

Campus A-01 Wired Lab Guide

Provisioning a Campus Fabric



This Lab Guide:

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

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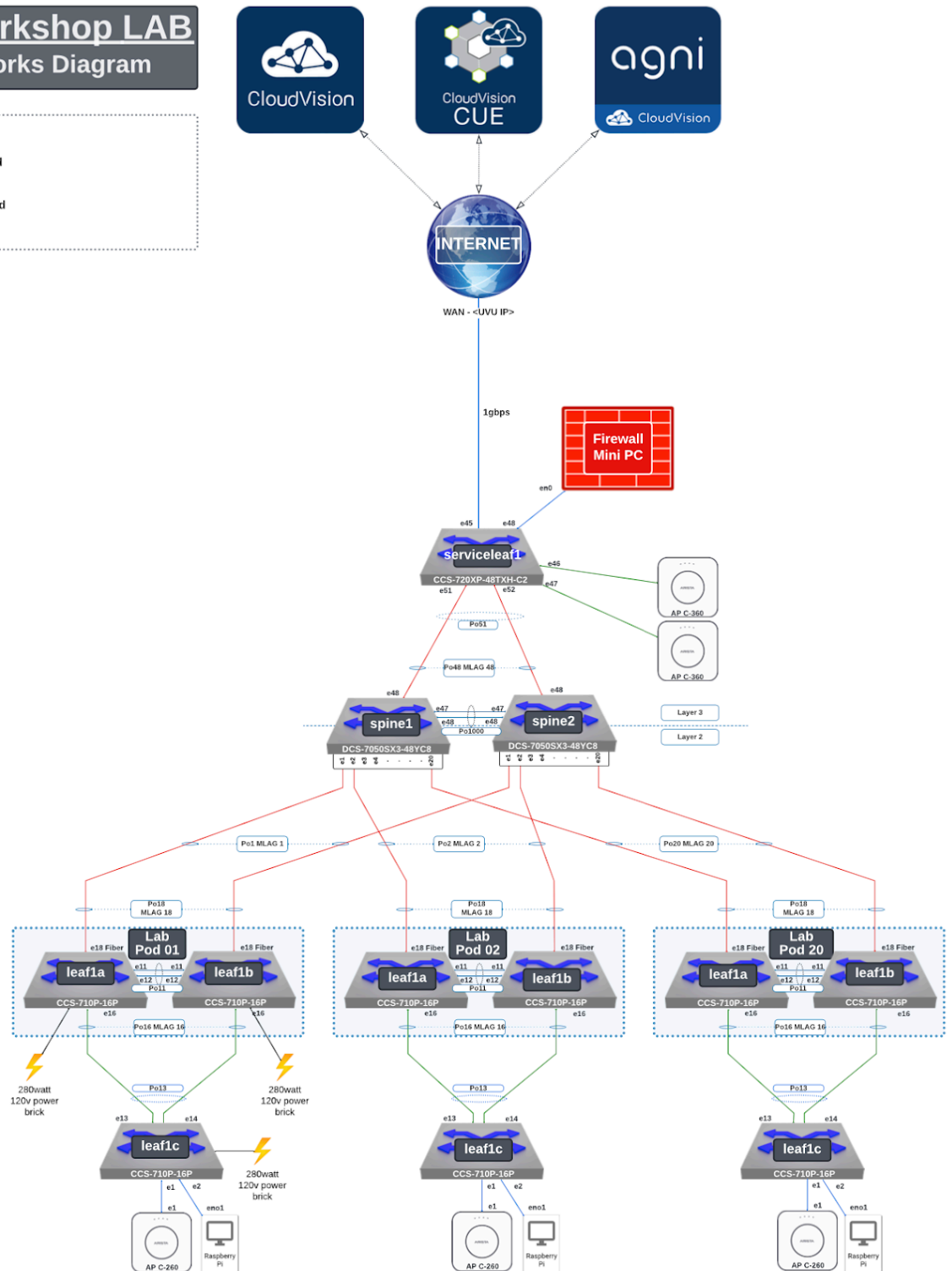
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Full Lab Topology

