

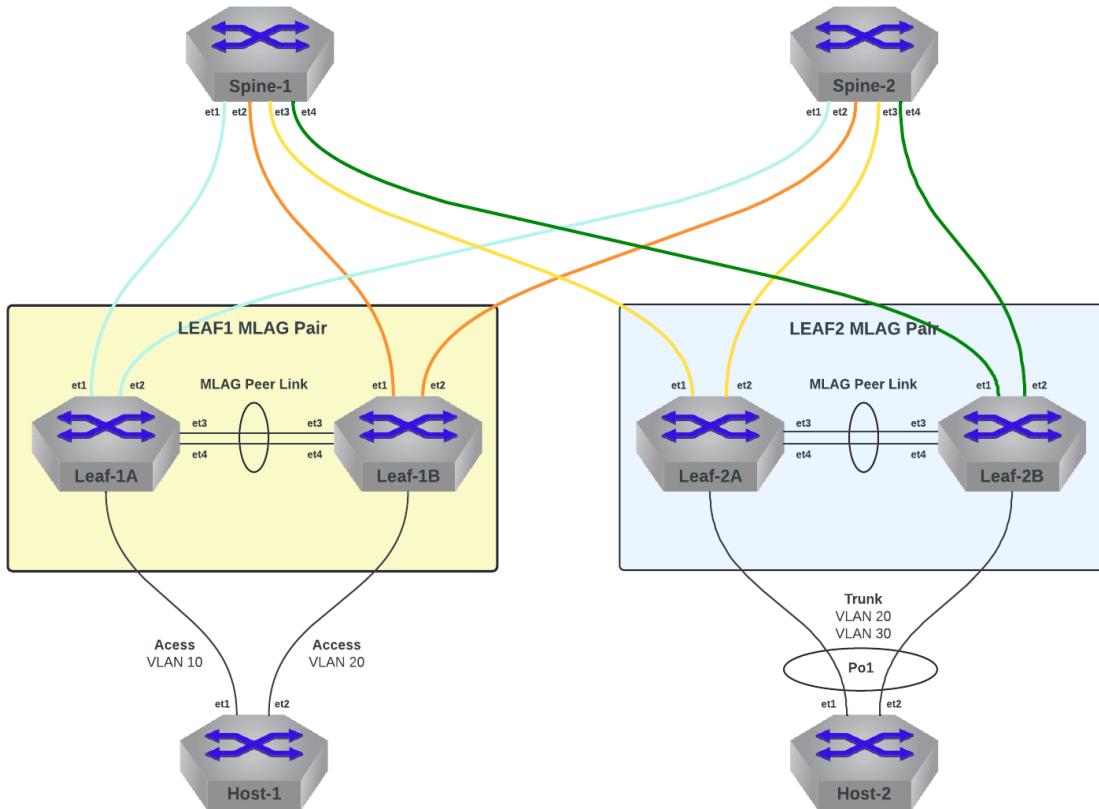
## CloudVision Mastery Workshop

### CloudVision Provisioning

### Lab Guide 1

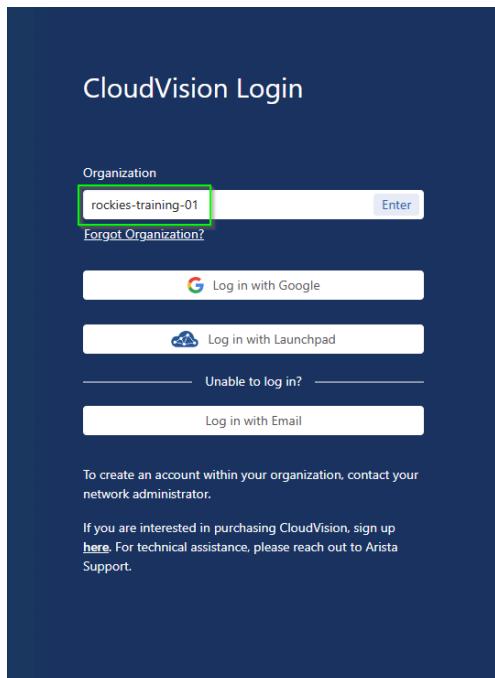
## Lab Topology

Each lab environment consists of a Layer 3 Leaf & Spine design. There are 2 Spine switches and 4 Leaf switches. The Leaf switches are connected in MLAG pairs. There is a single host device connected to each MLAG pair. Host-1 is simulating a single-homed device, connected on Leaf-1A and Leaf-1B on different access VLAN's. Host-2 is acting as a dual-homed server using an LACP Port-Channel to allow for active/active sharing of workloads.

