Managing Security Advisories and Protecting Devices Using Nexus Dashboard, Release 4.3.1

Table of Contents

New and changed information

The following table provides an overview of the significant changes up to this current release. The table does not provide an exhaustive list of all changes or of the new features up to this release.

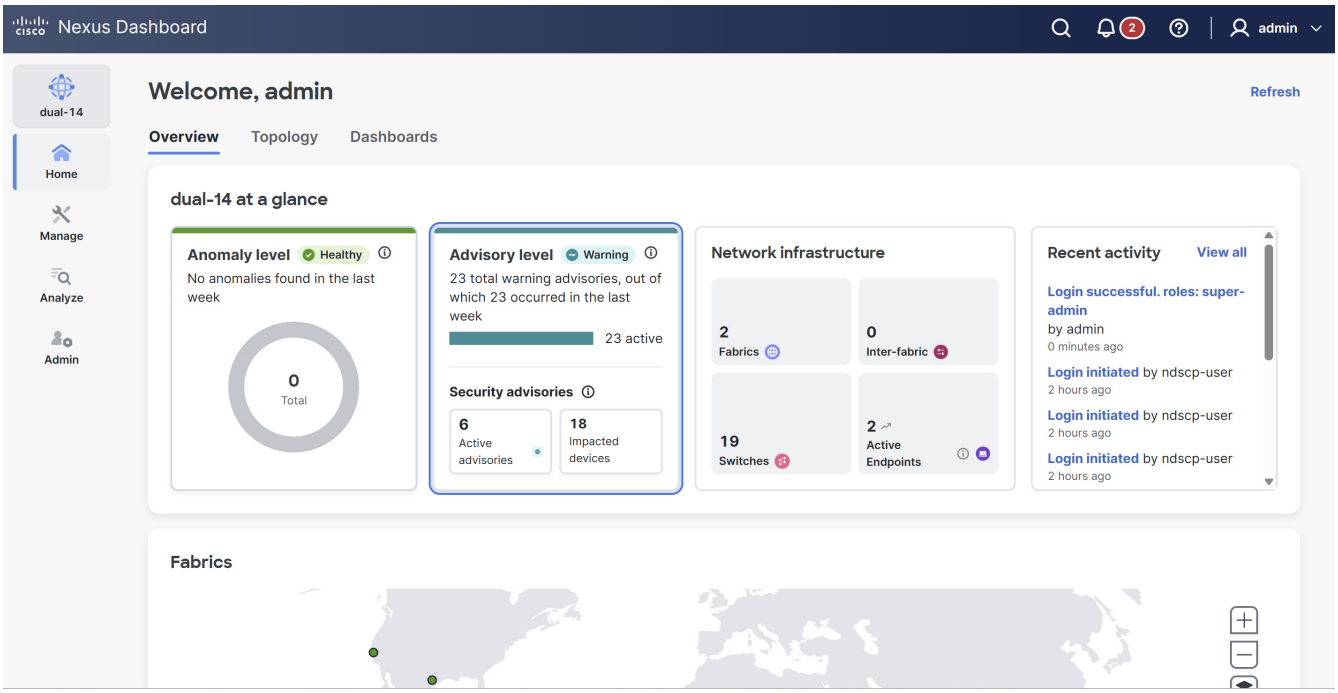
Release Version	Feature	Description
Nexus Dashboard 4.3.1	Device Security Overview tab	Beginning with release 4.3.1, Nexus Dashboard adds a new **Overview** tab on the **Device Security** page that provides a centralized dashboard to monitor security advisories, Live Protect deployment status, hit counts, and historical trends. For more information, see Overview.
Nexus Dashboard 4.3.1	Live Protect status fields in the **Devices** table	Beginning with Nexus Dashboard release 4.3.1, the **Devices** table under the **Security advisories** tab displays two separate status values for each switch such as the **Live Protect config status** and **Live Protect operational status**. These values distinguish between Live Protect configuration state and its runtime status on the device. For more information, see Security advisories.
Nexus Dashboard 4.3.1	Cisco Nexus 9000 Series name change	Cisco Nexus 9000 Series is now the Cisco N9000 Series.

Device security overview

The **Device Security** page in Nexus Dashboard provides a unified interface for monitoring, evaluating, and responding to security advisories that affect your network devices. It allows you to efficiently manage vulnerabilities and enhance the protection of your Cisco Nexus environment.

You can view the security advisories that apply to your devices on the **Device Security** page by navigating to **Manage > Device Security**.

You can also view the **Device Security** page from the Nexus Dashboard **Overview** page. Click the number of active advisories or the impacted devices from the **Advisory level** card.



