Severity</b>	All	Displays vulnerabilities with the chosen STIG severity in the plugins database.
<b>Scan Accuracy</b>	All	<p>Displays vulnerabilities that are detected by scans with the chosen scan accuracy:</p> <ul style="list-style-type: none"><li>• <b>Not Paranoid</b> – the vulnerability was detected by a scan with the scan accuracy set to Not Paranoid in the scan policy.</li><li>• <b>Paranoid</b> – the vulnerability was detected by a scan with the scan accuracy set to Paranoid in the scan policy.</li></ul>
<b>Scan Policy Plugins</b>	All	Displays vulnerabilities found by the currently enabled plugins in the scan policy. For more information, see Plugins Options.



Filter Component	Availability	Description
<b>Security End of Life Date</b>	All	<p>When available, Tenable plugins contain information about software end of life dates. This filter allows users to search based on when a particular software is end of life:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Severity</b>	All	Displays vulnerabilities with the selected severity. For more information, see <a href="#">CVSS vs. VPR</a> .
<b>Thorough Tests</b>	All	Displays vulnerabilities that are detected by scans with Thorough Tests enabled in the scan policy.
<b>Users</b>	All	Allows selection of one or more users who are



Filter Component	Availability	Description
		responsible for the vulnerabilities.
<b>Vulnerability Discovered</b>	All	<p>Tenable Security Center tracks when each vulnerability was first discovered. This filter allows you to see when vulnerabilities were discovered:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul> <div><b>Note:</b> The discovery date is based on when the vulnerability was first imported into Tenable Security Center. For Tenable Network Monitor, this date does not match the exact vulnerability discovery time as there is normally a lag between the time that Tenable Network Monitor discovers a vulnerability and the import occurs.</div>





Filter Component	Availability	Description
		<p><b>Note:</b> Days are calculated based on 24-hour periods prior to the current time, not calendar days. For example, if the report run time was 1/8/2019 at 1:00 PM, using a 3-day count would include vulnerabilities starting 1/5/2019 at 1:00 PM and not from 12:00 AM.</p>
<b>Vulnerability Last Observed</b>	Cumulative View	<p>This filter allows the user to see when the vulnerability was last observed by Tenable Nessus or Tenable Network Monitor:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul> <p><b>Note:</b> The observation date is based on when the vulnerability was most recently imported into Tenable</p>



Filter Component	Availability	Description
		<p>Security Center. For Tenable Network Monitor, this date does not match the exact vulnerability discovery as there is normally a lag between the time that Tenable Network Monitor discovers a vulnerability and the import occurs.</p>
<b>Vulnerability Mitigated</b>	Mitigated View	<p>This filter allows the user to filter results based on when the vulnerability was mitigated:</p> <ul style="list-style-type: none"><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Vulnerability Priority Rating (VPR)</b>	All	<p>Displays vulnerabilities within the chosen VPR range. For more information, see <a href="#">CVSS vs. VPR</a>.</p> <p><b>Tip:</b> The <b>Vulnerabilities</b> page displays vulnerabilities by</p>



Filter Component	Availability	Description
		<div>plugin. The VPR that appears is the highest VPR of all the vulnerabilities associated with that plugin.</div>
<b>Vulnerability Published</b>	All	<p>When available, Tenable plugins contain information about when a vulnerability was published. This filter allows users to search based on when a particular vulnerability was published:</p> <ul style="list-style-type: none"><li>• <b>All</b></li><li>• <b>Within the last day</b></li><li>• <b>Within the last 7 days</b></li><li>• <b>Within the last 30 days</b></li><li>• <b>More than 7 days ago</b></li><li>• <b>More than 30 days ago</b></li><li>• <b>Current Month</b></li><li>• <b>Last Month</b></li><li>• <b>Current Quarter</b> (during the current calendar year quarter)</li><li>• <b>Last Quarter</b> (during the previous calendar year quarter)</li><li>• <b>Current Year</b></li><li>• <b>Last Year</b></li><li>• <b>Custom Range</b> (during a specific range you specify)</li><li>• <b>Explicit</b> (at a specific time you specify)</li></ul>
<b>Vulnerability Text</b>	All	Displays vulnerabilities containing the entered text (e.g., php 5.3) or regex search term.



Filter Component	Availability	Description
Web App Scanning	All	<div><b>Required Additional License:</b> Tenable Web App Scanning</div> <div><b>Required Tenable Nessus Version:</b> 10.6.1 or later</div> <p>Select whether to display web app scan results in the list:</p> <ul style="list-style-type: none"><li>• <b>Exclude Web App Results</b> - do not display web app scan results in the list of vulnerabilities.</li><li>• <b>Include Web App Results</b> - include web app scan results in the list of vulnerabilities.</li><li>• <b>Only Web App Results</b> - filter the list to display only web app scans results.</li></ul>
Web App URL	All	<div><b>Required Additional License:</b> Tenable Web App Scanning</div> <div><b>Required Tenable Nessus Version:</b> 10.6.1 or later</div> <p>The URL for the discovered web application associated with the vulnerability.</p>

## View Vulnerabilities by Host

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can drill into analysis views, filtering by host, to view vulnerabilities and vulnerability instances on a host.

To view vulnerabilities and vulnerability instances associated with a host:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.



3. In the drop-down box, click **IP Summary**.

The **IP Summary** tool appears.

4. Filter the tool to locate the host where you want to view vulnerability instance details, as described in [Filters](#) and [Vulnerability Analysis Filter Components](#).
5. To customize the table, see [Interact with a Customizable Table](#).
6. To view details of a vulnerability instance:
  - a. Click the row for the vulnerability instance for which you want to view the details.

The **Vulnerability List** tool appears, filtered by the vulnerability instance you selected.

In this tool, you can:

Options	Actions
<b>Jump to Vulnerability Detail</b>	View the <b>Vulnerability Detail List</b> page. This page displays the synopsis, description, solution, and the plugin output of the vulnerability.
<b>Export</b>	Export data as a .csv or a .pdf file, as described in <a href="#">Export Vulnerability Data</a> .
<b>Save</b>	<ul style="list-style-type: none"><li>• <b>Save Query</b> – Save a query, as described in <a href="#">Add or Save a Query</a>.</li><li>• <b>Save Asset</b> – Save an asset, as described in <a href="#">Assets</a>.</li></ul>
<b>More</b>	<ul style="list-style-type: none"><li>• <b>Open Ticket</b> – Open a ticket, as described in <a href="#">Open a Ticket</a>.</li><li>• <b>Set as Default View</b> – Set this view as your default view.</li></ul>
<b>Cumulative</b>	Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
<b>Mitigated</b>	Switch between viewing cumulative vulnerabilities or mitigated



	vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
Filters side bar	Apply a filter, as described in <a href="#">Apply a Filter</a> and <a href="#">Vulnerability Analysis Filter Components</a> .
Vulnerability row	<ul style="list-style-type: none"><li>Click the <b>Plugin ID</b> to view the plugin details associated with the vulnerability, as described in <a href="#">View Plugin Details</a>.</li><li>Click the <b>IP Address</b> to view the host details for the vulnerability, as described in <a href="#">View Host Details</a>.</li></ul> <p>Click the row to view the vulnerability instance details in the <b>Vulnerability Detail List</b> tool, as described in <a href="#">View Vulnerability Instance Details</a>.</p>

7. To view the host details of an instance:

- a. Click the **IP Address** link.

The **System Information** pane appears. For more information, see [View Host Details](#).

## View Vulnerabilities by Plugin

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can drill into analysis views, filtering by plugin, to view vulnerabilities and vulnerability instances related to that plugin.

To view vulnerabilities and vulnerability instances associated with a plugin:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the drop-down box, click **Vulnerability Summary**.

The **Vulnerability Summary** tool appears.



In this tool, you can:

Options	Actions
<b>Jump to Vulnerability Detail</b>	View the <b>Vulnerability Detail List</b> page. This page displays the synopsis, description, solution, and the plugin output of the vulnerability.
<b>Export</b>	Export data as a .csv or a .pdf file, as described in <a href="#">Export Vulnerability Data</a> .
<b>Save</b>	<ul style="list-style-type: none"><li>• <b>Save Query:</b> Save a query, as described in <a href="#">Add or Save a Query</a>.</li><li>• <b>Save Asset:</b> Save an asset, as described in <a href="#">Assets</a>.</li></ul>
<b>More</b>	<ul style="list-style-type: none"><li>• <b>Open Ticket:</b> Open a ticket, as described in <a href="#">Open a Ticket</a>.</li><li>• <b>Set as Default View:</b> Set this view as your default view.</li></ul>
<b>Cumulative</b>	Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
<b>Mitigated</b>	Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
Table	Customize the table, as described in <a href="#">Interact with a Customizable Table</a> .
Filters side bar	Apply a filter, as described in <a href="#">Apply a Filter</a> and <a href="#">Vulnerability Analysis Filter Components</a> .
Plugin row	<ul style="list-style-type: none"><li>• Click the <b>Plugin ID</b> to view the plugin details for the plugin, as described in <a href="#">View Plugin Details</a>.</li><li>• Click the row to view the vulnerability details in the <b>Vulnerability List</b> tool.</li></ul>
Plugin row	View the <b>DNS Summary</b> tool or <b>IP Summary</b> tool for the plugin.

4. Click the row for the plugin where you want to view vulnerability instance details.



The **Vulnerability List** tool appears, filtered by the plugin you selected.

In this tool, you can:

Options	Actions
<b>Jump to Vulnerability Detail</b>	View the <b>Vulnerability Detail List</b> page. This page displays the synopsis, description, solution, and the plugin output of the vulnerability.
<b>Export</b>	Export data as a .csv or a .pdf file, as described in <a href="#">Export Vulnerability Data</a> .
<b>Save</b>	<ul style="list-style-type: none"><li>• <b>Save Query</b> – Save a query, as described in <a href="#">Add or Save a Query</a>.</li><li>• <b>Save Asset</b> – Save an asset, as described in <a href="#">Assets</a>.</li></ul>
<b>More</b>	<ul style="list-style-type: none"><li>• <b>Open Ticket</b> – Open a ticket, as described in <a href="#">Open a Ticket</a>.</li><li>• <b>Set as Default View</b> – Set this view as your default view.</li></ul>
<b>Cumulative</b>	Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
<b>Mitigated</b>	Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated Vulnerabilities</a> .
Filters side bar	Apply a filter, as described in <a href="#">Apply a Filter</a> and <a href="#">Vulnerability Analysis Filter Components</a> .
Vulnerability row	<ul style="list-style-type: none"><li>• Click the <b>Plugin ID</b> to view the plugin details associated with the vulnerability, as described in <a href="#">View Plugin Details</a>.</li><li>• Click the <b>IP Address</b> to view the host details for the vulnerability, as described in <a href="#">View Host Details</a>.</li></ul> <p>Click the row to view the vulnerability instance details in the <b>Vulnerability Detail List</b> tool, as described in <a href="#">View Vulnerability</a></p>





[Instance Details.](#)

## View Vulnerability Instance Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can drill into analysis views to view details for a specific instance of a vulnerability found on your network.

**Tip:** A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.

To view vulnerability instance details:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the drop-down box, click **Vulnerability Detail List**.

The **Vulnerability Detail List** tool appears.

In this tool, you can:

Section	Actions
<b>Options</b> menu	<ul style="list-style-type: none"><li>• Export data as a .csv or a .pdf file, as described in <a href="#">Export Vulnerability Data</a>.</li><li>• Save a query, as described in <a href="#">Add or Save a Query</a>.</li><li>• Save an asset.</li><li>• Open a ticket, as described in <a href="#">Open a Ticket</a>.</li><li>• Set this view as your default view.</li><li>• Switch between viewing cumulative vulnerabilities or mitigated vulnerabilities, as described in <a href="#">View Cumulative or Mitigated</a></li></ul>



	<a href="#">Vulnerabilities.</a>
arrows	Click the arrows to view other vulnerability instances related to the plugin.
toolbar	<ul style="list-style-type: none"><li>• Launch a remediation scan, as described in <a href="#">Launch a Remediation Scan</a>.</li><li>• Create an accept risk rule, as described in <a href="#">Add an Accept Risk Rule</a>.</li><li>• Create a recast risk rule, as described in <a href="#">Add a Recast Risk Rule</a>.</li></ul>
<b>Synopsis and Description</b>	View information about the plugin, vulnerability instance, and affected assets.
<b>Plugin Output</b>	<p>The output generated by the plugin.</p> <div><b>Note:</b> Tenable Nessus scanners may occasionally report findings from plugin 19506 multiple times per host. Tenable Security Center Director reports all of the plugin output from a host, including different findings for the same plugin ID. These findings appear as multiple entries in the <b>Vulnerability Detail List</b> tool.</div>
<b>Solution</b>	View the Tenable-recommended action to remediate the vulnerability.
<b>See Also</b>	View related links about the plugin or vulnerability.
<b>Discovery</b>	View details about when the vulnerability was discovered and last seen on your network.
<b>Host Information</b>	View details about the asset.
<b>Risk Information</b>	View metrics (for example, CVSS score, VPR, and EPSS) about the risk associated with the vulnerability.
<b>Exploit</b>	View details about the exploit.



<b>Information</b>	
<b>Plugin Details</b>	View details about the plugin.
<b>VPR Key Drivers</b>	View the key drivers Tenable used to calculate the VPR score. For more information, see <a href="#">CVSS vs. VPR</a> .
<b>Vulnerability Information</b>	View Common Platform Enumeration (CPE) details.
<b>Reference Information</b>	View related links to the CVE, BID, MSFT, CERT, and other industry materials about the vulnerability.

## View Host Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can drill into analysis views to view details for a specific host on your network.

To view host details :

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the drop-down box, click **Vulnerability List**.

The **Vulnerability List** tool appears.

4. In the **IP Address** column, click the IP address link to view host details for a specific vulnerability instance.

**Tip:** A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.

The host details panel appears.

Section	Actions
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<b>System Information</b>	<p>View information about the host system.</p> <ul style="list-style-type: none"><li>• <b>IP Address</b> – The host's IP address, if available.</li><li>• <b>UUID</b> – The host's UUID, if available.</li><li>• <b>NetBIOS Name</b> – The host's NetBIOS name, if available.</li><li>• <b>DNS Name</b> – The host's DNS name, if available.</li><li>• <b>MAC Address</b> – The host's MAC address, if available.</li><li>• <b>OS</b> – The operating system running on the host, if available.</li><li>• <b>CPE</b> – The host's application common platform enumeration (CPE).</li><li>• <b>Score</b> – The cumulative score for all vulnerability instances on the host. For more information about vulnerability scoring, see <a href="#">CVSS vs. VPR</a>.</li></ul> <div><b>Tip:</b> A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.</div> <ul style="list-style-type: none"><li>• <b>Repository</b> – The repository that contains vulnerability data associated with the host.</li><li>• <b>Last Scan</b> – The date and time Tenable Security Center last scanned the host.</li><li>• <b>Passive Data</b> – Indicates whether a passive scan detected the vulnerability.</li><li>• <b>Compliance Data</b> – Indicates whether the scan that detected the vulnerability included compliance plugins.</li></ul>
<b>Vulnerabilities</b>	<p>View the number of vulnerabilities on the host, organized by severity category. For more information, see <a href="#">CVSS vs. VPR</a>.</p>
<b>Links</b>	<ul style="list-style-type: none"><li>• View SANS and ARIN links for the host. If configured, this</li></ul>



	<p>section also displays custom resource links.</p> <ul style="list-style-type: none"><li>• Click a resource link to view details for the current IP address/agent IDs. For example, if the current IP address was a publicly registered address, click the ARIN link to view the registration information for that address.</li></ul>
<b>Assets</b>	View the asset lists containing the asset. For more information, see <a href="#">Assets</a> .

To view host details from the **Host Assets** page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Assets > Host Assets**.

The **Host Assets** page appears.

3. Click the row for the host.

The **Host Asset Details** page appears.

Section	Action
<b>Host Information</b>	<p>View general information about the host.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The name of the host.</li><li>• <b>System Type</b> – The host's device type, as determined by plugin 54615.</li><li>• <b>Operating System</b> – The operating system running on the host, if available.</li><li>• <b>IP Addresses</b> – The host's IP address, if available.</li><li>• <b>MAC Addresses</b> – The host's MAC address, if available.</li><li>• <b>Asset ID</b> – The ID of the host.</li><li>• <b>Repository</b> – The repository that contains vulnerability data associated with the host.</li></ul>



Section	Action
<b>Asset Criticality Rating</b>	<p>(Requires Tenable Security Center+ license) View the host's ACR and details about modifications to the ACR.</p> <ul style="list-style-type: none"><li>• <b>Overwrite Reasoning</b> – The justification for overwriting the host's ACR.</li><li>• <b>Notes</b> – Notes associated with overwriting the host's ACR.</li><li>• <b>Overwritten By</b> – The user that overwrote the host's ACR.</li><li>• <b>ACR By Key Drivers</b> – The key drivers used to calculate the host's ACR.</li></ul> <p>For more information, see <a href="#">Asset Criticality Rating</a> and <a href="#">ACR Key Drivers</a> in the <i>Tenable Vulnerability Management User Guide</i>.</p> <div><b>Tip:</b> To edit the host's ACR, log in to the managed Tenable Security Center instance that contains the host's data. For more information, see <a href="#">Edit an ACR Manually</a> in the <i>Tenable Security Center User Guide</i>.</div>
<b>Scan Information</b>	<p>View scan information related to the host.</p> <ul style="list-style-type: none"><li>• <b>First Seen</b> – The date and time Tenable Security Center first detected the host on your network.</li><li>• <b>Last Seen</b> – The date and time last Tenable Security Center detected the host on your network.</li><li>• <b>Source</b> – The type of scan that discovered the host on your network: <b>Tenable Nessus Scan</b>, <b>Tenable Network Monitor</b>, <b>Agent Scan</b>, or <b>Tenable OT Security Scan</b>.</li></ul>
<b>Findings</b> tab	<p>View the vulnerabilities detected on the host. For more information, see <a href="#">CVSS vs. VPR</a>.</p> <p>Customize the table, as described in <a href="#">Interact with a Customizable Table</a>.</p>



Section	Action
<b>Installed Software</b> tab	View the software packages installed on the host, if available.  Customize the table, as described in <a href="#">Interact with a Customizable Table</a> .

## View Plugin Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can drill into analysis views to view details for a specific instance of a vulnerability found on your network.

**Tip:** A vulnerability instance is a single instance of a vulnerability appearing on an asset, identified uniquely by plugin ID, port, and protocol.

To view plugin details:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the drop-down box, click **Vulnerability Summary**.

The **Vulnerability Summary** tool appears.

4. To customize the table, see [Interact with a Customizable Table](#).

5. In the **Plugin ID** column, click the plugin ID to view plugin details for a specific plugin.

The **Plugin Details** panel appears.

In this panel, you can:

Section	Actions
<b>Description</b>	View information about the plugin, vulnerability instance, and affected assets.



<b>Solution</b>	View the Tenable-recommended action to remediate the vulnerability.
<b>Vulnerability Priority Rating (VPR) Key Drivers</b>	View the key drivers Tenable used to calculate the vulnerability VPR. For more information, see <a href="#">CVSS vs. VPR</a> .
<b>CVE and BID</b>	View related links to the CVE and BID materials about the vulnerability.
<b>Cross-References</b>	View related documentation for the vulnerability.
<b>See Also</b>	View related links about the plugin or vulnerability.

## Export Vulnerability Data

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can export data from the **Vulnerabilities** page as a .csv or a .pdf file.

To export data from the Vulnerabilities page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The **Vulnerabilities** page appears.

3. In the **Export** drop-down box, click **Export > Export as CSV** or **Export as PDF**.

**Note:** If the record count (rows displayed) of any CSV export is greater than 1,000, Tenable Security Center Director prompts you for the name of the CSV report you want to generate. After generation, you can download the report from the **Report Results** page.

4. Select or clear the check boxes to indicate which columns you want to appear in the exported file.
5. Click **Submit**.

Tenable Security Center Director exports the vulnerability data.





## Vulnerability Intelligence

**Note:** If you have more than 100,000 assets or a non-rpm installation, you must [connect an external PostgreSQL server](#) to use Vulnerability Intelligence.

In the **Vulnerability Intelligence** section, you can review all vulnerabilities known to Tenable without leaving Tenable Security Center Director. The vulnerabilities come from Tenable's database, which draws on sources such as internal expertise, vendor advisories, the GitHub Advisory Database, and the National Vulnerability Database (NVD).