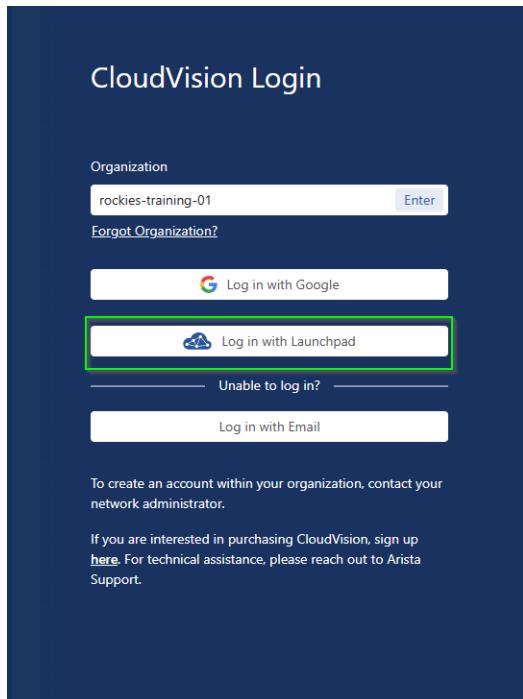


## Connecting to your CVaaS Instance

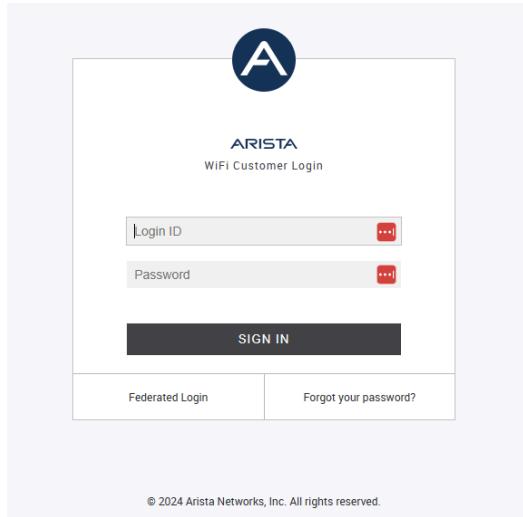
1. Open a browser (preferably Chrome or Firefox) and go to <https://www.arista.io/>.
2. In the “Organization” box, enter your assigned CVaaS instance name. For example, **rockies-training-01**.



3. Click “**Log in with Launchpad**”



4. Enter in your assigned email address and password



5. Welcome to CloudVision!

Device	Streaming	Issues	Model	Software	Streaming Agent	IP Address	MAC Address	Device ID
sw-10.18.159.104	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.14	44:b5:1ea1:01:71	SN-P2-ztpUpdate
sw-10.18.160.13	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.18	44:fc:cb:05:b9:b8	SN-P2-Leaf08
sw-10.18.160.112	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.17	44:18:01:42:21:a8	SN-P2-Leaf2A
sw-10.18.167.203	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.12	44:90:6ccb:b6:5b	SN-P2-Leaf1A
sw-10.18.167.204	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.15	44:d9:35:8b:c3:43	SN-P2-Leaf1B
sw-10.18.167.205	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.16	44:3d:62:1b:7c:2f	SN-P2-Spine1
sw-10.18.167.206	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.13	44:ea:5cf5:c1:2d	SN-P2-Spine2

# CONTAINERS

Containers are a logical entity used to group network devices and to define a hierarchy to which configurations can be applied. A container can contain a device, a group of devices, or other containers.

## Creating Container Structure

In this lab we will be creating a Container structure for our virtual data center deployment.