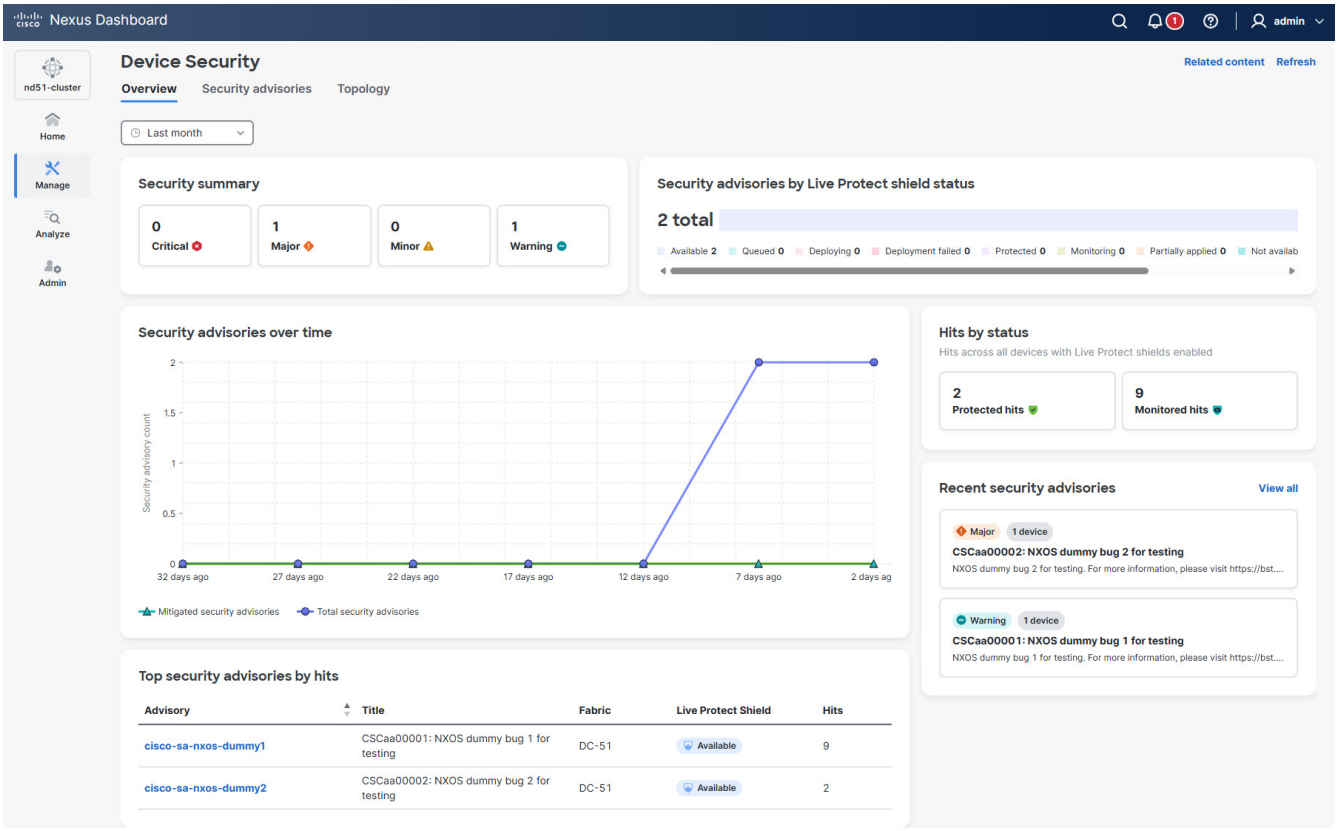
The **Device Security** page includes the following tabs.

- **Overview**
- **Security advisories**
- **Topology**

Overview

The **Overview** tab serves as the centralized dashboard for the **Device Security** page. It provides a consolidated view of security advisory severity, Live Protect deployment status, and real-time hit telemetry. You can use this tab to quickly review the security status of your network, track historical trends, and identify the most critical or actively targeted vulnerabilities without reviewing each advisory individually.

You can view the **Overview** tab by navigating to **Manage > Device Security** > **Overview**.



The **Overview** tab displays the following widgets.

- Security summary
- Security advisories by Live Protect shield status
- Security advisories over time
- Hits by status
- Top security advisories by hits
- Recent security advisories

You can use the time range drop-down list at the top of the **Overview** tab to filter time-based widgets such as **Security advisories over time** and **Top security advisories by hits**. Supported ranges include Last 24 Hours, 7 Days, 14 Days, and Last month.

Security summary

The **Security summary** widget displays the total count of active security advisories on your network, categorized by severity level. You can use this widget to quickly identify the volume of advisories that require attention and prioritize remediation efforts based on severity. The severity level of each advisory matches the severity of the underlying vulnerability.

The widget displays counts for the following severity levels.

- **Critical (Sev1)**—Advisories that pose the highest risk and require immediate attention.
- **Major (Sev2)**—Advisories that pose a significant risk and require prompt action.
- **Minor (Sev3)**—Advisories that pose a lower risk and can be addressed as part of routine maintenance.

- **Warning (Sev4)**—Advisories that highlight potential issues to monitor but do not require immediate action.

Security advisories by Live Protect shield status

The **Security advisories by Live Protect shield status** widget displays the distribution of advisories by their Live Protect shield status.

Displays the distribution of advisories by their Live Protect shield status. Use this widget to track which advisories are protected, which require action, and which are not eligible for Live Protect.

The widget displays the following statuses.

Status	Description
Available	Compensating control exists but has not been deployed.
Deployment failed	Compensating control deployment failed.
Protected	All impacted devices have the control deployed in **Protect** mode.
Monitoring	All impacted devices have the control deployed in **Monitor** mode.
Partially applied	Compensating control is deployed on a subset of the affected devices, but not on all of them.
Not available	No compensating control exists for the advisory.
Not supported	The affected device does not meet the hardware or software requirements for Live Protect.
Disabled	Live Protect is disabled for the advisory or device.

Security advisories over time

The **Security advisories over time** widget displays a time-series graph showing the trend of total security advisories compared to mitigated advisories over the chosen time range. You can use this widget to monitor how the security status of your network changes over time and to evaluate the effectiveness of your mitigation efforts.

The graph plots the following two data lines.

- **Total security advisories**—The total number of active advisories detected during the chosen time range.
- **Mitigated security advisories**—The number of advisories with compensating controls deployed in **Protect** mode during the chosen time range.

