

Campus A-03 Wired Lab Guide

Day-2 Operations, Dashboards, and Events



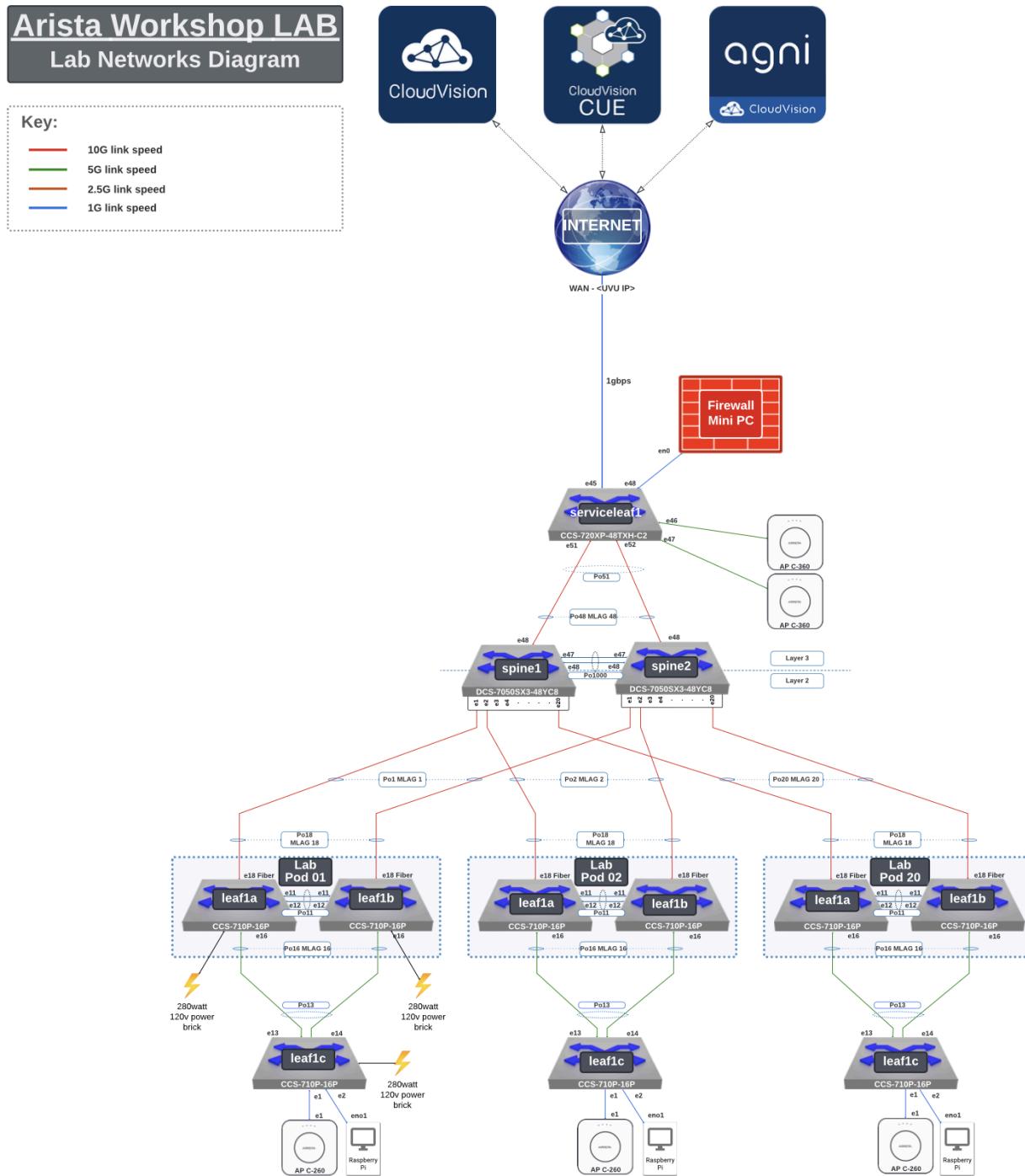
This Lab Guide:

<https://github.com/arista-rockies/Workshops/tree/main/Campus>

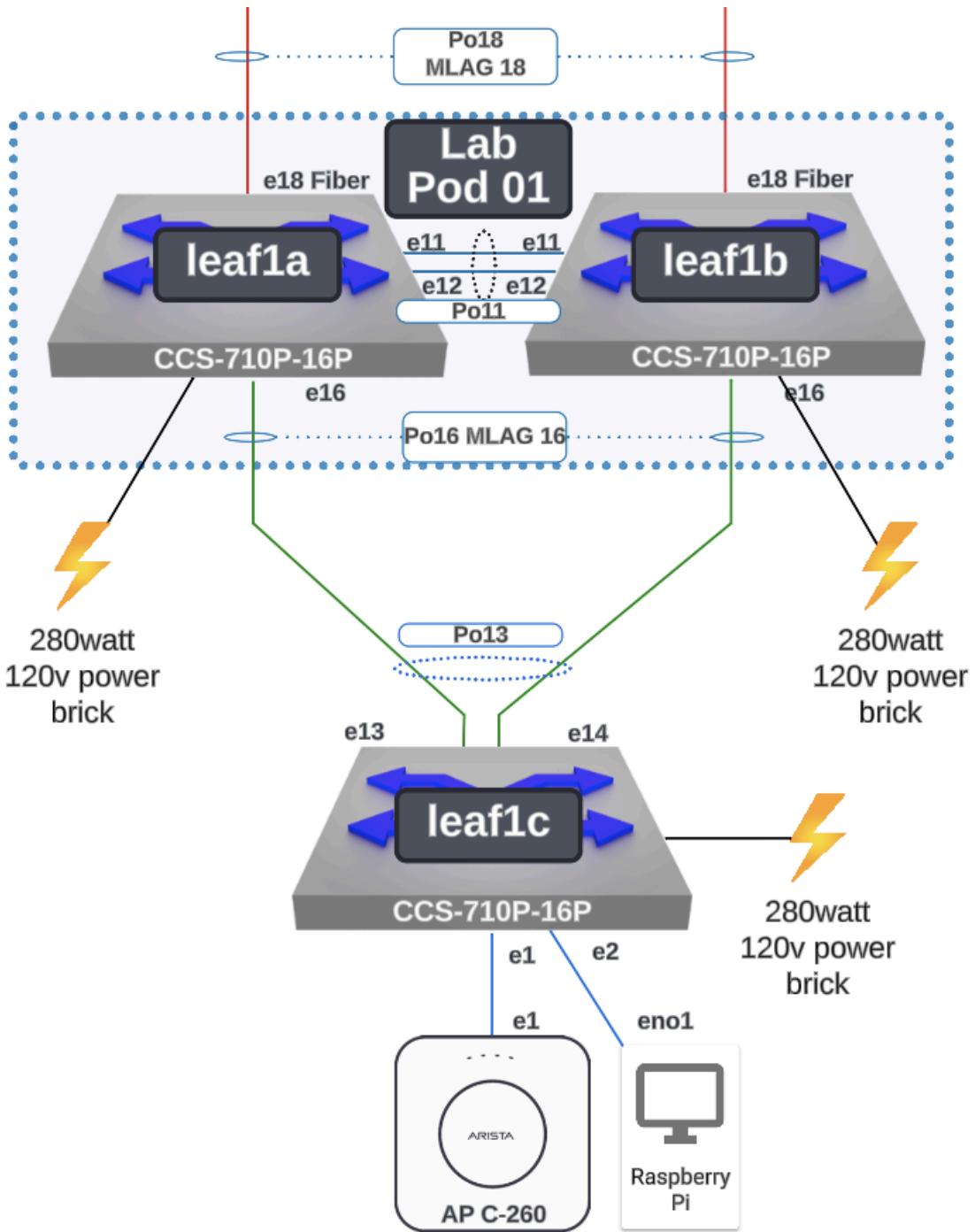
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Full Lab Topology



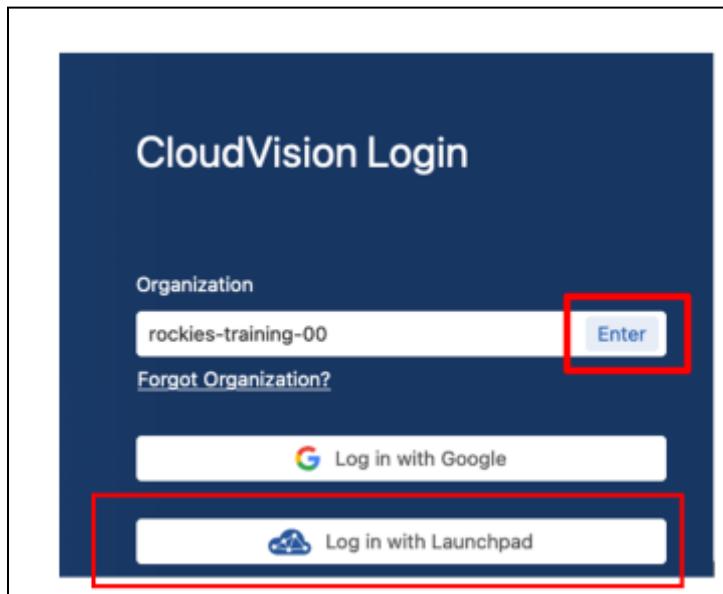
POD Topology



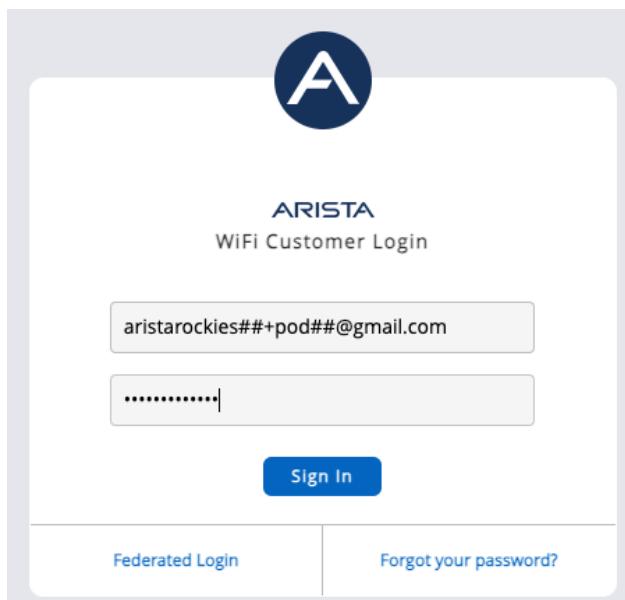
1. Accessing CloudVision as a Service

In your Google Chrome browser, enter the following URL: <https://www.arista.io/> to access CloudVision as a Service (CVaaS).

1. in the “Organization” box enter the Organization name “**rockies-training-##**” where **##** is a 2 digit character between 01-20 that was assigned to your lab/Pod, then click “Enter”.



2. Click the Log in with Launchpad button and provide your assigned lab/Pod email address and password:



3. You will now be logged into CloudVision

Campus Health Overview

Aug 9, 2024 10:32:28 (1 hour) | [?](#) aristaro...s1+pod13 rockies...ining-13

[View in Network Inventory](#) No data to display [View in Endpoint Overview](#) No data to display

Connectivity Monitor Anomalies

No Monitoring Set Up [Connectivity Monitor Studio >](#)

Network Topology

[View cluster in Topology](#)

Events

Type	Count	Last Seen
CVE Threat Exposure	0	2d ago
CVE Threat Exposure	0	1w ago
CVE Threat Exposure	3	1w ago

[View in Events](#)

Quick Actions

[Access Interface Configuration](#)
Access Interface Configuration

[Interface Diagnostics](#)
Run Interface Diagnostics

Top Flows by Source

Source IP	Flow Volume
uslax1-vip-bx-004.a.applimg.com	2G
10.0.113.42	0
lax31s16-in-f1.1e100.net	0

Top Flows by Destination

Destination IP	Flow Volume
10.0.113.42	2G
lax17s55-in-f10.1e100.net	0
lax31s16-in-f14.1e100.net	0

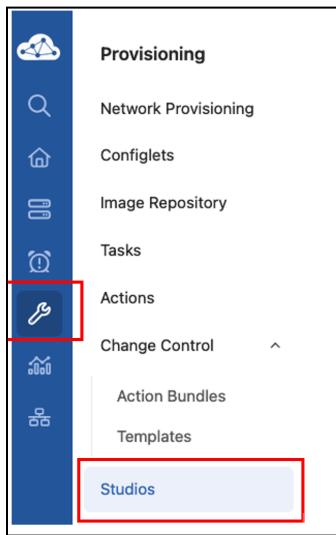
Compliance Issues

Type	Count
Bug Exposure	3
CVE Threats	3
Configuration	0
Image	0
End of life: Software	0
End of life: Hardware	0

2. Operations: Add a VLAN

Adding a VLAN is a common provisioning task. Let's use the existing Campus Fabric Studio to add an incremental configuration (add a VLAN). This VLAN will be specific to your pod and not routable outside.

1. Select **Provisioning**, then **Studios**



2. Create a new Workspace and name it similar to “<add-vlan2##>” where ## is your pod number. Examples:

Pod 1 = VLAN 201

Pod 2 = VLAN 202

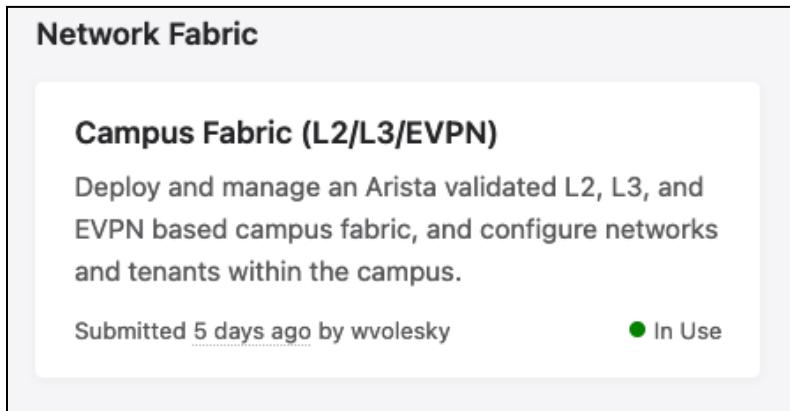
...

Pod 13 = VLAN 213

etc.