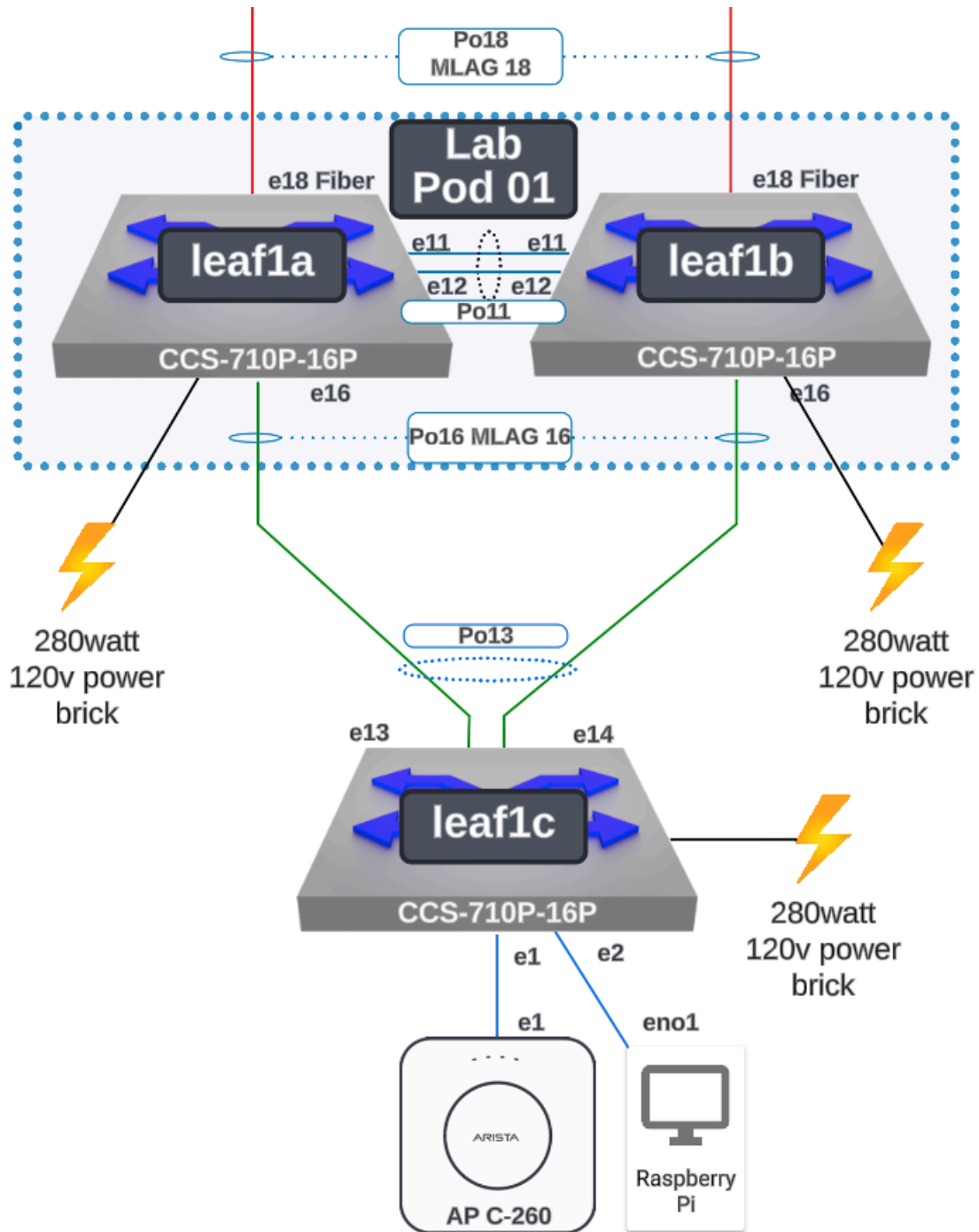
Arista Workshop LAB Lab Networks Diagram

Key:

- 10G link speed
- 5G link speed
- 2.5G link speed
- 1G link speed



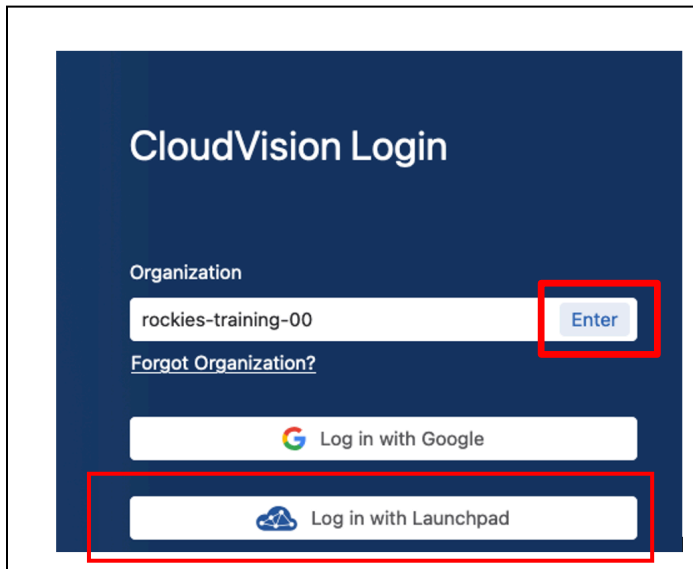
POD Topology



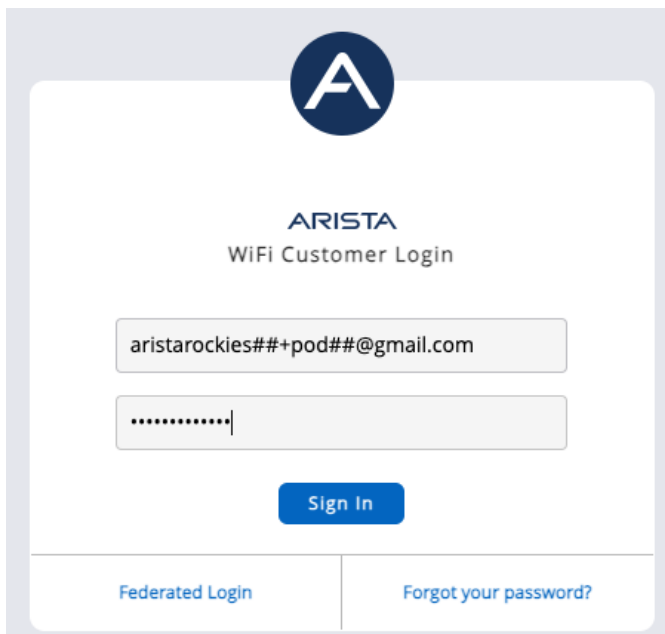
1. Accessing CloudVision as a Service

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**”.

The image shows the CloudVision Login page. It has a dark blue background with white text. At the top, it says "CloudVision Login". Below that, there is a form with a label "Organization" and a text input field containing "rockies-training-00". To the right of the input field is a blue button labeled "Enter", which is highlighted with a red rectangle. Below the input field is a link "Forgot Organization?". At the bottom of the form, there are two buttons: "Log in with Google" and "Log in with Launchpad". The "Log in with Launchpad" button is highlighted with a red rectangle.