The **Mitigated security advisories** include only advisories with compensating controls deployed in **Protect** mode. Advisories in **Monitor** mode are not counted as mitigated because Monitor mode logs exploit attempts but does not actively block them.

Nexus Dashboard captures data points every 15 minutes. You can adjust the time range using the drop-down list at the top of the **Overview** tab.

Hits by status

The **Hits by status** widget displays the total number of exploit attempts (hits) detected across all devices with Live Protect enabled. Hits are categorized by the deployment mode of compensating control that detected them.

The widget displays the following counts:

- **Protected hits**—The number of times the compensating control blocked a vulnerability attempt in **Protect** mode.
- **Monitored hits**—The number of times the compensating control logged a vulnerability attempt in **Monitor** mode.

You can use this widget to gauge the volume of active threats targeting your network and to evaluate the impact of your Live Protect policies.

Top security advisories by hits

The **Top security advisories by hits** widget lists the security advisories with the highest number of exploit attempts across your network. You can use this widget to identify the most actively targeted vulnerabilities and prioritize your response.

The widget displays the following details for each advisory:

- **Advisory**—The unique identifier of the advisory.
- **Title**—A brief summary of the advisory and the affected vulnerability.
- **Fabric**—The network fabric impacted by the advisory.
- **Live Protect shield status**—The current deployment status of the compensating control (for example, Protected, Monitored).
- **Hits**—The total number of exploit attempts detected for the advisory within the chosen time range.

You can sort the list by any of these columns, and filter the data using the time range drop-down list at the top of the **Overview** tab.

Recent security advisories

The **Recent security advisories** widget displays a list of the most recently detected security advisories in your network. You can use this widget to stay informed about new threats as they emerge.

The widget displays the following details for each advisory.

- **Severity**—The severity level of the advisory (for example, **Critical**, **Major**, **Minor**).
- **Number of impacted devices**—The number of devices affected by the advisory.
- **Advisory ID**—The unique identifier of the advisory.
- **Description**—A brief summary of the advisory and the affected vulnerability.

Click **View all** to navigate to the **Security advisories** tab to view the complete list of advisories.

Role-based access control (RBAC)

All widgets on the **Overview** tab display data only for the fabrics that you are authorized to access. Data aggregations, snapshots, and trend calculations are filtered per fabric based on your assigned roles and permissions. As a result, two users with different access levels see different counts, trends, and hit telemetry on the **Overview** tab.

Upgrade considerations

After you upgrade Nexus Dashboard from release 4.2.1 to 4.3.1, some widgets on the **Overview** tab might not immediately display historical data. The data sources that support these widgets are introduced in the current version and begin collecting data only after the upgrade completes.

Note the following data visibility behaviors after an upgrade.

- **Security advisories over time**—The widget begins plotting data points after the upgrade completes and the first 30-minute snapshot job runs. Trends that you view immediately after the upgrade show data starting from the upgrade timestamp. You can view the full 30-day historical data only after Nexus Dashboard runs on current version for at least 30 days.
- **Top security advisories by hits**—The widget does not display data for any time range before the upgrade date. You can view the full 30-day historical data only after Nexus Dashboard runs on current version for at least 30 days.
- **Hits by status**—Total hit counts remain accurate for data collected before the upgrade. However, hit attribution to specific advisories is available only for data collected after the upgrade.

If you choose a time range that extends before the upgrade, the affected widgets display **No data available** for the unsupported portion of the range.

Security advisories

The **Security advisories** tab displays Cisco security advisories that affect your managed devices and the corresponding mitigation state for each device.

To view the **Security advisories** tab, navigate to **Manage > Device Security > Security advisories**.

The **Security advisories** tab includes the following sub-tabs.