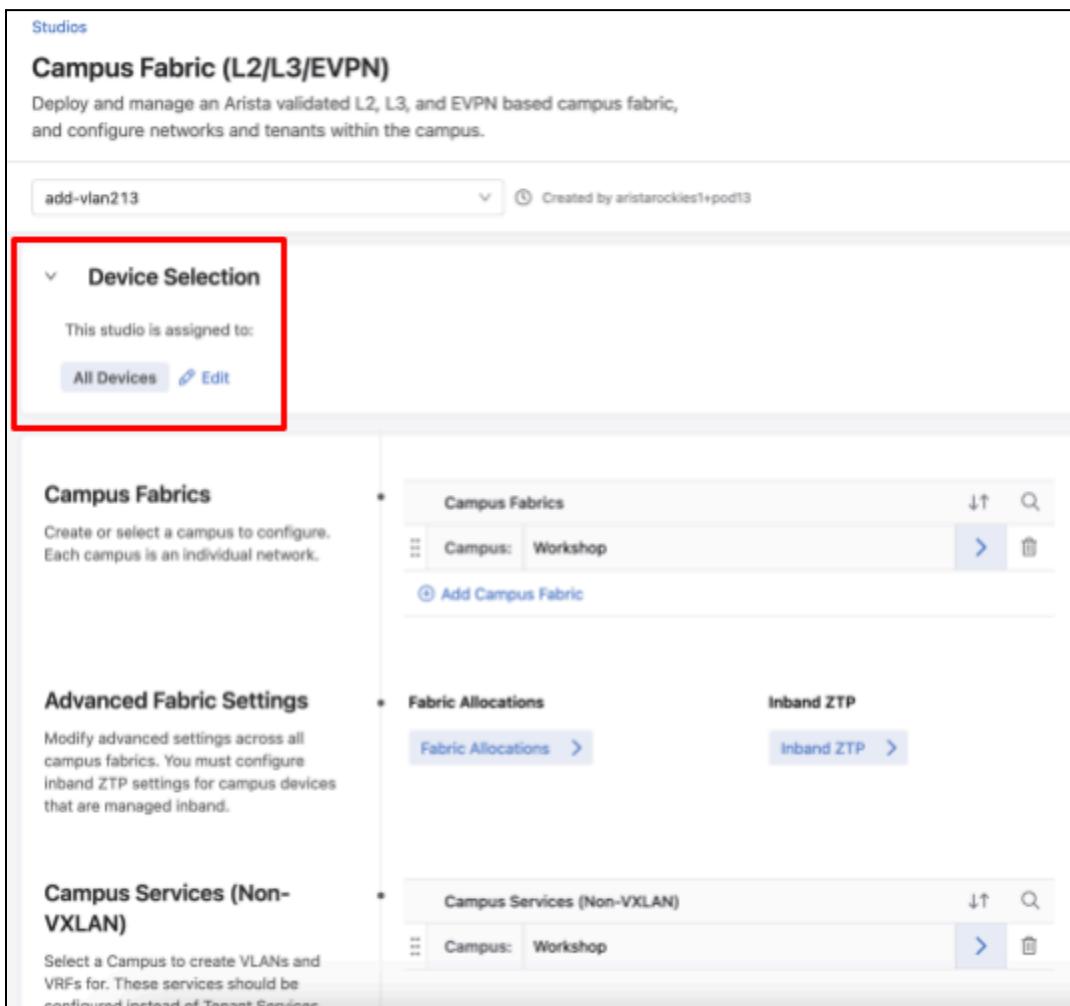
A screenshot of the 'Create Workspace' dialog box. It shows a 'Create Workspace' button (highlighted with a red box) and a descriptive text: 'A workspace is used to make changes to your network by configuring studio inputs and assigning tagged devices.' Below this are fields for 'Name' (containing 'add-vlan213', highlighted with a red box) and 'Description'. At the bottom are 'Cancel' and 'Create' buttons, with the 'Create' button highlighted with a red box.

3. Once the workspace is created, open the existing **Campus Fabric (L2/L3/EVPN)** studio:
(If the Studios main page is not present you may have to select the blue Studios breadcrumb towards the top left of the page)



The screenshot shows a workspace titled "Network Fabric". Inside, there is a card for the "Campus Fabric (L2/L3/EVPN)" studio. The card includes the title, a brief description: "Deploy and manage an Arista validated L2, L3, and EVPN based campus fabric, and configure networks and tenants within the campus.", the submitter information: "Submitted 5 days ago by wvolesky", and a status indicator: "● In Use".

- a. Within the Campus Fabric studio, validate that the Device Selection still applies to **All Devices**



The screenshot shows the "Campus Fabric (L2/L3/EVPN)" studio interface. At the top, there is a header with the studio name and a creation timestamp: "Created by aristarockies1+pod13". Below the header, the "Device Selection" section is highlighted with a red box. It shows the message "This studio is assigned to:" followed by a button "All Devices" and an "Edit" link. To the right of this section, there are three main configuration panels: "Campus Fabrics", "Advanced Fabric Settings", and "Campus Services (Non-VXLAN)".

- Campus Fabrics:** Shows a table with one entry: "Campus: Workshop". Buttons for "Add Campus Fabric", "Fabric Allocations >", and "Inband ZTP >" are available.
- Advanced Fabric Settings:** Provides a summary of advanced settings across all campus fabrics, mentioning inband ZTP settings for managed inband devices.
- Campus Services (Non-VXLAN):** Shows a table with one entry: "Campus: Workshop". Buttons for "Campus Services (Non-VXLAN) >" and "Inband ZTP >" are available.

- b. Within the **Campus Services (Non-VXLAN)** select the **Campus:Workshop** expand arrow button on the right

Studios

Campus Fabric (L2/L3/EVPN)

Deploy and manage an Arista validated L2, L3, and EVPN based campus fabric, and configure networks and tenants within the campus.

add-vlan213 Created by aristarockies1+pod13

Device Selection

This studio is assigned to:

All Devices [Edit](#)

Campus Fabrics

Create or select a campus to configure. Each campus is an individual network.

Campus	Fabric	Action
Workshop		Add Campus Fabric

Advanced Fabric Settings

Modify advanced settings across all campus fabrics. You must configure Inband ZTP settings for campus devices that are managed inband.

[Fabric Allocations >](#) [Inband ZTP >](#)

Campus Services (Non-VXLAN)

Select a Campus to create VLANs and VRFs for. These services should be configured instead of Tenant Services.

Campus	Service	Action
Workshop		>

4. Add new VLAN and add to the “IT-Bldg” Campus POD.
- Within the **Campus: Workshop** section, click the **Campus-Pod: IT-Bldg** name or the right arrow **Expand** button

The screenshot shows the 'Campus Services (Non-VXLAN)' configuration page. At the top, there's a dropdown menu 'add-vlan213' and a note 'Created by aristarockies1+pod13'. Below this, a green dashed box highlights the 'Campus Fabric (L2/L3/EVPN) / Campus:Workshop' section. Underneath, there are two tabs: 'Configuration associated with' (set to 'Campus: Workshop') and 'Assigned Devices' (listing 'campus-pod13-leaf1a', 'campus-pod13-leaf1b', and 'campus-pod13-leaf1c').

The main area is titled 'Campus Pods' with the sub-instruction 'Select a Campus Pod to create VLANs for.' It shows a list of campus pods:

- Campus-Pod: IT-Bldg (highlighted with a red box)
- ... (ellipsis)

A red 'OR' symbol is placed above the first item in the list. To the right of the list are sorting arrows ($\downarrow \uparrow$) and a search icon. A red bracket is drawn around the 'Campus-Pod: IT-Bldg' entry and the 'OR' symbol, indicating they are the key points of interest.

Below this, there's a 'VRFs' section with the sub-instruction 'Define L3 network services organized by VRF.' It includes a 'Name' input field, a 'Add VRF' button, and sorting arrows ($\downarrow \uparrow$, \mathbb{D}).

- b. click the **Add VLAN** button

Campus Fabric (L2/L3/EVPN) / Campus:Workshop / Campus-Pod:IT-Bldg

Configuration associated with Assigned Devices

Campus-Pod: IT-Bldg campus-pod13-leaf1a × campus-pod13-leaf1b × campus-pod13-leaf1c ×

Campus Type

Select the Campus Pod's network architecture to display the appropriate input fields. The type must match the selected type in Campus Fabric.

VLANs

Configure and assign VLANs for devices in this campus pod. This will generate the appropriate L2 VLAN configuration on all L2 devices and also add the SVI configuration to all L2/L3 devices where the VLAN is assigned.

* Campus Type ⓘ
L2

* VLAN ID
110
⊕ Add VLAN

- c. Once an entry is added for VLAN <2##>, click the right arrow **Expand** button

VLANs

Configure and assign VLANs for devices in this campus pod. This will generate the appropriate L2 VLAN configuration on all L2 devices and also add the SVI configuration to all L2/L3 devices where the VLAN is assigned.

* VLAN ID
113
213
⊕ Add VLAN

>

d. Customize the new VLAN by giving it a name

Campus Fabric (L2/L3/EVPN) / Campus:Workshop ▾ / Campus-Pod:IT-Bldg ▾ / 213 ▾

Configuration for

213 ⚡

value is selected, the VLAN will be a member of the default VRF.

Enabled

Enable/Disable the SVI. If no value is entered, the SVI will be enabled.

Name

Enter a one-word name for the VLAN.

Pods

Select the Access Pods this VLAN to be configured on

Select

Enabled ⓘ

Name ⓘ

213

Pods ⓘ

+ Add Pod

e. Add the VLAN to the Access-Pod by clicking **Add Pod** and selecting **IDF1**

Campus Fabric (L2/L3/EVPN) / Campus:Workshop ▾ / Campus-Pod:IT-Bldg ▾ / 213 ▾

Configuration for

213 ⚡

value is selected, the VLAN will be a member of the default VRF.

Enabled

Enable/Disable the SVI. If no value is entered, the SVI will be enabled.

Name

Enter a one-word name for the VLAN.

Pods

Select the Access Pods this VLAN to be configured on

Select

Enabled ⓘ

Name ⓘ

213

Pods ⓘ

+ Add Pod

IDF1

You can skip entries for all of the remaining sections.

4. Review and Submit Workspace

- a. Click “Review Workspace” to submit the staged changes.

VLANs

Configure and assign VLANs for devices in this campus pod. This will generate the appropriate L2 VLAN configuration on all L2 devices and also add the SVI configuration to all L2/L3 devices where the VLAN is assigned.

add-vlan213

Build Succeeded

Saved 39 minutes ago

Review Workspace

- b. Notice that the Studio is adding the VLAN to all three devices within the Pod as well as adding the newly created VLAN to the trunk interfaces.

Proposed Configuration Changes

Advanced Reconcile

Search devices

Update Config - common changes on 2 devices

campus-pod08-leaf1a campus-pod08-leaf1b

+2 -2 -0

Proposed Configuration	Running Configuration
> Expand 177 lines	
178 vian 208	189 interface Port-Channel16
179 name 208	190 description CAMPUS-P0D08-LEAF1C_Po13
> Expand 12 lines	191 switchport trunk allowed vlan 108,208
192 interface Port-Channel16	192 interface Port-Channel16
193 description CAMPUS-P0D08-LEAF1C_Po13	193 description CAMPUS-P0D08-LEAF1C_Po13
194 switchport trunk allowed vlan 108,208	194 switchport trunk allowed vlan 108
> Expand 5 lines	
200 interface Port-Channel18	197 interface Port-Channel18
201 description CAMPUS-SPINE1_Po6	198 description CAMPUS-SPINE1_Po6
202 switchport trunk allowed vlan 108,208	199 switchport trunk allowed vlan 108
> Expand 50 lines	

Update Config - campus-pod08-leaf1c

Proposed Configuration	Running Configuration
> Expand 176 lines	
177 vian 208	177 aaa authorization exec default local
178 name 208	178 !
179 !	179 interface Port-Channel13
180 aaa authorization exec default local	180 description CAMPUS-P0D08-LEAF1B_Po16
181 !	181 switchport trunk allowed vlan 108,208
182 interface Port-Channel13	182 !
183 description CAMPUS-P0D08-LEAF1B_Po16	183 interface Port-Channel13
184 switchport trunk allowed vlan 108,208	184 description CAMPUS-P0D08-LEAF1B_Po16

+2 -1 -0

c. Once you review the changes, click **Submit Workspace**

The screenshot shows the 'Workspaces' page with a workspace named 'add vlan208'. The status is 'Build Succeeded'. A red box highlights the 'Submit Workspace' button in the top right corner. Below it, the 'Build Status' section is shown with four green checkmarks indicating successful validation steps: Input Validation, Configlet Compilation, Config Validation, and Software Validation. The last build was performed 5 minutes ago.

d. Click **View Change Control**

A modal dialog box is displayed, confirming that the workspace has been submitted. It contains the message 'Workspace Submitted' and a green checkmark icon followed by the text 'Change Control has been created'. At the bottom right of the dialog, a blue button labeled 'View Change Control' is highlighted with a red box. There are also 'Close' and search device buttons.

e. Review the Change Control and select “Review and Approve”

Change Control

add-vlan213 (created by workspace)

Review and Approve

aristaro...s1+pod13
rockies-...ining-13

Name	Description	Schedule Start	Recent Activity
add-vlan213 (created by workspace)	Changes from workspace "add-vlan213"	Select date	

Search actions Select a Template

Change Control Stages (3 actions) ...