1. Navigate to **Provisioning > Network Provisioning**
2. Right-click on the “**Tenant**” container and select **Add > Container**

3. Name the new container “DC1” and click OK.
4. Now, right-click on the “DC1” container and select **Add > Container**
5. Name the new container “Spines”

6. Repeat steps 4 & 5 and create a new container named “Leafs”
7. Right-click the “Leafs” container and create 2 new containers named “Leaf1” & “Leaf2” (see example below)

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar lists various options like Provisioning, Configlets, Image Repository, and Change Control. The main area is titled "Network Provisioning" and contains a tree view under "Network Provisioning > Leaf". The tree shows a Tenant node with a single child node named "Leaf1 (0)". A modal window titled "New Container" is open, showing the input field "Container Name" with the value "Leaf1". At the bottom of the screen are three buttons: "Preview", "Save", and "Cancel". The top right corner shows the user's name "handy" and the identifier "C\_ROCKIES-ATD-01".

**NOTE:** You'll notice that all new containers are highlighted in green. This means there are changes that have yet to be saved.

- Click “Save” at the bottom of the screen. Our finished container structure should look something like this:

The screenshot shows the Arista Network Provisioning interface after saving the container. The tree view now shows a Tenant node with two children: "DC1 (0)" and "Leafs (0)". Under "Leafs (0)", there are two leaf nodes: "Leaf1 (0)" and "Leaf2 (0)". To the right of the tree view, a "Tenant" panel is open, displaying information about the newly created container: "Associated Configs: 0", "Associated Switches: 0", "Created by: cvx system", and "Created on: 2024-04-02 18:10:14". The bottom of the screen features the same "Preview", "Save", and "Cancel" buttons as the previous screenshot. The top right corner still shows the user "handy" and the identifier "C\_ROCKIES-ATD-01".

## CONFIGLETS

Configlets are a snippet of configuration that CloudVision users code and maintain independently. These configlets can be later applied to devices or containers in the topology. When you apply a configlet to a container, the configlet is automatically applied to all of the devices in the container, including devices in sub-containers. Multiple configlets can be applied to a single device or container. The collection of applied configlets create the “**Designed Configuration**” on the devices.

### Creating Static Configlets

In this lab there will be several pre-built configlets and several that need to be built. In the steps below, we will be creating several new static configlets. We will then assign all configlets to the appropriate containers and devices.

A note on configlet naming convention. Based on our experience helping with many large customer deployments, we are using a naming convention that we found works very well. All configlets that are assigned directly to containers will be in all-caps (i.e. **SPINES**, **LEAF1**, **LEAF2**, etc) and any configlet that is assigned directly to a device will be in all lower-case (i.e. **spine-1**, **spine-2**, **leaf-1A**, **leaf-1B**, etc).

**NOTE:** In this section we'll be copying code blocks that may span multiple pages. So please ensure you're copying the entire code block before pasting into your configlet. Also, you must use keyboard shortcuts (Ctrl-C, Ctrl-V, Command-C, Command-V) in order to copy/paste inside of CVP.

1. Navigate to **Provisioning > Configlets**. In the upper right-hand corner, click on the “+” icon  and select “**Configlets**”

Name	Containers	Devices	Notes	Type - All	Created By
BASE	0	0	Add Note	Static	pfeilt
LEAF1	0	0	Add Note	Static	jhardy
SPINES	0	0	Add Note	Static	jhardy
SYS_TelemetryBuilderV2	0	0	Add Note	Builder	cvp system
leaf-1a	0	0	Add Note	Static	jhardy
leaf-1b	0	0	Add Note	Static	jhardy
spine-1	0	0	Add Note	Static	jhardy