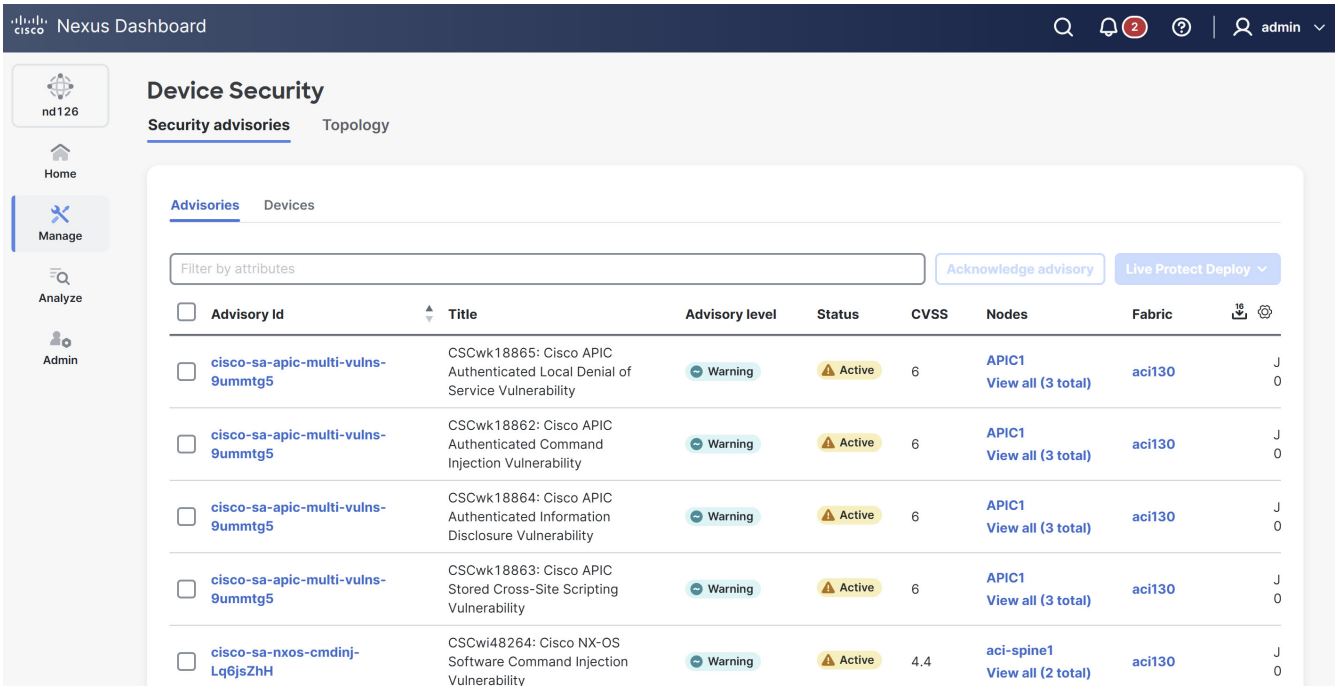
- Advisories
- Devices

For more information on aggregated, fabric-wide view of advisory exposure and Live Protect coverage, see Overview. To deploy or manage shields, see Live Protect overview.

Advisories

The **Advisories** sub-tab displays all Cisco Security Advisories detected across the devices managed by Nexus Dashboard.

You can use the **Advisories** sub-tab to assess potential risks and prioritize remediation, deploy compensating controls, such as Live Protect shields, for one or more advisories, and track the mitigation state of each advisory across affected devices.



The **Advisories** table includes the following details.

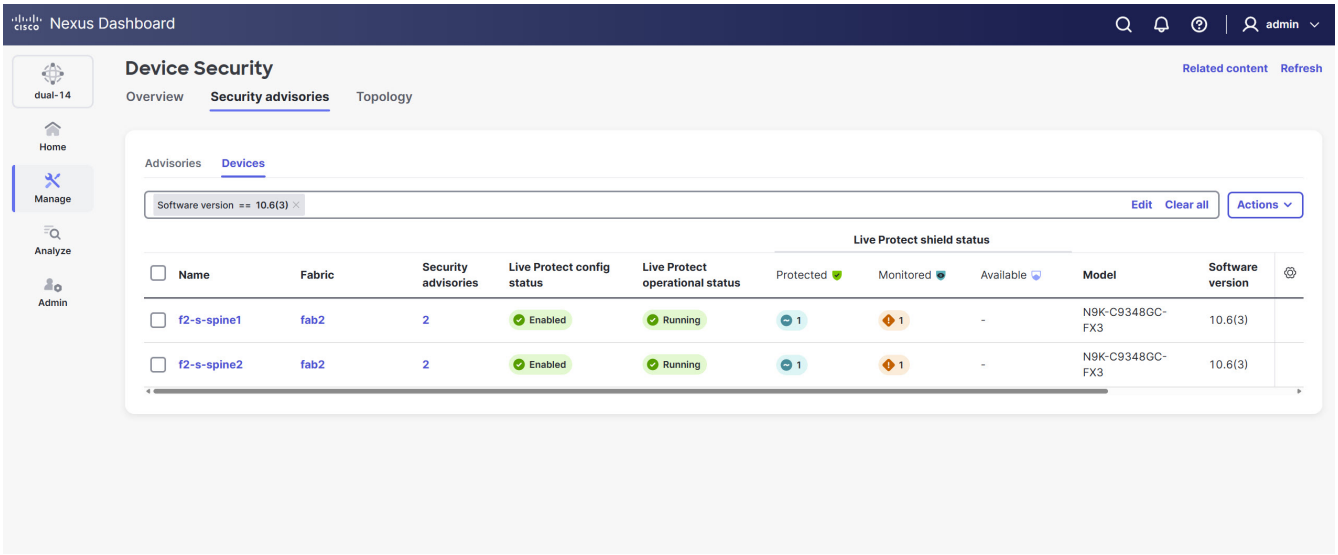
Field	Description
Advisory ID	Specifies a unique identifier for the advisory
Title	Provides a brief summary of the advisory and affected vulnerability.
Advisory level	Indicates the severity or priority of the advisory.
Status	Indicates the current state of the advisory.
CVE	Specifies the Common Vulnerabilities and Exposures (CVE) identifier assigned to the vulnerability.
CVSS	Indicates the Common Vulnerability Scoring System (CVSS) value that represents the severity of the vulnerability.
Nodes	Indicates the devices or endpoints affected by the advisory. Click the node name to view device details.
Fabric	Specifies the network fabric or logical domain impacted by the advisory.
Detection time	Indicates when the advisory was first detected.
Last scan time	Specifies the date and time when the system most recently scanned for this advisory.

Field	Description
Live Protect shield status	Specifies the aggregate mitigation state across all affected nodes for this advisory. Possible values include the following. · **Available** – A shield is published and ready to deploy. · **Deployment failed** – Deployment did not complete successfully on one or more nodes. · **Protected** – The shield is active in Protect mode on all affected nodes. · **Monitoring** – The shield is active in Monitor mode on all affected nodes. · **Partially applied** – The shield is active on a subset of affected nodes. · **Not available** – No shield is currently published for this advisory. · **Not supported** – The affected platform or NX-OS version does not support Live Protect. · **Disabled** – Live Protect has been disabled for this advisory.

Devices

The **Devices** sub-tab lists all managed devices that Nexus Dashboard has scanned for security advisories. Each row represents a single device and shows its overall exposure, Live Protect configuration, and runtime mitigation state.