- campus-pod13-leaf1a (WTW2323...)** (1 action)
 - campus-pod13-leaf1a**
Set Config to Designed Config at Aug 9, 2024 07:46:36 +2 -2 -0
- campus-pod13-leaf1b (WTW2323...)** (1 action)
 - campus-pod13-leaf1b**
Set Config to Designed Config at Aug 9, 2024 07:46:36 +2 -2 -0
- campus-pod13-leaf1c (WTW2323...)** (1 action)
 - campus-pod13-leaf1c**
Set Config to Designed Config at Aug 9, 2024 07:46:36 +2 -1 -0

Change Control Summary

Root Execute: Parallel

Last Edit: aristarockies1+pod13 3m ago

Approval: In Progress

Completed:

Action Summary (3) Add Action

3 Config

Device Status (3) Configuration Changes (3)

Device Status	Configuration Changes
campus-pod13-leaf1a	Active
campus-pod13-leaf1b	Active
campus-pod13-leaf1c	Active

- f. If necessary toggle the **Execute Immediately** button and select **Approve and Execute**

Review Change - add-vlan213 (created by workspace)

Search devices

Update Config - common changes on 2 devices

+2 ~2 -0

campus-pod13-leaf1a campus-pod13-leaf1b

Designed Configuration	Running Configuration
> Expand 170 lines	
171 vlan 213	
172 name vlan213	
> Expand 18 lines	
191 interface Port-Channel16	188 interface Port-Channel16
192 description CAMPUS-POD13-LEAF1C_Po13	189 description CAMPUS-POD13-LEAF1C_Po13
193 switchport trunk allowed vlan 113,213	190 switchport trunk allowed vlan 113
> Expand 5 lines	
199 interface Port-Channel18	196 interface Port-Channel18
200 description SPINE1_Po17	197 description SPINE1_Po17
201 switchport trunk allowed vlan 113,213	198 switchport trunk allowed vlan 113
> Expand 80 lines	

Update Config - campus-pod13-leaf1c

+2 ~1 -0

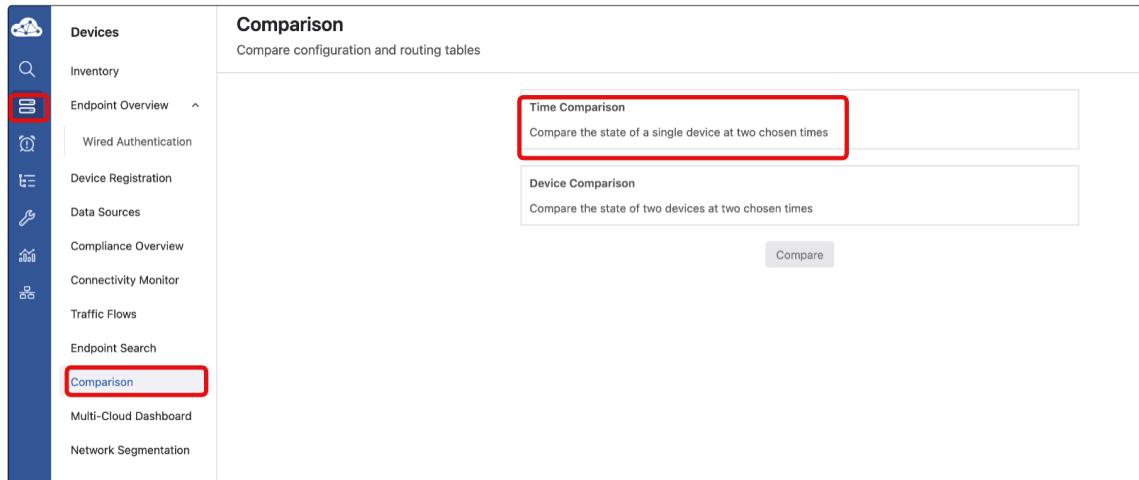
Designed Configuration	Running Configuration
> Expand 169 lines	
170 vlan 213	
171 name vlan213	
> Expand 9 lines	

Notes: Enter approval note

Execute immediately Approve and Execute

5. Verify the VLAN has been added to the device configuration by using the **Devices Comparison** function.

- a. Click **Devices** then **Comparison** menu, and select a **Time Comparison**



- b. Select **Time Comparison** and under **Select device...** choose a device from the list, such as **leaf1c**

The screenshot shows the 'Time Comparison' dialog box. It has a header 'Time Comparison' and a subtitle 'Compare the state of a single device at two chosen times'. Below this is another section titled 'Device Comparison' with the subtitle 'Compare the state of two devices at two chosen times'. At the top of the dialog is a dropdown menu labeled 'Select device...' containing the text 'campus-pod02-leaf1a'. Below this is a 'Quick links:' section with the text '30 mi campus-pod02-leaf1b'. At the bottom of the dialog is a list of devices: 'campus-pod02-leaf1a', 'campus-pod02-leaf1b', and 'campus-pod02-leaf1c'. The 'campus-pod02-leaf1c' item is highlighted with a red box.

- c. Select a time period, for example **30 minutes ago** and click the **Compare** button

The screenshot shows the 'Time Comparison' interface. At the top, there are two sections: 'Time Comparison' (disabled) and 'Device Comparison' (disabled). Below these, a dropdown menu shows 'campus-pod02-leaf1c'. Underneath the dropdown, it says 'Compare Jul 30, 2024 20:40:31 against Current Time'. A row of quick links is shown: '30 minutes ago' (highlighted with a red box), '1 hour ago', '2 hours ago', '12 hours ago', and '1 day ago'. To the right of these links is a blue 'Compare' button (also highlighted with a red box).

- d. The first screen presented shows the overview is unchanged:

The screenshot shows the 'Comparison' overview table. On the left, a sidebar lists navigation options: Overview, Configuration, Snapshots, ARP Table, NDP Table, MAC Address Table, VXLAN Table, IPv4 Routing Table, IPv6 Routing Table, IPv4 Multicast Table, and IGMP Table. The 'Overview' tab is selected. The main table compares 'Device at Jul 30, 2024 20:40:31' (selected) and 'Device at Current Time'. The table has three columns: Metric, campus-pod02-leaf1c, and campus-pod02-leaf1c. The data rows are as follows:

Metric	campus-pod02-leaf1c	campus-pod02-leaf1c
BGP Configured	Not Configured	Not Configured
Software Version	4.29.1FX-710P-DHCP	4.29.1FX-710P-DHCP
MLAG Status	Disabled	Disabled
MAC Addresses Learned	2	2
IPv4 Attached Routes	4	4
IPv4 Learned Routes	7	7
IPv6 Attached Routes	0	0
IPv6 Learned Routes	3	3

At the bottom of the table, there is a link 'Export to CSV' and a note 'Showing 8 of 8 rows'.

- e. Select the **Configuration** section

Devices

Comparison

Overview Configuration Snapshots ARP Table NDP Table MAC Address Table VXLAN Table IPv4 Routing Table IPv6 Routing Table IPv4 Multicast Table IGMP Table

Device at Jul 30, 2024 20:40:31 compared with Device at Current Time campus-pod02-leaf1c campus-pod02-leaf1c

Comparing the Configuration for campus-pod02-leaf1c at Jul 30, 2024 20:40:31 against Current Time

Running Config Designed Config Running Config Designed Config

Running Configuration

73	interface Port-Channel13	76	vlan 202
74	description CAMPUS-POD02-LEAF1A_Po16	77	name vlan202
75	switchport trunk allowed vlan 102	78	interface Port-Channel13
			description CAMPUS-POD02-LEAF1A_Po16
			switchport trunk allowed vlan 102,202

***Note:** Notice that the configuration has been updated. Feel free to explore other comparisons by feature. Since this VLAN was localized only, no new IP routes or MAC addresses should be learned.

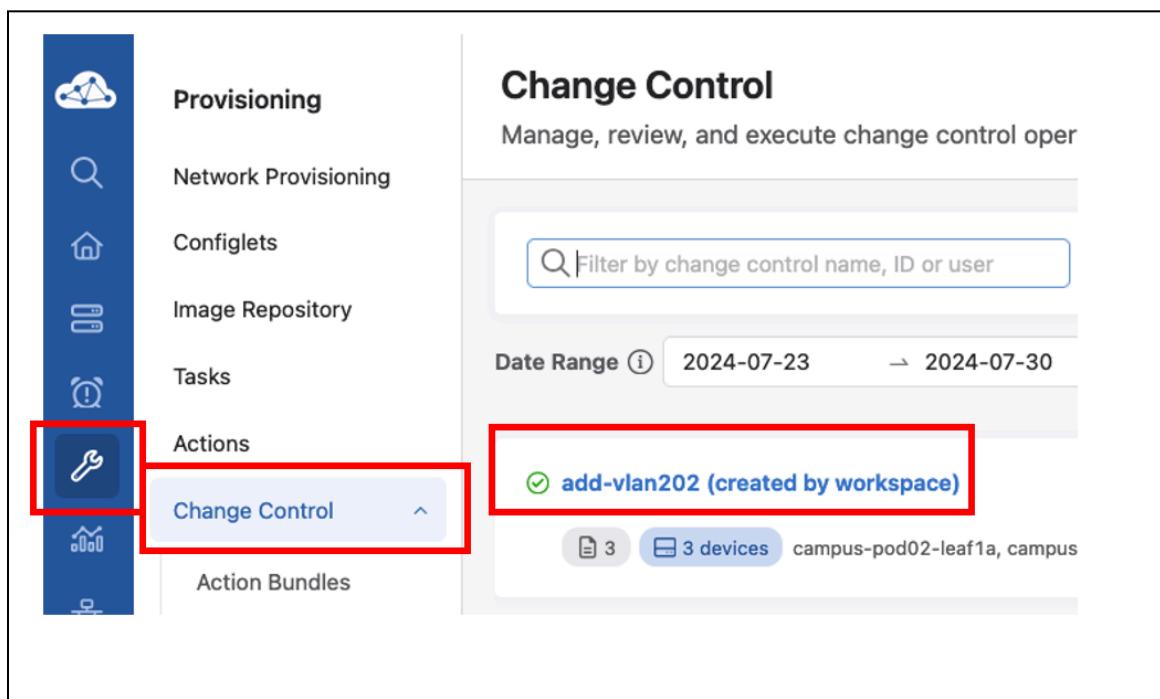
Lab section completed! In the next lab section you will see how to roll back a previous change control

3. Rollback a Change Control

A common operational task is to roll back a specific configuration and restore back to previous state. You may need to do this for all devices affected by a change, or only a subset of devices under troubleshooting.

CloudVision change controls allow this flexibility for granular change management per device and fleet-wide

1. Let's roll back the change control we used to add a VLAN via Studios.
 - a. First go to **Provisioning** then **Change Control** menu. Select the change control corresponding to your VLAN addition



- b. Click the **Rollback** button



- c. In the next screen, select the top list check mark to **select all the devices** and click **Create Rollback Change Control**

Rollback "add-vlan202 (created by workspace)"

Only completed image upgrade, config update tasks, and sync actions can be rolled back. Incomplete tasks have been returned to the pool.

Tasks

Task ID ↓	Type	Status	Device	Executed
Filter	Filter	Filter	Filter	Filter

No data to display

Sync Actions

<input checked="" type="checkbox"/> Name ↑	Status	Device	Executed
Filter	Filter	Filter	Filter
<input checked="" type="checkbox"/> Set Config	Completed	campus-pod02-leaf1a	14 minutes ago
<input checked="" type="checkbox"/> Set Config	Completed	campus-pod02-leaf1b	14 minutes ago
<input checked="" type="checkbox"/> Set Config	Completed	campus-pod02-leaf1c	14 minutes ago

Export to CSV Showing 3 of 3 rows

Cancel **Create Rollback Change Control**

- d. Verify the **Configuration Changes** section by clicking “**View Diff**” Once you have reviewed the change, click the **Review and Approve** button

Change Control

Rollback "add-vlan202 (created by workspace)"

Review and Approve **aristaro...es2+pod2 Z_ROCKIES-ATD-02**

Name: Rollback "add-vlan202 (created by workspace)" Description: Schedule Start: Select date Recent Activity

Change Control Stages (3 actions)

- Sync campus-pod02-leaf1a (1 action)
 - campus-pod02-leaf1a
 - Set Config to Running Config at Jul 30, 2024 21:04:04 +0 ~2 -2
- Sync campus-pod02-leaf1b (1 action)
 - campus-pod02-leaf1b
 - Set Config to Running Config at Jul 30, 2024 21:04:04 +0 ~2 -2
- Sync campus-pod02-leaf1c (1 action)
 - campus-pod02-leaf1c
 - Set Config to Running Config at Jul 30, 2024 21:04:04 +0 ~1 -2

Change Control Summary

Root Execute **Parallel** **Series** **Diff Summary**

Last Edit Approval In Progress Completed

Action Summary

3 Config

Device Status (3) **Configuration Changes (3)**

campus-pod02-leaf1a	+0 ~2 -2 View Diff
campus-pod02-leaf1b	+0 ~2 -2 View Diff
campus-pod02-leaf1c	+0 ~1 -2 View Diff

- e. You'll be presented with one more opportunity to review the changes. Select **Execute Immediately** if not already toggled on and **Approve and Execute**

Review Change - Rollback "add-vlan202 (created by workspace)"

Update Config - common changes on 2 devices

campus-pod02-leaf1a campus-pod02-leaf1b

Designed Configuration

> Expand 52 lines	53	vlan 202
	54	name vlan202
> Expand 18 lines	73	interface Port-Channel16
70	74	description CAMPUS-POD02-LEAF1C_Po13
71	75	switchport trunk allowed vlan 102,202
> Expand 5 lines	81	interface Port-Channel18
78	82	description CAMPUS-SPINE1_Po2
79	83	switchport trunk allowed vlan 102,202
> Expand 80 lines		

Running Configuration

+0 ~2 ~2

campus-pod02-leaf1c

Designed Configuration

> Expand 51 lines	52	vlan 202
	53	name vlan202
> Expand 22 lines	76	interface Port-Channel13
73	77	description CAMPUS-POD02-LEAF1A_Po16
74	78	switchport trunk allowed vlan 102,202
> Expand 72 lines		

Running Configuration

+0 ~1 ~2

Notes: Enter approval note

Execute immediately Cancel Approve and Execute

- f. Monitor the change control for completion to ensure the added VLAN is cleaned up on all three switches.

Change Control

Rollback "add-vlan202 (created by...) Success

Root Execute

Parallel Series

Last Edit Approved

Action Summary

100% Config

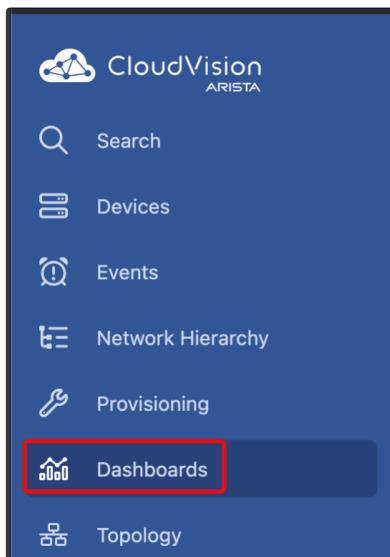
You have now successfully added a VLAN through Studios and then rolled back that change across all switches.

4. Dashboards (Built-in and Custom)

Dashboards are an important way to visualize commonly requested information. This lab section shows you how to navigate the built-in dashboards and customize your own.