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

The image shows the ARISTA WiFi Customer Login page. It has a light gray background with a white login box. At the top of the box is the ARISTA logo (a blue circle with a white 'A'). Below the logo, it says "ARISTA" and "WiFi Customer Login". There are two input fields: the first one contains "aristarockies##+pod##@gmail.com" and the second one contains ".....". Below the input fields is a blue button labeled "Sign In". At the bottom of the login box, there are two links: "Federated Login" and "Forgot your 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

Multiple values

Up

Down

Disconnected

Dormant

LowerLayerDown

Testing

Unknown

[View cluster in Topology](#)

Events

0

0

3

CVE Threat Exposure

2d ago

campus-pod13-leaf1c

CVE Threat Exposure

1w ago

campus-pod13-leaf1a

CVE Threat Exposure

1w ago

campus-pod13-leaf1b

[View in Events](#)

Quick Actions

[Access Interface Configuration](#)
Access Interface Configuration

[Interface Diagnostics](#)
Run Interface Diagnostics

Top Flows by Source

Source	Flow
uslax1-vip-bx-004.aaplimg.com	2G
10.0.113.42	0.5G
lax31s16-in-f1.1e100.net	0.1G

Top Flows by Destination

Destination	Flow
10.0.113.42	2.5G
lax17s55-in-f10.1e100.net	0.5G
lax31s16-in-f14.1e100.net	0.1G

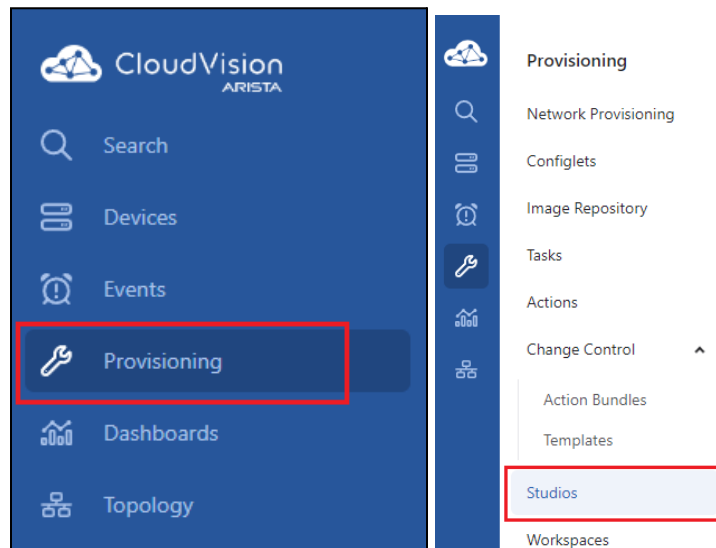
Compliance Issues

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

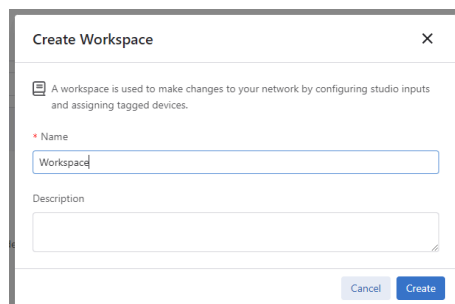
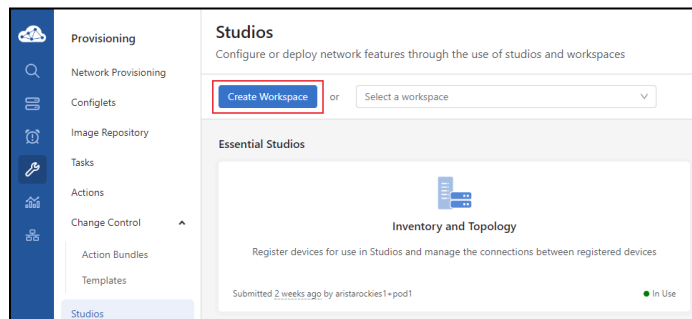
2. Onboarding a new device into Studios

In this lab you will be configuring the switches through CloudVision Studios. Today you will be adding a Member Leaf Switch to an existing Campus Fabric/POD.

1. Login to CloudVision, then click on the **Provisioning** menu option, then choose **Studios**.

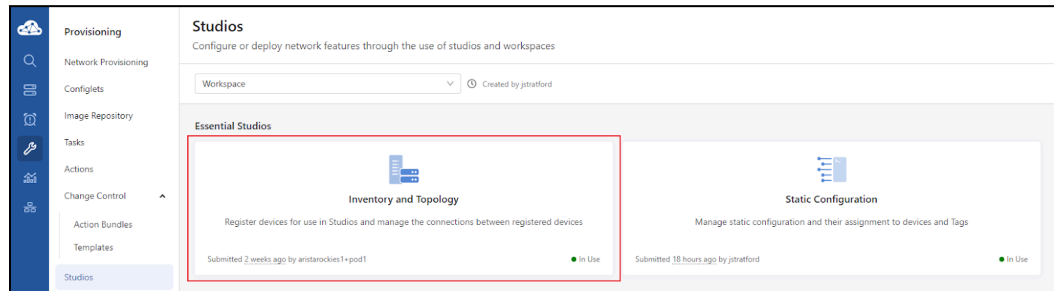


2. Create a workspace to propose changes to the Network Infrastructure. A workspace acts as a sandbox where you can stage your configuration changes before deploying them.
 - a. Click **Create a Workspace**, give it any name you would like and click **Create**.

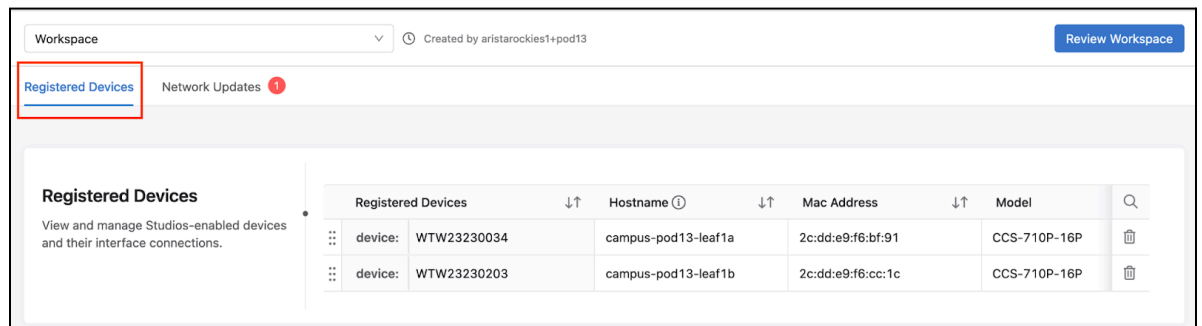


3. Import devices that have been onboarded to CloudVision into the Studio environment.
By default, devices in your inventory are not a part of CloudVision Studios