The **Vulnerability Intelligence** section also holds [curated categories](#) that blend known risk indicators with insights from the Tenable Research Team to surface the most crucial vulnerabilities.

Once you have chosen which vulnerabilities to focus on, you compare them to your own findings and build a list to take action on. To do this, use the query builder to refine the results and save your searches to re-use or share.

The following topics explain how to use the tools in the **Vulnerability Intelligence** section to: 1) search Tenable's vulnerability database, 2) view vulnerability profiles, and 3) identify your exposure when compared to known vulnerabilities.

### Search Known Vulnerabilities

On the **Vulnerability Intelligence Overview** page, you can search all vulnerabilities known to Tenable by *Common Vulnerabilities and Exposures* (CVE) ID.

To search for a vulnerability:

1. In the left navigation, click  **Vulnerability Intelligence**.

The **Vulnerability Intelligence Overview** page appears.

2. In the header, in the search box, type a complete or partial search (for example, *CVE-2014-0160* or *2014*).
3. Press the **Enter** key.
4. In the list of results, click a vulnerability.

The [Vulnerability Profile page](#) appears.

### View Vulnerability Profiles



On the **Vulnerability Intelligence Overview** page, when you click a [search result](#) or a row in the **CVEs tab**, the **Vulnerability Profile** page appears.

The **Vulnerability Profile** page breaks down a single vulnerability in detail and includes an event timeline, your affected assets and products, the sources, and metrics such as risk profile and severity.

The **Vulnerability Profile** page has four sections.

In this Section	You Can...
<a href="#">Vulnerability Information</a>	View the Common Vulnerability Scoring System (CVSS), Vulnerability Priority Rating (VPR), and Exploit Prediction Scoring System (EPSS) scores.  In tabs, review an event timeline, VPR and EPSS trends, identifying plugins, all known products affected, and a summary.
<a href="#">How Does This Affect Me?</a>	View affected assets and products in your environment and build queries to refine the results.
<a href="#">Sources</a>	View contextual intelligence such as security advisories on the external websites where they appear.
<a href="#">Vulnerability Metrics</a>	In a right-hand pane, review metrics broken down by general information, risk profile, severity, and plugin coverage.

## Vulnerability Information

On the **Vulnerability Profile page**, the **Vulnerability Information** section provides a short summary along the vulnerability's [Vulnerability Priority Rating](#) (VPR), Common Vulnerability Scoring System (CVSS), and [Exploit Prediction Scoring System](#) (EPSS) scores.

It also contains four tabs, within which you can view an event timeline, VPR and EPSS widgets, plugin details, known affected products, and a full summary.

## Events

The **Events** tab appears by default and contains a timeline for the vulnerability. Use the horizontal scroll bar or click an *event marker* to go to that event. Click event links to open them in your web browser.



The timeline can contain the following events.

Event	Description
<b>Discovery Date</b>	Indicates the date Tenable first observed the vulnerability.
<b>NVD Published</b>	Indicates the date that the National Vulnerability Database (NVD) disclosed the vulnerability.
<b>First Tenable Coverage</b>	Indicates the first time Tenable provided coverage for the vulnerability.
<b>First Proof of Concept</b>	Indicates the date Tenable first observed a proof of concept for the vulnerability.
<b>First Functional Exploit</b>	Indicates the date the first functional exploit for the vulnerability was released.
<b>Consec Plugin Published</b>	Appears when a new Container Security Scanner plugin for the vulnerability is released.
<b>Nessus Plugin Published</b>	Appears when a new Tenable Nessus plugin for the vulnerability is released.
<b>NNM Plugin Published</b>	Appears when a new Tenable Network Monitor plugin for the vulnerability is released.
<b>WAS Plugin Published</b>	Appears when a new [[[Undefined variable WebApplicationScanning.WAS]]] plugin for the vulnerability is released.
<b>Ransomware</b>	Indicates the first time Tenable observed ransomware events for the vulnerability.
<b>Malware</b>	Indicates the first time Tenable observed malware events for the vulnerability.
<b>Emerging Threats</b>	Indicates that Tenable is actively monitoring the vulnerability since it is being publicly discussed, has a viable proof of concept, and/or is widely used.
<b>Exploited in the</b>	Indicates that the vulnerability has been used in a cyberattack.



<b>Wild</b>	
<b>Persistently Exploited</b>	Appears each time Tenable observes that the vulnerability is being persistently exploited.
<b>CISA Known Exploits</b>	Indicates the date that the Cybersecurity and Infrastructure Security Agency (CISA) added the vulnerability to their Known Exploited Vulnerabilities catalog.
<b>CISA Due-Date</b>	Indicates the date by which federal agencies must fix vulnerabilities on the CISA Known Exploited Vulnerabilities (KEV) list.
<b>Cyber Exposure Alert</b>	Appears when Tenable publishes a <a href="#">Cyber Exposure Alert</a> for the vulnerability.
<b>EPSS Increased</b>	Appears when the Exploit Prediction Scoring System (EPSS) increases (for example, <i>EPSS Increased to 65%</i> ).
<b>EPSS Decreased</b>	Appears when the EPSS decreases.
<b>EPSS Assigned</b>	Appears when an EPSS score is assigned.
<b>VPR Increased</b>	Appears when the Vulnerability Priority Rating (VPR) increases (for example, <i>VPR Increased to 6.1</i> ).
<b>VPR Decreased</b>	Appears when the VPR decreases.
<b>VPR Assigned</b>	Appears when a VPR score is assigned.

## Scores

The **Scores** tab contains ring charts for VPR and EPSS along with trend charts to track how these scores have changed over time.

In addition, you can review the following **VPR Key Drivers**.

<b>VPR Driver</b>	<b>Description</b>
<b>Age of Vulnerability</b>	Indicates the number of days since the vulnerability was discovered.
<b>CVSSv3 Impact</b>	Indicates the NVD-provided CVSSv3 impact score from 0–10. If NVD did not



<b>Score</b>	provide a score, Tenable generates one.
<b>Exploit Code Maturity</b>	The highest level of exploit maturity for the vulnerability: <b>Unproven</b> , <b>PoC</b> , <b>Functional</b> , or <b>High</b> . Drawn from Tenable's research, as well as key external sources.
<b>Product Coverage</b>	Indicates the relative number of unique products affected. Values are <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Very High</b> .
<b>Threat Intensity</b>	Indicates the number and frequency of recent threat events. Values are <b>Very Low</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Very High</b> .
<b>Threat Sources</b>	Lists sources where relevant threat events occurred (for example, social media or the dark web). If no events were observed in the past 28 days, <b>No recorded events</b> appears.
<b>Threat Recency</b>	Indicates the number of days since a threat event occurred, from 0–180.

## Plugins

The **Plugins** tab lists plugins that detected findings for the vulnerability.

Column	Description
<b>Plugin ID</b>	Indicates the ID of the Tenable plugin that detected the finding.
<b>Name</b>	Indicates the name of the Tenable plugin that detected the finding.
<b>Family</b>	Indicates the plugin family. For example, with a Tenable Nessus plugin, <i>Backdoors</i> . Or, with a Tenable Web App Scanning plugin, <i>Code Execution</i> . To learn more, see <a href="#">About Plugin Families</a> on the Tenable website.
<b>Severity</b>	Indicates severity for the detected vulnerability as <b>Low</b> , <b>Medium</b> , or <b>High</b> .
<b>Type</b>	Indicates the type of plugin: <b>Active</b> , <b>Compliance</b> , <b>Event</b> , <b>Passive</b> , or <b>WAS</b> .

## Products

In the **Products** tab, view affected products by vendor. Next to a vendor, click the drop-down ► to view a list of products.

For example, a vulnerability might have the **Vendor** *canonical* with the **Product** *linux*.



**Tip:** Tenable curates this data. It represents all known affected products for a vulnerability, not only yours.

## Summary

In the **Summary** tab, read a summary and **Copy** it to your clipboard.

## How Does This Affect Me?

On the [Vulnerability Profile page](#), view your affected assets and products that relate to the current vulnerability in the **How Does This Affect Me?** section. You can [build queries](#) to refine the results.

## Affected Assets

The table of results in the **Affected Assets** tab has the following columns, which you can show or hide as described in [Interact with a Customizable Table](#).

Column	Description
<b>Asset ID</b>	Indicates the asset's Universally Unique Identifier (UUID).
<b>Name</b>	The asset identifier, assigned based on the availability of specific attributes in logical order.
<b>Operating System</b>	The operating system for the affected asset.
<b>IP Address</b>	The IPv4 or IPv6 address for the affected asset.
<b>Severity</b>	The severity level of the vulnerabilities on the affected asset.

## Sources

In the **Sources** section, search for and review contextual intelligence such as security advisories on the external websites where they appear.

This section contains a table with the following columns.

Column	Description
<b>Source</b>	Links to contextual intelligence about a vulnerability.



<b>Authoritative</b>	Indicates if the source is authoritative with a label such as <i>Tenable Research</i> or <i>NVD</i> (for the National Vulnerability Database).
<b>Source Details</b>	Provides more information about the source via labels added by the Tenable Research Team (for example, <i>Third Party Advisory</i> ).

## Vulnerability Metrics

In the right-hand **Vulnerability Metrics** pane, review key details in the following sections.

### General Information

In the **General Information** section, review when a vulnerability was first discovered, how exploitable it is, and other details.

Field	Description
<b>Tenable Discovery Date</b>	Indicates the date Tenable first discovered the vulnerability.
<b>NVD Published Date</b>	Indicates the date that the National Vulnerability Database (NVD) added the vulnerability.
<b>Exploitability</b>	Describes how easy it is to exploit the vulnerability (for example, <i>Low Complexity, Network Exploitability</i> ).
<b>Exploit Maturity</b>	The highest level of exploit maturity for the vulnerability: <b>Unproven, PoC, Functional</b> , or <b>High</b> . Drawn from Tenable's research, as well as key external sources.
<b>First Proof of Concept</b>	Indicates the date the first proof of concept for the vulnerability was released.
<b>First Functional Exploit</b>	Indicates the date the first functional exploit for the vulnerability was released.

### Risk Profile

In the **Risk Profile** section, see if the Tenable Research Team is tracking a vulnerability, learn which categories it belongs to, and find out if it can be exploited from a remote network.



Field	Description
<b>Categories</b>	Indicates the categories the vulnerability belongs to, as described in <a href="#">Vulnerability Categories</a> . Most vulnerabilities do not have a category.
<b>Tenable Research Watchlist</b>	Indicates that Tenable is actively monitoring the vulnerability since it is being publicly discussed, has a viable proof of concept, and/or is widely used.
<b>Remotely Exploitable</b>	Indicates if the vulnerability can be exploited from a remote network.
<b>Proof of Concept Available</b>	Indicates if Tenable has identified a proof of concept for this vulnerability.

## Severity Metrics

In the **Severity Metrics** section, view Common Vulnerability Scoring System (CVSS) v2, v3, or v4, depending on which are available, along with their vector strings.

Field	Description
<b>CVSSv4 Base Score</b>	Indicates the CVSSv4 score. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .
<b>CVSSv4 Vector</b>	Lists a vector string with the values used to calculate the CVSSv4 score, for example: <i>CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H</i> . To learn more, see the <a href="#">CVSSv4 calculator</a> on the FIRST website.
<b>CVSSv3 Base Score</b>	Indicates the CVSSv3 score. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .
<b>CVSSv3 Vector</b>	Lists a vector string with the values used to calculate the CVSSv3 score, for example: <i>CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H</i> . To learn more, see the <a href="#">CVSSv3 calculator</a> on the FIRST website.
<b>CVSSv2 Base Score</b>	Indicates the CVSSv2 score. When not available from NVD, Tenable determines this score.
<b>CVSSv2</b>	Lists a vector string with the values used to calculate the CVSSv2 score.





## Vector

### Latest Plugin Coverage

In the **Latest Plugin Coverage** section, view the most recent Tenable Nessus and Tenable Web App Scanning plugins to detect the vulnerability. Click the links to view plugin details [on Tenable's website](#).

Field	Description
<b>Nessus</b>	Lists the release date of the newest Tenable Nessus plugin to identify the vulnerability.
<b>Web App Scanning</b>	Lists the release date of the newest [[[Undefined variable WebApplicationScanning.WAS]]] plugin to identify the vulnerability.

### Identify Your Exposure

On the **Vulnerability Intelligence** page, you can review all vulnerabilities known to Tenable or only those in crucial categories such as **Recently Actively Exploited**. Then, you can compare the list of vulnerabilities to findings in your environment. This process has two parts: 1) review known vulnerabilities and, 2) compare them to your findings.

### Review Known Vulnerabilities

First, build a list of known vulnerabilities to compare with your own findings.

To review vulnerabilities known to Tenable:

1. In the left navigation, click  **Vulnerability Intelligence**.

The **Vulnerability Intelligence Overview** page appears.

2. (Optional) Click a hexagon tile to choose a [vulnerability category](#). If you want to search all vulnerabilities, click the default category to deselect it.

In the [CVEs](#) tab in the lower half of the page, a table of results appears.

**Tip:** Under **How Does This Affect Me?** click **Findings** or **Affected Assets** to open those tabs and start reviewing your vulnerabilities.



3. (Optional) Use the *Query Builder* to refine the results, as described in [Use the Query Builder](#).
4. (Optional) In a table row, click the dropdown ► to view affected assets for the CVE.
5. (Optional) Click a row in the table.

The [Vulnerability Intelligence Profile page](#) for the CVE appears.

## Compare Known Vulnerabilities to Your Findings

Once you have built a list of known vulnerabilities, compare them with your findings in the [My Findings tab](#) or the [My Affected Assets tab](#) as follows.

Click the **My Findings** tab and do one of the following:

- Refine your results with the [Query Builder](#).
- In a row, click the number in the **Affected Assets** column.

The **Assets** page appears. It is grouped by **Asset** and lists findings for that Tenable plugin.

- Click the dropdown ► to display a list of assets with that finding. Then, click an **Asset Name**.

The [Asset Details](#) page appears.

Click the **My Affected Assets** tab and do one of the following:

- Refine your results with the [Query Builder](#).

In a row, click the number in the **Plugin Count** column.

- The **Assets** page appears. It is grouped by **Plugin** and lists findings for that asset.
- Click the dropdown ► to display a list of assets with that finding. Then, click an **Asset Name**.

A list of plugins that identified findings on that asset appears.

## Use the Query Builder

In the three tabs on the lower part of the [Vulnerability Intelligence page](#), use the *Query Builder* to refine your search results with [contextual filters](#).

## How Queries Work



Queries are joined by *Conditions* (for example, AND). They have three components:

- **Filter** – The search criteria (for example, for a vulnerability, *Common Name*).
- **Operator** – The condition to filter on (for example, *is not equal to*).
- **Value** – The value to search (for example, a CVE ID of *CVE-2024-3272*).

**Tip:** You can nest queries with parentheses. For example, to search for CISA Known Exploited vulnerabilities where the [VPR](#) is greater than five or the [EPSS](#) is greater than 50, use:

*Category is equal to CISA Known Exploited AND (VPR is greater than 5 OR EPSS Score is greater than 50).*

## Build a Query

To build a query with the Query Builder:

1. In the left navigation, click  **Vulnerability Intelligence**.

The **Vulnerability Intelligence Overview** page appears.

2. Build a list of CVEs, findings, or affected assets, as described in [Identify Your Exposure](#).
3. Click the query box.

The **Filters** list appears. To review the filters you can use, see [Query Builder Filters](#).

4. In the **Filters** list, choose a filter.

The **Operators** list appears.

5. In the **Operators** list, choose an operator.

For a filter where the value is text or a number, the **Value Hint** box appears. Otherwise, the **Value Options** list appears.

6. Type a Value or select one from the list.
7. (Optional) Add another query (that is, type a Condition and then add a Filter, an Operator, and a Value).
8. Click **Search** or press **Enter**.

A table of results appears.



## Edit a Query

To edit a query, do one of the following.

Action	Description
<b>Replace a query component</b>	In the query box, click the component to replace. A list of options appears.
<b>Delete a query component</b>	On the query component, click the <b>X</b> .
<b>Clear a query</b>	On the right side of the query box, click <b>Clear</b> .

## Keyboard Shortcuts

Use the following keyboard shortcuts in the Query Builder.

Shortcut	Description
<b>Up Arrow</b> or <b>Down Arrow</b>	Navigate lists of open-ended values such as text or numbers.
<b>Right Arrow</b> or <b>Left Arrow</b>	Move the cursor in your query or choose a date in the date picker.
<b>Enter</b>	Select a query component or date. If no component is selected, apply the query.
<b>Esc</b>	Close a list (for example, the <b>Filters</b> list).
<b>Ctrl-C</b>	Copy the highlighted text.
<b>Ctrl-V</b>	Paste your clipboard contents into the Query Builder.
<b>Ctrl-Z</b>	Undo the last action.
<b>Ctrl-Y</b>	Redo the last action.

## Query Builder Filters

On the **Vulnerability Intelligence** page and the **Vulnerability Profile** page, use the [Query Builder](#) to refine your results. Show only the CVEs, findings, or affected assets you want to take action on.



The following table lists the filters you can use with the Query Builder and the tabs they appear in.

Filter	Description	Appears In...
<b>ACR</b>	Filter by Tenable-defined <a href="#">Asset Criticality Rating</a> (ACR) as a number from 1 to 10.	My Findings, My Affected Assets
<b>AES</b>	Filter by Tenable-defined <a href="#">Asset Exposure Score</a> (AES) as a number from 0 to 1000.	My Findings, My Affected Assets
<b>Asset ID</b>	Filter by the UUID of the asset. This value is unique to Tenable Security Center Director.	My Findings, My Affected Assets
<b>Asset Name</b>	Filter by asset name, for example the IPv4 address <i>206.206.136.40</i> .	My Findings, My Affected Assets
<b>Category</b>	Filter by category, as described in <a href="#">Vulnerability Categories</a> .	CVEs, My Findings, My Affected Assets
<b>Common Name</b>	Filter by a vulnerability's common name, for example <i>Log4Shell</i> . Not all vulnerabilities have a common name.	CVEs, My Findings, My Affected Assets
<b>CVE ID</b>	Filter by Common Vulnerabilities and Exposures (CVE) ID, for example <i>CVE-2002-2024</i> .	CVEs
<b>CVSSv2 Score</b>	Filter by the CVSSv2 score for the vulnerability, for example 5.2. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .	CVEs
<b>CVSSv3 Attack Complexity</b>	Filter by attack complexity, which defines how difficult it is to use a vulnerability in an attack. Choose from <b>High</b> or <b>Low</b> .	CVEs



Filter	Description	Appears In...
<b>CVSSv3 Attack Vector</b>	Filter by attack vector, which defines an attack's location. Choose from <b>Adjacent</b> , <b>Network</b> , <b>Local</b> , or <b>Physical</b> .	CVEs
<b>CVSSv3 Availability</b>	Filter by the affected asset's availability. Choose from <b>High</b> , <b>Low</b> , or <b>None</b> . For example, an affected asset with <i>High</i> is completely unavailable.	CVEs
<b>CVSSv3 Score</b>	Filter by the CVSSv3 score for the vulnerability, for example 4.3. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .	CVEs, My Findings, My Affected Assets
<b>CVSSv3 Confidentiality</b>	Filter by the expected impact of the affected asset's information confidentiality loss. Choose from <b>High</b> , <b>Low</b> , or <b>None</b> . For example, an affected asset with <i>High</i> may have a catastrophic adverse effect on your organization or customers.	CVEs
<b>CVSSv3 Integrity</b>	Filter by the expected impact of the affected asset's data integrity loss. Choose from <b>High</b> , <b>Low</b> , or <b>None</b> .	CVEs
<b>CVSSv3 Privileges Required</b>	Filter by the permission level attackers require to exploit the vulnerability. Choose from <b>High</b> , <b>Low</b> , or <b>None</b> . <i>None</i> means attackers need no permissions in your environment and can exploit the vulnerability while unauthorized.	CVEs
<b>CVSSv3 Scope</b>	Filter by whether a vulnerability allows attackers to compromise resources beyond an affected asset's normal authorization privileges. Choose from <b>Unchanged</b> or <b>Changed</b> . <i>Changed</i> means the vulnerability increases the affected asset's privileges.	CVEs
<b>CVSSv3 User Interaction</b>	Filter by whether a vulnerability requires other users (such as end users) for attackers to be able to use it.	CVEs