1. Built in Dashboard: “Campus Health Overview”

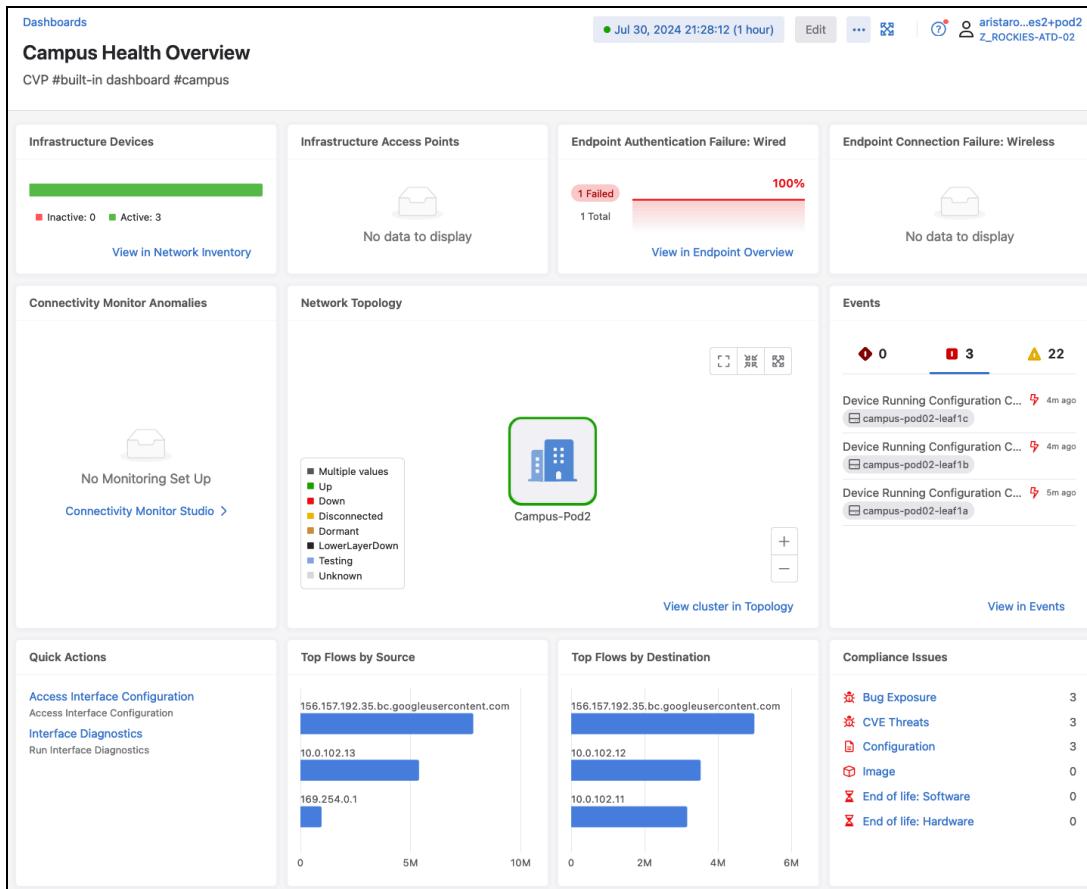
- Open the Dashboards Section to arrive at the Dashboards landing page.



- Select the built-in Campus Health Overview dashboard

Built-In Dashboards					
<input type="checkbox"/>	Campus Health Overview	X ⓘ	<small>built-in campus</small>	—	Jul 5, 2023 11:18:49 CVP Team
<input type="checkbox"/>	CloudVision Cluster Scale	X ⓘ	<small>built-in</small>	—	Jan 11, 2021 10:37:23 CVP Team
<input type="checkbox"/>	Device Hardware	X ⓘ	<small>built-in power fans redundancy storage</small>	—	Apr 1, 2022 14:38:22 CVP Team
<input type="checkbox"/>	Device Power Consumption	X ⓘ	<small>built-in psu watts stats</small>	—	Jan 13, 2022 17:40:16 CVP Team
<input type="checkbox"/>	Network Health	X ⓘ	<small>built-in</small>	—	Aug 26, 2024 16:48:36 CVP Team

- You'll be presented with a curated selection of common campus related monitoring tools



*Note: We will explore the Quick Actions interactive functions of this dashboard in another lab section.

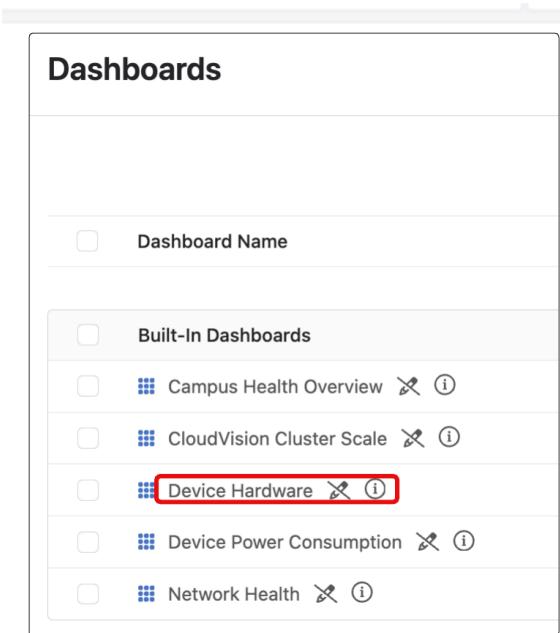
- Feel free to explore the Campus Health dashboard briefly and then navigate back to the Dashboards landing page by selecting **Dashboards** in the upper left.

The screenshot shows the 'Dashboards' landing page with the 'Campus Health Overview' dashboard selected. The dashboard displays the following information:

- Campus Health Overview:** CVP #built-in dashboard #campus
- Infrastructure Devices:** A bar chart showing 0 Inactive devices and 3 Active devices. A link to 'View in Network Inventory' is provided.

- Built in Dashboard: "Device Hardware"

- a. Next, Select the **Device Hardware** dashboard



- b. By default, this dashboard selects all devices. Change the dashboard to select only leaf1c by deleting the current query **device:***. Replace with the query **device:campus-pod[pod#]leaf1c**

A screenshot of the 'Device Hardware' dashboard configuration. The top navigation bar shows 'Dashboards' and the title 'Device Hardware'. The URL bar shows 'CVP #built-in dashboard #power #fans #redundancy #storage'. The main search bar has 'devices device:*' and a dropdown menu with 'device:campus-pod08-leaf1b'. A modal window titled 'Device Hardware' also shows 'device:campus-pod08-leaf1b'. Below the main area, there is a table with columns 'Storage Capacity' and 'Access-Pod'. The last row of the table, 'campus-pod08-leaf1c', is highlighted with a red border. The bottom part of the screen shows another instance of the 'Device Hardware' dashboard with the same table and highlighted row.

Storage Capacity	Access-Pod
*	All values
campus-pod08-leaf1a	WTW22200314
campus-pod08-leaf1b	WTW22210330
campus-pod08-leaf1c	WTW22190410

- c. Once you've selected an individual device, the dashboard will filter to results for only this device.

Dashboards

Device Hardware

CVP #built-in dashboard #power #fans #redundancy #storage

devices device: campus-pod08-leaf1c

Device - Path	Used Percentage
campus-pod08-leaf1c (/mnt/flash)	34.52 %
campus-pod08-leaf1c (/var/log)	29.24 %
campus-pod08-leaf1c (/var/core)	0.00 %

- d. Navigate back to the Dashboards landing page by clicking Dashboards in upper left.

Dashboards

Device Hardware

CVP #built-in dashboard #power #fans #redundancy #storage

devices device: campus-pod08-leaf1c

Device - Path	Used Percentage
campus-pod08-leaf1c (/mnt/flash)	34.52 %
campus-pod08-leaf1c (/var/log)	29.24 %
campus-pod08-leaf1c (/var/core)	0.00 %

3. Next, let's add a new customized dashboard.

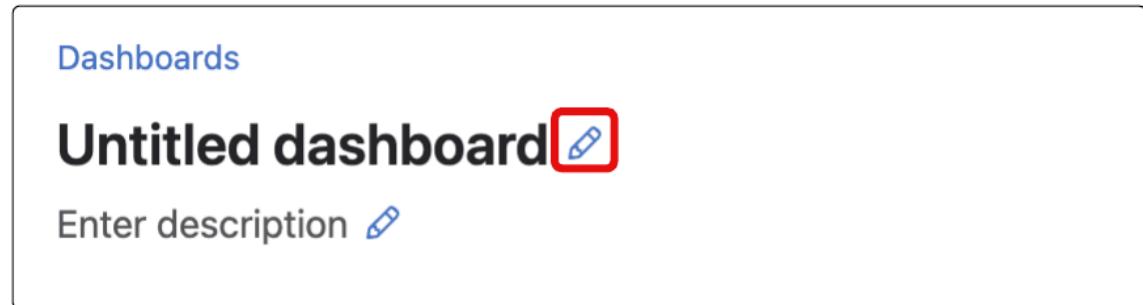
- a. Click the **New Dashboard** button.

Dashboards

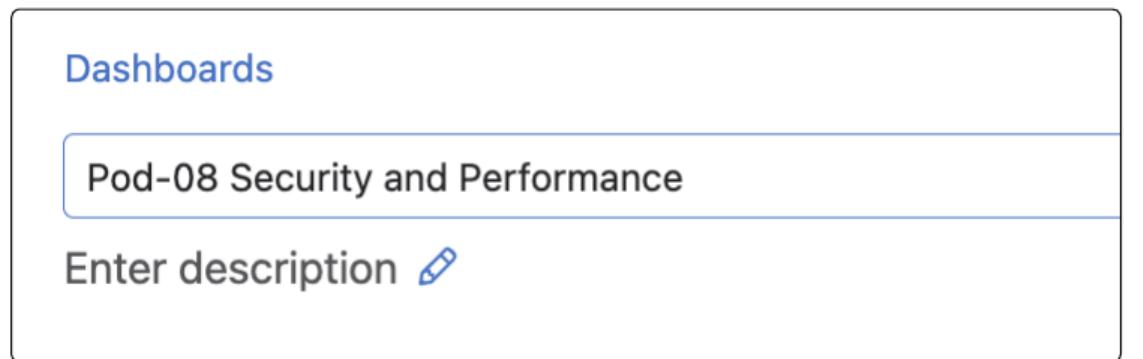
+ New Dashboard Import

Dashboard Name	Labels	Last Opened	Last Updated On	Last Updated By
Campus Health Overview	built-in campus	Jul 30, 2024 21:28:48	Jul 5, 2023 11:18:49	CVP Team
CloudVision Cluster Scale	built-in	—	Jan 11, 2021 10:37:23	CVP Team
Device Health	built-in power fans redundancy storage	Jul 30, 2024 21:35:35	Apr 1, 2022 14:38:22	CVP Team
Device Power Consumption	built-in psu watts stats	Jul 30, 2024 21:34:32	Jan 13, 2022 17:40:16	CVP Team

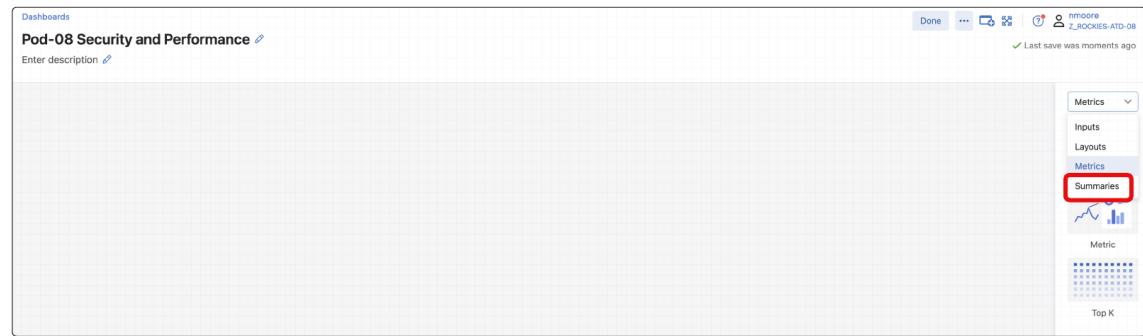
- b. Select the pencil next to Untitled dashboard



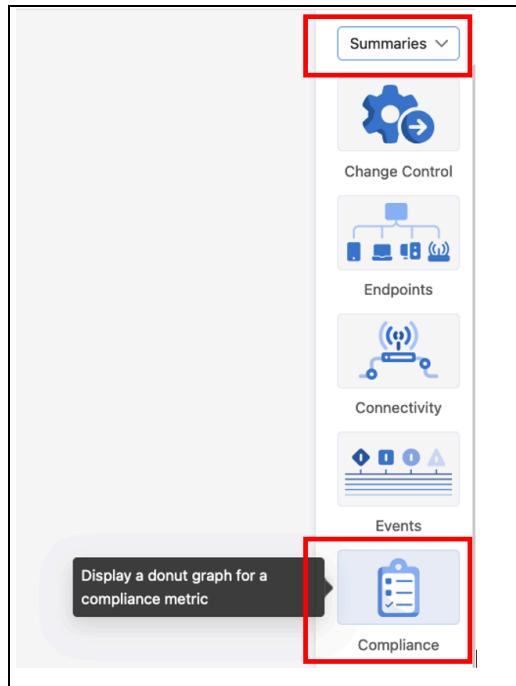
- c. Provide a useful name for the Dashboard, such as "Pod-##" Security and Performance"



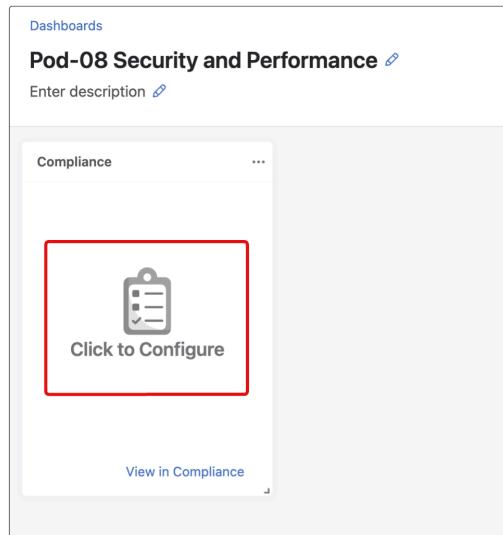
- d. Next, let's add a combination of visualizations which have both security and performance related metrics. First, click the drop down on the upper right and change from Metrics to **Summaries**