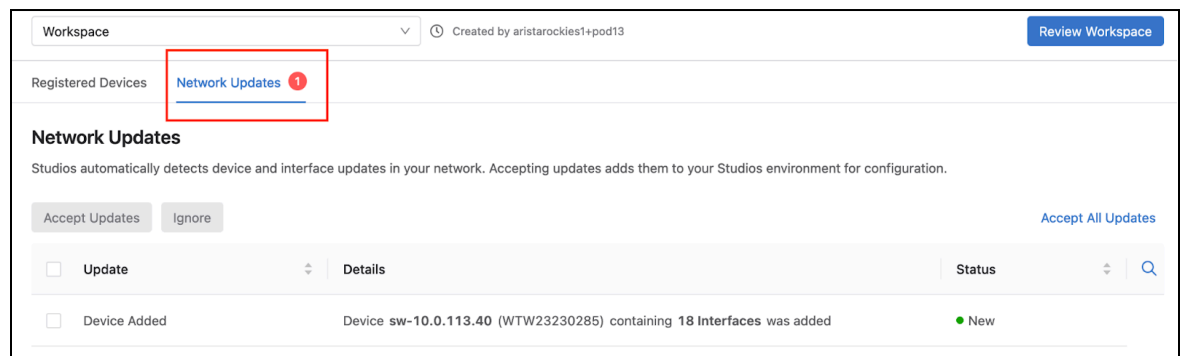
- a. Click to Launch the **Inventory and Topology** Studio under Essential Studios



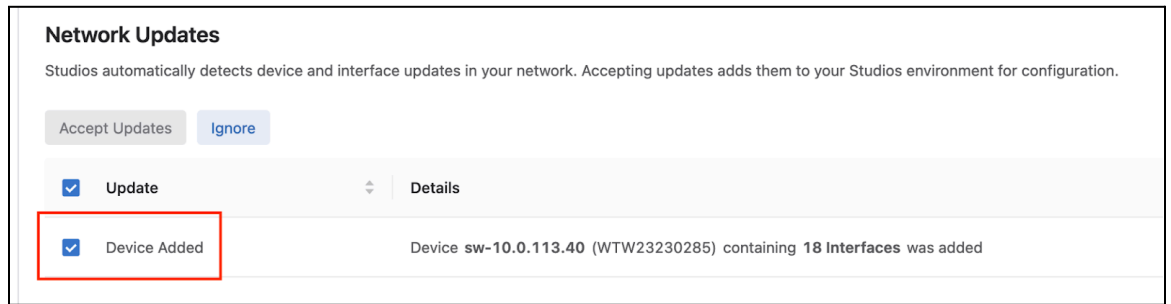
- b. Review current Registered Devices, notice that there are currently only two switches listed



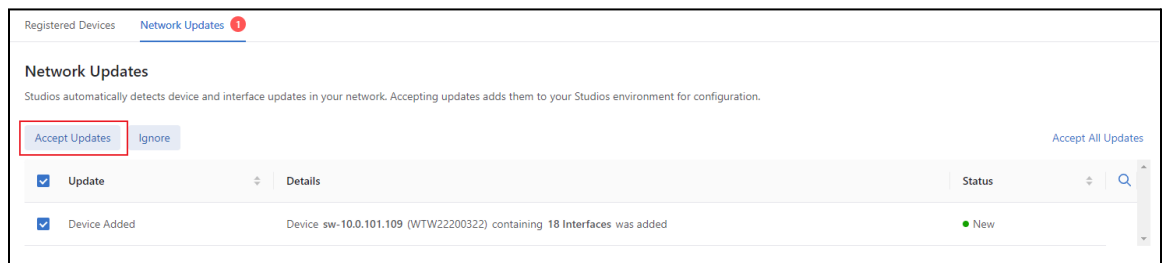
- c. Click **Network Updates**



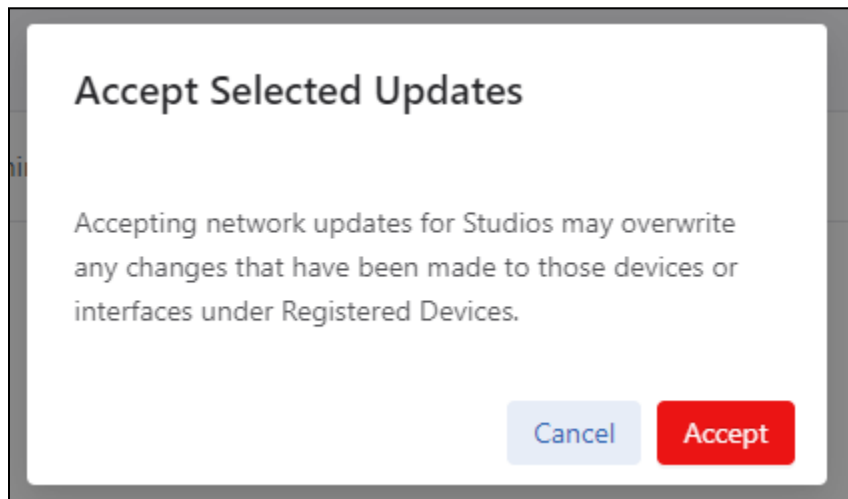
- d. Check the box next to the new switch



- e. Click **Accept Updates**



- f. Click **Accept** on the pop-up



- g. Click on **registered devices** again to see that the new device is now in the list

Studios

Inventory and Topology

Register devices for use in Studios and manage the connections between registered devices

Workshop Created by aristarockies1+pod13 Saved 1 minute ago Review Workspace

Registered Devices Network Updates

Registered Devices
View and manage Studios-enabled devices and their interface connections.