2. Name the new configlet “spine-2” and add the following configuration and click “Save”

```

hostname Spine-2
!
interface Ethernet1
    description Leaf-1A_eth2
    no switchport
    ip address 10.242.1.1/30
!
interface Ethernet2
    description Leaf-1B_eth2
    no switchport
    ip address 10.242.1.5/30
!
interface Ethernet3
    description Leaf-2A_eth2
    no switchport
    ip address 10.242.2.1/30
!
interface Ethernet4
    description Leaf-2B_eth2
    no switchport
    ip address 10.242.2.5/30
!
interface Loopback0
    ip address 10.250.0.2/32
!
interface Management1
    ip address dhcp
    dhcp client accept default-route
!
router bgp 65000
    router-id 10.250.0.2
    neighbor 10.242.1.2 peer group MLAG-1
    neighbor 10.242.1.6 peer group MLAG-1
    neighbor 10.242.2.2 peer group MLAG-2
    neighbor 10.242.2.6 peer group MLAG-2

```

3. Let's create another static configlet named "**LEAF2**" and add the following configuration and click "**Save**"

```
vlan 30,40
!
vlan 4093-4094
  trunk group MLAG_Peer_Link
!
interface Port-Channel1
  description Host-2
  switchport mode trunk
  mlag 1
!
interface Port-Channel2000
  description MLAG_Peer_Link
  switchport mode trunk
  switchport trunk group MLAG_Peer_Link
!
interface Ethernet3
  description MLAG-PEER-LINK
  channel-group 2000 mode active
!
interface Ethernet4
  description MLAG-PEER-LINK
  channel-group 2000 mode active
!
interface Vlan30
  ip virtual-router address 10.30.30.1
!
interface Vlan40
  ip virtual-router address 10.40.40.1
!
ip virtual-router mac-address 00:1c:73:00:00:01
!
mlag configuration
  domain-id MLAG
  peer-link Port-Channel2000
  reload-delay 60
!
router bgp 65002
  no bgp default ipv4-unicast
  maximum-paths 2
  neighbor MLAG-PEER peer group
  neighbor MLAG-PEER remote-as 65002
  neighbor SPINES peer group
  neighbor SPINES remote-as 65000
  redistribute connected
!
```

```
address-family ipv4
    neighbor MLAG-PEER activate
    neighbor SPINES activate
!
```

4. Now let's create configlets for each of our devices in the “Leaf2” container (**leaf-2a & leaf-2b**). Create a configlet named “**leaf-2a**” and add the following configuration

```
hostname Leaf-2A
!
interface Ethernet1
    description Spine-1_eth3
    no switchport
    ip address 10.241.2.2/30
!
interface Ethernet2
    description Spine-2_eth3
    no switchport
    ip address 10.242.2.2/30
!
interface Ethernet6
    description Host-2_eth1
    channel-group 1 mode active
!
interface Loopback0
    ip address 10.250.2.1/32
!
interface Management1
    ip address dhcp
    dhcp client accept default-route
!
interface Vlan30
    ip address 10.30.30.2/24
!
interface Vlan40
    ip address 10.40.40.2/24
!
interface Vlan4093
    description iBGP_Peering
    no autostate
    ip address 192.168.0.1/30
!
interface Vlan4094
    description MLAG_Peering
    no autostate
    ip address 192.168.1.1/30
!
mlag configuration
    local-interface Vlan4094
    peer-address 192.168.1.2
```

```
!
router bgp 65002
  router-id 10.250.2.1
  neighbor 10.241.2.1 peer group SPINES
  neighbor 10.242.2.1 peer group SPINES
  neighbor 192.168.0.2 peer group MLAG-PEER
!
```

5. Create a configlet named “**leaf-2b**” and add the following configuration

```
hostname Leaf-2B
!
interface Ethernet1
  description Spine-1_eth4
  no switchport
  ip address 10.241.2.6/30
!
interface Ethernet2
  description Spine-2_eth4
  no switchport
  ip address 10.242.2.6/30
!
interface Ethernet6
  description Host-2_eth2
  channel-group 1 mode active
!
interface Loopback0
  ip address 10.250.2.2/32
!
interface Management1
  ip address dhcp
  dhcp client accept default-route
!
interface Vlan30
  ip address 10.30.30.3/24
!
interface Vlan40
  ip address 10.40.40.3/24
!
interface Vlan4093
  description iBGP_Peering
  no autostate
  ip address 192.168.0.2/30
!
interface Vlan4094
  description MLAG_Peering
  no autostate
  ip address 192.168.1.2/30
!
mlag configuration
  local-interface Vlan4094
```

```
peer-address 192.168.1.1
!
router bgp 65002
    router-id 10.250.2.2
    neighbor 10.241.2.5 peer group SPINES
    neighbor 10.242.2.5 peer group SPINES
    neighbor 192.168.0.1 peer group MLAG-PEER
!
```