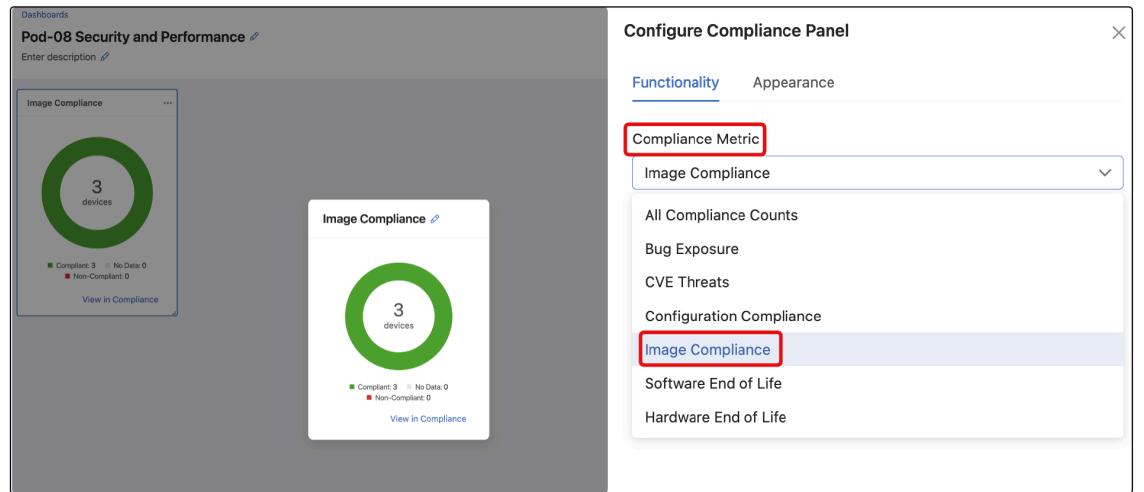
- i. Within the Summaries list, Click on, or drag the **Compliance** widget into the dashboard canvas



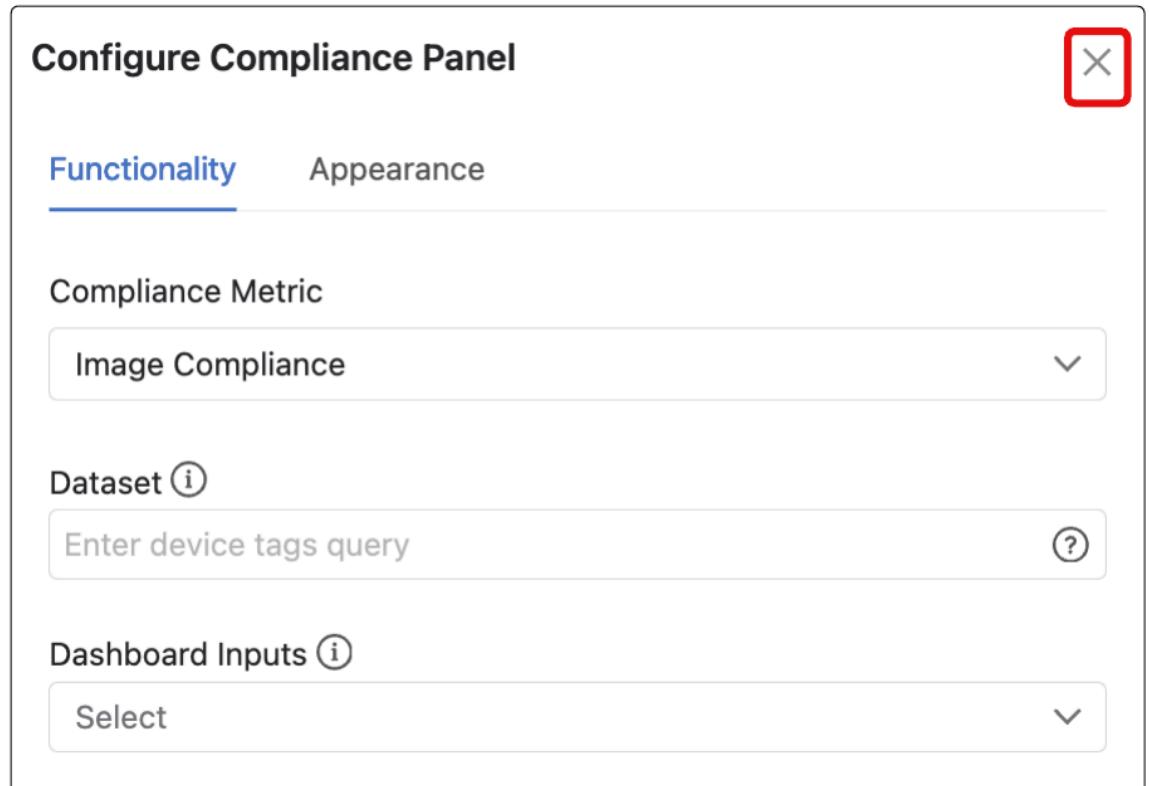
- ii. Within the Compliance tile now added to your dashboard, select the **Click to Configure** button



- iii. Within the right side menu bar, within Compliance Metric select **Image Compliance**



- iv. Dismiss the customization menu by clicking the X in upper right corner



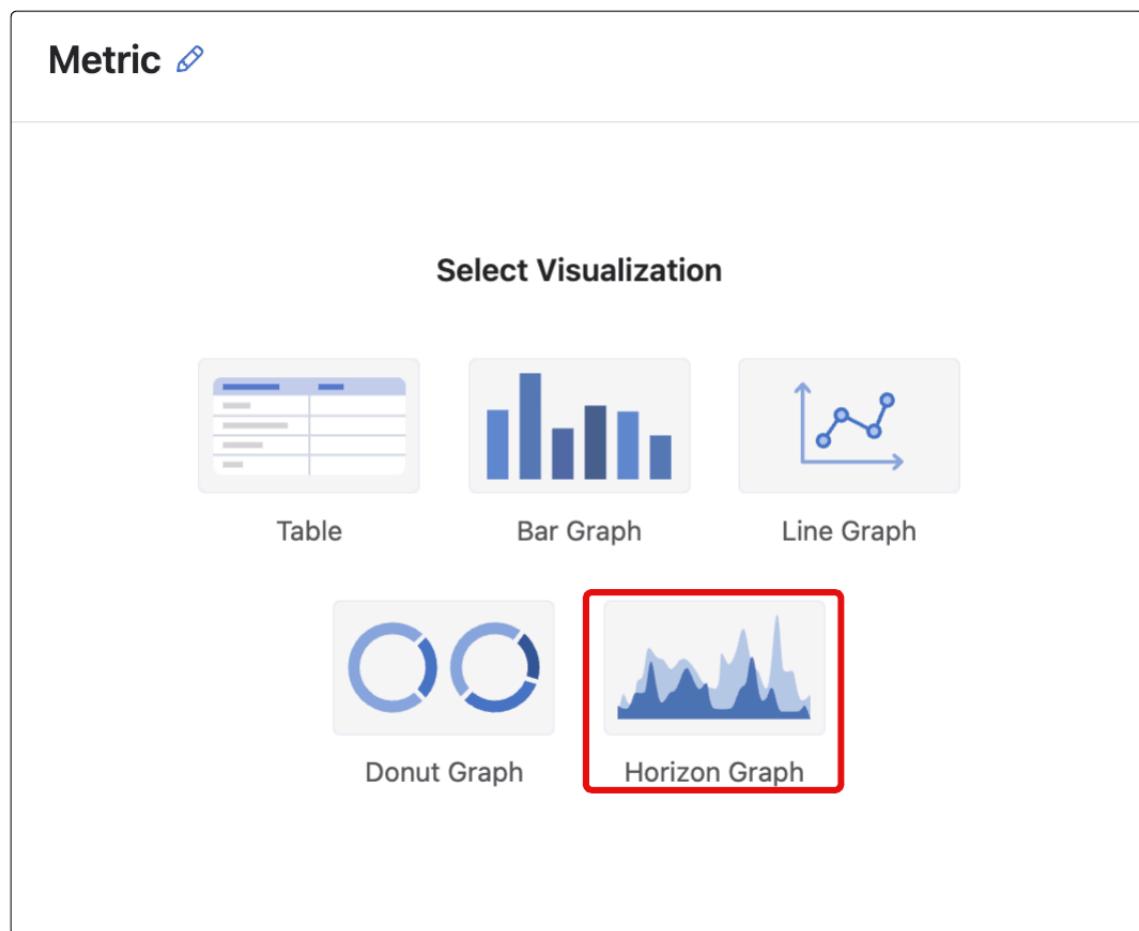
- v. Next, change the Summaries menu back to **Metrics**

The screenshot shows the 'Pod-08 Security and Performance' dashboard. On the right side, there is a vertical navigation menu with several items: 'Summaries' (highlighted with a red box), 'Inputs', 'Layouts', 'Metrics' (highlighted with a red box), 'Summaries' (highlighted with a red box again), 'Change Control', 'Endpoints', and 'AQL'. The main canvas contains a circular chart titled 'Image Compliance' showing '3 devices' (all green). Below the chart is a legend: 'Compliant: 3' (green square), 'No Data: 0' (light gray square), and 'Non-Compliant: 0' (red square). A 'View in Compliance' button is at the bottom.

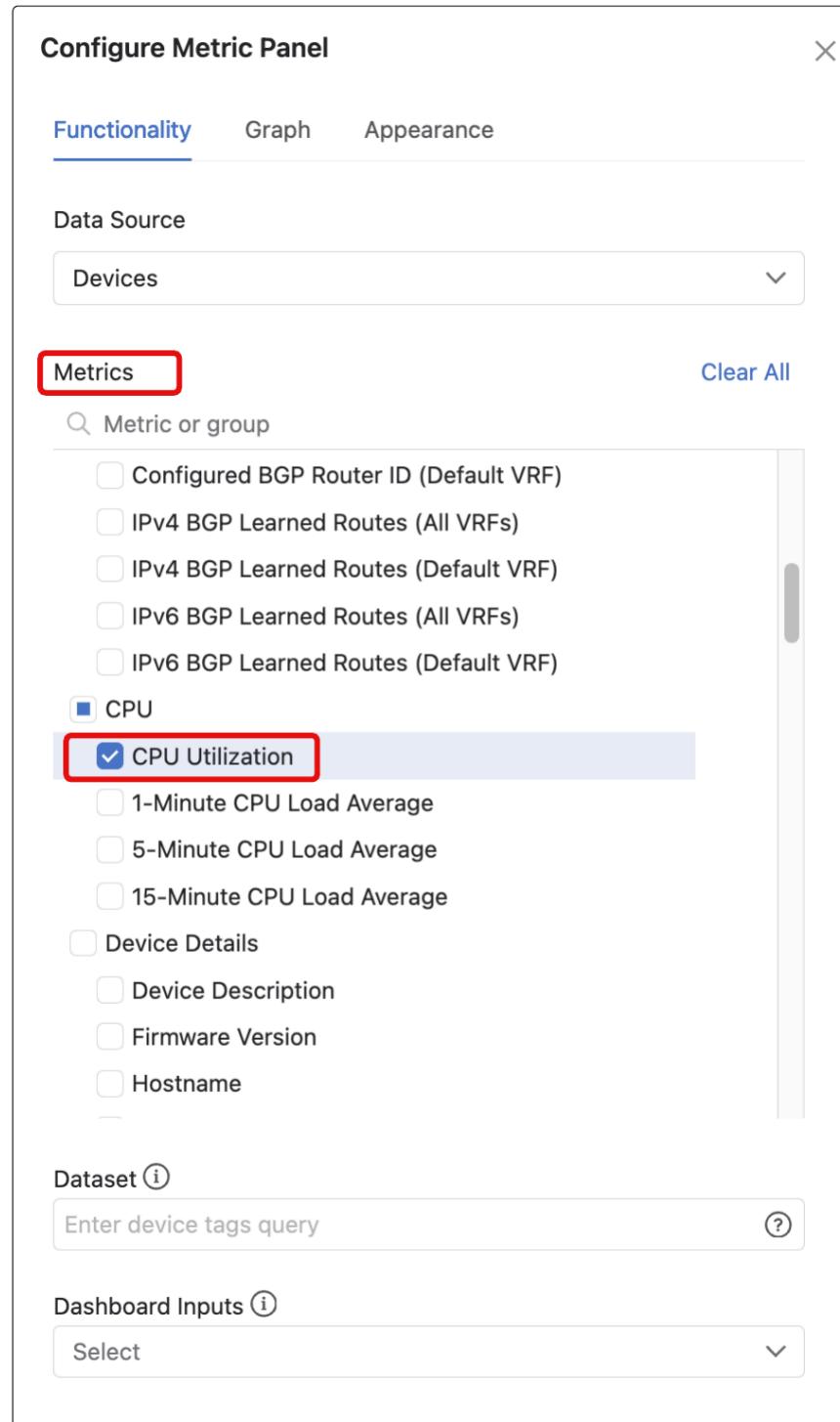
- vi. Within the Metrics menu, click **Metric** on the right side to add this tile to the canvas, then select **Click to Configure**.

The screenshot shows the same dashboard as before, but now with a new 'Metric' tile added to the canvas. The 'Metric' tile has a red border and contains icons for a line graph, a bar chart, and a search magnifying glass, with the text 'Click to Configure' below them. The rest of the interface remains the same, including the navigation menu on the right.