You can use the **Devices** sub-tab to determine which devices are exposed and how many advisories affect each device, verify that Live Protect is correctly configured and running on each device, identify devices where the config status does not match the operational status, and review the shield status of the device.



The **Devices** table includes the following details.

Field	Description
Name	Specifies the hostname of the managed device.
Fabric	Indicates the network fabric or logical domain to which the device belongs.
Security advisories	Specifies the total number of active security advisories that affect this device.
Live Protect config status	Represents the Live Protect intent configured from Nexus Dashboard and pushed to the switch. It indicates the configured state of the Live Protect feature. Possible values include the following. · **Enabled** – Live Protect is configured and operating on the device. · **Enabling** – Live Protect configuration is being applied to the device. · **Enable Failed** – The attempt to enable Live Protect on the device did not succeed. · **Not Enabled** – Live Protect is not configured on the device. · **Disabling** – Live Protect is being disabled on the device. · **Disable Failed** – The attempt to disable Live Protect on the device did not succeed. · **Not Supported** – The platform or NX-OS version does not support Live Protect.
Live Protect operational status	Represents the actual runtime state reported by the switch. It indicates whether Live Protect is currently running successfully on the device. Possible values include the following. · **Initializing** – Live Protect is starting up on the device. · **Running** – Live Protect is active and enforcing shields. · **Failed** – Live Protect encountered an error during execution. · **Not Available** – Live Protect runtime state cannot be determined or is not applicable.
Live Protect shield status	Provides a grouped count of shields applied to this device, broken down by state as follows: · **Protected** – Number of advisories actively mitigated in Protect mode. · **Monitored** – Number of advisories actively observed in Monitor mode. · **Available** – Number of advisories with a published shield that has not yet been deployed on this device.

Field	Description
Model	Specifies the hardware model of the device.
Software version	Specifies the NX-OS software version currently running on the device.
Total hit count	Provides the cumulative number of times Live Protect shields have detected attempts to exploit vulnerabilities on this device.

The **Live Protect config status** and **Live Protect operational status** are independent values.

- Use config status to understand the intended state configured from Nexus Dashboard.
- Use operational status to understand the actual running state on the switch.

For example, a device can have a config status of **Enabled** while the operational status as **Failed**, indicating that the configuration was pushed successfully but the runtime encountered an error. Always check both values when troubleshooting Live Protect coverage on a device.

Topology

The **Topology** tab provides a visual representation of the managed fabrics within your network. It allows you to quickly assess the security status of various fabrics and view details for specific devices to view their security status and Live Protect availability.

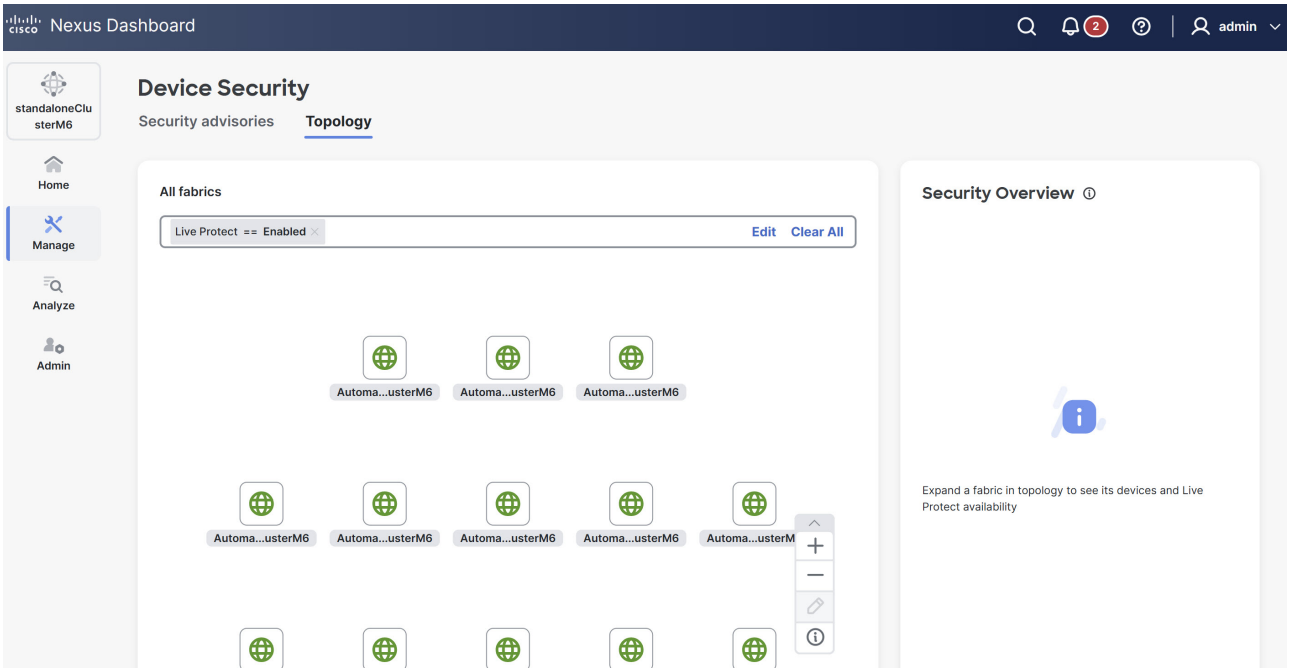
Follow these steps to view the **Topology** page.

1. Navigate to **Manage > Device Security**.

   The **Device Security** page displays.