Filter	Description	Appears In...
	Choose from <b>Required</b> or <b>None</b> . <i>None</i> is more severe since it means that no additional user interaction is required.	
<b>CVSSv4 Score</b>	Filter by the CVSSv4 score for the vulnerability, for example, 4.3. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .	CVEs, My Findings, My Affected Assets
<b>EPSS Score</b>	Filter by the percentage likelihood that a vulnerability will be exploited, based on the third-party <a href="#">Exploit Prediction Scoring System</a> (EPSS). Type a number from 1 to 100 with up to three decimal places, for example, 50.5.	CVEs
<b>Exploit Maturity</b>	Filter by exploit maturity based on sophistication and availability. This information is drawn from Tenable's own research as well as key external sources. Choose from <b>High</b> , <b>Functional</b> , <b>PoC</b> , or <b>Unproven</b> .	CVEs
<b>First Discovered</b>	Filter for the date a vulnerability was first identified. Use Operators to get results based on a date range, a specific date, vulnerabilities older than a date, and others.	CVEs
<b>First Functional Exploit</b>	Filter for the date a vulnerability was first known to be exploited. Use Operators to get results based on a date range, a specific date, vulnerabilities older than a date, and others.	CVEs
<b>First Proof of Concept</b>	Filter for the date a vulnerability's first proof of concept was found. Use Operators to get results based on a date range, a specific date, vulnerabilities older than a date, and others.	CVEs
<b>IP Address</b>	Filter for affected asset IPv4 and IPv6 addresses as a	My Findings,



Filter	Description	Appears In...
	single IP, an IP range, or an IP Classless Inter-Domain Routing (CIDR) block. For example, type <i>172.16.2.1-172.16.2.100</i> , <i>::ffff:c0a8:102</i> .	My Affected Assets
<b>Last Seen</b>	Filter for the date a finding affected or asset last appeared on a scan. Use Operators to get results based on a date range, a specific date, vulnerabilities older than a date, and others.	My Findings, My Affected Assets
<b>Operating System</b>	Filter by assets running the specified operating system.	My Findings, My Affected Assets
<b>Plugins Available</b>	Filter by whether or not a vulnerability currently has a Tenable plugin that detects it. Choose from <b>Yes</b> or <b>No</b> .	CVEs
<b>Plugin Family</b>	Filter by the family of the Tenable plugin that detected the vulnerability. For example, <i>Service detection</i> .	My Findings, My Affected Assets, Plugins
<b>Plugin ID</b>	Filter by the ID of the Tenable plugin that detected the vulnerability, for example <i>157288</i> . To look up plugin IDs, go to the <a href="#">Tenable website</a> .	CVEs, My Findings, My Affected Assets, Plugins
<b>Plugin Name</b>	Filter by the name of the Tenable plugin that detected the vulnerability, for example <i>TLS Version 1.1 Protocol Deprecated</i> .	My Findings, My Affected Assets, Plugins
<b>Plugin Type</b>	Filter by the type of Tenable plugin that detected the vulnerability. For example, <i>remote</i> .	My Findings, My Affected Assets, Plugins





Filter	Description	Appears In...
<b>Repository</b>	Filter for assets with associated vulnerability data in the specified repository.	My Findings, My Affected Assets
<b>Severity</b>	Filters by the vulnerability's CVSS-based severity. To learn more, see <a href="#">CVSS vs. VPR</a> .	My Findings, My Affected Assets, Plugins
<b>VPR</b>	Filter by the Tenable-calculated <a href="#">Vulnerability Priority Rating</a> (VPR) score, as a number from 1 to 10. <div><b>Note:</b> A finding's VPR is based on the VPR of the plugin that identified it. When plugins are associated with multiple vulnerabilities, the highest VPR appears.</div>	CVEs, My Findings, My Affected Assets
<b>VPR Threat Intensity</b>	Filter for a vulnerability's Tenable-calculated threat intensity based on the number and frequency of threat events. Choose from <b>Very Low</b> , <b>Low</b> , <b>Medium</b> , <b>High</b> , or <b>Very High</b> .	CVEs

## CVEs

On the **Vulnerability Intelligence Overview** page, the **CVEs** tab shows vulnerabilities from [Tenable's database](#). All vulnerabilities appear by default, but you can refine the results with [vulnerability categories](#) and the [query builder](#).

The table in the **CVEs** tab has the following columns, which you can show or hide as described in [Interact with a Customizable Table](#).

Column	Description
<b>CVE ID</b>	Indicates the Common Vulnerability and Exposure (CVE) identifier for the vulnerability, as assigned by the CISA-sponsored <a href="#">CVE Program</a> .
<b>Name</b>	Indicates the informal name of the vulnerability (for example, <i>Log4Shell</i> ). Not all vulnerabilities have a common name.



<b>VPR</b>	The Tenable-calculated <a href="#">Vulnerability Priority Rating</a> (VPR) score from 0.1 to 10.
<b>CVSS v2</b>	Indicates the CVSS v2 score for the vulnerability. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .
<b>CVSS v3</b>	Indicates the CVSS v3 score for the vulnerability. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .
<b>CVSS v4</b>	Indicates the CVSS v4 score for the vulnerability. When not available from NVD, Tenable determines this score. To learn more, see <a href="#">CVSS vs. VPR</a> .
<b>EPSS</b>	Indicates the likelihood that the vulnerability will be actively exploited, based on the third-party <a href="#">Exploit Prediction Scoring System</a> (EPSS).
<b>Exploit Maturity</b>	The highest level of exploit maturity for the vulnerability: <b>Unproven</b> , <b>PoC</b> , <b>Functional</b> , or <b>High</b> . Drawn from Tenable's research, as well as key external sources.
<b>First Discovered</b>	Indicates the date the vulnerability was first identified.
<b>First Exploited</b>	Indicates the date of the vulnerability's first-known exploitation.
<b>POC</b>	Indicates the date the vulnerability's first proof of concept was discovered.
<b>Plugins</b>	Lists the IDs for the Tenable plugins that detected the vulnerability.

## My Findings

On the **Vulnerability Intelligence Overview** page, the **My Findings** tab shows all active, new, or resurfaced findings in your environment that are being tracked by Tenable Vulnerability Management. Refine the results with [vulnerability categories](#) and the [query builder](#).

The **My Findings** tab has the following columns, which you can show or hide as described in [Interact with a Customizable Table](#).

Column	Description
<b>VPR</b>	The Tenable-calculated <a href="#">Vulnerability Priority Rating</a> (VPR) score from 0.1 to 10.



	<b>Note:</b> A finding's VPR is based on the VPR of the plugin that identified it. When plugins are associated with multiple vulnerabilities, the highest VPR appears.
<b>Plugin Name</b>	Indicates the name of the Tenable plugin that detected the finding.
<b>Plugin ID</b>	Indicates the ID of the Tenable plugin that detected the finding.
<b>Affected Assets</b>	Indicates the number of affected assets. Click the number to open the <a href="#">Asset Details</a> page.
<b>CVES</b>	The CVE IDs associated with the finding.
<b>CVSSv2</b>	Indicates the Common Vulnerability Scoring System (CVSS) v2 score for the finding.
<b>CVSSv3</b>	Indicates the CVSS v3 score for the finding.
<b>CVSSv4</b>	Indicates the CVSS v4 score for the finding.

## Affected Assets

In any findings row, click the dropdown ► to reveal a table of assets on which that finding appears, with the following columns.

Column	Description
<b>Asset Name</b>	The asset identifier, assigned based on the availability of specific attributes in logical order.
<b>Operating System</b>	Indicates the operating system the asset is running.
<b>IP Address</b>	Indicates the IPv4 or IPv6 address for the asset.
<b>Repository</b>	Indicates the repository associated with the asset.
<b>Plugin Count</b>	Indicates the number of plugins that discovered findings on the asset.
<b>ACR</b>	The <a href="#">Asset Criticality Rating</a> for the asset.
<b>AES</b>	The <a href="#">Asset Exposure Score</a> for the affected asset.
<b>Last Seen</b>	Indicates the date when the asset last appeared on a scan.



## My Affected Assets

On the **Vulnerability Intelligence Overview** page, the **My Affected Assets** tab shows all assets in your environment with a finding that has not yet been fixed. Refine the results with [vulnerability categories](#) and the [query builder](#).

The **My Affected Assets** tab has the following columns, which you can show or hide as described in [Interact with a Customizable Table](#).

Column	Description
<b>Name</b>	The asset identifier, assigned based on the availability of specific attributes in logical order.
<b>Operating System</b>	Indicates the operating system the asset is running.
<b>IP Address</b>	Indicates the IPv4 or IPv6 address for the asset.
<b>Repository</b>	Indicates the repository associated with the asset.
<b>Plugin Count</b>	Indicates the number of Tenable plugins that identified findings on the asset. Click the number to review details on the <b>Assets</b> page.
<b>ACR</b>	(Tenable Security Center+ only) The <a href="#">Asset Criticality Rating</a> for the asset. <div><b>Note:</b> If you upgrade to Tenable Security Center+, this column will not display data until an import runs and the findings are refreshed.</div>
<b>AES</b>	(Tenable Security Center+ only) The <a href="#">Asset Exposure Score</a> for the affected asset. <div><b>Note:</b> If you upgrade to Tenable Security Center+, this column will not display data until an import runs and the findings are refreshed.</div>
<b>CVES</b>	The CVE IDs associated with the asset.

## Plugins

In any asset row, click the dropdown ► to reveal a table of plugin results for the findings on that asset, with the following columns.



Column	Description
<b>VPR</b>	The Tenable-calculated <a href="#">Vulnerability Priority Rating</a> (VPR) score from 0.1 to 10. <div><b>Note:</b> A finding's VPR is based on the VPR of the plugin that identified it. When plugins are associated with multiple vulnerabilities, the highest VPR appears.</div>
<b>Severity</b>	Indicates the vulnerability's severity based on the <a href="#">Common Vulnerability Scoring System</a> (CVSS).
<b>Plugin Name</b>	Indicates the name of the Tenable plugin that detected the finding.
<b>Plugin ID</b>	Indicates the ID of the Tenable plugin that detected the finding.
<b>Findings</b>	Indicates the number of findings detected on the asset.
<b>CVSSv2</b>	Indicates the CVSSv2 score for the finding.
<b>CVSSv3</b>	Indicates the CVSSv3 score for the finding.
<b>CVSSv4</b>	Indicates the CVSSv4 score for the finding.

## Vulnerability Categories

The **Vulnerability Intelligence** page breaks down key vulnerabilities from Tenable's database into curated categories that you select from hexagon-shaped tiles.

While most vulnerabilities do not belong to categories, the ones that do require quick action when found in your environment! To learn how to compare your findings to one of these categories, see [Identify Your Exposure](#).

You can choose from the following categories.

Category	Description
<b>Emerging Threats</b>	Vulnerabilities being actively monitored by Tenable in three areas: <ul style="list-style-type: none"><li>• <b>Vulnerabilities Being Monitored</b> – Publicly discussed, but no exploit or proof of concept has been disclosed.</li></ul>



	<ul style="list-style-type: none"><li>• <b>Vulnerabilities of Interest</b> – Publicly discussed and have a proof of concept that could lead to widespread use by attackers.</li><li>• <b>Vulnerabilities of Concern</b> – Widely discussed and large-scale abuse by attackers is being observed.</li></ul>
<b>CISA Known Exploited</b>	Vulnerabilities that appear in the <a href="#">CISA Known Exploited Vulnerabilities Catalog</a> . CISA suggests that you prioritize remediation efforts for these vulnerabilities since they are known to cause immediate harm.
<b>In the News</b>	Vulnerabilities being widely reported in the press with notable coverage over the past 30 days.
<b>Recently Actively Exploited</b>	Vulnerabilities with notable coverage in the press over the past 30 days, and for which Tenable has evidence of active exploitation.
<b>Ransomware</b>	Vulnerabilities used in current or historical ransomware attacks, as determined from evidence gathered by the Tenable Research team.
<b>Persistently Exploited</b>	Vulnerabilities being leveraged by threat actors over an extended period of time in targeted attacks, ransomware, or malware campaigns. These vulnerabilities are manually curated by the Tenable Research team.
<b>Top 50 VPR</b>	The top 50 vulnerabilities by <a href="#">Vulnerability Priority Rating</a> (VPR).

## Reports

You can create reports in Tenable Security Center Director to share data with users in other organizations. For more information about which users can access what data, see Tenable Security Center Architecture.

Tenable provides reporting through an assortment of report templates and customizable report formats, including PDF and CSV.

Custom CyberScope, DISA ASR, and DISA ARF reports are also available for specialized needs. An administrator user must enable [report generation options](#) before organizational users can generate reports with CyberScope, DISA ASR, or DISA ARF data.



Custom CyberScope, DISA ASR, DISA ARF, and DISA Consolidated ARF reports are also available for specialized needs. An administrator user must enable [report generation options](#) before organizational users can generate reports with CyberScope, DISA ASR, DISA ARF, or DISA Consolidated ARF data.

In Tenable Security Center Director, organizational users can create custom reports or template-based reports, as described in [Create a Custom Report](#) or [Create a Template Report](#).

**Note:** To create custom PDF reports and template-based reports, you must install either the Oracle Java JRE or OpenJDK (along with their accompanying dependencies) on the system hosting the Tenable Security Center.

**Tip:** Tenable provides report templates through the Tenable Security Center feed. For a complete index of Tenable-provided report templates, see the [Tenable Security Center Report Templates](#) blog.

For more information, see:

- [Manage Reports](#)
- [Manage Report Results](#)
- [CyberScope and DISA Report Attributes](#)
- [Report Images](#)

## Manage Reports

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

On the **Reports** page of Tenable Security Center, you can manage report definitions and launch reports. For more information, see [Reports](#).

To manage reports:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. Do any of the following:



- [Filter existing report definitions in the reports table.](#)
- [Create a custom report.](#)
- [Create a template report.](#)
- [Edit a report definition.](#)
- [Edit a report outline.](#)
- [Manage filters for a chapter report.](#)
- [Manage filters for a non-chapter report.](#)
- [View a report definition.](#)
- [Copy a report definition.](#)
- [Export a report definition.](#)
- [Import a report definition.](#)
- [Delete a report definition.](#)
- [Launch a report on demand.](#)

## Create a Custom Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

For more information, see [Reports](#).

Before you begin:

- If you want to create a CyberScope, DISA ASR, DISA ARF, or DISA Consolidated ARF report, confirm an administrator user enabled the corresponding report generation options, as described in [Configuration Settings](#).
- If you want to create a CyberScope, DISA ARF, or DISA Consolidated ARF report, create report attributes as described in [CyberScope and DISA Report Attributes](#).

To create a custom report definition:





1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

3. At the top of the table, click **Add**.

The **Report Template** page appears.

4. In the **Other** section, click a report tile. For more information, see [Report Templates](#).

5. [Configure the options](#) for the report.

Tenable Security Center displays options relevant to the report format you selected.

6. (Optional) [Edit the report outline](#).

7. Click **Submit** to save your report.

Tenable Security Center Director saves your configuration.

## Create a Template Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

Template reports are formatted reports that can be customized using chapter and target selections. For more information, see [Reports](#).

To create a template report:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

3. At the top of the table, click **Add**.

The **Report Template** page appears.

4. Do one of the following to locate a specific template:



- In the **Search Templates** box in the top right corner of the page, search for a specific template by keyword.

**Tip:** After the initial search, you can limit search results by template category.

- In the **Common** section, click a template category to view the related templates. For more information, see [Report Templates](#).

5. Click a template report.

**Note:** Each template description specifies which Tenable Security Center data must be available to obtain a complete report. For more information, see [Data Required for Template-Based Reports](#).

6. (Optional) In the **Chapters** section, select which chapters from the template you want to include in your report. By default, the report includes all chapters from the template.

7. In the **Focus** section, do one of the following:

- Target all systems in the report.

**Note:** This is the default setting.

To return to this setting, click **All Systems** in the **Targets** drop-down box.

- Target specific assets in the report.
  - a. In the **Targets** drop-down box, click **Assets**.
  - b. Select **Assets** and **Repositories**.
- Target specific IP addresses in the report.
  - a. In the **Targets** drop-down box, click **IP Addresses**.
  - b. In the **IP Addresses** box, type the IP address or addresses where you want the report to focus. Use commas to separate multiple addresses.
  - c. In the **Repositories** box, select a target repository or repositories.
- Target specific repositories in the report.



- a. In the **Targets** drop-down box, click **Repositories**.
- b. In the **Repositories** box, select a target repository or repositories.

8. (Optional) Edit the default text in the **Description** box.

**Note:** You cannot modify any information in the **Details** section of the page.

9. Click **Add**.

Tenable Security Center creates a report based on the template and displays the **Reports** page. The new report appears as the last entry in reports table.

10. (Optional) Modify report options that are common to both custom and template reports. For more information, see [Report Options](#).

For example, the default value for the **Schedule** option for all template-based reports is **On Demand**. If you want to run the report automatically, modify the **Schedule** option for the report.



11. (Optional) Customize the report outline, as described in [Edit a Report Outline](#).

For example, you might want to use text elements to add your business context to template-based chapters.





### Data Required for Template-Based Reports

Each report template description contains icons that represent which types of data must be available on Tenable Security Center to obtain a complete report.

Hover the cursor over the icon to display the label.

Icon	Label	Action Required
	Asset Required	Configure an IPv4/IPv6 repository and store scan results in the repository; see Local Repositories and IPv4/IPv6 Repositories.
	Audit File Required	Upload audit files and add them to your scan policy; see <a href="#">Audit Files</a> and Scan Policies.
	Compliance Data Required	



	Local Checks Required	Configure and run credentialed scans; see Active Scans.
	Mobile Data Required	Configure a mobile repository and store scan results in the repository; see Mobile Repositories.
	Active Data Required	Configure a Tenable Nessus scanner and run active scans. For more information, see <a href="#">Tenable Nessus Scanners</a> and Active Scans.
	Passive Data Required	Configure a Tenable Network Monitor (NNM) scanner; see Tenable Network Monitor (PVS).

## Report Templates

Tenable Security Center provides a selection of report templates and customizable report formats. You can configure a Tenable-provided report template or you can create a fully customized report from one of the available formats. For more information, see [Reports](#).

For a complete index of Tenable-provided report templates, see the [Tenable Security Center Report Templates](#) blog.

Template	Description
<b>Common</b>	
<b>Compliance &amp; Configuration Assessment</b>	Reports that aid with configuration, change, and compliance management.
<b>Discovery &amp; Detection</b>	Reports that aid in trust identification, rogue detection, and new device discovery.
<b>Executive</b>	Reports that provide operational insight and metrics geared towards executives.
<b>Monitoring</b>	Reports that provide intrusion monitoring, alerting, and analysis.
<b>Security Industry Trends</b>	Reports related to trends, reports, and analysis from industry leaders.



<b>Threat Detection &amp; Vulnerability Assessments</b>	Reports that aid with identifying vulnerabilities and potential threats.
<b>Other</b>	
<b>PDF</b>	Create a Portable Document Format (PDF) report that can be viewed universally.
<b>CSV</b>	Create a Comma Separated Values (CSV) report that can be imported into spreadsheets or databases.
<b>DISA ARF</b>	(Requires <a href="#">Report Generation</a> configuration) Create a report that meets the standards of the Defense Information Systems Agency Assessment Results Format (DISA ARF).
<b>DISA Consolidated ARF</b>	(Requires <a href="#">Report Generation</a> configuration) Create a report that meets the standards of the Defense Information Systems Agency Consolidated Assessment Results Format (DISA Consolidated ARF).
<b>DISA ASR</b>	(Requires <a href="#">Report Generation</a> configuration) Create a report that meets the standards of the Defense Information Systems Agency Assessment Summary Results (DISA ASR).
<b>CyberScope</b>	(Requires <a href="#">Report Generation</a> configuration) Create a report that meets CyberScope reporting standards to support FISMA compliance.

## Edit a Report Definition

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can edit both custom reports and reports based on templates.

To edit a report definition:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.



-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

4. [Modify the report options](#).

**Note:** Tenable Security Center displays options relevant to the report type.

5. (PDF and template reports only) [Edit the report outline](#).

6. Click **Submit** to save your changes to the report.

## Report Options

In Tenable Security Center, you can configure the options described below for both custom and template reports. For information on how to create reports, see [Create a Custom Report](#) and [Create a Template Report](#).

The option descriptions on this page are grouped as they appear on the **Add Report** and **Edit Report** pages. In the options tables, the **Relevant Reports** column specifies which report types use each option.

**Note:** Tenable Security Center classifies a template-based report as a PDF report. You can configure the same options for that report as you can for a PDF report.

During template report creation, Tenable Security Center set these options to default values. You can change these options for a template report only after creation is complete.