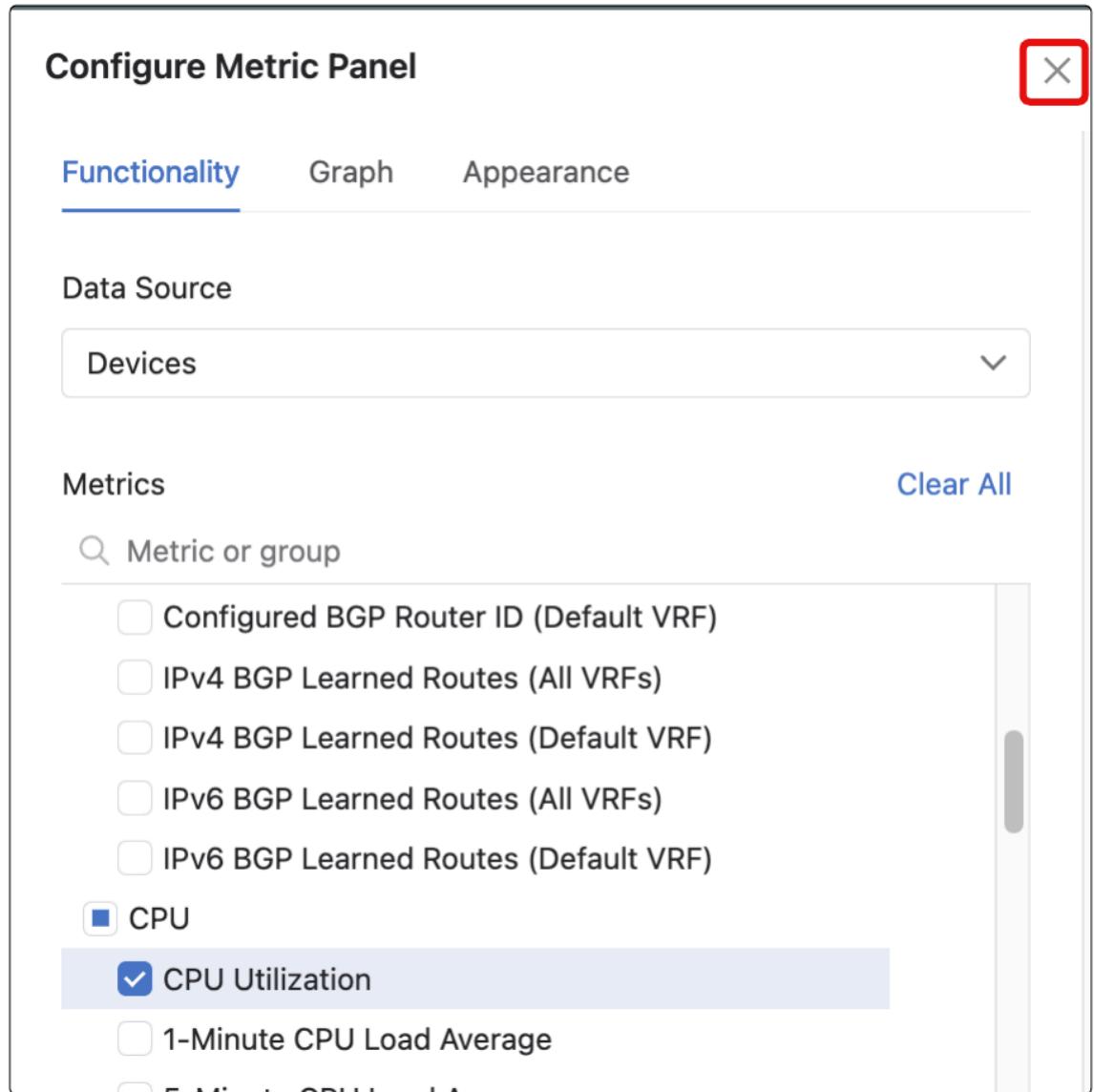
vii. Select **Horizon Graph** from the available Visualization options.



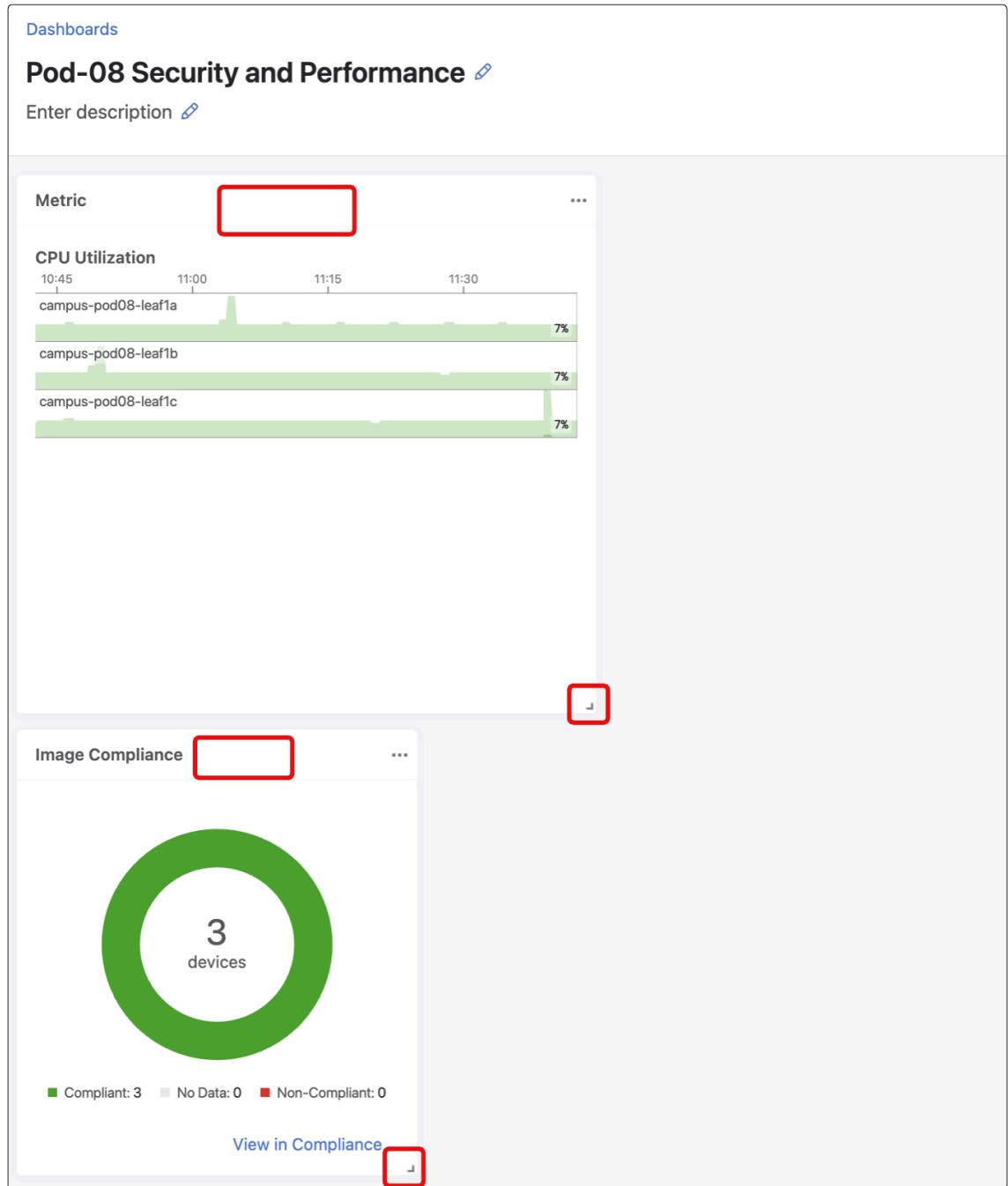
- viii. On the right hand of the screen, under **Metrics** scroll down and select **CPU Utilization**



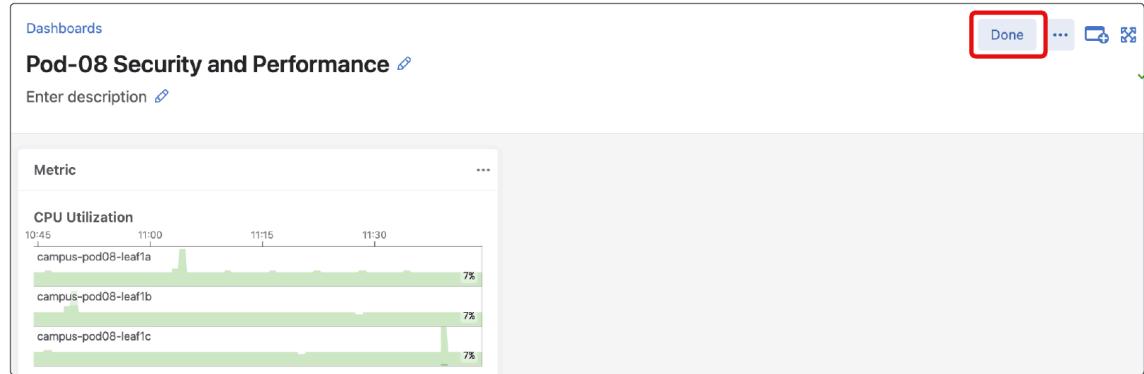
- ix. Dismiss the customization menu with the **X button in upper right**



***Note:** You can drag the tiles around by the respective menu bars and resize each tile using the lower right corner handles.



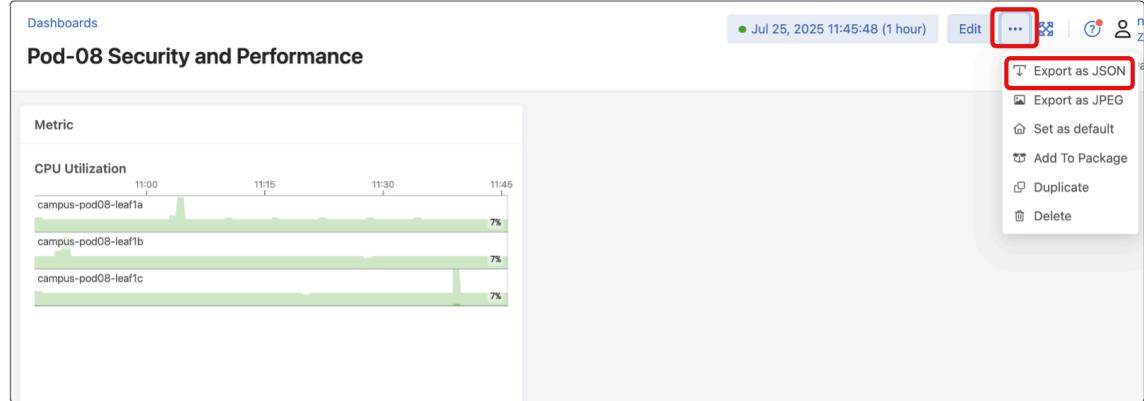
- x. Save and complete the dashboard customization by clicking the Done button in upper menu bar



4. Exporting and Importing Dashboards Sharing your Dashboard across Cloudvision systems!

a. Export a dashboard

- i. To share your dashboard - in the upper right corner, select the **three-dots ...** menu and click **Export as JSON**



- ii. Click **Download** in the lower right corner. This will download a file you can share with others if they wish to use your customized dashboard.

Export as JSON X

```
{  
  "dashboards": [  
    {  
      "key": "4f8d240c-e701-4e4a-8078-e2cecf4f7901",  
      "createdAt": [  
        115214145,  
        1604  
      ],  
      "createdBy": "aristarockies2+pod2",  
      "metaData": {  
        "schemaVersion": "3",  
        "legacyKey": "",  
        "legacyVersion": "",  
        "fromPackage": ""  
      },  
      "name": "Pod-02 Security and Performance",  
      "description": "",  
      "widgets": [  
        {  
          "id": "406d1054-de8c-4fbf-b12f-17618b0774c5",  
          "name": "",  
          "position": {  
            "x": 100,  
            "y": 100,  
            "w": 300,  
            "h": 150  
          }  
        }  
      ]  
    }  
  ]  
}
```

Download

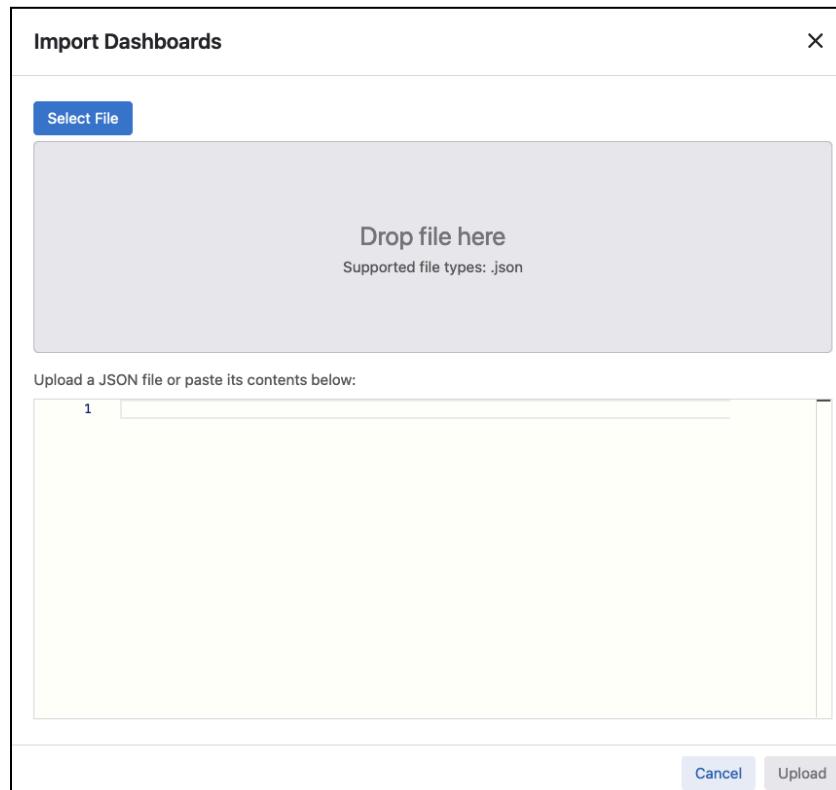
- b. Import a dashboard
- Navigate back to the **Dashboards** landing page to view the import button



ii. Click on **Import**



iii. The import function is shown as reference only, it is not required to upload any file here. Alternatively you can use this function to share a dashboard customized with your lab partner. If you wish to import, click **Select File** and select the file you download in the previous step.



Lab section completed!

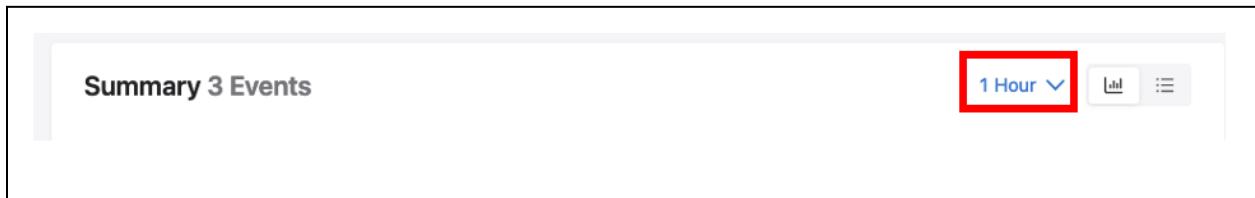
5. Events

In this section, we will explore the Events stream and the tools and filters to help process and manage critical errors versus informational data.