Registered Devices	Hostname	Mac Address	Model
device: WTW23230034	campus-pod13-leaf1a	2c:dd:e9:f6:bf:91	CCS-710P-16P
device: WTW23230203	campus-pod13-leaf1b	2c:dd:e9:f6:cc:1c	CCS-710P-16P
device: WTW23230285	sw-10.0.113.40	2c:dd:e9:f6:d2:32	CCS-710P-16P

- h. Click on the **"Hostname"** box for the new device and name it **"campus-pod<XX>-leaf1c"**, where **##** is a 2 digit character between 01-20 that was assigned to your lab/Pod.

Registered Devices
View and manage Studios-enabled devices and their interface connections.

Registered Devices	Hostname	Mac Address	Model	Interfaces
device: WTW22210324	campus-pod01-leaf1a	2c:dd:e9:fd:a3:e2	CCS-710P-16P	View
device: WTW22210339	campus-pod01-leaf1b	2c:dd:e9:fd:a4:ff	CCS-710P-16P	View
device: WTW22200322	campus-pod01-leaf1c	2c:dd:e9:fd:84:90	CCS-710P-16P	View

4. Apply a baseline configuration to the newly added switch using the Static Configuration Studio
- a. Click **Studios** at the Top OR Left side navigation pane

Studios

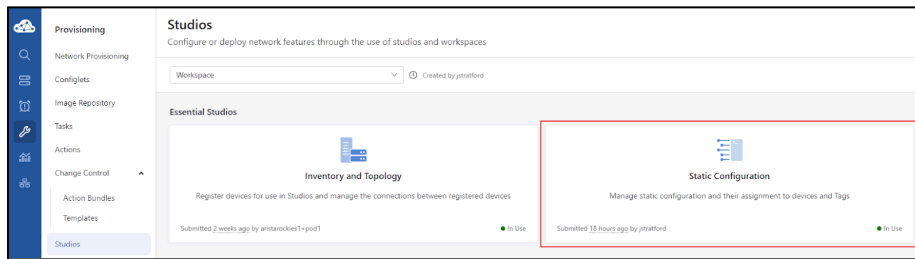
Inventory and Topology

Register devices for use in Studios and manage the connections between registered devices

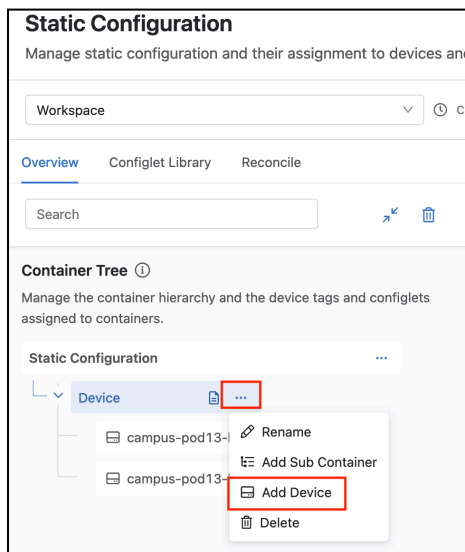
Provisioning

- Network Provisioning
- Configlets
- Image Repository
- Tasks
- Actions
- Change Control
 - Action Bundles
 - Templates
- Studios
- Workspaces

b. Launch the Static Configuration Studios



c. Add a device to the Container Tree by clicking on the three dots next to “Device” and selecting **Add Device**



d. Select the newly added switch and click **Add**

Add Devices
device: *

Devices

Add devices to the tag assigned to the selected container.

☒ Device

Device ID

☐ campus-pod13-leaf1a

Tagged

WTW23230034

☐ campus-pod13-leaf1b

Tagged

WTW23230203

☒ sw-10.0.113.40

Tagged

WTW23230285

Tagged Devices

campus-pod13-leaf1a campus-pod13-leaf1b sw-10.0.113.40

Container Hierarchy

Add the devices to tags of parent containers to support the hierarchy of inheritance.

device: *

☒ Tag matches all devices

Summary of Changes

Tags:

Will be added to 1 device

A new container will be created for each device, which allows you to assign device-specific configlets.

Cancel

Add

- e. Click **+ Configlet** followed by **Configlet Library** to add a static configlet to the new switch.

Workspace

Created by aristarockies1+pod13

Overview

Configlet Library

Reconcile

Container Tree

Manage the container hierarchy and the device tags and configlets assigned to containers.

Static Configuration

Device

campus-pod13-leaf1a

campus-pod13-leaf1b

sw-10.0.113.40

Device Container

Configlets assigned to this container will be pushed to a single device.

Device: sw-10.0.113.40

Configlets

+ Configlet

New Configlet

Configlet Library

- f. Select the configlet named **Studios-campus-pod<##>-leaf1c-deviceconfig** and click **Assign**

Assign configlets from library

Destination Container

Unnamed Container

Container Tag Query

device: sw-10.0.113.40

Select Configlet to Assign

Configlets ⓘ

Search

<input checked="" type="checkbox"/>	Name	Assigned Containers	Status ⓘ	Last Editor
<input type="checkbox"/>	Jasons - Studios-campus-pod13-global-config	Device	Single	aristarockies1+pod13
<input type="checkbox"/>	Studios-campus-pod13-global-config	—	Unused	aristarockies1+pod13
<input type="checkbox"/>	Studios-campus-pod13-leaf1a-deviceconfig	device: campus-pod13-leaf1	Single	aristarockies1+pod13
<input type="checkbox"/>	Studios-campus-pod13-leaf1b-deviceconfig	device: campus-pod13-leaf1	Single	aristarockies1+pod13
<input checked="" type="checkbox"/>	Studios-campus-pod13-leaf1c-deviceconfig	—	Unused	aristarockies1+pod13
<input type="checkbox"/>	Studios-campus-pod13-radsec-config	—	Unused	aristarockies1+pod13

Cancel

Assign

- g. Review the configlets assigned and applied to the other containers and devices in the static configuration screen. You will see that on the **Device** container there is a global config applied for basic configuration shared on all devices, while device specific configuration is applied only to that device.