- [General Options](#)
- [Report Options](#)
- [Definition Options](#)



- [Display Options](#)
- [Distribution Options](#)

## General Options

Option	Description	Relevant Reports
<b>Name</b>	Name assigned to the report.	Any
<b>Description</b>	Descriptive text for the report.	Any
<b>Schedule</b>	Determines how often the report runs. Options are <b>On Demand</b> , <b>Now</b> , <b>Once</b> , <b>Daily</b> , <b>Weekly</b> , or <b>Monthly</b> . When you select a frequency from the drop-down box, Tenable Security Center displays additional options for the selected time frame.	Any
<b>Attribute Sets</b>	Predefined operational attributes that add required information to DISA ARF, DISA Consolidated ARF, or CyberScope report types. The drop-down box displays only the attribute set defined for the report you are currently creating.	DISA ARF, DISA Consolidated ARF, CyberScope
<b>ASR Content</b>	When creating a report, this drop-down box offers a selection of Benchmark, IAVM, CVE, or Plugin ID to be included.	DISA ASR, DISA Consolidated ARF
<b>ASR Record Format</b>	This drop-down box determines the format (Summary or Detail) of the DISA ASR report.	DISA ASR
<b>Include ARF</b>	When enabled, allows for the inclusion of a DISA attribute set for the report.	DISA ASR
<b>Benchmarks</b>	Benchmarks are generated after a scan using certain audit files that have been successfully run against at least one target system.	DISA ASR, DISA Consolidated ARF, CyberScope



## Report Options

Option	Description	Relevant Reports
Style	<p>A compound value that specifies the report style, paper size, and orientation. For example, <b>Plain, Letter</b></p> <p>Report styles include:</p> <ul style="list-style-type: none"><li>• <b>Plain</b> — a report with basic graphs</li><li>• <b>Tenable</b> — a report with basic graphs and a <a href="#">footer logo</a> on the cover page</li><li>• <b>Tenable 3D</b> — a report with enhanced 3D graphs and a <a href="#">footer logo</a> on the cover page</li></ul> <div><b>Note:</b> If an administrator configured a Classification Type banner, plain report styles are the only options listed.</div> <p>Paper sizes include:</p> <ul style="list-style-type: none"><li>• <b>Letter</b> — the standard 8.5 inches x 11 inches letter size</li></ul> <div><b>Note:</b> Letter size is the default paper size, used by options that do not explicitly state a paper size. For example, the paper size for <b>Plain, Landscape</b> is letter size.</div> <ul style="list-style-type: none"><li>• <b>A4</b> — the standard 8.27 inches x 11.69 inches A4 size</li></ul> <p>Orientation options include:</p> <ul style="list-style-type: none"><li>• <b>Portrait</b> — vertical</li></ul> <div>Note: Portrait is the default orientation, used by options that do not explicitly state an orientation. For example, the orientation for <b>Plain, Letter</b> is vertical.</div> <ul style="list-style-type: none"><li>• <b>Landscape</b> — horizontal</li></ul>	PDF





Option	Description	Relevant Reports
<b>Include Cover Page</b>	Include a cover page in the report. Cover pages include: <ul style="list-style-type: none"><li>• a <a href="#">cover logo</a></li><li>• the scan <b>Name</b></li><li>• the date and time you generated the report</li><li>• the date and time Tenable Security Center imported the scan results, if you generated the report from scan results</li><li>• the scan result <b>ID</b>, if you generated the report from scan results</li></ul>	PDF
<b>Include Header</b>	Include a predefined header in the report.	PDF
<b>Include Footer</b>	Include a predefined footer in the report.	PDF
<b>Include Table of Contents</b>	Include a table of contents with the report.	PDF
<b>Include Index</b>	Include an Index with the report.	PDF
<b>Cover Logo</b>	Specifies which image to use for the lower-left footer logo on the cover page of the report. The default logo is the Tenable logo. To add a custom logo, see <a href="#">Report Images</a> .  <b>Note:</b> The Plain report style suppresses this footer logo on the cover page.	PDF
<b>Footer Logo</b>	Specifies which image to use for the lower-left footer logo on all pages except the cover page. The default logo is the Tenable logo. To add a custom logo, see <a href="#">Report Images</a> .	PDF
<b>Watermark</b>	Specifies a watermark for each page of the report. The default is no watermark. To add a custom watermark, see	PDF



Option	Description	Relevant Reports
	<a href="#">Report Images.</a>	
<b>Encrypt PDF</b>	Protect the PDF with a password and 256-bit Advanced Encryption Standard (AES) encryption. When enabled, the <b>Password</b> text box appears. Enter a password to use to open the report and view its contents.	PDF

## Definition Options

Tenable Security Center displays definition options relevant to the report or report element type.

Option	Description	Relevant Reports
<b>Add Chapter</b>	The primary component in the report organization. Chapters are listed in the table of contents for the report and consist of sections and elements. For more information, see <a href="#">Add a Custom Chapter to a Report</a> and <a href="#">Edit a Report Outline</a> .	PDF
<b>Add Template Chapter</b>	A predefined chapter from a Tenable-provided report template. For more information, see <a href="#">Add a Template Chapter to a Report</a> .	PDF
<b>Query</b>	A list of predefined queries you can use to retrieve data for the report. For more information, see <a href="#">Queries</a> .	CSV, DISA ARF, DISA Consolidated ARF, DISA ASR, CyberScope; Iterator, Table, and Chart elements in PDF
<b>Type</b>	The type of data to include in the report.	CSV; Iterator, Table, and Chart elements in PDF



Option	Description	Relevant Reports
<b>Source</b>	<p>The source of the data to include in the report.</p> <p>For CSV reports, valid values for this field differ based on the setting of the <b>Type</b> option:</p> <ul style="list-style-type: none"><li>• If <b>Type</b> is set to <b>Vulnerability</b>, valid <b>Source</b> values are:<ul style="list-style-type: none"><li>◦ <b>Cumulative</b>—All vulnerabilities, regardless of whether the vulnerabilities have been remediated or not</li><li>◦ <b>Mitigated</b>—Remediated vulnerabilities</li><li>◦ <b>Individual Scan</b>—Vulnerabilities identified in a specific scan</li></ul></li></ul> <div><p><b>Note:</b> If you select <b>Individual Scan</b>, Tenable Security Center displays the <b>Selected Scan</b> option, which allows you to select a scan to use as the basis of the report:</p><ol style="list-style-type: none"><li>a. Click one of the predefined date ranges, or click <b>Custom Range</b> and enter starting and ending days for the range.</li><li>b. Click <b>Fetch Scans</b> to view a list of possible scans within the date range.</li><li>c. Click the scan you want to use in the drop-down box.</li></ol></div> <ul style="list-style-type: none"><li>• If <b>Type</b> is set to <b>Mobile</b>, Ticket, or Alert, this option is absent.</li></ul> <p>For DISA ARF, DISA Consolidated ARF, and DISA</p>	<p>CSV, DISA ARF, DISA Consolidated ARF, DISA ASR, CyberScope; Iterator, Table, and Chart elements in PDF</p>



Option	Description	Relevant Reports
	ASR reports, you do not set the <b>Type</b> option. Valid <b>Source</b> values are limited to <b>Cumulative</b> and <b>Individual Scan</b> , which operate in the same way as they do for CSV reports.	
<b>Tool</b>	Select the tool Tenable Security Center uses to analyze the data in the report.	CSV; Iterator, Table, and Chart elements in PDF
<b>Filters</b>	Specifies additional criteria to refine report data. For more information, see <a href="#">Manage Filter Components for a Non-Chapter Report</a> .	CSV, DISA ARF, DISA Consolidated ARF, DISA ASR, CyberScope; Iterator, Table, and Chart elements in PDF
<b>Find/Update Filters</b>	This option appears after you add at least one chapter to the report.  For more information, see <a href="#">Manage Filter Components for Multiple Elements</a> .	PDF

## Display Options

These options allow you to specify column format information format. A selection to define the columns and number of results to appear in the report is then available for configuration.

Option	Description	Relevant Reports
<b>Results Displayed</b>	The number of results included in the CSV file.	CSV; Iterator, Table, Bar Chart, and Pie Chart elements in PDF
<b>Sort Column</b>	The column that Tenable Security Center uses to sort results in the CSV file.	CSV; Iterator, Table, Bar Chart, and Pie Chart elements in PDF



Option	Description	Relevant Reports
	Available columns depend on: <ul style="list-style-type: none"><li>the <b>Type</b> you selected in the <b>Definition</b> options</li><li>the <b>Display Columns</b> value you select in the <b>Display</b> options</li></ul>	
<b>Sort Direction</b>	The sort direction for results in the CSV file.	CSV; Iterator, Table, Bar Chart, and Pie Chart elements in PDF
<b>Display Columns</b>	The columns included in the results file. Available columns depend on <b>Definition</b> options you select. <div><b>Tip:</b> The <b>Display Columns</b> appear in the results file in the order in which you select them.</div>	CSV; Iterator, Table, Bar Chart, and Pie Chart elements in PDF

## Distribution Options

Distribution options specify the actions Tenable Security Center takes when a report run completes.

Option	Description	Relevant Reports
<b>Email Users</b>	Select Tenable Security Center users to whom Tenable Security Center emails the completed report. The drop-down list includes only users with defined email addresses.	Any
<b>Email Addresses (cc)</b>	Add CC email addresses where Tenable Security Center emails the completed report. You can specify multiple email addresses, separated by commas.	Any
<b>Email Addresses</b>	Add Bcc email addresses where Tenable Security Center emails the completed report. You can specify multiple email	Any



Option	Description	Relevant Reports
<b>(bcc)</b>	addresses, separated by commas.	
<b>Share</b>	Allows you to select which Tenable Security Center users within your organization can view the completed report in Tenable Security Center. Use this option if organizational policies prohibit emailing potentially sensitive data.	Any
<b>Publishing Sites</b>	Allows you to select predefined publishing sites where Tenable Security Center uploads the completed report. For more information, see <a href="#">Publishing Sites Settings</a> .	Any

## Edit a Report Outline

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, the report outline allows you to modify the structure of a PDF or template-based report.

The outline consists of the following components:

Component	Outline Level	Description
chapter	primary	Highest-level component. Can contain any type of element (grouping, text, chart).
element	subordinate	A grouping, text, or chart element. Can be nested in a chapter or grouping component.

To edit a report outline:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-



Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. The outline is, by default, expanded.

4. In the report outline, you can:

- Expand or collapse elements nested in the outline by clicking **Collapse All** or **Expand All** at the top of the outline.
- Expand or collapse elements nested in an individual chapter or element by clicking the arrow next to the element.
- [Add a custom chapter](#).
- [Add a template chapter](#).
- [Add or edit a report element](#).
- [Reorder chapters and elements in a report](#).
- Delete a report element by clicking the delete icon next to the element.

**Note:** Tenable Security Center does not ask you to confirm this deletion. However, the deletion is not final until you save all changes to the report.

5. Click **Submit** to save your changes to the report.

## Add a Custom Chapter to a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can add custom chapters to PDF or template-based reports.

To add a custom chapter to a report definition:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.



-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. At the bottom of the report outline, click **Add Chapter**

**Tip:** If the report contains multiple chapters or sections, scroll down to locate the bottom navigation bar. It can also be helpful to click **Collapse All** on the top navigation bar to collapse the outline to its highest-level components.

The **Add Chapter** page appears.

5. In the **Name** box, enter a title for the chapter.
6. In the **Location** box, select a relative location for the chapter within the report.
7. In the **Style** box, select a style for the report.
8. Click **Submit**.

Tenable Security Center adds the chapter to the report and displays the **Edit Report** page.

9. Click **Submit** to save your changes to the report.

#### Add a Template Chapter to a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can add template chapters to template reports and custom PDF reports.

To add a template-based chapter to a report definition:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.





2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. At the bottom of the outline, click **Add Template Chapter**.

5. Do one of the following:

- In the **Search Templates** box in the top right corner of the page, search for a specific template by keyword.

**Tip:** After the initial search, you can limit search results by template category.

- Click a template category icon to view the related templates.

6. Click the report template that contains chapters you want to include in your custom report.

7. (Optional) Modify the default options for the report template:

- a. In the **Chapters** section, select which chapters from the template you want to include in your report. By default, the report includes all chapters from the template.

b. Do one of the following:

- In the **Focus** section, target all systems in the report.

This is the default setting. To return to this setting, click **All Systems** in the **Targets** drop-down box.

- Target specific assets in the report.
  - i. In the **Targets** drop-down box, click **Assets**.
  - ii. Select **Assets** and **Repositories**.



- Target specific IP addresses in the report.
  - i. In the **Targets** drop-down box, click **IP Addresses**.
  - ii. In the **IP Addresses** box, type the IP address or addresses where you want the report to focus. Use commas to separate multiple addresses.
  - iii. In the **Repositories** box, select a target repository or repositories.
- Target specific repositories in the report.
  - i. In the **Targets** drop-down box, click **Repositories**.
  - ii. In the **Repositories** box, select a target repository or repositories.
- c. (Optional) Edit text in the **Description** box.

**Note:** You cannot modify any information in the **Details** section.

8. Click **Add**.

Tenable Security Center adds the template chapter or chapters to your custom report and displays the **Add Report** page again.

9. (Optional) Change the template chapter options.

- a. Click the edit icon next to the chapter you added.
- b. In the **Name** box, edit the chapter title.
- c. In the **Location** box, change the relative location for the chapter within the report.
- d. In the **Style** box, select a style for the chapter.
- e. Click **Submit** to save your changes to the chapter.

10. Click **Submit** to save your changes to the report.

### Add or Edit a Report Element

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can add or edit elements within chapters or grouping elements in Tenable Security Center reports.



To add or edit a report element:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Do one of the following:

- Click **Add Element** next to the element where you want to add the element.
- Click the edit icon next to the element you want to change.

**Tip:** To display **Add Element** or the edit icon, hover the cursor over the element.

5. Configure any of the following types of elements:

- [Grouping](#)
- [Text](#)
- [Charts](#)

6. Click **Submit** to save your changes to the report.

Configure a Grouping Element in a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

Grouping elements in Tenable Security Center reports include:



Type	Description	Relevant Reports
Group	Groups associated elements on the same page.	PDF
Section	Allows you to organize content within chapters.	PDF
Iterator	Allows you to specify how the report groups its data. For example, if an <b>Iterator Type</b> of <b>Port Summary</b> is chosen for a vulnerability report, vulnerability data in the report is grouped by detected ports. If you do not configure an iterator, hosts and vulnerabilities are listed in the report individually.	PDF

To configure a grouping element:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Click **Add Element**.

**Tip:** To display **Add Element**, hover the cursor over the element.

5. Do one of the following:

- Add a group to the report.
  - a. In the **Grouping** section, click the **Group** icon.
  - b. Configure the following options:



Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.

- Add a section to the report.
  - a. In the **Grouping** section, click the **Section** icon.
  - b. Configure the following options:

Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.

- Add an iterator to the report.
  - a. In the **Grouping** section, click the **Iterator** icon.
  - b. Configure the following options:

Option	Action
General	
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.
Definition	
<b>Query</b>	Select a predefined query to define the data included in the element. For more information, see <a href="#">Queries</a> .



<b>Type</b>	Select the type of data to include in the element. Iterator elements support vulnerability or event data only.
<b>Source</b>	<p>Select the source of the data included in the element.</p> <p>Valid values for this field differ based on the setting of the <b>Type</b> option:</p> <ul style="list-style-type: none"><li>• If <b>Type</b> is set to <b>Vulnerability</b>, valid <b>Source</b> values are:<ul style="list-style-type: none"><li>◦ <b>Cumulative</b>—All vulnerabilities, regardless of whether the vulnerabilities have been remediated or not</li><li>◦ <b>Mitigated</b>—Remediated vulnerabilities</li><li>◦ <b>Individual Scan</b>—Vulnerabilities identified in a specific scan</li></ul></li></ul> <div><p><b>Note:</b> If you select <b>Individual Scan</b>, Tenable Security Center displays the <b>Selected Scan</b> option, which allows you to select a scan to use as the basis of the report:</p><ol style="list-style-type: none"><li>a. Click one of the predefined date ranges, or click <b>Custom Range</b> and enter starting and ending days for the range.</li><li>b. Click <b>Fetch Scans</b> to view a list of possible scans within the date range.</li><li>c. Click the scan you want to use in the drop-down box.</li></ol></div>
<b>Filters</b>	Specify additional criteria to refine element data. See <a href="#">Manage Filters for a Chapter Report</a>



<b>Iterator Type</b>	Select a grouping method for iteration data: <ul style="list-style-type: none"><li>• <b>IP Summary</b>—Group vulnerability or event data by the IP addresses of detected hosts.</li><li>• <b>Port Summary</b>—Group vulnerability or event data by the detected ports.</li><li>• <b>Type Summary</b>—Group event data by event type.</li><li>• <b>User Summary</b>—Group event data by user.</li><li>• <b>Vulnerability Summary</b>—Group vulnerability data by individual vulnerability.</li></ul>
<b>Results Displayed</b>	Select the number of results you want to include in the iteration.
<b>Sort Column</b>	Select the column that Tenable Security Center uses to sort the iteration data.
<b>Sort Direction</b>	Select the sort direction for the iteration data.
<b>Header Information</b>	Select the columns you want to include in the iteration data. Available columns depend on the settings of the <b>Type</b> and <b>Source</b> options.

6. Click **Submit** to save the element.

7. Click **Submit** to save your changes to the report.

Configure a Text Element in a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

Text elements in Tenable Security Center reports include:

Type	Description	Relevant Reports
<b>Matrix</b>	Data in a chart layout.	PDF



Type	Description	Relevant Reports
<b>Table</b>	Data in a table layout (max results displayed: 999).  The underlying data set determines the report display. The default view for most reports is host-centric and Tenable Security Center presents the user with the ability to choose a vulnerability-centric report (a listing of vulnerabilities with all associated hosts).	PDF
<b>Paragraph</b>	Descriptive text that can be inserted anywhere in the report. Use this option to describe table elements or report output for the viewer.	PDF
<b>Assurance Report Card</b>	An element based on the results of a selected Assurance Report Card.	PDF

To configure a text element in a report:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Do one of the following:





- Click **Add Element** to add an element.
- Click the edit icon next to the element to edit an existing element.

**Tip:** To display **Add Element** and the edit icon, hover the cursor over the element.

5. Do one of the following:

- [Add a matrix to the report.](#)
- [Add a table to the report.](#)
- Add a paragraph to the report.
  - a. In the **Text** section, click the **Paragraph** icon.
  - b. Configure the following options:

Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.
<b>Text</b>	Type the text of the paragraph.

- c. Click **Submit** to save your changes to the element.
- Add an Assurance Report Card to the report.



- a. In the **Text** section, click the **Assurance Report Card** icon.
- b. Configure the following options:

Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.
<b>Assurance Report Card</b>	Select the Assurance Report Card (ARC) you want to add to the report. For more information on ARCs, see <a href="#">Assurance Report Cards</a> .

- c. Click **Submit** to save your changes to the element.

6. Click **Submit** to save your changes to the report.

#### Configure a Matrix Element in a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

A matrix element is a type of text element you can insert into a Tenable Security Center report definition. For more information on text elements, see [Configure a Text Element in a Report](#).

To configure a matrix element in a report:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.



The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Do one of the following:

- Add a new element:
  - a. Click **Add Element**.
  - b. In the **Text** section, click the **Matrix** icon.
- Click the edit icon next to the element you want to change.

**Tip:** To display **Add Element** and the edit icon next to an element, hover the cursor over the element.

5. Configure the **General** options:


Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.

6. In the **Cells** section, select the number of columns and rows you want the matrix to include. By default, the matrix is 4 cells by 4 cells.

7. Click **Generate Cells**.


Tenable Security Center displays the empty matrix for configuration.

8. Do one of the following:

- Edit a row or column header.
  - a. Click the header for the row or column you want to edit.
  - b. Next to the header label, click the  menu.

The actions menu appears.
  - c. Click **Edit Header**.




- d. In the **Label** box, type a new header.
- e. Click **Submit**.
- Add a matrix component.
  - a. Click the matrix cell where you want to add the component.
  - b. In the **Data Type** drop-down box, select the type of data for the component.
  - c. In the **Type** drop-down box, select the type of calculation you want the component to perform.
  - d. In the **Source** drop-down box, select a data source.
  - e. (Optional) In the **Filter** box, add or edit a filter using the same steps you would to add a filter to a report element; see [Manage Filter Components for a Single Element](#).
  - f. In the **Rules** section, click **Add Rule** to add a rule.
  - or-
  - Click the edit icon next to a rule to edit an existing rule.
  - g. Click **Submit** to save your changes to the component.
- Copy a row or column.
  - a. Click the header for the row or column you want to copy.
  - b. Next to the header label, click the  menu.