2. Click the **Topology** tab.

   Nexus Dashboard displays the graphical view of all managed fabrics and their security status.



3. (Optional) To view specific device details within a fabric, click a fabric icon in the topology map.

The **Topology** page displays the following details.

- Fabric map—provides a high-level overview of the network hierarchy.
- Security Overview—provides details about specific devices and Live Protect availability.

Live Protect overview

Live Protect is a Cisco Nexus feature that enables rapid mitigation of certain security advisories on eligible Cisco N9000 Series switches. By deploying compensating-control policies directly to switches, you can protect your network from active threats without requiring a maintenance window or immediate software upgrade.

For more information, see Cisco N9000 Series NX-OS Security Configuration Guide.

Live Protect identifies security advisories affecting your devices. If an advisory can be mitigated, the system provides a signed compensating control (Tetragon policy) in the form of an RPM package. You can deploy these controls to eligible switches in either monitor or protect mode. Live Protect tracks the status and impact of each control, providing visibility through the Cisco Nexus user interface.

- **Protect mode**—Policy actively blocks threat attempts, enforcing protection on the device.
- **Monitor mode**—Policy logs exploit attempts but does not enforce protection.
- **Disable mode**—Disables specific policy on the switch without removing the policy.

Live Protect shield deployment state and hit-count history are not backed up or restored in Nexus Dashboard, although shields may continue running on the switches. To learn about Live Protect restore capabilities, see Backing Up and Restoring Your Nexus Dashboard.

Prerequisites

- Live Protect requires either connectivity from Nexus Dashboard to Cisco Intersight or a manual upload of the security advisory metadata using the air-gapped process. Ensure you provide one of these methods to fetch the latest security advisory metadata.
- Ensure that telemetry is enabled and operational on all relevant devices.
- Ensure that you enable **Live Protect** on devices. For more information, see Enable Live Protect.

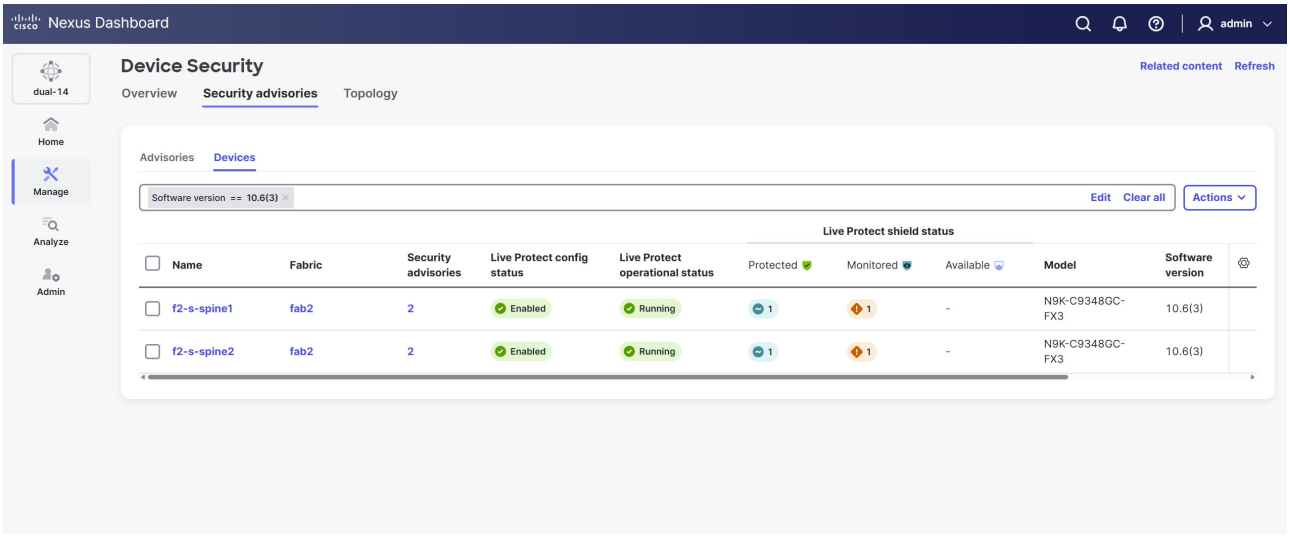
Enable Live Protect

Follow these steps to enable Live Protect.

1. Navigate to **Manage > Device Security**.

   The **Device Security** page displays.

2. Click the **Security advisories** tab and then click the **Devices** sub-tab.



3. In the **Devices** table, under **Live Protect config status** column, locate devices with a status of **Not Enabled**.
4. Choose device(s) you want to include.
5. From the **Actions** drop-down list, choose **Enable Live Protect**.

   The **Live Protect config status** for the chosen devices transitions to **Enabling**, and then to **Enabled** when the configuration is successfully pushed to the switch. Once the switch reports the runtime state, the **Live Protect operational status** transitions to **Initializing** and then to **Running**.

Live Protect workflow

The Live Protect workflow guides you through mitigating security advisories on eligible Cisco N9000 Series switches. It includes detecting advisories, assessing device impact, deploying compensating controls, monitoring status, and clearing advisories after software updates. This process helps ensure your network remains protected from active threats with minimal operational disruption.

1. **Detect advisories**: Nexus Dashboard identifies active security advisories affecting your managed devices.

2. **Assess impact**: Review the devices impacted by advisories and eligible for Live Protect in the **Security advisories** table.
3. **Deploy compensating control**: Choose the advisory and impacted devices. Choose **Monitor** (observe only) or **Protect** (block exploits) mode, then deploy the control.
4. **Monitor status**: Track deployment progress, policy status, and exploit hit counts directly in Nexus Dashboard.
5. **Upgrade and clear**: When a software fix becomes available, upgrade your devices. Nexus Dashboard automatically clears the advisory and removes the compensating control.