Studios

Static Configuration

Manage static configuration and their assignment to devices and Tags

workspace Created by jstratford

Build Review Workspace

Overview Configlet Library Reconcile

Search

Container Tree

Manage the container hierarchy and the device tags and configlets assigned to containers.

Static Configuration

Device

campus-pod01-leaf1a

campus-pod01-leaf1b

sw-10.0.101.123

Container Assignments

Assign devices using tags and configlets to the selected container. The configlets will be pushed to the assigned devices.

Device Tag View 3 Devices

Device: All Devices Add Devices

Configlets

Reorder Configlet

Studios-campus-pod01-global-config

```

1 |
2 | username arista privilege 15 role network-admin secret sha512 $6$6pCRbtFDtU3gs5tL$34kpW2pu2shmr77C.e0S.qIU:
3 | !
4 | service routing protocols model multi-agent
5 | service unsupported-transceiver LAB 8a9fbeeB
6 | !
7 | logging level AAA informational
8 | logging level ACCOUNTING informational
9 | logging level ACL informational
10 | logging level AGENT informational
11 | logging level ALE informational
12 | logging level ARP informational
13 | logging level BFD informational
14 | logging level BGP informational
15 | logging level BMP informational
16 | logging level CAPACITY informational
17 | logging level CAPI informational

```

3. Modifying the Campus Fabric to Add a Switch

1. Build the remaining configuration necessary to deploy the new switch. You will use the Campus Fabric (L2/L3/EVPN) Studio to add this switch to an existing Campus Fabric
 - a. Click **Studios** at the top OR left side navigation pane

Studios

Inventory and Topology

Register devices for use in Studios and manage the connections between registered devices

Provisioning

Network Provisioning

Configlets

Image Repository

Tasks

Actions

Change Control

Action Bundles

Templates

Studios

Workspaces

- b. Click to Launch the **Campus Fabric (L2/L3/EVPN) Studio**

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.
Submitted 4 hours ago by jstratford ● In Use

- c. Click the arrow that is to the right of the Campus Fabric named **Workshop**

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.

Workspace

Created by jstratford

> Device Selection

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

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

Campus Fabrics

Campus: Workshop

↕

➤

🗑

[Add Campus Fabric](#)