6. We should now have the following list of configlets

The screenshot shows the Arista Network Manager interface with the following details:

- Section Header:** Configlets
- Description:** Manage configlets and view configlet details
- Search Bar:** Search (with a magnifying glass icon)
- Table Headers:** Configlets (with a dropdown arrow), Name (highlighted with a dark blue background)
- Table Data:** A list of configlets:
  - BASE
  - LEAF1
  - LEAF2
  - SPINES
  - leaf-1a
  - leaf-1b
  - leaf-2a
  - leaf-2b
  - spine-1
  - spine-2

## Assigning Configlets to Containers

Now that we have our container structure and our static configlets built, let's apply the configlets to our containers.

**NOTE:** Remember, any configlet that is assigned to a container will be inherited by the devices under that container.

1. Let's start by assigning the "**BASE**" configlet to the "**DC1**" container. Navigate to **Provisioning > Network Provisioning**. Right-click on the "**DC1**" container and select **Manage > Configlet**

The screenshot shows the Arista Network provisioning interface. On the left, there's a sidebar with various navigation options like 'Provisioning', 'Configlets', 'Image Repository', etc. The main area is titled 'Network Provisioning' with the sub-section 'Assign devices to containers and manage device-specific configuration'. A search bar is at the top. Below it, there's a tree view of network components under 'Network Provisioning > DC1 (0) > Configlet'. A context menu is open over a container named 'Spines'. The menu items include 'Manage', 'Image Bundle', 'Device', 'Synchronizations', 'Reconcile', and 'Remove'. To the right of the tree view, there's a table with columns: Name, IP Address, Mac Address, Serial No., Container, and Status. A message says 'No data to be displayed'. At the bottom right of the main area, there are 'Preview', 'Save', and 'Cancel' buttons.

- Now select “**BASE**” from the list of configlets. You will see the “**BASE**” configlet show up on the right side of your screen under the “**Proposed Configuration**” section. You can see a preview of the configuration that will be applied by this configlet by clicking the “+” icon on the far right corner of the “**Proposed Configuration**” section for the “**BASE**” configlet. Click “**Update**” at the bottom of the screen.

This screenshot continues from the previous one. The 'Proposed Configuration' section on the right now displays the configuration for the 'BASE' configlet. The configuration text is as follows:

```

username capadmin privilege 15 secret sha512 $6$VTUfG4l2Cughvz$2lJcVQhZ0jmtXy5OpzeRiy3J4e8mflvUNM0gkm
!
terminal width 120
!
daemon TerminalMtr
  exec /usr/bin/TerminalMtr -smashhead=scale:flexCounter.hardware.knl.pulse.strata -cvaddr=raspserver arista.io:443 -cvauth=tok
no shutdown
!
service routing protocols model multi-agent
!
ip domain lookup vrf MGMT source-interface Management1
!
ip name-server vrf MGMT 8.8.8.8
!
allow sample dangerous 200
allow polling-interval 3
allow max-connections 127.0.0.1
allow source-interface Loopback0
allow run
!
clock timezone America/Denver
!
vrf instance MGMT
!
management api http-commands
no shutdown
  vrf MGMT
    no shutdown
!
aaa authorization exec default local
interface Management1
  vrf MGMT
    no Rlp transmit
    no Rlp receive
!
In routes

```

At the bottom of the configuration pane, there are 'Update' and 'Cancel' buttons.