Deploy Live Protect shield

You can deploy a Live Protect compensating control from either the **Advisories** sub-tab (go to **Manage > Device Security > Security advisories**) or the **Topology** tab (go to **Manage > Device Security > Topology**).

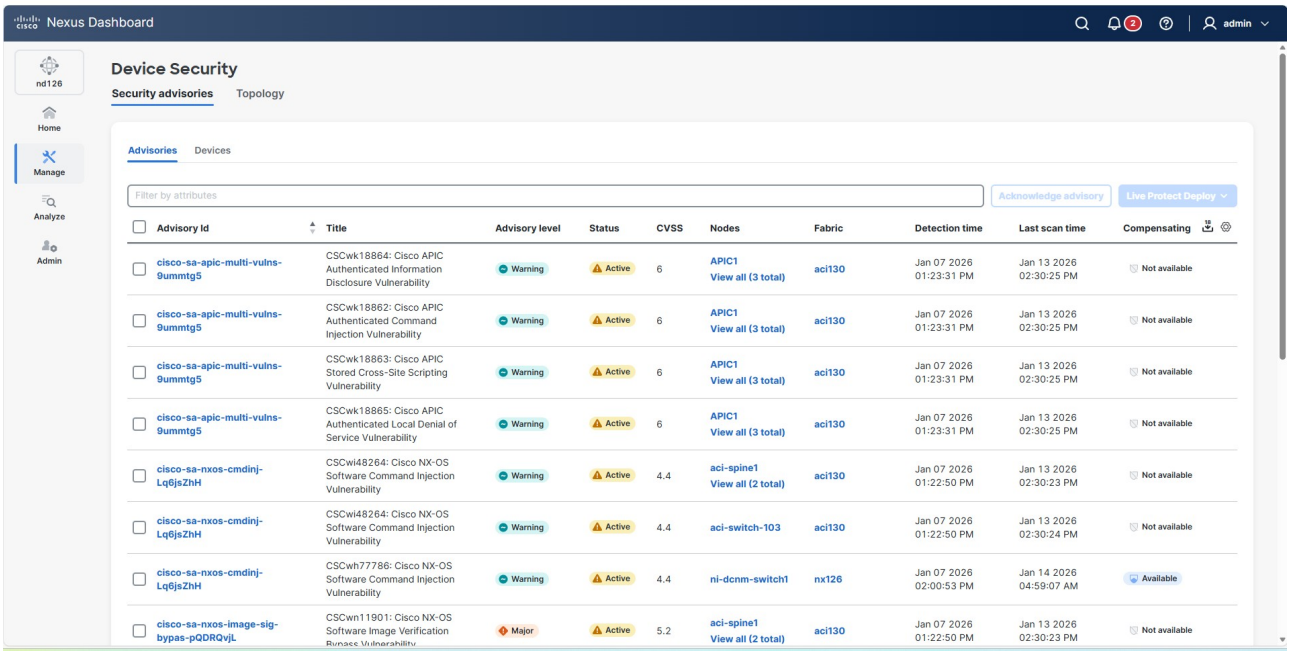
Deploy Live Protect shield from the Advisories sub-tab

Follow these steps to deploy the Live Protect shield from **Advisories** sub-tab.

1. Navigate to **Manage > Device Security**.

   The **Device Security** page displays.

2. Click the **Security advisories** tab and then click the **Advisories** tab.



3. Under the **Advisories** tab, identify a security advisory that has the **Live Protect shield status** as **Available**.

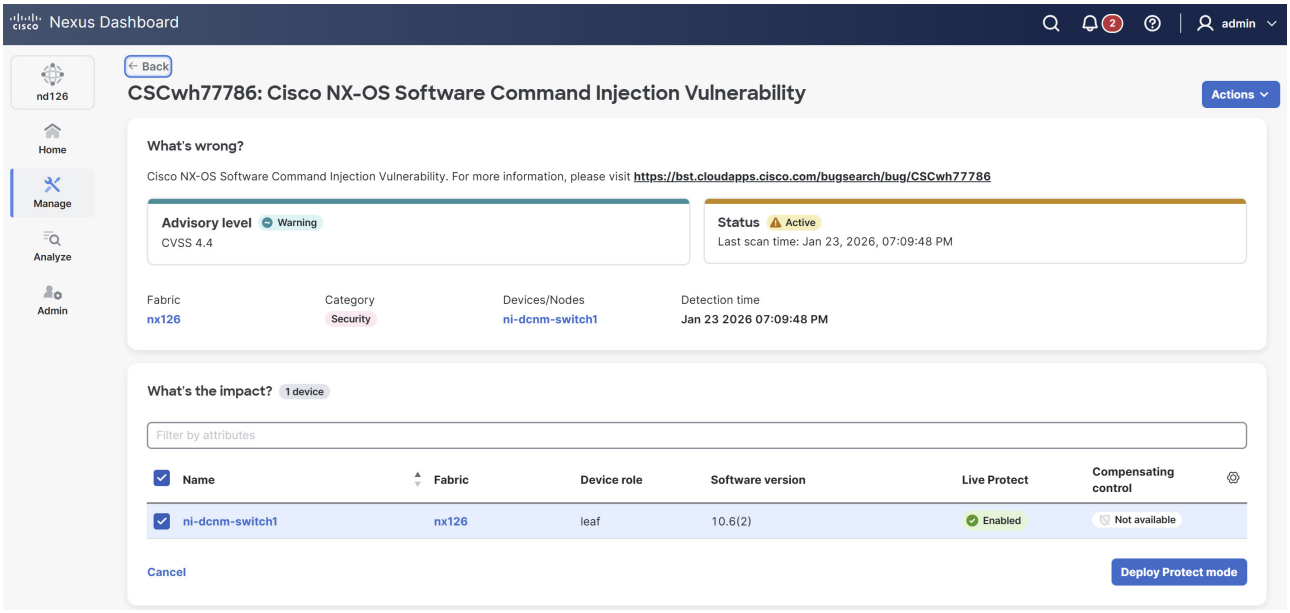
   Following are the live protect shield statuses.