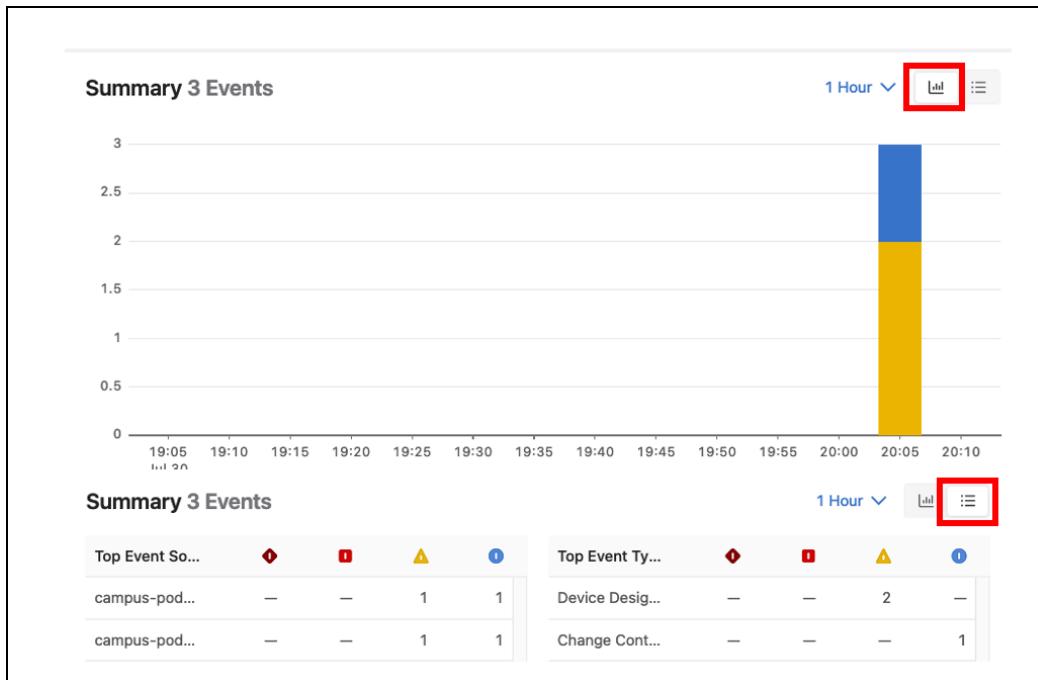
1. First Open the Events section from the menu bar:



2. Next, select a different timeframe for the summary visualization, click the current time selection and change this to **1-hour**



- a. You can also toggle between a bar graph and event count display



- Focusing on the Event List next, Note the Export button to download the current Event list as CSV. Notice you can download **All Events** or only **Selected**:

The screenshot shows the 'Event List' interface. At the top right, the 'Export' button is highlighted with a red box. Below it, a gear icon is also highlighted with a red box.

Event List

Export ▾ Export ⚙️

Start Time: All Events Selected 31 days ago

- Next, select the Gear icon to toggle Event List **Roll Up**. This setting combines repeated events into groups. Toggle this On and Off, watch the effect this has on the list of Events.

The screenshot shows the 'Event List' interface with the 'Event List Settings' dialog open. A red box highlights the 'Roll Up' toggle switch. Another red box highlights the explanatory text below it: 'Combine identical events into a single, expandable event'.

Event List

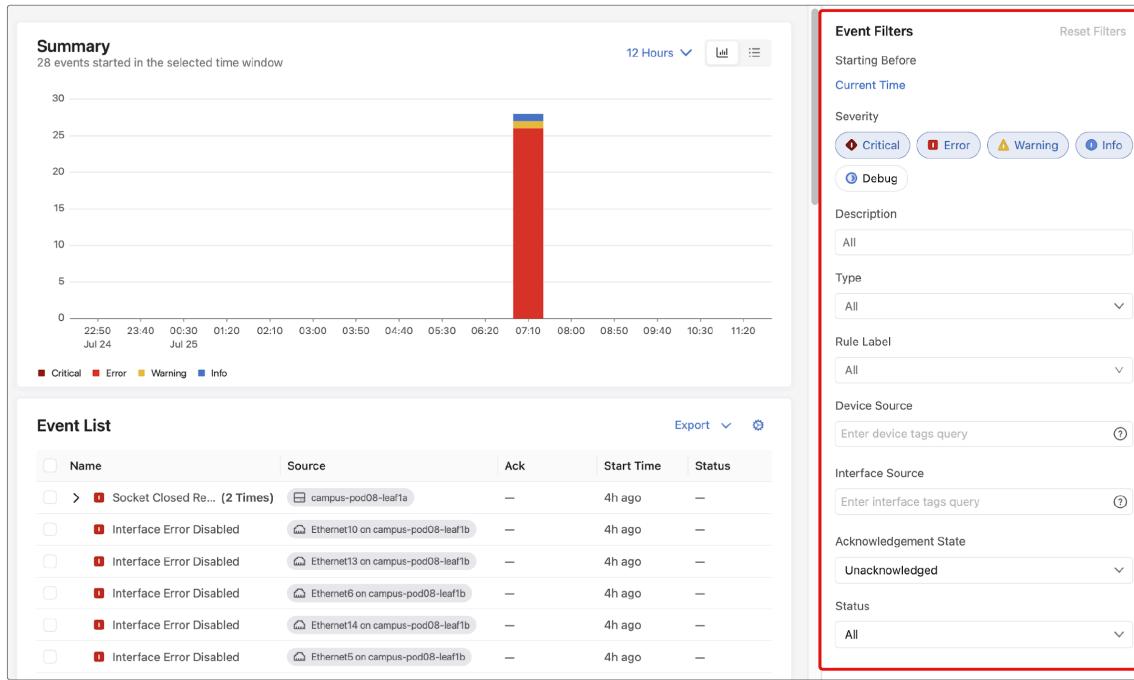
Export ▾ ⚙️

Name	Source
> ⚠ Device Designed Conf... (13 Times)	campus-pod02-leaf1b
> ⚠ Device Designed Conf... (13 Times)	campus-pod02-leaf1a

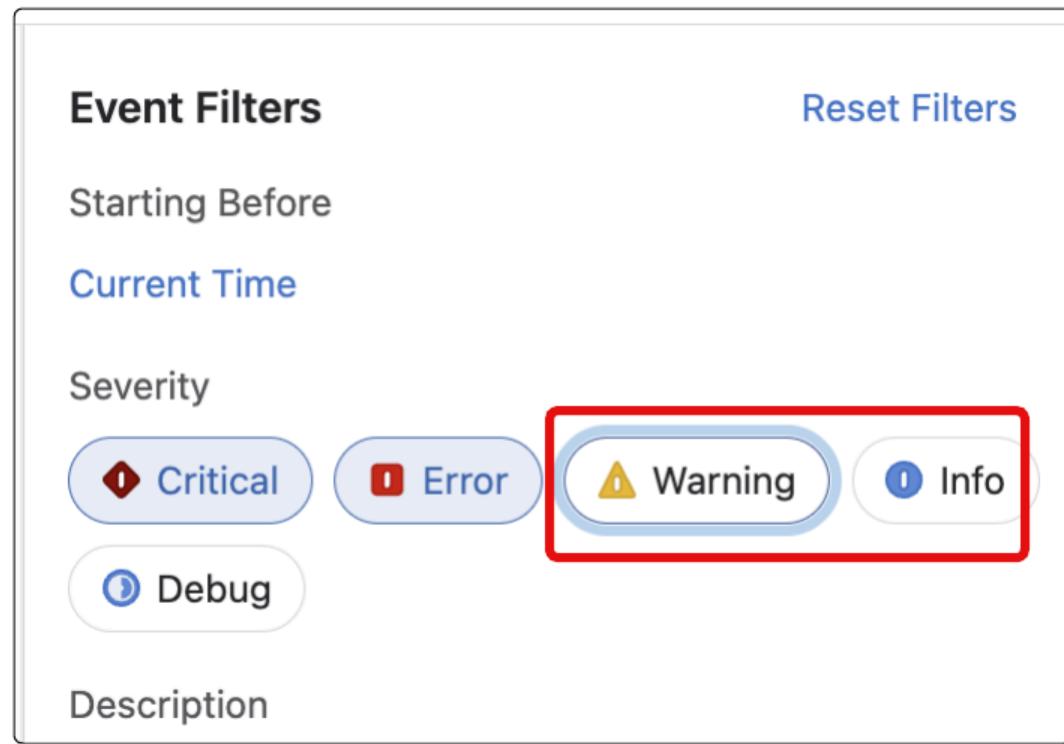
Event List Settings

Roll Up
Combine identical events into a single, expandable event

5. Next, utilizing the **Event Filters** on the right pane is important to reduce the amount of data displayed.



- a. **Toggle Off** the **Warning** and **Info** event Severity. Leave Critical and Error events selected.



- b. In the **Type field**, enter the string "**Unexpected Link Shutdown**" and any other interesting event types you are looking for, such as "Device clock out of Sync"

Event Filters

Starting Before
[Current Time](#)

Severity

Critical Error Warning Info

Description

Events with any text

Type

Unexpected Link Shutdown ×
Device Clock Out of Sync ×

6. Acknowledge and Unacknowledging events

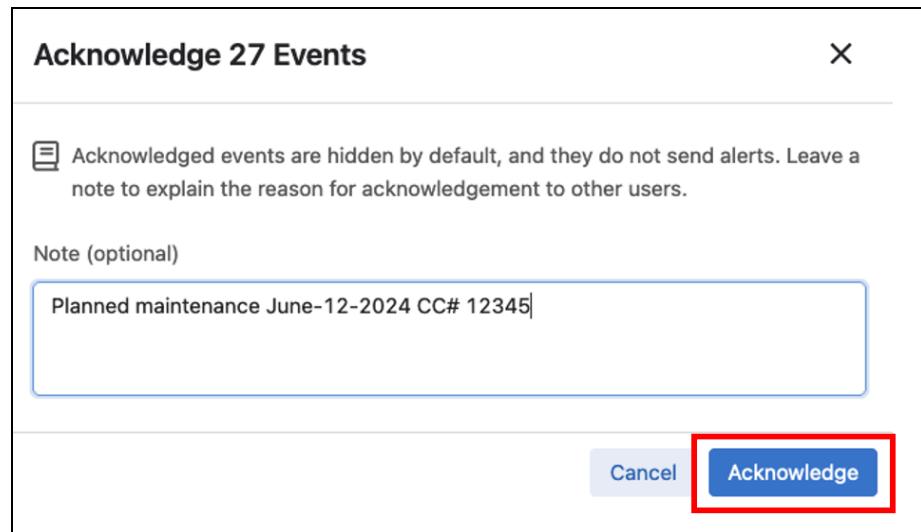
- a. To acknowledge from the filtered **event list**, select specific events and **Acknowledge** them.

Event List

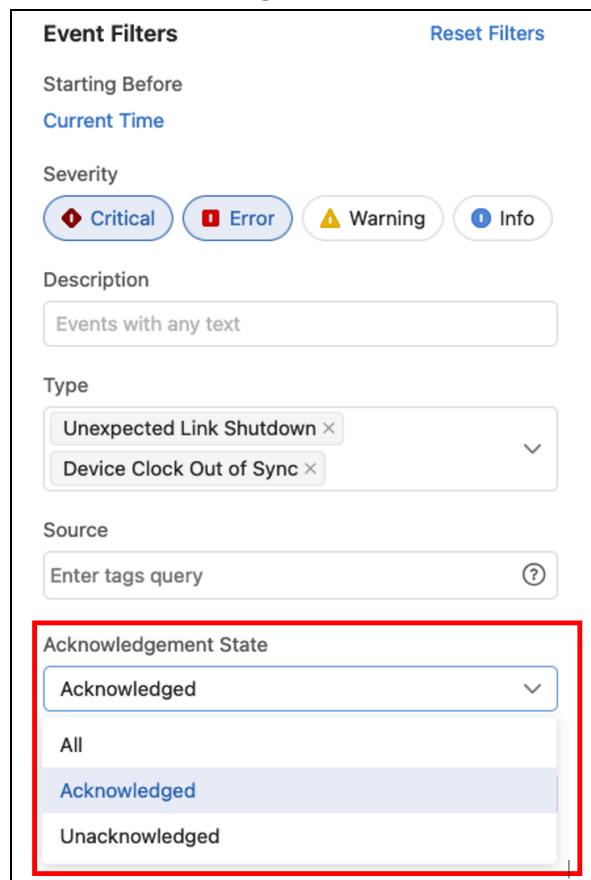
<input type="checkbox"/> Name	Source	Start Time	Status
<input type="checkbox"/> > ■ Device Clock Out of Sync (48 Times)	campus-pod02-leaf1a	4d ago	● Lasted 30m
<input type="checkbox"/> > ■ Device Clock Out of Sync (55 Times)	campus-pod02-leaf1b	4d ago	● Lasted 30m
<input type="checkbox"/> > ■ Device Clock Out of Sync (17 Times)	campus-pod02-leaf1c	4d ago	● Lasted 28m
<input checked="" type="checkbox"/> > ■ Unexpected Link Shutd... (27 Times)	Ethernet11 on c...s-pod02-leaf1a +1	4d ago	● Lasted 32m

Acknowledge 27 Export ⚙

- i. Adding a note is optional, select the **Acknowledge** button to mark these selected events.



- ii. Acknowledged events are not deleted from the event list, only flagged as acknowledged and can be referenced by changing the filtered **Acknowledgement State**. Click **Acknowledgement State** and select **Acknowledged**



- b. Un-acknowledging an event can be done in the same way, click the **box** to the left of the **Acknowledged** event, and click **Unacknowledge** at the top of the event list.

Event List				
<input checked="" type="checkbox"/> Name	Source	Ack	Start Time	Status
<input checked="" type="checkbox"/> > ! Unexpected Li... (19 Times) 2 Sources		<input checked="" type="checkbox"/> aristarockie...	4d ago	● Lasted 32m

Events and filtering lab section complete!

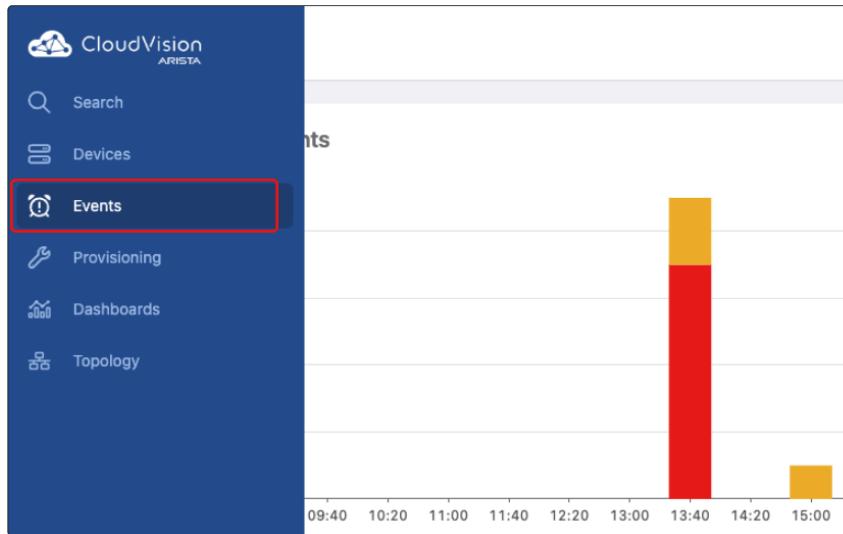
The next section will show you how to customize the notifications (e.g. email, chat, SNMP, Syslog, etc) that the events generate.