- Next, let's assign the “**SPINES**” configlet to the “**Spines**” container. Right-click on the “**Spines**” container and select **Manage > Configlet**

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar lists various categories: Provisioning, Network Provisioning, Configlets, Actions, Change Control, Tasks, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled "Network Provisioning" and "Assign devices to containers and manage device-specific configuration". A search bar is at the top. Below it, a tree view shows "Tenant (0)", "Undefined (7)", "DCI (0)", "Leads (0)", "Leafs (0)", "Spines (0)", and "Slices (0)". A context menu is open over the "Spines (0)" node, with options: Manage, Conflict, Add, Image Bundle, View Config, Device, Snapshots, Network, Rollback, and Remove. To the right, a table titled "Spines" is shown with columns: IP Address, Mac Address, Serial No., Container, and Status. A message says "No data to be displayed". On the far right, a sidebar shows "Associated Configlets: 0", "Associated Switches: 0", "Created by: jhardy", and "Created on: 2024-05-20 16:20:57". At the bottom are "Preview", "Save", and "Cancel" buttons.

- From the list, select the “**SPINES**” configlet and click “**Update**” at the bottom of the screen

The screenshot shows the Arista Network Provisioning interface. The sidebar and main navigation are identical to the previous screenshot. The "Spines" configlet is selected in the list, and its "Proposed Configuration" is displayed on the right. The configuration includes:

```

router bgp 65000
no bgp default ipv4-unicast
maximum-paths 2
neighbor MLAG-1 peer group
neighbor MLAG-1 remote-as 65001
neighbor MLAG-2 peer group
neighbor MLAG-2 remote-as 65002
redistribute connected
address-family ipv4
  neighbor MLAG-1 activate
  neighbor MLAG-2 activate

```

A note at the bottom right says: "Some configuration may be derived from studios. Review the complete Device Configuration." At the bottom are "Update" and "Cancel" buttons.

- Next, we're going to assign the “**LEAF1**” configlet to the “**Leaf1**” container. Expand the “**Leafs**” container to expose the individual leafs containers. Right-click on the “**Leaf1**” container and select **Manage > Configlet**. Select the “**LEAF1**” configlet and click “**Update**”

The screenshot shows the Network Provisioning screen in the Arista CloudVision interface. The left sidebar includes options for Search, Devices, Events, Provisioning (selected), Dashboards, and Topology. The main area displays a table of configlets assigned to the Leaf2 container. The table columns are Name, Notes, Type, Created By, Created Date, and Proposed Configuration. A search bar at the top right allows filtering by name. On the right side, the 'Proposed Configuration' pane shows the detailed configuration for the selected configlet, which is named 'LEAF2'. The configuration includes interface definitions like 'interface Port-Channel0000', 'description MLAG\_Peer\_Link', and 'switchport mode trunk'. It also defines VLANs (Vlan 30, 40) and MLAG configurations. At the bottom of the configuration pane, there is a note about 'Router hone 6000D'.

6. Repeat above steps for the “Leaf2” container
7. We’ve now assigned configlets to the appropriate containers. Don’t forget to click “Save” at the bottom of the screen
8. From the Network Provisioning screen, we can verify which configlets are assigned to the containers. Click on a container in the hierarchy, in this example we’ll highlight the “DC1” container. From the menu on the right side of the screen, click on the middle icon. This will show you which configlets are assigned to that container

The screenshot shows the details for the 'DC1' container. The top header shows 'DC1' and has three icons: a folder, a blue square with '</>', and a key. Below the header, the text 'Configlet (1)' is displayed. A green box highlights the '</>' icon. A search bar labeled 'Search Configlets' is present. The list below shows a single item: 'BASE', which is also highlighted with a green box. The entire interface is enclosed in a light gray border.

## NETWORK PROVISIONING

Network Provisioning allows you to manage the devices and containers in your network. You can create and delete containers, move devices between containers, and manage device configlets and images.

All devices onboarded to CloudVision are automatically assigned to the “**undefined**” Container. Before any configuration can be pushed to these devices, they must be moved to the Tenant or another container.

### Deploying Switches

Now that we've assigned configlets to containers, we can move our switches from the “**undefined**” container to their assigned containers. Remember, all container-level configlets will be inherited by the devices under those containers.

In this lab we will provision our devices from ZTP mode, move them into their assigned containers, and apply their device-specific configlets.