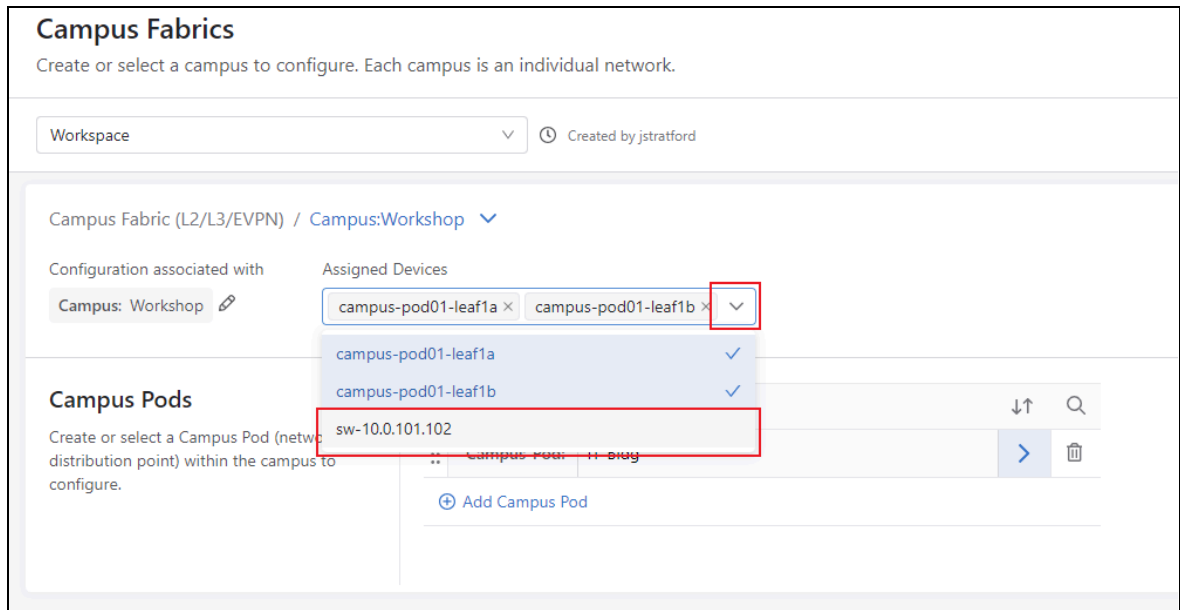
Fabric Allocations

[Fabric Allocations](#) ➤

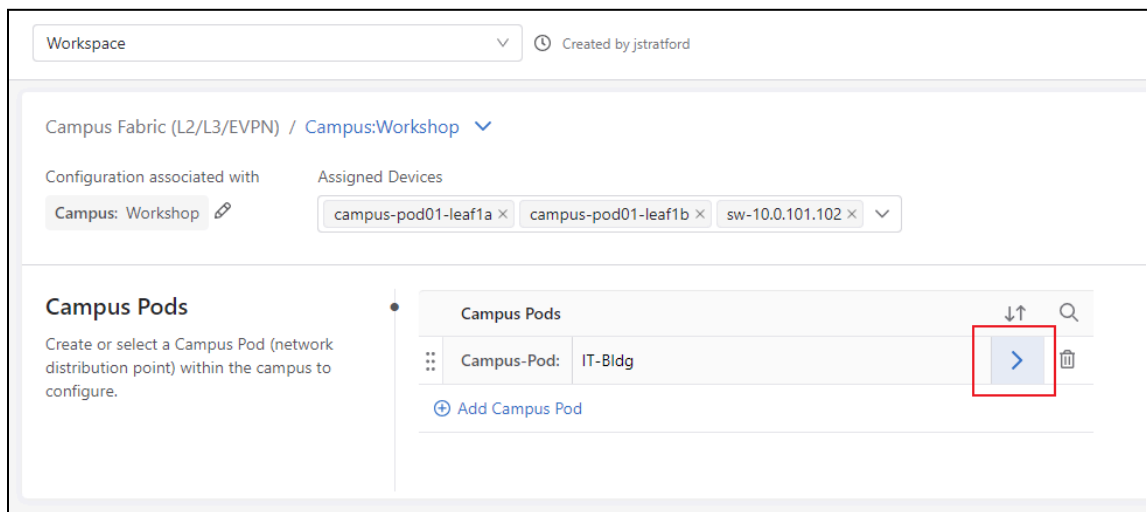
Inband ZTP

[Inband ZTP](#) ➤

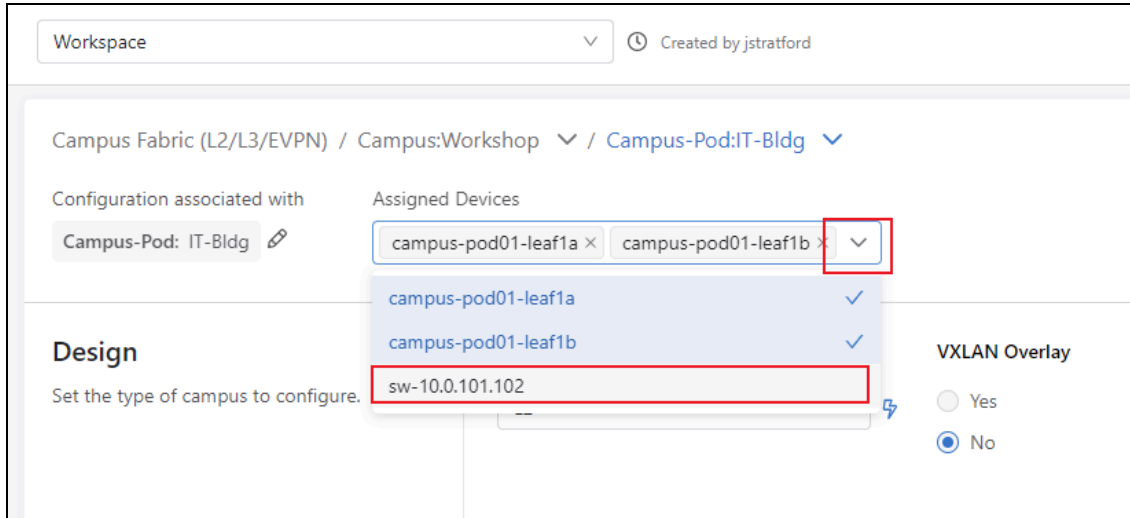
d. Assign the new device to the Campus Pod by clicking the arrow below **Assigned Devices** and selecting the new device



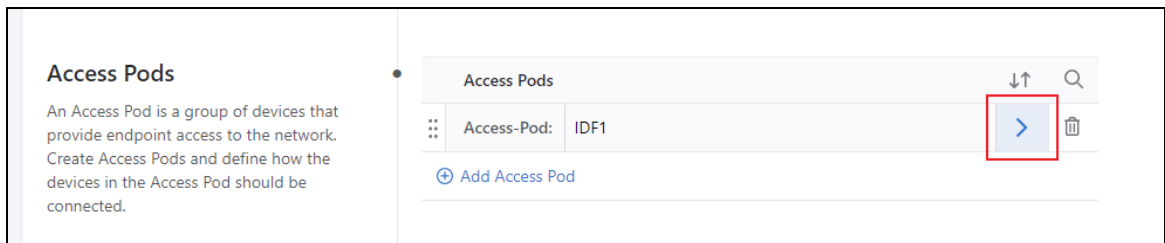
- e. Click the arrow that is to the right of the Campus Pod named **IT-Bldg**.



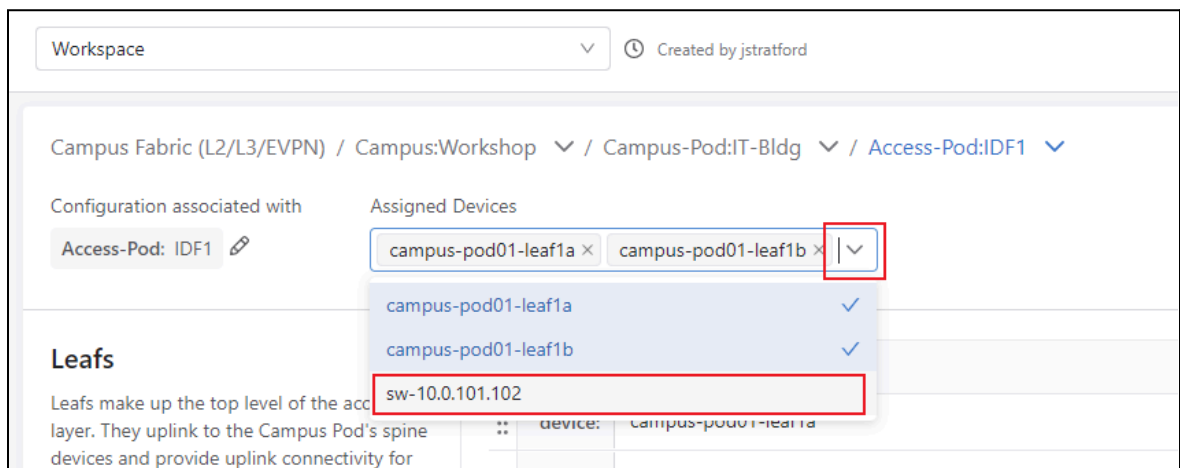
- f. Repeat the previous step to add the new device to the Campus POD by clicking the arrow below **Assigned Devices** and selecting the new device



- g. Scroll down to Access Pods and Click the arrow that is to the right of the Access Pod named **IDF1**



- h. Repeat the previous step to add the new device to the Access Pod by clicking the arrow below **Assigned Devices** and selecting the new device



- i. Scroll down to Member Leafs and Click **Add Member Leaf**

Member Leafs

Member Leafs sit at the bottom of the access layer in an Access Pod. They uplink to their Access Pod's leaf devices.