The actions menu appears.
  - c. Click **Copy**.

For columns, Tenable Security Center inserts the copied column to the right of the original column

For rows, Tenable Security Center inserts the copied row under the original row.
- Delete a row or column.



- a. Click the header for the row or column you want to delete.
- b. Next to the header label, click the  menu.

The actions menu appears.

- c. Click **Delete Cells**.

9. Click **Submit** to save your changes to the element.

10. Click **Submit** to save your changes to the report.

## Example

### Current Vulnerabilities

	New IP's	Info	Low	Medium	High	Critical
< 7 Days	895	895	62	67	24	21
8 - 14 Days	43	43	7	20	11	9
15 - 21 Days	5	5	12	21	13	4
22 - 30 Days	1	1	2	2	2	2

## Configure a Table Element in a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

A table element is a type of text element you can insert into a Tenable Security Center report definition. For more information on text elements, see [Configure a Text Element in a Report](#).

To configure a table element in a report:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.



The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Do one of the following:

- Add a new element.
  - a. Click **Add Element**.
  - b. In the **Text** section, click the **Table** icon.
- Click the edit icon next to the element you want to change.

**Tip:** To display **Add Element** and the edit icon next to an element, hover the cursor over the element.

5. Configure the **General** options:

Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.

6. Configure the **Data** options:

Option	Description
<b>Type</b>	Equivalent to the <b>Definition</b> option of the same name in <a href="#">Report Options</a> .
<b>Query</b>	
<b>Source</b>	
<b>Tool</b>	
<b>Filters</b>	

7. Configure the **Display** options:



Option	Description
Results Displayed	Equivalent to the <b>Display</b> option of the same name in <a href="#">Report Options</a> .
Sort Column	
Sort Direction	
Display Columns	

8. Click **Submit** to save your changes to the element.

9. Click **Submit** to save your changes to the report.

## Example

Highest Ranked Asset Vulnerability Index [Scan Result #23]					
Asset	Score	Total	Med.	High	Crit.
All Defined Assets	13593	1423	541	777	105
Linux Hosts	4189	476	193	257	26
Linux Kernel 2.6	4092	453	174	253	26
CentOS	3625	386	115	252	19
Linux Kernel 64-Bit	1294	141	68	61	12
Ubuntu Linux	380	48	40	2	6
Debian Linux	74	10	8	1	1
Linux Kernel 3.1	9	3	3	0	0
Linux Kernel 3.2	6	2	2	0	0
Linux Kernel 3.3	6	2	2	0	0

## Configure a Charts Element in a Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

Charts elements in Tenable Security Center reports include:

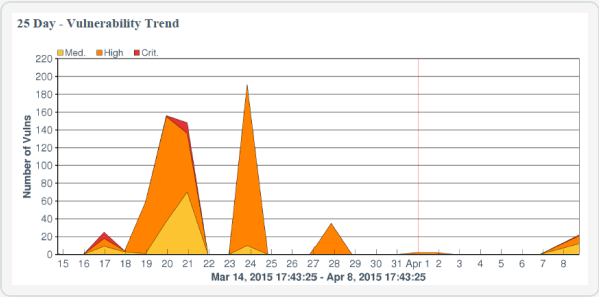
Option	Description	Relevant Reports
Bar Chart	Click to add a bar chart element to the report.	PDF



Option	Description	Relevant Reports																																				
	<div><p>Asset Summary by Severity [Scan Result #14]</p></div>																																					
Pie Chart	<p>Click to add a pie chart element to the report.</p> <div><p>Vulnerabilities by Port [Scan Result #23]</p><table><thead><tr><th>Port</th><th>Count</th><th>Percentage</th></tr></thead><tbody><tr><td>0</td><td>40994</td><td>53.14%</td></tr><tr><td>445</td><td>10421</td><td>13.51%</td></tr><tr><td>80</td><td>4410</td><td>5.72%</td></tr><tr><td>22</td><td>3359</td><td>4.35%</td></tr><tr><td>443</td><td>3209</td><td>4.16%</td></tr><tr><td>3389</td><td>1275</td><td>1.65%</td></tr><tr><td>111</td><td>1204</td><td>1.56%</td></tr><tr><td>8834</td><td>778</td><td>1.01%</td></tr><tr><td>139</td><td>541</td><td>0.70%</td></tr><tr><td>1243</td><td>415</td><td>0.54%</td></tr><tr><td>Other</td><td>10543</td><td>13.67%</td></tr></tbody></table></div>	Port	Count	Percentage	0	40994	53.14%	445	10421	13.51%	80	4410	5.72%	22	3359	4.35%	443	3209	4.16%	3389	1275	1.65%	111	1204	1.56%	8834	778	1.01%	139	541	0.70%	1243	415	0.54%	Other	10543	13.67%	PDF
Port	Count	Percentage																																				
0	40994	53.14%																																				
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3389	1275	1.65%																																				
111	1204	1.56%																																				
8834	778	1.01%																																				
139	541	0.70%																																				
1243	415	0.54%																																				
Other	10543	13.67%																																				
Line Chart	<p>Click to add a line chart element to the report.</p> <div><p>Total Trending Per Month (6 Months)</p></div> <p>Line charts are defined by time (x-axis) and series data (y-axis). When selecting the time, available options include Relative time and Absolute time. One or more series data elements can be</p>	PDF																																				





Option	Description	Relevant Reports
	chosen and displayed as discrete lines for easy comparison.	
<b>Area Chart</b>	<p>Click to add an area chart element to the report.</p>  <p>Area charts are defined by time (x-axis) and series data (y-axis). When selecting the time, available options include Relative time and Absolute time. One or more series data elements can be chosen and displayed as a stackable view for easy comparison.</p>	PDF

To configure a chart element in a report:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).



4. Do one of the following:

- Add a chart element:
  - a. Click **Add Element** to add an element.
  - b. In the **Charts** section, click the icon for the type of chart you want to add.
- Click the edit icon next to an existing chart element.

**Tip:** To display **Add Element** and the edit icon, hover the cursor over the element.

5. For all charts, configure the **General** options:

Option	Action
<b>Name</b>	Type a name for the element.
<b>Location</b>	Select a location for the element in the report.
<b>Style</b>	Select a style for the element.

6. For bar charts and pie charts, configure the following **Data** options:

Option	Action
<b>Type</b>	Equivalent to the option the <b>Definition</b> option of the same name in <a href="#">Report Options</a> .
<b>Query</b>	
<b>Source</b>	
<b>Tool</b>	
<b>Filters</b>	

7. For line charts and area charts, configure the following **Data** options:

Option	Action
<b>Data Type</b>	Valid values are <b>Relative</b> and <b>Absolute</b> . Use to configure the x-axis of the chart.



<b>Data Range</b>	Use to configure the x-axis of the chart: <ul style="list-style-type: none"><li>• If you select <b>Relative</b> for <b>Data Type</b>, select a relative date range.</li><li>• If you select <b>Absolute</b> for <b>Data Type</b>, select a specific start and end date for the data.</li></ul>
<b>Series</b>	Use to configure the y-axis of the chart. Line charts and area charts require that you configure at least one series.

8. For bar charts and pie charts, configure the following **Display** options:

Option	Action
<b>Results Displayed</b>	Equivalent to the <b>Display</b> option of the same name in <a href="#">Report Options</a> .
<b>Sort Column</b>	
<b>Sort Direction</b>	
<b>Display Columns</b>	

9. Click **Submit** to save your changes to the element.

10. Click **Submit** to save your changes to the report.

## Reorder Report Chapters and Elements

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can reorder chapters and elements in a PDF, CSV, or template-based report.

To reorder report chapters and elements:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.



-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Do one of the following:
  - In the report outline, click the report element, then drag and drop it to its new location.
  - Click the edit icon for the component, and select a new location in the **Location** drop-down box.
5. Click **Submit** to save your changes to the report.

## Manage Filters for a Chapter Report

In Tenable Security Center, PDF and template-based reports use a chapter structure, so you can specify different filters for individual chapter elements of those reports.

You can manage filters for a single element or for multiple elements at the same time. For more information, see:

- [Manage Filter Components for a Single Element](#)
- [Manage Filter Components for Multiple Elements](#)

### Manage Filter Components for a Single Element

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

**Tip:** You can build filters using one or more *filter components* with defined *filter component criteria*. Filter components are types of data (e.g., **CVE ID** or **Severity**). After you select a filter component, you specify the filter component criteria (e.g., a specific CVE ID or a specific severity level).

To manage filter components for a single element in a chapter report in Tenable Security Center:



1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. Click the edit icon next to the element you want to edit.

**Tip:** To display icons next to a element, hover the cursor over the element.

5. Do one of the following:

- Add a filter component.

Use these steps to add one or more filter components to a single element. For information about the filter components available for vulnerability analysis data or event analysis data, see [Vulnerability Analysis Filter Components](#) or Event Analysis Filter Components.

- a. In the **Data** section, click **Add Filter**.
- b. Select a filter component from the drop-down box.
- c. Set the filter component criteria, as prompted.

Depending on the filter component you selected, Tenable Security Center prompts you to type the value you want to filter for or to select from valid values and operators.



**Note:** If Tenable Security Center does not prompt you to specify an operator, the unstated operator is equivalent to **is equal to** or **is set to**.

- d. Click the check mark next to the filter component to stop editing it.

**Note:** The new filter component is not saved until you click **Submit**.

- Edit a filter component.
  - a. In the **Data** section, click the pencil icon next to the filter component.
  - b. Edit the filter component criteria.
  - c. Click the check mark next to the filter component to stop editing it.

**Note:** Your changes to the filter are not saved until you click **Submit**.

- Delete a filter component.

In the **Data** section, click the delete icon next to the filter component.

**Note:** Tenable Security Center does not prompt you to confirm the deletion. However, the deletion is not final until you click **Submit** to save your changes.

6. Click **Submit**.

## Manage Filter Components for Multiple Elements

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

When managing filter components for a chapter report in Tenable Security Center, you can search the report for elements that use certain filter components, then update the filter component criteria for all matching elements in that report at the same time.

**Tip:** You can build filters using one or more *filter components* with defined *filter component criteria*. Filter components are types of data (e.g., **CVE ID** or **Severity**). After you select a filter component, you specify the filter component criteria (e.g., a specific CVE ID or a specific severity level).

You can use the following filter components to search and update: **Address**, **Audit File**, **Asset**, **CVE ID**, **DNS Name**, **IAVM ID**, **Repositories**, **Scan Policy**, and **Severity**.



For example, if you search a report definition for all elements where the **Severity** filter component is set to **Info**, you can update the **Severity** filter component to **Medium** for all elements, and add an **Audit File** filter component to the elements at the same time.

To manage filter components for multiple elements in a chapter report:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. On the left side of the page, click **Definition**.

The report outline appears. This outline is, by default, expanded. For more information, see [Edit a Report Outline](#).

4. At the top of the outline, click **Find/Update Filters**.

To search for specific elements in the report:

1. In the **Search Filters** section, click **Add Search Filter**.

2. Select a filter component from the drop-down box.

3. Select an operator from the drop-down box.

- a. If you selected **is equal to** or **contains** as operator, type filter component criteria or select a value from the list of valid filter component criteria, as appropriate to the filter component you selected.

4. Click the check mark at the end of the filter box.

Tenable Security Center searches the report outline for elements that match your search criteria and displays the results in the **Matching Filters** box.

To specify the filter updates you want to make:



1. In the **Update Actions** section, click **Add Search Filter**.
2. Select a filter component from the drop-down box.
3. Select an operator from the drop-down box.
4. Type filter component criteria or select a value from the list of valid filter values, as appropriate to the filter component and operator you selected.
5. Click the check mark at the end of the filter box.

To review and update the filter updates:

1. In the **Matching Filters** box, review the list to verify that you want to apply the update to all the listed elements.

**Tip:** If you do not want to apply the current update to all the listed elements, it may be more appropriate to manage filter components by individual element. For more information, see [Manage Filter Components for a Single Element](#).

2. Click **Update Filters**.

Tenable Security Center applies the updates to the matching elements and returns you to the report outline.

3. Click **Submit** to save your changes to the report.

Manage Filter Components for a Non-Chapter Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, CSV, DISA ARF, DISA ASR, and Cyberscope reports do not use a chapter structure, so you can create a set of filter components that apply to every element of the report.

**Tip:** You can build filters using one or more *filter components* with defined *filter component criteria*. Filter components are types of data (e.g., **CVE ID** or **Severity**). After you select a filter component, you specify the filter component criteria (e.g., a specific CVE ID or a specific severity level).

To manage filter components for a non-chapter report:





1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the reports table, click the name of the report you want to edit.

-or-

Right-click the row for the report you want to edit, and click **Edit**.

The **Edit Report** page appears.

3. Do one of the following:

- Add a filter component.

Use these steps to add one or more filter components to a single element. For information about the filter components available for vulnerability analysis data or event analysis data, see [Vulnerability Analysis Filter Components](#) or Event Analysis Filter Components.

- a. In the **Definition** section, click **Add Filter**.
- b. Select a filter component from the drop-down box.
- c. Set the filter component criteria, as prompted.

Depending on the filter component you selected, Tenable Security Center prompts you to type the value you want to filter for or to select from valid values and operators.

- d. Click the check mark next to the filter component to stop editing it.

**Note:** The new filter component is not saved until you click **Submit**.

- Edit a filter component.
  - a. In the **Definition** section, click the edit icon next to the filter component.
  - b. Edit the filter criteria.
  - c. Click the check mark next to the filter component to stop editing it.



**Note:** Your changes to the filter component are not saved until you click **Submit**.

- Delete a filter component.

In the **Definition** section, click the delete icon next to the filter component.

**Note:** Tenable Security Center does not prompt you to confirm the deletion. However, the deletion is not final until you click **Submit** to save your changes.

4. Click **Submit** to save your changes.


## View a Report Definition

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To view a report definition:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the row for the report definition you want to view, click the  menu.

The actions menu appears.

3. In the table, right-click the row for the report definition you want to view.

The actions menu appears.

4. Click **View**.

Tenable Security Center displays a read-only version of the report definition.

**Note:** If you want to edit or delete the report definition from this page, see [Edit a Report Definition](#) or [Delete a Report Definition](#).

## Copy a Report Definition

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).



You can share a copy of a report definition with other users in your organization in Tenable Security Center. This feature is useful for maintaining consistency throughout your organization.

After you share the copy, the other users own their local copy and can edit or delete as with any report they create themselves. Later changes you make to the original do not synchronize automatically to the copy.

To copy a report definition:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the table, right-click the row for the report definition you want to copy.

The actions menu appears.

3. Click **Copy**.

The **Copy Report** page appears.

4. In the **Group** box, select the group you want to grant access to a copy of the report.

5. Specify the user(s) that you want to grant access to a copy of the report.

6. Click **Copy**.

Tenable Security Center copies the report definition to the other accounts you specified. The copy appears, named **Copy of DefinitionName**.

## Export a Report Definition

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can export a report definition as an **.xml** file. This feature is useful for organizations running multiple Tenable Security Center deployments to provide consistent reports without duplicating the work needed to create definition templates.

To export a report definition:



1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the table, right-click the row for the report definition you want to export.

The actions menu appears.

3. Click **Export**.

4. Click the export option you want to use:

Option	Description
<b>Keep All References</b>	<p>Export the report definition with object references intact.</p> <p>Users who meet the following requirements can use an imported report definition with intact object references:</p> <ul style="list-style-type: none"><li>• The user must be in the same organization as the user who exported the report definition.</li><li>• The user must have access to all relevant objects in the report definition.</li></ul>
<b>Remove All References</b>	<p>Export the report definition with object references removed, altering the definitions of the components.</p> <p>Any user can use an imported report definition with object references removed.</p>
<b>Replace With Placeholders</b>	<p>Export the report definition with object references replaced with their respective names.</p> <p>Users must replace the placeholder names with applicable objects available to their organization in order to use an imported report definition with placeholder names.</p>

Tenable Security Center downloads the report definition to your computer.

## Import a Report Definition



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

In Tenable Security Center, you can only import XML files in the same format used to [export report definitions](#). This feature is useful for organizations running multiple Tenable Security Center deployments to provide consistent reports without duplicating the work needed to create definition templates.

To import a report definition:

1. Copy the report definition file to your local computer.
2. In the left navigation, click **Reporting > Reports**.  
The **Reports** page appears.
3. At the top of the table, click **Import Report**.
4. In the **Name** box, type a name for the report.
5. Click **Choose File** next to the **Report Definition** box.
6. Browse to the local copy of the report definition XML file.
7. Click **Import**.

Tenable Security Center imports the report definition.

8. (Optional) [Edit the report definition](#) as desired.

Delete a Report Definition

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To delete a report definition:

1. In the left navigation, click **Reporting > Reports**.  
The **Reports** page appears.
2. To delete a single report definition:



- a. In the table, right-click the row for the report definition you want to delete.

The actions menu appears.

To delete multiple report definitions:

- a. In the table, select the check box for each report definition you want to delete.

The available actions appear at the top of the table.

3. Click **Delete**.
4. Click **Delete** to confirm the deletion.

Tenable Security Center deletes the report definition.

**Note:** Tenable Security Center retains any report results associated with the deleted definition. You must manually [delete results associated with the report](#).

## Launch a Report on Demand

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To launch a report on demand:

1. In the left navigation, click **Reporting > Reports**.

The **Reports** page appears.

2. In the table, right-click the row for the report you want to launch.

-or-

Select the check box for the report you want to launch.

The actions menu appears.

3. Click **Launch**.
4. (Optional) Monitor the status of the report in the **Report Results** page.

To view this page, do one of the following:



- In the launch notification message, click **View Report Results**.
- In the left navigation, click **Reporting > Report Results**.

**Note:** In the **Report Results** page, you can also [stop the currently running report](#).

## Manage Report Results

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

On the **Report Results** page of Tenable Security Center, you can manage both currently running reports and completed report results. Completed report results include successful and failed report runs, so you can access and distribute a successful report result or troubleshoot a report failure. For more information, see [Reports](#).

To manage report results:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Do any of the following:
  - [Filter existing report results in the report results table](#).
  - [Stop a currently running report](#).
  - [Download a successful report result to your computer](#).
  - [View a successful report result](#).
  - [Publish a successful result](#).
  - [Email a copy of a successful result to specified users](#).
  - [Share a copy of a successful result with other Tenable Security Center user accounts](#).
  - [View error conditions for a failed report](#).
  - [Delete a report result](#).

## Stop a Running Report



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

If you want to stop a report that is currently running:

1. Click **Reporting** > **Report Results**.

The **Report Results** page appears.

2. Right-click the row for the report you want to stop, and click **Stop**.

Tenable Security Center stops the report run.

**Note:** You cannot restart a stopped report run. You can only [launch the report](#) again.

## Download a Report Result

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To download a successful report result to your computer:

1. Click **Reporting** > **Report Results**.

The **Report Results** page appears.

2. Do one of the following:

- In the Results table, click the name of the report.
- Right-click the row for the report result.

The actions menu appears.

- a. Click **Export**.
- Select the check box for the report result.

At the top of the table, click **Download**.

## View a Report Result





**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

To view a successful report result:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Right-click the row for the report result you want to view.

The actions menu appears.

3. Click **View**.

The report appears.

4. (Optional) To download the report result to your computer, click **Download**.

The report result downloads.

5. (Optional) To delete the report result, click **Delete**.

Tenable Security Center deletes the report result.

Publish a Report Result

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

To publish a successful report result:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Right-click the row for the report result you want to publish.

The actions menu appears.

3. Click **Publish**.

The **Publish Report Results** window appears.

4. Search for and select a publishing site.



5. Click **Publish**.

Tenable Security Center publishes the report result.

## Email a Report Result

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

To email a copy of a successful report result to specific users:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Right-click the row for the report result you want to email.

The actions menu appears.

3. Click **Email**.

4. Do one of the following:

- Use the **Group** and **User** boxes to select the Tenable Security Center user or users you want to receive the report result.
- Type the email address of recipients who are not Tenable Security Center users.

5. Click **Submit**.

Tenable Security Center sends the report result.

## Copy a Report Result

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

To share a copy of a successful report result with other Tenable Security Center user accounts:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.



2. Right-click the row for the report result you want to copy.

The actions menu appears.