6. Customize Notifications

In this lab, you will configure CloudVision to send an email alert to an email address using the built-in “**SendGrid**” email service.

1. Configure “**SendGrid**” email service.

- a. After logging in to CloudVision, click on the “**Events**” menu option.

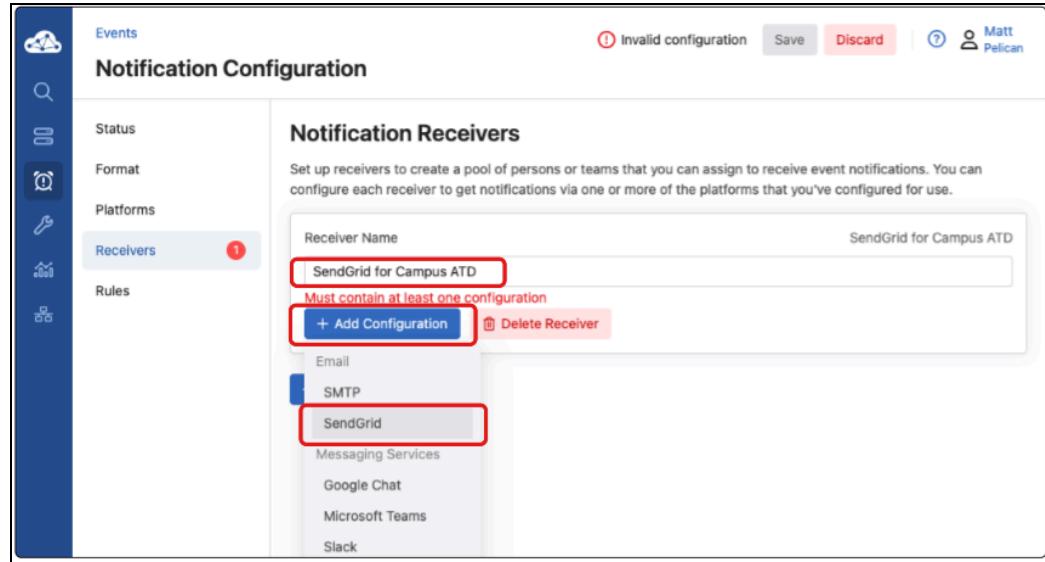


- b. Click on the “**Notifications**” button in the top right of the screen.

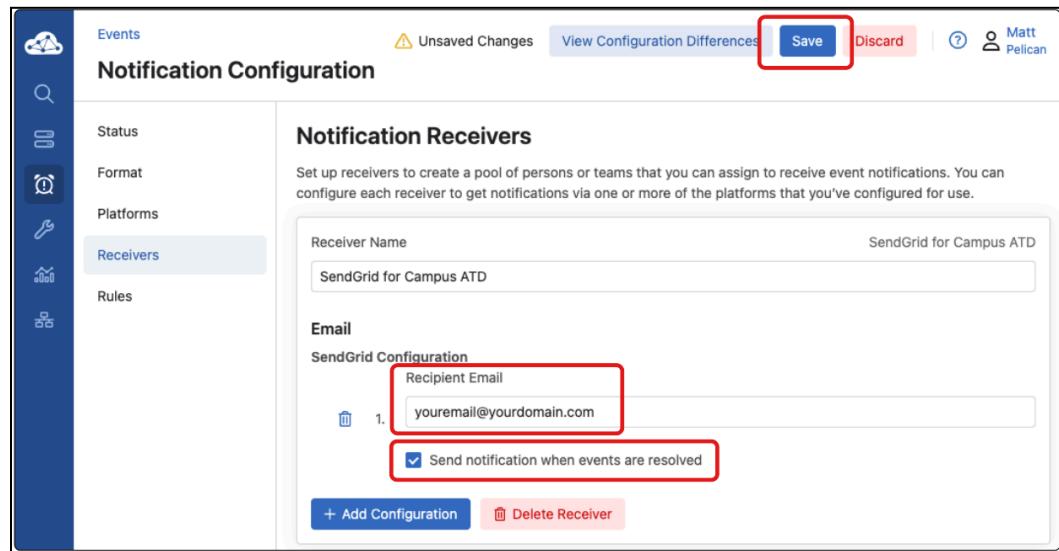


- c. Now, configure the SendGrid receiver by clicking on “Receivers” in the menu, then click on the “**Add Receiver**” button.

- i. Name the receiver “**SendGrid for Campus ATD**”, then click the “**Add Configuration**” button and select “**SendGrid**” from the menu options.



- ii. Type in a valid email address that you can receive emails at during this lab and check the “**Send notification when events are resolved**” checkbox. Click the “**Save**” button in the upper right hand side of the screen to save your new receiver.



- iii. Once you are happy with receiver's configuration, click the **Save** button at the top of the screen
2. Next, configure a “Rule” to use the new receiver. Click on the “**Rules**” menu option, then click “**Add Rule**”

The screenshot shows the 'Notification Configuration' page. On the left sidebar, there are several icons: a cloud with a network, a magnifying glass, a gear, a key, a chart, and a gear. Below these are the menu items: Status, Format, Platforms, Receivers, and Rules. The 'Rules' item is highlighted with a red box. To the right, a large box titled 'Notification Rules' contains the sub-instruction: 'Create custom rules to determine which events are sent as notifications'. It also includes a message: 'No user rules have been added. Click the button below to add a rule.' A blue button labeled '+ Add Rule' is highlighted with a red box.

- a. Configure “Rule Conditions” for this rule. Click on the “+ Device” button, then choose your leaf1c switch from the “Device” drop down box.

The screenshot shows the 'Notification Rules' configuration interface. At the top, it says 'Create custom rules to determine which events are sent as notifications to [your receivers](#). Rules are processed in the sequence that you order them.' Below this is a 'Rule Conditions ①' section with a numbered button '1'. It has a 'Add Conditions' button followed by several buttons: '+ Device' (highlighted with a red box), '+ Device Tags', '+ Event Type', '+ Interface Tags', '+ Rule Labels', and '+ Severity'. Underneath is a 'Receiver' section with a dropdown menu showing 'No Receiver'.

The second part of the screenshot shows a step number '4' and a 'Rule Conditions ①' section. It has a 'Device' field containing 'campus-pod01-leaf1c' with a delete icon. Below it is a 'Add Conditions' section with a dropdown menu showing 'campus-pod01-leaf1a', 'campus-pod01-leaf1b', and 'campus-pod01-leaf1c' (which is highlighted). Underneath is a 'Receiver' section with a dropdown menu showing 'campus-pod01-leaf1c' (highlighted with a red box) and 'POD-01-FL1 ⓘ ⚡'.

- b. Now click on the “+ Event Type” button.

Notification Rules

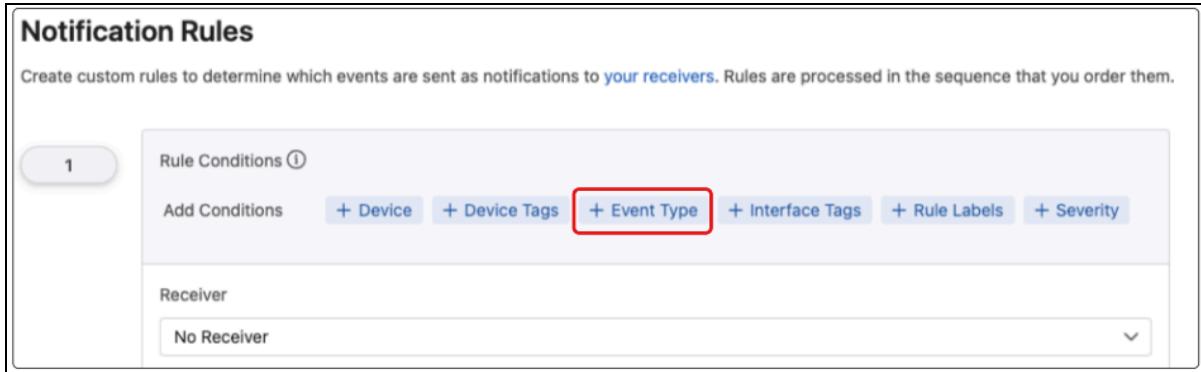
Create custom rules to determine which events are sent as notifications to [your receivers](#). Rules are processed in the sequence that you order them.

1 Rule Conditions ⓘ

Add Conditions + Device + Device Tags + Event Type + Interface Tags + Rule Labels + Severity

Receiver

No Receiver



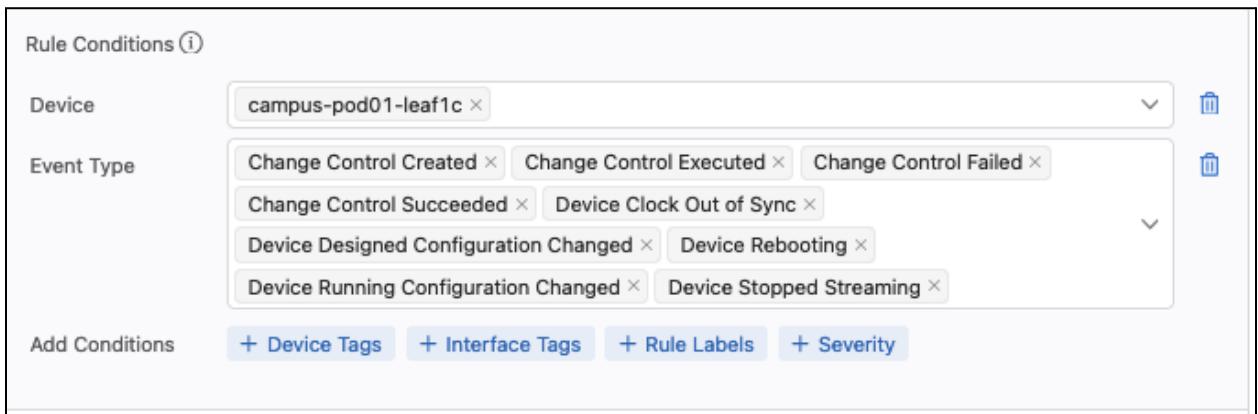
- c. Add “**Event Types**” by choosing them from the drop down box as shown in the image below:

Rule Conditions ⓘ

Device campus-pod01-leaf1c

Event Type Change Control Created × Change Control Executed × Change Control Failed ×
Change Control Succeeded × Device Clock Out of Sync ×
Device Designed Configuration Changed × Device Rebooting ×
Device Running Configuration Changed × Device Stopped Streaming ×

Add Conditions + Device Tags + Interface Tags + Rule Labels + Severity



- d. Select all of the severity options by clicking on the “+ **Severity**” button and choosing the options from the drop down box.
- e. Next, choose your new “**SendGrid for Campus ATD**” receiver from the “**Receiver**” dropdown box, select the “**Continue Checking Rules**” box, and save your changes by clicking on the “**Save**” button.

Rule Conditions ⓘ

Device	campus-pod01-leaf1c
Event Type	Change Control Created × Change Control Executed × Change Control Failed × Change Control Succeeded × Device Clock Out of Sync × Device Designed Configuration Changed × Device Rebooting × Device Running Configuration Changed × Device Stopped Streaming ×
Severity	Critical × Error × Warning × Info ×
Add Conditions	+ Device Tags + Interface Tags + Rule Labels

Receiver

SendGrid for Campus ATD

Continue Checking Rules ⓘ

↑ Move Up Delete

Make sure to save your changes in this screen with the Save button along the top of your screen.

⚠️ Unsaved Changes View Configuration Differences Save Discard

3. Now test your new receiver and rule.

- a. Click on the “Status” menu option. Configure the “Test Notification Sender” by changing the “Event Type” to be “Device Stopped Streaming” and selecting your leaf1c from the “Device” drop down box. Click the “Send Test Notification” button.

Status

Settings
Platforms
Receivers
Rules
Output Templates

Notification System Status

Monitor the health of the notification system by sending test notifications to check configuration.

Config back-end: OK

Last updated 26 seconds ago

[Show recent status history](#)

Test Notification Sender

Severity

Critical

Event Type

Device Stopped Streaming

Device

campus-pod01-leaf1c

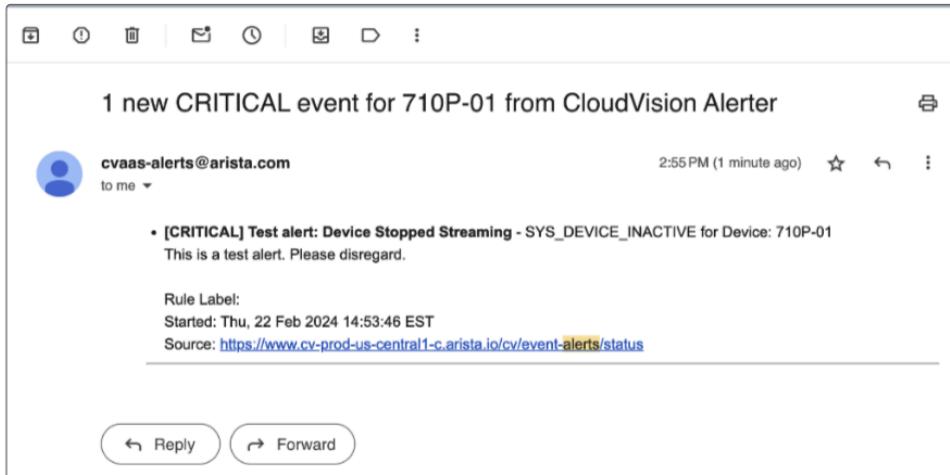
Interface

Select

Rule Label

 [Send Test Notification](#)

- b. After a minute or two, you should receive the email alert at the email address you configured in the Receiver.



Congratulations, you've completed the "**Event Notification Lab**" !

END OF LAB GUIDE