Member Leafs

device:

Select

+

Add Member Leaf

- j. Click **Select** to add the new device as a Member Leaf

Member Leafs

Member Leafs sit at the bottom of the access layer in an Access Pod. They uplink to their Access Pod's leaf devices.

Member Leafs

device:

Select

+

Add Mem

Devices Under: Access-Pod:IDF1

campus-pod01-leaf1a

campus-pod01-leaf1b

sw-10.0.101.102

Member Leaf MLAG Pairs

Designate specific member leafs to form MLAG pairs.

MLAG Pr

+

Add Member Leaf MLAG Pair

- k. Click the blue lightning bolt to auto assign a Node Id. After a few moments a number will appear in the Node Id column. Alternatively, you can type in the number "3"

Leafs

Leafs make up the top level of the access layer. They uplink to the Campus Pod's spine devices and provide uplink connectivity for their Access Pod's member leafs. An Access Pod requires at least 1 leaf but no more than 2. If 2 leafs are supplied, they will form an MLAG pair.

Leafs

device:

campus-pod01-leaf1a

device:

campus-pod01-leaf1b

+

Add Leaf

Member Leafs

device:

sw-10.0.101.102

+

Add Member Leaf

- l. Click **Review Workspace** to review all the changes proposed to the CloudVision Studio

Access Pods

An Access Pod is a group of devices that provide endpoint access to the network. Create Access Pods and define how the devices in the Access Pod should be connected.

Workspace Created by jstratford Saved 4 seconds ago **Review Workspace**

Campus Fabric (L2/L3/EVPN) / Campus:Workshop / Campus-Pod:IT-Bldg / Access-Pod:IDF1

Configuration associated with: Access-Pod: IDF1

Assigned Devices: campus-pod01-leaf1a x campus-pod01-leaf1b x sw-10.0.101.102 x

Leafs

Leafs make up the top level of the access layer. They uplink to the Campus Pod's spine devices and provide uplink connectivity for their Access Pod's member leafs. An Access Pod requires at least 1 leaf but no more than 2. If 2 leafs are supplied, they will form an MLAG pair.

Leafs	Node Id
device: campus-pod01-leaf1a	1
device: campus-pod01-leaf1b	2

[Add Leaf](#)

Member Leafs

Member Leafs sit at the bottom of the access layer in an Access Pod. They uplink to their Access Pod's leaf devices.

Member Leafs	Node Id
device: sw-10.0.101.102	3

[Add Member Leaf](#)

2. Review and Submit the Workspace

- Review the workspace details showing the summary of modified studios, the build status, and the proposed configuration changes for each device.
- Click **Submit Workspace**

Workspaces Rebuild **Submit Workspace** jstratford Z_ROCKIES-ATD-01

Workspace Build Succeeded No description jstratford Last Modified: 2 minutes ago

Summary [View All Modification Details](#)

Studios Modified	Modification Type
Inventory and Topology	Input
Campus Fabric (L2/L3/EVPN)	Input
Static Configuration	Input
Number of Tag Changes	5

Build Status [View Build Details](#)

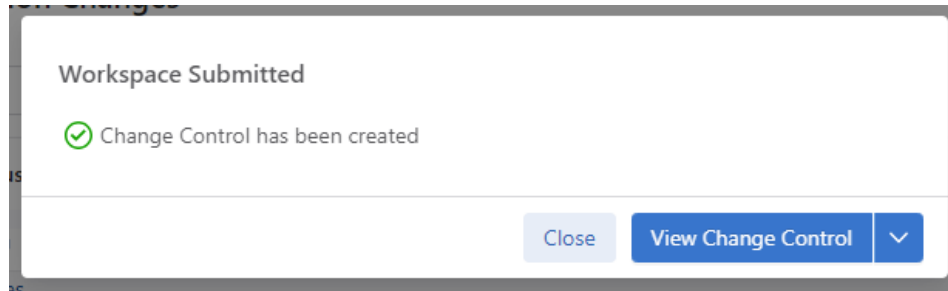
Last built 2 minutes ago

✓
Input Validation

✓
Configlet Compilation

✓
Config Validation

- Click **View Change Control**



4. Commit and Execute Change Control

1. Review, Approve and Execute the Change Control to apply the configuration changes
 - a. Click **Review and Approve**

Change Control

Review and Approve

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

Workspace (created by workspace)

Name
Workspace (created by workspace)

Description
Changes from workspace "Workspace"

Schedule Start
Select date

Recent Activity

Search actions

Select a Template

Change Control Stages (3 actions)

campus-pod13-leaf1a (WTW232300... (1 action)

campus-pod13-leaf1a
Set Config to Designed Config at Aug 6, 2024 15:02:05 +7 -0 -0

campus-pod13-leaf1b (WTW232302... (1 action)

campus-pod13-leaf1b
Set Config to Designed Config at Aug 6, 2024 15:02:05 +7 -0 -0

sw-10.0.113.40 (WTW23230285) (1 action)

sw-10.0.113.40
Set Config to Designed Config at Aug 6, 2024 15:02:05 +153 -4 -224

Change Control Summary

Diff Summary

Root Execute

Parallel Series

Last Edit Approval In Progress Completed

aristaroockies1+pod13 16s ago

Action Summary

Add Action

3

Config

Device Status (3)

Configuration Changes (3)

campus-pod13-leaf1a

campus-pod13-leaf1b

sw-10.0.113.40

Active

Active

Active

b. Select **Execute immediately** and click **Approve and Execute**

Execute immediately

☒

Cancel

Approve and Execute

- The change control will execute and apply all the proposed configuration changes to the devices. The newly added device will be reloaded as it exits zerotouch provisioning (ZTP) mode and boots up with the designed configuration