3. Click **Copy**.
4. In the **Group** box, select the group you want to grant access to a copy of the report result.
5. Specify a user or users that you want to grant access to a copy of the report result.
6. Click **Copy**.

Tenable Security Center copies the report result to the other accounts you specified. The copy appears, named **Copy of ResultName**.

## View Errors for a Failed Report

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To view error conditions for a failed report:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Click the name of the failed result in the results table.

The **View Report Results** page appears.

3. Review the **Error Details** section.

## Delete a Report Result

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

To delete a report result:

1. Click **Reporting > Report Results**.

The **Report Results** page appears.

2. Right-click the row for the report result you want to delete.



The actions menu appears.

3. Click **Delete**.

A confirmation window appears.

4. Click **Delete** to confirm the deletion.

Tenable Security Center deletes the report result.

## CyberScope and DISA Report Attributes

Report attributes are used for adding required information to CyberScope or DISA report types. After you create an attribute, you can select it during CyberScope, DISA ARF, or DISA Consolidated ARF report creation. For more information, see [Create a Custom Report](#).

To filter the **Report Attributes** page, see [Apply a Filter](#).

Configure the following options, including options specific for your attribute type: [CyberScope Options](#) or [DISA Options](#).

General Option	Description
Name	A name for the attribute.
Description	(Optional) A description for the attribute.
Type	The type of attribute you want to create. Your <b>Type</b> selection determines the other options you must configure: <a href="#">CyberScope Options</a> or <a href="#">DISA Options</a> .

### CyberScope Options

The following table describes the additional options to configure when configuring a **CyberScope** attribute.

Option	Description
Reporting Component	The CyberScope value for a reporting component (e.g., <b>Department of Justice</b> ).
Component	The CyberScope value for a FISMA reporting entity within the <b>Reporting</b>



Option	Description
Bureau	<b>Component</b> (e.g., <b>Justice Management Division</b> ).
Enclaves	The CyberScope value for an enclave associated with the <b>Reporting Component</b> or <b>Component Bureau</b> .

## DISA Options

The following table describes the additional options to configure when configuring a **DISA** attribute.

Option	Description
Owning Unit	
Name	(Required) The Cyber Operational Attributes Management System (COAMS) fully qualified hierarchy name of the owning organization.
Owning Service	
Name	The COAMS fully qualified hierarchy name of the owning combatant command, service, or agency.
Current AOR	The COAMS fully qualified hierarchy name of the appropriate combatant command area of responsibility (COCOM AOR).
Region	A region for the owning service.
Administration Unit	
Name	The COAMS fully qualified hierarchy name of the administering organization.
Administration POC	
Any required information you need to provide about the administration unit's point of contact (POC).	
<b>Tip:</b> Tenable recommends leaving the <b>Generational Qualifier</b> option blank.	
CND Service Provider	



Option	Description
Name	The COAMS fully qualified hierarchy name of the Computer Network Defense Service Provider (CNDSP).
Por Managed	(Required) Specifies if the reported assets are centrally managed by a program management office (PMO): <b>true</b> or <b>false</b> .
System Affiliation	The COAMS <b>operationalcredit</b> value that specifies the fully qualified hierarchy name of the system affiliation.
Location	
<b>Tip:</b> Tenable recommends leaving all options blank except the <b>Street Address</b> . The <b>Street Address</b> specifies the COAMS geolocation area.	

## Report Images

In Tenable Security Center, the **Report Images** interface allows a user with permissions to view details, add, edit, or delete PDF report images. From this interface, you can manage two types of images: logos and watermarks. Logos appear at the bottom of each page, while watermarks appear prominently across the center of the report page.

**Note:** Image files must be of type .png or .jpg. Images used must be consistent when selecting the bit depth (8-bit, 16-bit, 24-bit, etc.). Otherwise, errors might be encountered when generating reports.

To filter the **Report Images** page, see [Apply a Filter](#).

## Report Image Options

Option	Description
<b>Add</b>	<p>Add a new logo or watermark image. Note that only PNG and JPEG formats are supported. The default image sizes are as follows, all at 300 DPI:</p> <ul style="list-style-type: none"><li>default-cover-logo = 987x130</li><li>default-footer-logo = 380x100</li></ul>



Option	Description
	<ul style="list-style-type: none"><li>• default-page-logo = 579x84</li><li>• default-watermark = 887x610</li></ul> <p>While there are no set limitations on image size or resolution, using images that are different from these specifications can have a negative impact on report appearance.</p> <div><b>Note:</b> The image size must be set to 300 DPI to prevent image breaks.</div>
<b>Edit</b>	Edit any of the selected image's options, including name, description, type and file.
<b>Detail</b>	View image details, including name, description, date uploaded, last modified, and type.
<b>Delete</b>	Delete the highlighted image.

## Filters

You can apply filters on many pages of the Tenable Security Center Director web interface to filter the data displayed on the page.

You can build filters using one or more *filter components* with defined *filter component criteria*. Filter components are types of data (e.g., **CVE ID** or **Severity**). After you select a filter component, you specify the filter component criteria (e.g., a specific CVE ID or a specific severity level).

If you want to save a filter for repeated use, create a query, as described in [Queries](#).

For more information, see:

- [Apply a Filter](#)
- [Filter Components](#)
- [Vulnerability Analysis Filter Components](#)
- [Host Asset Filter Components](#)
- [Plugin Filter Components](#)



## Apply a Filter


**Required Tenable Security Center User Role:** Any

You can use filters to narrow the data displayed on specific pages.

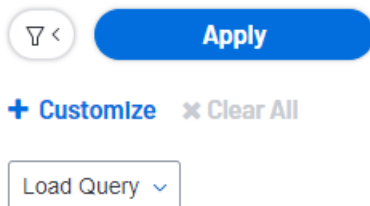
Each filterable page in Tenable Security Center Director has a different set of filter components. On the **Vulnerabilities** page, you can add and remove filter components.

For more information, see [Filters](#) and [Filter Components](#).

To filter data:

1. Log in to Tenable Security Center Director via the user interface.
2. Navigate to any page that supports filtering.
3. On the left side of the page, click the  button.

The filter panel appears.



4. (Optional) To customize the filter components on an analysis page, do the following:
  - a. Click **Customize**.

The filter components selection window appears.

- b. Select one or more filter component check boxes. For more information about the components supported for your analysis view, see [Vulnerability Analysis Filter Components](#) and [Host Asset Filter Components](#).
- c. Click **Apply**.

The filter panel updates to show the filter components you selected.

5. To modify the criteria for a filter component, click the box for the filter component.





The filter component criteria selection window appears.

6. Modify the filter component criteria.

7. Click **OK**.

The filter panel updates to show the filter component criteria you modified.

8. Click **Apply**.

The page updates to reflect the filter you applied.

What to do next:

- (Optional) Save a filter on the **Vulnerabilities** page, **Events** page, and **Mobile** page as a reusable query, as described in [Add or Save a Query](#).

## Filter Components

For general information about using filters, see [Filters](#).

Filter Component	Description
<b>Access</b>	The level of object access to include in the filter: <ul style="list-style-type: none"><li>• <b>Manageable</b> — Shows the objects your user account can modify. For example, set the filter to show only the reports you can edit.</li><li>• <b>Usable</b> — Shows the objects your user account can view or use. For example, set the filter to show only the reports you can view.</li></ul>
<b>Actions</b>	The alert actions to include in the filter: <b>Email</b> , <b>Notify</b> , <b>Report</b> , <b>Scan</b> , <b>SysLog</b> , or <b>Ticket</b> . For more information, see <a href="#">Alerts</a> and <a href="#">Alert Actions</a> .
<b>Assignee</b>	The ticket assignees to include in the filter. For more information, see <a href="#">Tickets</a> .
<b>Completion Time</b>	The date range for scan results to include in the filter: <ul style="list-style-type: none"><li>• <b>Explicit</b> — Choose start and end dates and times to filter for a specific date range.</li></ul>



Filter Component	Description
	<ul style="list-style-type: none"><li>• <b>Last x Minutes</b> – Filter for the last 15, 20, or 30 minutes.</li><li>• <b>Last x Hours</b> – Filter for the last 1, 2, 4, 6, 12, 24, 48, or 72 hours.</li><li>• <b>Last x Days</b> – Filter for the last 5, 7, 15, 25, 30, 60, 90, 120, or 180 days.</li><li>• <b>Last 12 Months</b> – Filter for the last year.</li><li>• <b>All</b> – Show all results.</li></ul>
<b>Creator</b>	The ticket creators to include in the filter. For more information, see <a href="#">Tickets</a> .
<b>Data Type</b>	The repository data type to include in the filter: <b>Agent</b> , <b>IPv4</b> , <b>IPv6</b> , or <b>Mobile</b> . For more information, see <a href="#">Repositories</a> .
<b>Date</b>	The date range to include in the system log filter (for example, <i>Oct 2021</i> ). For more information, see <a href="#">System Logs</a> .
<b>Filter By</b>	The type of plugin data to include in the plugin filter. For more information, see <a href="#">Vulnerability Analysis Filter Components</a> .
<b>Finish Time</b>	The date range for report results to include in the filter: <ul style="list-style-type: none"><li>• <b>Explicit</b> – Choose start and end dates and times to filter for a specific date range.</li><li>• <b>Last x Minutes</b> – Filter for the last 15, 20, or 30 minutes.</li><li>• <b>Last x Hours</b> – Filter for the last 1, 2, 4, 6, 12, 24, 48, or 72 hours.</li><li>• <b>Last x Days</b> – Filter for the last 5, 7, 15, 25, 30, 60, 90, 120, or 180 days.</li><li>• <b>Last 12 Months</b> – Filter for the last year.</li><li>• <b>All</b> – Show all results.</li></ul>
<b>Group</b>	The groups to include in the filter. For more information, see <a href="#">Groups</a> .



Filter Component	Description
<b>Host</b>	The name of the host to include in the filter. For more information, see <a href="#">Host</a> .
<b>Initiator</b>	The username for a user who initiated a job to include in the filter. For more information, see <a href="#">Job Queue Events</a> .
<b>Keywords</b>	The keywords to include in the system logs filter (for example, <i>login</i> ). For more information, see <a href="#">System Logs</a> .
<b>Module</b>	The type of logs to include in the system logs filter. For more information, see <a href="#">System Logs</a> .
<b>Name</b>	The name of the object or user to include in the filter. For example, the name of a Tenable Nessus scanner or the name of a repository.
<b>Organization</b>	The organization to include in the filter. For more information, see <a href="#">Organizations</a> .
<b>Owner</b>	The object owners to include in the filter. The object owner is the user who created an object or inherited objects from a deleted user.
<b>Plugin Family</b>	The plugin family to include in the plugin filter.
<b>Plugin Set</b>	<p>The time of the last plugin update for the Tenable Nessus scanner or Tenable Security Center instance:</p> <ul style="list-style-type: none"><li>• <b>Explicit</b> – Choose start and end dates and times to filter for a specific date range.</li><li>• <b>Last x Minutes</b> – Within the last 15, 20, or 30 minutes.</li><li>• <b>Last x Hours</b> – Within the last 1, 2, 4, 6, 12, 24, 48, or 72 hours.</li><li>• <b>Last x Days</b> – Within the last 5, 7, 15, 25, 30, 60, 90, 120, or 180 days.</li><li>• <b>Last 12 Months</b> – Within the last year.</li><li>• <b>All</b> – Show all results.</li></ul>
<b>Repository</b>	The repository to include in the filter. For more information, see <a href="#">Repositories</a> .



Filter Component	Description
	<a href="#">Repositories</a> .
<b>Role</b>	The user roles to include in the filter. For more information, see <a href="#">User Roles</a> .
<b>Scan Policy</b>	The scan policies to include in the filter. For more information, see Scan Policies.
<b>Schedule</b>	The schedules to include in the filter. For more information, see and <a href="#">Report Options</a> .
<b>Severity</b>	The severity to include in the filter. For more information, see <a href="#">CVSS vs. VPR</a> .
<b>Status</b>	The statuses to include in the filter.
<b>Tags</b>	The tags to include in the filter. For more information, see <a href="#">Tags</a> .
<b>Tenable Security Center Instance</b>	The Tenable Security Center instance to include in the filter. For more information, see <a href="#">Tenable Security Center Director Deployments</a> .
<b>Timeframe</b>	The date range to include in the notification filter: <b>Last 24 Hours</b> , <b>Last 7 Days</b> , or <b>Last 30 Days</b> .
<b>Type</b>	The object type (for example, <b>Active</b> or <b>Agent</b> scan results).
<b>Username</b>	The username to include in the filter. For more information, see <a href="#">User Account Options</a> .
<b>Version</b>	The Tenable Nessus version to include in the filter. For more information, see <a href="#">Tenable Nessus Scanners</a> .

## Queries

The **Queries** page displays a list of queries available for use. The information on this page includes **Name**, **Type**, **Group**, **Owner**, and the **Last Modified** time. You can use a filter to narrow the list by any of the columns (except **Last Modified**). For more information, see [Filters](#).



For more information about queries, see:

- [Add or Save a Query](#)
- [Load a Query](#)
- [Query Options](#)
- [Edit a Query](#)

## Add or Save a Query

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can add queries from the **Queries** page or from the **Vulnerabilities** page, **Web App Scanning** page, **Events** page, or **Mobile** page. For more information about query options, see [Queries](#).

**Note:** If you want to create a mitigated vulnerabilities query, you must add the query from the **Vulnerabilities** page.

To add a query from the **Queries** page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Queries**.

The **Queries** page appears.

3. At the top of the table, click **Add**.
4. Type a **Name** and **Description**.
5. (Optional) If you want to add a tag, type or select a **Tag** from the drop-down. For more information, see [Tags](#).
6. Select a **Type**.

The **Tool** drop-down updates with options for that type.


7. Select a **Tool**.
8. Click **Add Filter**.



The **Filters** section expands. For more information, see [Filters](#).

9. Select a filter component from the **Select a Filter** drop-down.

The filter component criteria box appears.

10. In the filter component criteria box, type or select filter component criteria.
11. Click the  button.

Tenable Security Center adds the filter component.

12. (Optional) To add other filter components, repeat step 8.
13. Click **Submit**.

Tenable Security Center Director saves your configuration.

To save a query from an analysis page:

1. Log in to Tenable Security Center via the user interface.
2. Do one of the following to navigate to an analysis page:
  - Click **Analysis > Vulnerabilities**
  - Click **Analysis > Web App Scanning**
  - Click **Analysis > Events**
  - Click **Analysis > Mobile**

The analysis page appears.

3. Apply a filter for the query, as described in [Apply a Filter](#).

The page updates to reflect the filter you applied.

4. Click **Save > Save Query**.

The **Save Query** panel appears.

5. In the **Name** box, type a name for the query.
6. In the **Description** box, type a description for the query.



7. (Optional) If you want to add a tag, type or select a **Tag** from the drop-down. For more information, see [Tags](#).
8. Click **Submit**.


Tenable Security Center Director saves your configuration.

## Load a Query

**Required Tenable Security Center User Role:** Any

You can load queries from any page that supports filtering. For more information, see [Queries](#) and [Filters](#).

To load a query:

1. Log in to Tenable Security Center Director via the user interface.
2. Navigate to any page that supports filtering.
3. On the left side of the page, click the filter icon (.

The filter panel appears.

4. Click **Load Query**.
5. Select the query you want to load.
6. Click **Apply**.

The page updates, filtered by the query you selected.

## Query Options

Queries provide the ability to save custom views of vulnerability, event, ticket, user, and alert data for repeated access.

Option	Description
<b>Name</b>	A name for the query.
<b>Description</b>	A description for the query.



Option	Description
<b>Tag</b>	A tag for the query. For more information, see <a href="#">Tags</a> .
<b>Type</b>	<p>The type of data you want the query to use.</p> <p>For more information about the filter components for <b>Vulnerability</b>, <b>Event</b>, and <b>Mobile</b> data types, see <a href="#">Vulnerability Analysis Filter Components</a>, Event Analysis Filter Components, and Mobile Analysis.</p> <p>For more information about the filter components for <b>Ticket</b>, <b>User</b>, and <b>Alert</b> data types, see <a href="#">Ticket-Specific Query Options</a>, <a href="#">User-Specific Query Options</a>, and <a href="#">Alert-Specific Query Options</a>.</p>
<b>Tool</b>	Chooses the analysis tool used by the query.

## Ticket-Specific Query Options

Ticket queries are a useful way of determining what tickets to alert against. For example, if you want to be alerted when a specific user receives a ticket, you could create a query with a ticket filter where the **Assignee** value is the user's name. You could then create an alert to email you when the user receives a ticket. The table below contains a list of the ticket query options.

Option	Description
<b>Name</b>	Ticket name to filter against
<b>Status</b>	Ticket status to filter against.
<b>Classification</b>	The ticket classification to filter against.
<b>Owner</b>	The manager (owner) of the ticket assignee.
<b>Assignee</b>	The ticket assignee to filter against.
<b>Created Timeframe</b>	Ticket creation date/time to filter against. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.)
<b>Assigned Timeframe</b>	Ticket assigned date/time to filter against. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.)





Option	Description
<b>Modified Timeframe</b>	Ticket modified date/time to filter against. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.)
<b>Resolved Timeframe</b>	Ticket resolution date/time to filter against. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.)
<b>Closed Timeframe</b>	Ticket closed date/time to filter against. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.)

### User-Specific Query Options

User queries are useful for reporting, dashboards and alerts based on user actions. For example, they can track user logins and locked accounts. They can also track user logins from accounts not authorized on the monitored systems.

Option	Description
<b>First Name</b>	User first name to filter against.
<b>Last Name</b>	User last name to filter against.
<b>Username</b>	Actual username to filter against.
<b>Group</b>	Filter against the group the user(s) belong to.
<b>Role</b>	Filters against users who have the specified role.
<b>Email</b>	Filters against users based on their email address.
<b>Last Login Timeframe</b>	Filters against users whose last login was that the timeframe specified. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.).
<b>Account State</b>	Filters against the user account state (locked vs. unlocked).

### Alert-Specific Query Options



The alert query is useful for reporting, dashboards and alerting when an alert has triggered. This is useful for situations where you want a report, dashboard element, or conditional alert after the specified alert filter conditions have been met. For example, you can schedule a daily report containing a query of all active alerts and their details.

Option	Description
<b>Name</b>	Filter against alerts with the specified name.
<b>Description</b>	Filter against alerts with the specified description.
<b>State</b>	Choose from <b>All</b> , <b>Triggered</b> , or <b>Not Triggered</b> .
<b>Created Timeframe</b>	Filters against the alert creation timeframe specified. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.).
<b>Modified Timeframe</b>	Filters against the most recent alert modification timeframe specified. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.).
<b>Last Triggered Timeframe</b>	Filters against the most recent alert trigger timeframe specified. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.).
<b>Last Evaluated Timeframe</b>	Filters against the most recent alert evaluation timeframe specified. Either specify an explicit timeframe, including the start and end time or choose one of the predefined periods (e.g., last 15 minutes, last hour, etc.).

## Edit a Query

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Query Options](#).

To edit a query:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Queries**.



The **Queries** page appears.

3. In the table, right-click the row for the query you want to edit.

The actions menu appears.

-or-

In the table, select the check box for the query you want to edit.

The available actions appear at the top of the table.

4. Click **Edit**.

The **Edit Query** page appears.

5. Modify the query options.

6. Click **Submit**.

Tenable Security Center Director saves the modified query.

## Workflow Actions

Workflow actions allow organizational users to configure and manage alerting and ticketing. These functions allow the user to be notified of and properly handle vulnerabilities and events as they come in.

For more information, see [Alerts](#) and [Tickets](#).

### Alerts

Tenable Security Center Director can be configured to perform actions, such as email alerts, for select vulnerability or alert occurrences to various users regardless of whether the events correlate to a local vulnerability or not. Other alert actions include UI notifications, creating or assigning tickets, remediation scans, launching a report, email notifications, and syslog alerting. Multiple actions can be assigned for each ticket.

For more information, see:

- [Alert Actions](#)
- [Add an Alert](#)



- [View Alert Details](#)
- [Alert Options](#)
- [Edit an Alert](#)
- [Evaluate an Alert](#)
- [Delete an Alert](#)

## Alert Actions

Tenable Security Center automatically performs *alert actions* when an alert triggers. You can configure the following types of alert actions:

- [Assign Ticket](#)
- [Email](#)
- [Generate Syslog](#)
- [Launch Report](#)
- [Notify Users](#)

**Tip:** Use email alerts to interface with third-party ticketing systems by adding variables in the message option.

For more information, see [Alerts](#).