**NOTE:** In this section we'll be applying configlets directly to our switches. The device-specific configlets contain Management Interface configuration. If this configlet is not applied before clicking on “**Save**” in the Network Provisioning page, you could lose connectivity to your switch(es) after they have been provisioned.

1. Navigate to **Provisioning > Network Provisioning** and right-click on the “**Spines**” container. Now select **Add > Device**

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar navigation includes: Provisioning (Network Provisioning is selected), Configlets, Image Repository, Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area is titled 'Network Provisioning' under 'DC1'. It shows a tree view with 'Tenant (0)', 'DC1 (0)', and 'Leads (0)'. A context menu is open over a 'Spines' item, with 'Device' selected. The right panel displays a table for 'Configlet' management, showing one entry: 'Search Configlets' and 'BASE'. At the bottom are 'Preview', 'Save', and 'Cancel' buttons.

2. Select “**Spine1**” and “**Spine2**” (denoted in the Serial Number) from the list and click “**Add**” at the bottom of the screen

The screenshot shows the 'Device Add' screen for Spines. The sidebar is identical to the previous screenshot. The main content area is titled 'Network Provisioning > Spines > Device Add'. It shows a table titled 'Undefined Devices' with the following data:

Name	Serial No.	IP Address	Mac Address	Model	Version
sru-192.168.225.242	6A0000C7F0E1028A9-BEAD03071EF715	192.168.225.242	0c:31:a5:66:04	4.29.7M	
<input checked="" type="checkbox"/> sru-192.168.225.247	SN-PI-Spine1	192.168.225.247	0c:dc:8b:3e:x3:3e	4.29.7M	
<input type="checkbox"/> sru-192.168.225.248	SN-PI-Leaf1A	192.168.225.248	0c:ea:82:9e:04:2d	4.29.7M	
<input type="checkbox"/> sru-192.168.225.249	SN-PI-Leaf2B	192.168.225.249	0c:08:56:7e:54:43	4.29.7M	
<input type="checkbox"/> sru-192.168.225.250	SN-PI-Leaf1B	192.168.225.250	0c:e5:22:fb:44:b7	4.29.7M	
<input type="checkbox"/> sru-192.168.225.251	SN-PI-Leaf2A	192.168.225.251	0c:c9:70:02:3d	4.29.7M	
<input checked="" type="checkbox"/> sru-192.168.225.252	SN-PI-Spine2	192.168.225.252	0c:2f:d7:03:73	4.29.7M	

At the bottom are 'Add' and 'Back' buttons.

**NOTE:** Do not click “**Save**” at this point as we have yet to assign any device-specific configlets to the switches. This is especially important when using static IP addresses to manage the devices. Otherwise we could lose access to the switches after provisioning.

3. Open the container hierarchy and right-click on the “Leaf1” container and select **Add > Device**
4. Select “Leaf1A” and “Leaf1B” from the list and click “Add”

Name	Serial No.	IP Address	Mac Address	Model	Version
sw-192.168.225.242	6A000FCF9BE1023A8A8EAD01977EFT15	192.168.225.242	0c:31:e3:6b:88:04	42810.1M	4.29.7M
sw-192.168.225.247	SN-P1-Spine1	192.168.225.247	0c:dc:0b:8e:x3:3e		
<input checked="" type="checkbox"/> sw-192.168.225.248	SN-P1-Leaf1A	192.168.225.248	0c:ea:82:9e:94:2d		4.29.7M
<input checked="" type="checkbox"/> sw-192.168.225.249	SN-P1-Leaf1B	192.168.225.249	0c:08:5d:7b:54:43		4.29.7M
<input checked="" type="checkbox"/> sw-192.168.225.250	SN-P1-Leaf1C	192.168.225.250	0c:e5:22:b8:44:b7		4.29.7M
<input type="checkbox"/> sw-192.168.225.251	SN-P1-Leaf1D	192.168.225.251	0c:ca:c7:69:02:3d		4.29.7M
<input type="checkbox"/> sw-192.168.225.252	SN-P1-Spine2	192.168.225.252	0c:2f:a7:c3:73		4.29.7M

5. Let's repeat the process for container “Leaf2”, adding “Leaf2A” and “Leaf2B”

**NOTE:** Do not click “Save” at this point as we have yet to assign any device-specific configlets to the switches. This is especially important when using static IP addresses to manage the devices. Otherwise we could lose access to the switches after provisioning.