   - **Protected**—All impacted devices have control in protection mode.

- **Monitoring**—All impacted devices have control in monitoring mode.
- **Partially applied**—Some devices are protected, others are not.
- **Available**—Control exists but not deployed.
- **Not available**—No control exists.

4. Click the check box next to the **Advisory ID**.
5. From the **Actions** drop-down list, choose **Deploy in protect mode**.

   The advisory details page displays.



6. Under **What's the impact**, choose the affected devices.
7. From the **Actions** drop-down list, choose **Deploy in protect mode**.

   The status of the advisory changes to **Protected** in the **Advisories** table when all devices report successful deployment.

   You can view the following statuses for the security advisories.

   - **Active**—No compensating control applied (Red).
   - **Protected**—All impacted devices have a compensating control in protection mode (Green).
   - **Partially protected**—Some devices protected, others monitoring or not deployed (Orange).
   - **Monitoring**—Nexus Dashboard deploys compensating control in monitor mode on all impacted devices, logging threat attempts without enforcing protection.
   - **Cleared**—Displayed when advisory is cleared (SW version upgrade).

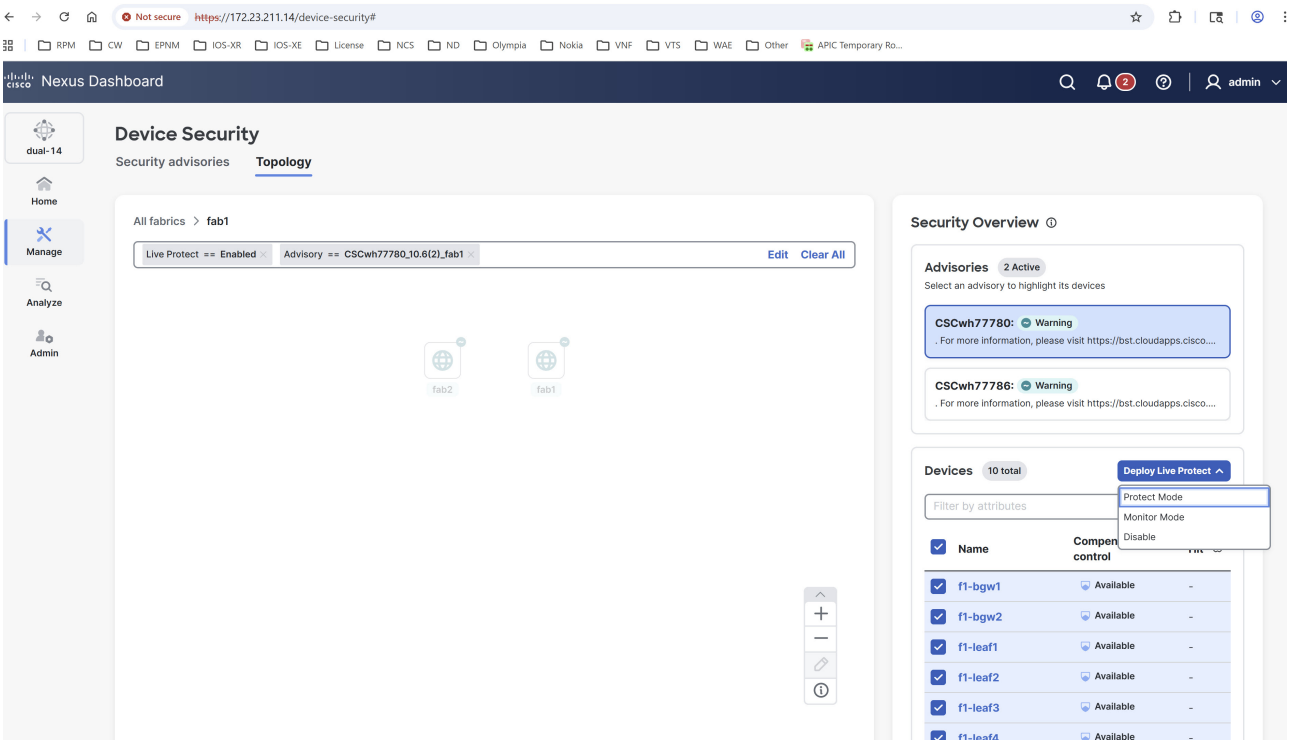
Deploy Live Protect shield from the Topology tab

Follow these steps to deploy the Live Protect shield from the **Topology** tab

1. Navigate to **Manage > Device Security**.

The **Device Security** page displays.

2. Click the **Topology** tab
3. Double-click the fabric to view the switches with security advisories.



4. In the **Security overview** pane on the right, under **Advisories**, you can view the current advisories for the switch and under **Devices**, you can view the affected devices.
5. Choose the advisory.
6. Click the check box next to **Name** to choose one or more devices.
7. From the **Actions** drop-down list, choose **Deploy in protect mode**.

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