## Assign Ticket

When the alert triggers, Tenable Security Center creates a ticket and assigns the ticket to a user. For more information, see [Tickets](#).

Option	Description	Default
<b>Name</b>	(Required) The name of the ticket.	Ticket opened by alert
<b>Description</b>	A description for the ticket.	--
<b>Assignee</b>	(Required) The user who receives the ticket.	--

## Email



When the alert triggers, Tenable Security Center sends an email.

Option	Description	Default
<b>Email</b>		
<b>Subject</b>	The alert email subject line.	Email Alert
<b>Message</b>	<p>The body of the email message. You can include the following variables to customize the email:</p> <ul style="list-style-type: none"><li>• <b>Alert ID</b> – Designated with the variable: %alertID%, this specifies the unique identification number assigned to the alert by Tenable Security Center Director.</li><li>• <b>Alert name</b> – Designated with the variable: %alertName%, this specifies the name assigned to the alert (for example, "Test email alert").</li><li>• <b>Trigger Name</b> – Designated with the variable: %triggerName%, this specifies if the trigger is IP address count, Vulnerability count, or Port count.</li><li>• <b>Trigger Operator</b> – Designated with the variable: %triggerOperator%, this specifies the operator used for the count: &gt;=, =, &gt; or !=</li><li>• <b>Trigger value</b> – Designated with the variable: %triggerValue%, this specifies the specific threshold value set that triggers the alert.</li><li>• <b>Calculated value</b> – Designated with the variable: %calculatedValue%, this specifies the actual value that triggered the alert.</li><li>• <b>Alert Name</b> – Designated with the variable: %alertName%, this specifies the name given to the alert within Tenable Security Center Director.</li><li>• <b>Alert owner</b> – Designated with the variable:</li></ul>	(see description)



	<p>%owner%, this specifies the user that created the alert.</p> <ul style="list-style-type: none"><li>• <b>Tenable Security Center URL</b> — Designated with the variable: %url%, this specifies the URL that you use to access Tenable Security Center Director. This is useful where the URL that users use to access Tenable Security Center Director differs from the URL known by Tenable Security Center Director.</li></ul> <p>The following sample email alert contains some of these keywords embedded into an HTML email:</p> <div><pre>Alert &lt;strong&gt;%alertName%&lt;/strong&gt; (id #%alertID%) has triggered.  &lt;strong&gt;Alert Definition:&lt;/strong&gt; %triggerName% %triggerOperator% %triggerValue% &lt;strong&gt;Calculated Value:&lt;/strong&gt; %calculatedValue%  Please visit your <b>Tenable Security Center Director</b> (&lt;a href="%url%"&gt;%url%&lt;/a&gt;) for more information. This e-mail was automatically generated by <b>Tenable Security Center Director</b> as a result of alert &lt;strong&gt;%alertName%&lt;/strong&gt; owned by &lt;strong&gt;%owner%&lt;/strong&gt;.</pre></div> <p>If you do not wish to receive this email, contact the alert owner.</p>	
<b>Include Results</b>	When enabled, Tenable Security Center includes the query results that triggered the alert (maximum of 500).	Disabled
<b>Recipients</b>		
<b>Users</b>	The users who receive the alert email.	--



	<b>Tip:</b> If you delete a user who receives alert emails, the action option for the alert turns red and Tenable Security Center displays a notification to the new alert owner with the new alert status. To resolve this, update the list of users in the alert email.	
<b>Email Addresses</b>	Specifies additional email addresses to include in the alert email. For multiple recipients, add one email address per line or use a comma-separated list.	--

## Generate Syslog

When the alert triggers, Tenable Security Center sends a custom message to a syslog server.

Option	Description	Default
<b>Host</b>	(Required) The host that receives the syslog alert.	--
<b>Port</b>	The UDP port used by the remote syslog server.	514
<b>Severity</b>	The severity level of the syslog messages ( <b>Critical</b> , <b>Notice</b> , or <b>Warning</b> ).	Critical
<b>Message</b>	(Required) The message Tenable Security Center sends with the syslog alert.	--

## Launch Report

When the alert triggers, Tenable Security Center generates a report from an existing report template. For more information, see [Reports](#).

Option	Description	Default
<b>Report Template</b>	(Required) The report template Tenable Security Center uses to generate a report based on the triggered alert data.	--

## Notify Users

When the alert triggers, Tenable Security Center displays a notification to the specified users.



Option	Description	Default
<b>Message</b>	(Required) The notification message Tenable Security Center sends when the alert triggers.	--
<b>Users</b>	(Required) The users who receive the notification message.	--

## Add an Alert

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can configure Tenable Security Center Director to send alerts for vulnerability occurrences.

For more information about the available options for alerts, see [Alert Options](#).

To add an alert:

1. Log in to Tenable Security Center Director via the user interface.
2. In the left navigation, click **Workflow > Alerts**.

The **Alerts** page appears.

3. Click **Add**.

The **Add Alert** page appears.

4. In the **Name** box, type a name.
5. (Optional) In the **Description** box, type a description.
6. (Optional) Click the **Schedule** field to select the frequency of alerts, time, timezone, and whether to repeat sending alerts at the specified time.
7. (Optional) In the **Behavior** drop-down box, select the condition you want to trigger the alert. The default is **Perform actions only on first trigger**.
8. (Optional) In the **Type** drop-down box, select the data type for the condition.
9. In the **Trigger** drop-down box, select the trigger for the alerts.





10. (Optional) In the **Query** drop-down box, select the dataset to compare with the trigger condition.
11. (Optional) Click **Add Filter** and provide the details of the selected filter.
12. Click **Add Actions** to specify an action that occurs when the alert triggers. For more information, see [Alert Actions](#).
13. Click **Submit**.  
Tenable Security Center Director creates the alert.

## View Alert Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can view the summary details of an alert with the name, behavior, condition applied, status, created date, owner, and ID.

To view the details of an alert:

1. Log in to Tenable Security Center via the user interface.
2. Click **Workflow > Alerts**.

The **Alerts** page appears.

3. In the table, right-click the row for the alert you want to view.

The actions menu appears.

-or-

In the table, select the check box for the alert you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Alert** page appears. For more information about the following fields, see [Alert Options](#).



Section	Action
<b>Options</b> drop-down box	<ul style="list-style-type: none"><li>• To edit the alert, click <b>Edit</b>. For more information, see <a href="#">Edit an Alert</a>.</li><li>• To delete the alert, click <b>Delete</b>. For more information, see <a href="#">Delete an Alert</a>.</li></ul>
<b>General</b>	<p>View general information about the alert.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – Alert name.</li><li>• <b>Description</b> – Descriptive text for the alert.</li><li>• <b>Schedule</b> – The schedule for how often the alert checks for matching conditions.</li><li>• <b>Behavior</b> – The setting for how the alert behaves once it is triggered.</li><li>• <b>Last Evaluated</b> – The date on which the alert was last evaluated.</li><li>• <b>Last Triggered</b> – The date on which the alert was last triggered.</li><li>• <b>Status</b> – The status of the alert.</li><li>• <b>Created</b> – The date on which the alert was created.</li><li>• <b>Last Modified</b> – The date on which the alert was last modified.</li><li>• <b>Owner</b> – The user who created or owns the alert.</li><li>• <b>Group</b> – The group associated with the <b>Owner</b>.</li><li>• <b>ID</b> – The unique identifier of the alert.</li></ul>
<b>Condition</b>	<p>View the conditions specified for the alert:</p> <ul style="list-style-type: none"><li>• <b>Type</b> – The type of the alert. For example, vulnerability, event, or ticket.</li><li>• <b>Trigger</b> – The condition that triggers the alert. For example, IP count, unique vulnerability/event count, or port count.</li></ul>



Section	Action
	<ul style="list-style-type: none"><li>• <b>Query</b> – The dataset to which the trigger condition is compared.</li><li>• <b>Filters</b> – The filters added for vulnerability or event data.</li></ul>
<b>Actions</b>	The actions performed once the alert is triggered.

## Alert Options

The following options are available when you create or edit an alert in Tenable Security Center Director.

Option	Description
<b>General</b>	
<b>Name</b>	The name of the alert.
<b>Description</b>	A description for the alert.
<b>Schedule</b>	<p>Specifies how often the alert checks for the conditions to be matched: <b>Minutely, Hourly, Daily, Weekly, Monthly</b>, or <b>Never</b>.</p> <p>Select <b>Never</b> to create an alert that you trigger manually on demand.</p>
<b>Behavior</b>	<p>Specifies how many times Tenable Security Center performs the alert actions:</p> <ul style="list-style-type: none"><li>• <b>Perform actions only on first trigger</b> – Tenable Security Center performs the alert actions only the first time the alert conditions match the trigger configuration.</li><li>• <b>Perform action on every trigger</b> – Tenable Security Center performs the alert actions every time the alert conditions match the trigger configuration.</li></ul>
<b>Condition</b>	
<b>Type</b>	The type of data to use for the condition: <b>Vulnerability, Event</b> , or <b>Ticket</b> .
<b>Trigger</b>	<ul style="list-style-type: none"><li>• <b>IP Count</b> – Trigger on vulnerabilities or events whose IP address count matches the given parameters.</li></ul>



Option	Description
<b>General</b>	
	<ul style="list-style-type: none"><li>• <b>Unique Vulnerability Count</b> – Trigger an alert when the unique vulnerability count matches the given parameters. This option appears when you select <b>Vulnerability</b> for the <b>Type</b> option.</li><li>• <b>Event Count</b> – Trigger an alert when the event count matches the given parameters. This option appears when you select <b>Event</b> for the <b>Type</b> option.</li><li>• <b>Port Count</b> – Trigger an alert when the events or vulnerabilities using a certain port number match the given parameters.</li></ul>
<b>Query</b>	The dataset Tenable Security Center uses to determine if trigger conditions have been met.
<b>Filters</b>	Apply advanced filters to the vulnerability or event data. For more information, see <a href="#">Filters</a> .
<b>Actions</b>	
<b>Add Actions</b>	Specifies the actions that occur when the alert triggers: <b>Assign Ticket</b> , <b>Email</b> , <b>Generate Syslog</b> , <b>Launch Scan</b> , <b>Launch Report</b> , or <b>Notify Users</b> . For more information, see <a href="#">Alert Actions</a> .

## Edit an Alert

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

For more information, see [Alert Options](#).

To edit an alert:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Alerts**.

The **Alerts** page appears.



3. In the table, right-click the row for the alert you want to edit.

The actions menu appears.

-or-

In the table, select the check box for the alert you want to edit.

The available actions appear at the top of the table.

4. Click **More > Edit**.

The **Edit Alert** page appears.

5. Modify the alert options.

6. Click **Submit**.

Tenable Security Center Director saves the modified alert.

## Evaluate an Alert

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

You can submit an alert for evaluation to test whether the alert has met the configured time criteria or not.

To evaluate an alert:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Alerts**.

The **Alerts** page appears.

3. In the table, right-click the row for the alert you want to evaluate.

The actions menu appears.

-or-

In the table, select the check box for the alert you want to evaluate.

The available actions appear at the top of the table.



4. Click **Evaluate**.

The alert is submitted for evaluation.

Tenable Security Center Director returns the evaluation results for the alert.

## Delete an Alert

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

To delete an alert:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Alerts**.

The **Alerts** page appears.

3. In the table, right-click the row for the alert you want to delete.

The actions menu appears.

-or-

In the table, select the check box for the alert you want to delete.

The available actions appear at the top of the table.

4. At the top of the table, click **More > Delete**.

A confirmation window appears.

5. Click **Delete**.

Tenable Security Center Director deletes the alert.

## Tickets

In Tenable Security Center Director, you can create tickets manually or automatically using the [Alerts](#) feature. This section describes how to manage your tickets.

For more information, see:



- [Open a Ticket](#)
- [View Ticket Details](#)
- [Ticket Options](#)
- [Edit a Ticket](#)
- [Resolve and Close a Ticket](#)

## Open a Ticket

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

You can use tickets within Tenable Security Center Director to coordinate the assessment and remediation of vulnerabilities and security events.

You can configure a ticket from an analysis page, or from the **Tickets** page. For more information about the options to configure, see [Tickets](#).

To open a ticket from an analysis page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Analysis > Vulnerabilities**.

The Vulnerabilities appears.

3. From the toolbar, click **More > Open Ticket**.

The **Open Ticket** pane appears.

4. In the **Name** box, type a name.
5. (Optional) In the **Description** box, type a description.
6. (Optional) In the **Notes** box, type a note to the assignee.
7. In the **Assignee** drop-down box, select an assignee.
8. In the **Classification** drop-down box, select a classification.
9. Click **Submit**.

Tenable Security Center Director creates the ticket.



To open a ticket from the **Tickets** page:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Tickets**.  
The **Tickets** page appears.
3. Click **Add**.
4. In the **Name** box, type a name.
5. (Optional) In the **Description** box, type a description.
6. (Optional) In the **Notes** box, type a note to the assignee.
7. In the **Assignee** drop-down box, select an assignee.
8. In the **Classification** drop-down box, select a classification.
9. (Optional) Click **Add Query View**.
10. Click **Submit**.

Tenable Security Center Director creates the ticket.

## View Ticket Details

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions.  
For more information, see [User Roles](#).

You can view the summary details of a ticket with the name, status, creator, assignee, history, queries, description, and ticket notes.

Before you begin:

- Add a ticket, as described in [Open a Ticket](#).

To edit a ticket:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Tickets**.

The **Tickets** page appears.





3. In the table, right-click the row for the ticket you want to view.

The actions menu appears.

-or-

In the table, select the check box for the ticket you want to view.

The available actions appear at the top of the table.

4. Click **View**.

The **View Ticket** page appears. For more information, see [Ticket Options](#).

Section	Action
<b>Options</b> drop-down box	<ul style="list-style-type: none"><li>• To edit the ticket, click <b>Edit</b>. For more information, see <a href="#">Edit a Ticket</a>.</li></ul>
<b>General</b>	<p>View general information about the ticket.</p> <ul style="list-style-type: none"><li>• <b>Name</b> – The ticket name.</li><li>• <b>Description</b> – The ticket description.</li><li>• <b>Notes</b> – The notes added for the ticket.</li><li>• <b>Status</b> – The status of the ticket.</li><li>• <b>Assignee</b> – The user assigned to the ticket.</li><li>• <b>Classification</b> – The classification selected for the ticket.</li><li>• <b>Created</b> – The date on which the ticket was created.</li><li>• <b>Last Modified</b> – The date on which the ticket was last modified.</li><li>• <b>Owner</b> – The user who created or owns the ticket.</li><li>• <b>Group</b> – The group associated with the <b>Owner</b>.</li><li>• <b>ID</b> – The unique identifier of the ticket.</li></ul>
<b>Query Views</b>	<p>The query added to help provide context for coming up with a resolution.</p>



## Ticket Options

The following options are available when you create or edit a ticket in Tenable Security Center Director.

Option	Description
<b>General</b>	
<b>Name</b>	Name assigned to the ticket.
<b>Description</b>	Descriptive text for the ticket.
<b>Notes</b>	Notes for the ticket assignee.
<b>Assignee</b>	User that the ticket is assigned to. <div><b>Note:</b> If the ticket assignee is deleted, the ticket is automatically reassigned to the assignee's owner along with a notification message indicating that the ticket has been reassigned.</div>
<b>Status</b> (Available during edit)	The following ticket statuses become available after a ticket has been created and are available from the <b>Edit Ticket</b> page: <ul style="list-style-type: none"><li>• <b>Assigned</b></li><li>• <b>Resolved</b></li><li>• <b>More Information</b></li><li>• <b>Not Applicable</b></li><li>• <b>Duplicate</b></li><li>• <b>Closed</b></li></ul>
<b>Classification</b>	The ticket classification: <b>Information, Configuration, Patch, Disable, Firewall, Schedule, IDS, Accept Risk, Recast Risk, Re-scan Request, False Positive, System Probe, External Probe, Investigation Needed, Compromised System, Virus Incident, Bad Credentials, Unauthorized Software, Unauthorized System, Unauthorized User</b> , and <b>Other</b> .
<b>Query Views</b>	



Option	Description
<b>Add Query View</b>	Click to choose a query for the ticket assignee to help provide context for coming up with a resolution.

## Edit a Ticket

**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

Before you begin:

- Add a ticket, as described in [Open a Ticket](#).

To edit a ticket:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Tickets**.

The **Tickets** page appears.

3. In the table, right-click the row for the ticket you want to edit.

The actions menu appears.

-or-

In the table, select the check box for the ticket you want to edit.

The available actions appear at the top of the table.

4. Click **More > Edit**.

The **Edit Ticket** page appears.

5. Modify the ticket options. For more information, see [Ticket Options](#).
6. Click **Submit**.

Tenable Security Center Director saves your configuration.

## Resolve and Close a Ticket



**Required Tenable Security Center User Role:** Organizational user with appropriate permissions. For more information, see [User Roles](#).

When a ticket is mitigated, you can change the ticket status to **Resolved**. Once the ticket is resolved, you can change the status to **Closed**. Tickets in the **Resolved** or **Closed** state can always be reopened as needed.

Before you begin:

- Add a ticket, as described in [Open a Ticket](#).

To resolve a ticket:

1. Log in to Tenable Security Center Director via the user interface.
2. Click **Workflow > Tickets**.

The **Tickets** page appears.

3. In the table, right-click the row for the ticket you want to resolve.

The actions menu appears.

-or-

In the table, select the check box for the ticket you want to resolve.

The available actions appear at the top of the table.

4. Click **Resolve**.

The **Resolve Ticket** page appears.

5. Change the status to **Resolved**. Optionally, you can add notes to provide details of the resolution.
6. Click **Submit**.

7. To close the ticket, click the resolved ticket name and change the status to **Closed**.

Tenable Security Center Director updates the ticket status. Resolved tickets still show up in your ticket queue with an **Active** status. Closing a ticket removes the ticket from the **Active** status filter view, but does not provide the option to add notes similar to editing a ticket.



## Additional Resources

The topics in this section offer guidance in areas related to Tenable Security Center Director.

- [Start, Stop, or Restart Tenable Security Center Director](#)
- [License Declarations](#)
- [Encryption Strength](#)
- [File and Process Allow List](#)
- [Offline Plugin and Feed Updates for Tenable Security Center Director](#)
- [Troubleshooting](#)

### Start, Stop, or Restart Tenable Security Center Director

**Required Tenable Security Center User Role:** Root user

When Tenable Security Center is installed, the required services are started by default.

To change the status of Tenable Security Center Director:

1. Log in to Tenable Security Center Director via the command line interface (CLI).
2. In the CLI in Tenable Security Center Director, run the following command to check the status of your Tenable Security Center Director:

```
# service SecurityCenter status
```

The system indicates whether Tenable Security Center Director is running or stopped.

3. Run one of the following commands to change the status of your Tenable Security Center Director:



- To start Tenable Security Center Director, run:

```
# /bin/systemctl start SecurityCenter
```

- To stop Tenable Security Center Director, run:

```
# /bin/systemctl stop SecurityCenter
```

- To restart Tenable Security Center Director, run:

```
# /bin/systemctl restart SecurityCenter
```

4. If you are running Tenable Security Center Director 6.5.x or later with a managed PostgreSQL database on the same server, then run the following commands to start and stop the PostgreSQL database:

- To start the PostgreSQL database, run:

```
# su - tns -c "/opt/sc/support/bin/pg_ctl -D /opt/sc/data/postgresql/ -l /opt/sc/admin/logs/postgresql.log start"
```

- To stop the PostgreSQL database, run:

```
# su - tns -c "/opt/sc/support/bin/pg_ctl -D /opt/sc/data/postgresql/ stop"
```

**Note:** These commands assume the install path for the PostgreSQL database is `/opt/sc/`. Replace `/opt/sc/` with your install path if necessary. For more information about managed PostgreSQL databases, see [Connect an External PostgreSQL Server](#).

## License Declarations

Tenable Security Center Director's Software License Agreement can be found on Tenable Security Center Director in the `/opt/sc/docs` directory.

For a list of third-party software packages that Tenable utilizes with Tenable Security Center Director, see [Tenable Third-Party License Declarations](#).



## Encryption Strength

Tenable Security Center Director uses the following default encryption for storage and communications.

Function	Encryption
Storing TNS user account passwords	SHA-512 and the PBKDF2 function
Storing user and service accounts for scan credentials, as described in <a href="#">Credentials</a> .	AES-256-CBC
Storing scan data, as described in <a href="#">Repositories</a> .	None
Communications between Tenable Security Center and clients (Tenable Security Center users).	TLS 1.2 with the strongest encryption method supported by Tenable Security Center Apache and your browser, CLI program, or API program: ECDHE+AESGCM, EDH+AESGCM, AES256+ECDHE, or AES256+EDH.  For more information about strong encryption, see <a href="#">Configure SSL/TLS Strong Encryption</a> .
Communications between Tenable Security Center and the Tenable product registration server.	TLS 1.2 with ECDHE-RSA-AES256-GCM-SHA384
Communications between Tenable Security Center and the Tenable plugin update server.	TLS 1.2 with ECDHE-RSA-AES256-GCM-SHA384



Function	Encryption
Communications between Tenable Security Center and: <ul style="list-style-type: none"><li>• Tenable Nessus or Tenable Nessus Manager</li><li>• Tenable Vulnerability Management</li><li>• Tenable Network Monitor</li></ul>	TLS 1.3 with the strongest encryption method supported by Tenable Security Center Apache and your browser, CLI program, or API program: ECDHE-RSA-AES128-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-RSA-AES256-SHA384, or ECDHE-RSA-AES256-GCM-SHA384.
Synchronizations between Tenable Security Center and Tenable Vulnerability Management for Tenable Lumin.	TLS 1.2

## Configure SSL/TLS Strong Encryption

You can configure SSL/TLS strong encryption for Tenable Security Center Director-client communications to meet the security needs of your organization. For more information about Tenable Security Center encryption, see [Encryption Strength](#).

To configure SSL/TLS strong encryptions for Tenable Security Center Director communications:

1. Open the `/opt/sc/support/conf/sslciphers.conf` file in a text editor.
2. Add the following content at the end of the file:

```
SSLCipherSuite <cipher you want to use for SSL/TLS encryption>
```





For example:

```
# SSL Ciphers
SSLProtocol ALL -SSLv2 -SSLv3
SSLHonorCipherOrder On
SSLCompression off
SSLCipherSuite ECDHE-RSA-AES128-SHA256:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-
AES256-SHA384:ECDHE-RSA-AES256-GCM-SHA384
```

3. Restart Tenable Security Center Director, as described in [Start, Stop, or Restart Tenable Security Center Director](#).

Tenable Security Center Director restarts.

4. In `/opt/sc/support/logs`, open `ssl_request_log`.

The log file text appears.

5. Verify the configuration in `ssl_request_log` matches the cipher you specified. If the configuration and cipher do not match, investigate the following:
  - Confirm that you provided the cipher using correct syntax.
  - Confirm that your browser supports the cipher you provided.
  - Confirm that you do not have other applications installed that redirect or layer additional encryption for SSL traffic.

## File and Process Allow List

If you use third-party endpoint security products such as anti-virus applications and host-based intrusion and prevention systems, Tenable recommends adding Tenable Security Center Director to the allow list.

If you configured supporting resources for Tenable Security Center Director, see the product documentation for each resource you added for more file and process allow list information. For more information about supporting resources in Tenable Security Center Director, see [Resources](#).

Tenable recommends allowing the following Tenable Security Center Director files and processes.

### Allow List



Files
/opt/sc/*
Processes
/opt/sc/bin/*
/opt/sc/src/*
/opt/sc/support/bin/*
/opt/sc/www/*

## Asset Tracking in Tenable Security Center Director

Assets in Tenable Security Center Director are tracked by several attributes, depending on the asset repository and scan configuration of the sensors that identify the assets.

- Assets in [universal repositories](#) are tracked by asset attribute.
- Assets in [IPv4 and IPv6 repositories](#) are tracked by IP address.
- Assets in [agent repositories](#) are tracked by agent UUID.

When you import asset data, if Tenable Security Center Director cannot find an existing asset that matches the imported host, the asset is added to Tenable Security Center Director as a new asset.

For more information about repositories in Tenable Security Center Director, see [Repositories](#).

### Universal Repositories

The following identification attributes (IA) are considered in determining whether or not an imported asset matches an existing one, in descending order of priority:

1. Tenable UUID (from credentialed scans of managed hosts, Tenable Agents, or imported Tenable OT Security data)
2. BIOS UUID
3. MAC Address



4. NetBIOS Name
5. Fully Qualified Domain Name (FQDN)
6. IP Address (IPv4 and IPv6)

Similar to Tenable Vulnerability Management, Tenable Security Center Director verifies that there are no conflicting higher priority attributes when it finds a match. For example, if there is a MAC Address match, but the Tenable UUID is different, the assets will not merge. When a unique asset is discovered, the following informational message will appear in `/opt/sc/admin/logs/YYYYdd.log` (`sc-logs.txt` in a Tenable Security Center Director debug zip).

```
Scan Result #<Job ID> - <IP Address or Agent UUID> did not match any existing assets
```

Possible root causes for duplicate assets include, but are not limited to:

- different scan types for the same asset, such as Agent scans and non-credentialed Tenable Nessus scans or, similarly, credentialed Tenable Nessus scans with the **Create unique identifier on hosts scanned using credentials** (`host_tagging`) setting disabled in the Advanced settings of the scan policy. While Agent scans have access to the local Tenable UUID, the same is not true for a non-credentialed or equivalent scan. If an asset was duplicated as a result of a non-credentialed or equivalent scan after a credentialed one, the assets will not merge until the next credentialed or equivalent scan.
- different network interfaces of an asset scanned in one or more non-credentialed scans. Because each network interface is associated with a different MAC Address, and the Tenable UUID cannot be accessed in a non-credentialed scan, a unique asset will be created for each network interface.

For more information about universal repositories, see Universal Repositories.

## IPv4 and IPv6 Repositories

If the **Track hosts which have been issued new IP address** setting is enabled (default), assets are tracked using the following IAs in this order:

1. DNS Name
2. NetBIOS Name



3. Tenable UUID (from credentialed scans of managed hosts)
4. MAC Address
5. IP Address (IPv4 or IPv6, based on repository type)

If the **Track hosts which have been issued new IP address** setting is disabled, assets are tracked only by IP address.

During scan import, Tenable Security Center Director checks the targeted repository for the scan job for the above listed IAs.

- If the IP has the attributes mentioned above, Tenable Security Center Director migrates all of the vulnerabilities in the cumulative results to the IP seen in the scan result.
- If the IP does not have any of the attributes mentioned above, Tenable Security Center Director considers this a new asset.
- Once a match has been made, Tenable Security Center Director does not search for more matches.

For example, if Tenable Security Center Director does not match a DNS name, but it does match a NetBIOS name, the system does not check the Agent UUID or MAC address.

**Note:** The **Track hosts which have been issued new IP address** setting is in the Advanced settings section, and is enabled by default in Active Scans. Tenable recommends that networks using DHCP enable this setting to properly track hosts.

For more information about IPv4 and IPv6 repositories, see IPv4/IPv6 Repositories.

## Agent Repositories

Assets in agent repositories are tracked by UUID, because all assets in agent repositories have UUIDs.

For more information about agent repositories, see Agent Repositories.

## Offline Plugin and Feed Updates for Tenable Security Center Director

You can perform offline plugin updates and feed updates in air-gapped Tenable Security Center Director environments.

[Perform an Offline Nessus Plugin Update](#)



[Perform an Offline Tenable Network Monitor Plugin Update](#)

[Perform an Offline Tenable Security Center Feed Update](#)

For general information about best practices in air-gapped environments, see [Considerations for Air-Gapped Environments](#).

## Perform an Offline Nessus Plugin Update

**Required Tenable Security Center User Role:** Administrator

Before you begin:

- Install a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director. You will use this temporary Tenable Nessus scanner to generate a challenge code for offline Tenable Security Center registration. Do not start or otherwise configure the temporary Tenable Nessus scanner.

To perform an offline Tenable Nessus plugin update:

1. In the command line interface (CLI), run the following command to prevent the Tenable Nessus scanner from starting automatically upon restarting the system:

```
/usr/bin/systemctl disable nessusd
```

2. Run the following command and save the challenge string that is displayed:

```
# /opt/nessus/sbin/nessuscli fetch --challenge
```

3. In your browser, navigate to <https://plugins.nessus.org/offline.php>.

**Note:** Do not click **here**, even if you have a newer version of Tenable Nessus installed. You cannot use the <https://plugins.nessus.org/v2/offline.php> page for Tenable Security Center downloads.

4. Paste the challenge string from Step 3 and your Activation Code in the appropriate boxes on the web page.
5. Click **Submit**.



6. On the next page, copy the link that starts with **https://plugins.nessus.org/get.php...** and save it as a favorite. Within the saved link change **all-2.0.tar.gz** to **sc-plugins-diff.tar.gz**. This link will be needed for future use.

**Caution:** Do not click the link for nessus-fetch.rc.

7. Go to the favorite you created.

The page prompts you to download a file.

8. Download the file, which is called **sc-plugins-diff.tar.gz**.

9. Verify the file using the MD5 checksum, as described in the [knowledge base](#) article.

10. Save the **sc-plugins-diff.tar.gz** on the system used to access your Tenable Security Center Director web interface.

11. Log in to Tenable Security Center Director via the user interface.

12. Click **System > Configuration**.

The **Configuration** page appears.

13. Click **Plugins/Feed**.

The **Plugins/Feed Configuration** page appears.

14. In the **Schedules** section, expand the **Active Plugins** options.

15. Click **Choose File** and browse to the saved **sc-plugins-diff.tar.gz** file.

16. Click **Submit**.

After several minutes, the plugin update finishes and the page updates the **Last Updated** date and time.

What to do next:

- If you installed a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director, uninstall the Tenable Nessus scanner.

## Perform an Offline Tenable Network Monitor Plugin Update

**Required Tenable Security Center User Role:** Administrator



Before you begin:

- Install a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director. You will use this temporary Tenable Nessus scanner to generate a challenge code for offline Tenable Security Center registration. Do not start or otherwise configure the temporary Tenable Nessus scanner.

To perform an offline Tenable Network Monitor plugin update:

1. In the command line interface (CLI), run the following command to prevent the Tenable Network Monitor scanner from starting automatically upon restarting the system:

```
/usr/bin/systemctl disable nnm
```

2. Run the following command and save the challenge string that is displayed:

```
# /opt/nnm/bin/nnm --challenge
```

3. In your browser, navigate to the [Tenable Network Monitor plugins page](#).
4. Paste the challenge string from Step 3 and your Activation Code in the appropriate boxes on the web page.
5. Click **Submit**.
6. On the next page, copy the link that starts with **https://plugins.nessus.org/v2/...** and bookmark it in your browser. The other information on the page is not relevant for use with Tenable Security Center Director.
7. Click the bookmarked link.

The page prompts you to download a file.

8. Download the file, which is called `sc-passive.tar.gz`.
9. Verify the file using the MD5 checksum, as described in the [knowledge base](#) article.
10. Save the `sc-passive.tar.gz` on the system used to access your Tenable Security Center GUI.



**Note:** Access the Tenable Network Monitor feed setting and change the activation from offline to Tenable Security Center Director.

11. Log in to Tenable Security Center Director via the user interface.

12. Click **System > Configuration**.

The **Configuration** page appears.

13. Click **Plugins/Feed**.

The **Plugins/Feed Configuration** page appears.

14. In the **Schedules** section, expand the **Passive Plugins** options.

15. Click **Choose File** and browse to the saved `sc-passive.tar.gz` file.

16. Click **Submit**.

After several minutes, the plugin update finishes and the page updates the **Last Updated** date and time.

What to do next:

- If you installed a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director, uninstall the Tenable Nessus scanner.

## Perform an Offline Tenable Security Center Feed Update

**Required Tenable Security Center User Role:** Administrator

**Note:** If you already performed a Tenable Nessus offline plugin update, start at step 7.

Before you begin:

- Install a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director. You will use this temporary Tenable Nessus scanner to generate a challenge code for offline Tenable Security Center registration. Do not start or otherwise configure the temporary Tenable Nessus scanner.

To perform an offline Tenable Security Center feed update:





1. In the command line interface (CLI), run the following command to prevent the Tenable Nessus scanner from starting automatically upon restarting the system:

```
/usr/bin/systemctl disable nessusd
```

2. To obtain the challenge code for an offline Tenable Security Center registration, do one of the following:

- If you installed Tenable Security Center in an environment other than Tenable Core, run the following command and save the challenge code:

```
# /opt/nessus/sbin/nessuscli fetch --challenge
```

3. In your browser, navigate to <https://plugins-customers.nessus.org/offline.php>.
4. Paste the challenge code from Step 2 and your Activation Code in the appropriate boxes on the web page.
5. Click **Submit**.
6. On the next page, copy the link that starts with **https://plugins.nessus.org/get.php...** and save it as a favorite.
7. Within the saved link change **all-2.0.tar.gz** to **SecurityCenterFeed48.tar.gz**. This link is needed for future use.

**Caution:** Do not click the link for `nessus-fetch.rc` as it is not needed.

8. Go to the favorite link you created.  
The page prompts you to download a file.
9. Download the file, which will be called **SecurityCenterFeed48.tar.gz**.
10. Verify the file using the MD5 checksum, as described in the [knowledge base](#) article.
11. Save the **SecurityCenterFeed48.tar.gz** on the system used to access your Tenable Security Center Director GUI.
12. Log in to Tenable Security Center Director via the user interface.



13. Click **System > Configuration**.

The **Configuration** page appears.

14. Click **Plugins/Feed**.

The **Plugins/Feed Configuration** page appears.

15. In the **Schedules** section, expand the **Tenable Security Center Feed** options.

16. Click **Choose File** and browse to the saved `SecurityCenterFeed48.tar.gz` file.

17. Click **Submit**.

After several minutes, the plugin update finishes and the page updates the **Last Updated** date and time.

What to do next:

- If you installed a temporary Tenable Nessus scanner on the same host as Tenable Security Center Director, uninstall the Tenable Nessus scanner.

## Migrate Data Between PostgreSQL Implementations

If you want to migrate Tenable Security Center Director data between PostgreSQL implementations, Tenable offers a script to simplify the process.

The script is supported for the following use cases:

- Existing Tenable Security Center Director installs that are licensed and configured. For new installs, follow the directions in [Connect an External PostgreSQL Server](#).
- Migrating from an internal to an external PostgreSQL.
- Migrating from an external PostgreSQL version 13 through 16 to an external PostgreSQL version 13 through 17.
- Migrating from an external PostgreSQL version 17 to an external PostgreSQL version 17. In this scenario, the script will only modify the PostgreSQL configuration. You will need to migrate your data manually after running the script.



**Note:** This script does not support migrating from an external PostgreSQL to an external PostgreSQL of an earlier version. For example, migrating from an external PostgreSQL version 17 to an external PostgreSQL version 16.

This page includes two sets of instructions:

- [Migrate from PostgreSQL 13 through 16](#)

Use these steps if you are migrating from an external PostgreSQL version 13 through 16 to an external PostgreSQL 13 through 17.

- [Migrate from PostgreSQL 17](#)

Use these steps if you are migrating from an external PostgreSQL 17 to an external PostgreSQL 17.

**Note:** In the following instructions, the *source server* is the PostgreSQL that you are migrating data from, and the *destination server* is the PostgreSQL that you are migrating data to.

Before you begin

- The destination PostgreSQL must be a supported version. For information about supported PostgreSQL versions, see [External PostgreSQL Requirements](#).
- For Tenable Security Center Director 6.5.x and 6.6.x, download the script php file from the [Tenable downloads site](#) to the server where you have installed Tenable Security Center Director. Move the script file to `/opt/sc/src/tools`.
- Ensure that both the source PostgreSQL server and the destination PostgreSQL server are currently running.
- On the destination PostgreSQL server, you must have the permission to create a database. If the database is already created, then you must have read and write permissions.

## Migrate from PostgreSQL 13 through 16

Migrate data from a PostgreSQL version 13 through 16 implementation



1. Stop Tenable Security Center Director with the following command:

```
# /bin/systemctl stop SecurityCenter
```

2. Check the PostgreSQL status with the following command:

```
/opt/sc/support/bin/pg_ctl status -D /opt/sc/data/postgresql
```

3. If the PostgreSQL service is not running, start the service with the following command:

```
/opt/sc/support/bin/pg_ctl start -D /opt/sc/data/postgresql/ -l  
/opt/sc/admin/logs/postgresql.log
```

4. Set the [environment variables](#) for the destination PostgreSQL server.

**Note:** You must set the environment variables with a root or tns user account. Use the same account to run the script in step 4. If you are using the tns user account to run the script, switch to the tns user using the command `su - tns`.

5. Run the following script on the server where you have installed Tenable Security Center Director:

```
/opt/sc/support/bin/php /opt/sc/src/tools/MovePostgresDB.php
```

The data on the source server is copied to the destination server.

6. Start Tenable Security Center Director with the following command:

```
# /bin/systemctl start SecurityCenter
```

7. If you manually started the PostgreSQL service in step 3, stop the service with the following command:

```
/opt/sc/support/bin/pg_ctl stop -D /opt/sc/data/postgresql/
```

## Migrate from PostgreSQL 17



## Migrate data from a PostgreSQL version 17 implementation

1. Stop Tenable Security Center Director with the following command:

```
# /bin/systemctl stop SecurityCenter
```

2. Set the [environment variables](#) for the destination PostgreSQL server.

**Note:** You must set the environment variables with a `root` or `tns` user account. Use the same account to run the script in step 4.

3. Run the following script on the server where you have installed Tenable Security Center Director:

```
/opt/sc/support/bin/php /opt/sc/src/tools/MovePostgresDB.php config-only
```

4. Migrate your data from the source server to the destination server.

- a. Log in to your source PostgreSQL server with the following command, where `<username>` is your PostgreSQL username:

```
sudo su - <username>
```

- b. Dump the contents of the source server to a directory with the following command, where `<dbname>` is the name of the source PostgreSQL server, and `<backup_name>` is the name of the backup file:

```
pg_dump <dbname> -O -a -F d -f <backup_name> -j 5 2>&1
```

- c. Restore the dumped contents to the destination server with the following command, where `<admin:admin@[IP address of new PG]:port/dbname>` is the path to the destination PostgreSQL server, and `<backup_name>` is the name of the backup file you



created in the previous step:

```
pg_restore -d postgresql://<admin:admin@[IP address of new PG]:port/dbname> -O -a -F d  
<backup_name> -j 5 2>&1
```

The data on the source server is copied to the destination server.

5. Start Tenable Security Center Director with the following command:

```
# /bin/systemctl start SecurityCenter
```

## Troubleshooting

This troubleshooting section covers some of the common issues encountered with Tenable Security Center Director.

### [General Tenable Security Center Director Troubleshooting](#)

#### General Tenable Security Center Director Troubleshooting

Tenable Security Center Director does not appear to be operational

1. If a login page does not appear, close and reopen the web browser.
2. Ensure that the remote `httpd` service is running on the Tenable Security Center Director host:

```
# ps ax | grep httpd  
1990 ?          Ss      0:01 /opt/sc/support/bin/httpd -k start
```

3. Ensure that sufficient drive space exists on the Tenable Security Center Director host:

```
# df  
  
Filesystem                1K-  
blocks      Used        Available      Use%      Mounted on  
/dev/mapper/VolGroup00-LogVol00  8506784
```



```
8506784    0          100%    /
/dev/sda1          101086    24455    71412    26%
/boot
tmpfs          1037732    0
1037732    0%    /dev/shm
```

4. If there is not enough drive space, recover sufficient space and restart the Tenable Security Center Director service:

```
# df

Filesystem                1K-blocks
Used      Available   Use%    Mounted on
/dev/mapper/VolGroup00-LogVol00  8506784    6816420    1251276
 85%      /
/dev/sda1
101086      24455    71412    26%    /boot
tmpfs          1037732    0    1037732    0%
/dev/shm

# service SecurityCenter restart

Shutting down SecurityCenter services:    [ OK ]
Starting SecurityCenter services:        [ OK ]
#
```

Locked out of all Tenable Security Center Director user accounts

Contact Tenable Support.

Invalid license error

If you receive an invalid license error while attempting to log in as a security manager or lower organizational user, an administrator user must log in and upload a new valid license key. A user with access to the host OS and valid permissions can also check that an up-to-date license exists in `/opt/sc/daemons`. Obtain a license from Tenable and copy it to the daemons directory as the `tns` user.

```
-rw-r--r--  1 tns tns    1942 Oct 29 12:14 license.key
```



## Reporting does not work

Check your Java version. The system only supports OpenJDK and Oracle JRE. The existence of another type of Java on the system will likely break reporting.