We are now ready to assign our device-specific configlets to the switches themselves.

6. Click on the “Spines” container and right-click on “Spine1”. Select **Manage > Configlet**

Network Provisioning

Assign devices to containers and manage device-specific configuration

Name IP Address Mac Address Serial No. Container Status Spines

Manage Configlet View Image Bundle Labels IP Address Snapshot Rollback Factory Reset Move Replace Remove

Spines (2)

Spines (1)

Search Configlets SPINES

Preview Save Cancel

7. Now select the “spine-1” configlet from the list and click “Validate” at the bottom of the screen

Network Provisioning

Assign devices to containers and manage device-specific configuration

Name Notes Type All Created By Created Date

BASE Static jhardy 2024-05-21 16:11:09

LEAF1 Static jhardy 2024-05-20 16:32:25

LEAF2 Static adison 2024-05-21 16:57:18

SPINES Static jhardy 2024-05-29 16:32:04

leaf-1a Static jhardy 2024-05-21 16:07:15

leaf-1b Static adison 2024-05-21 16:57:32

leaf-2a Static adison 2024-05-21 16:57:47

spine-1 Static jhardy 2024-05-21 16:08:16

spine-2 Static jhardy 2024-05-21 16:08:29

Proposed Configuration

Search terms

BASE

SPINES

spine-1

```
hostname Spine-1
!
interface Ethernet1
description Leaf-1A_eth1
no switchport
ip address 10.241.1.1/30
!
interface Ethernet2
description Leaf-1B_eth1
no switchport
ip address 10.241.2.1/30
!
interface Ethernet3
description Leaf-2A_eth1
no switchport
ip address 10.241.2.5/30
!
interface Ethernet4
description Leaf-2B_eth1
no switchport
ip address 10.241.2.6/30
!
interface Loopback0
ip address 10.250.0.1/32
!
interface Management1
ip address dhcp
dhcp client accept default-route
!
router bgp 6500
router-id 10.241.1.1
neighbor 10.241.1.2 peer group MLAS-1
neighbor 10.241.1.6 peer group ML_Ar1
```

1-10 of 10 < < 1 > >

Validate Cancel

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar lists various provisioning tasks like Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main pane is titled "Network Provisioning" and "Assign devices to containers and manage device-specific configuration". It displays a comparison between "Current Management IP : 10.18.167.205" and "Proposed Management IP : 10.250.0.1". The "Designed Configuration" pane contains 261 total lines, with 48 new lines, 3 mismatch lines, and 151 lines to reconcile. The "Running Configuration" pane also lists 261 lines. The interface uses color coding to highlight differences: green for new lines, red for mismatch lines, and blue for lines to reconcile.

- Under the “**Designed Configuration**” pane, we should see approximately **48** New Lines, **03** Mismatch Lines, and **151** Lines To Reconcile.

A close-up view of the "Designed Configuration" pane. It shows a list of configuration commands for "spine-1". The pane includes a header with "Proposed Management IP : 10.250.0.1" and a summary bar at the bottom indicating "Total Lines : 261", "New Lines : 48", "Mismatch Lines : 03", "To Reconcile : 151", and "Select Reconcile Lines". The configuration commands listed include basic system setup, privilege levels, terminal attributes, and service routing protocols.

- Verify the “**Designed Configuration**” against the “**Running Configuration**”. If you’re satisfied with the proposed changes, click “**Save**” at the bottom of the screen.
- Let’s repeat the above process for “**Spine2**” by assigning the “**spine-2**” configlet to that device. We should see the same number of proposed config changes for “**Spine2**” as we did for “**Spine1**”.
- Now let’s assign the device-specific configlets to the Leaf switches. Click on the “**Leaf1**” container and right-click on “**Leaf1A**” and select **Manage > Configlet**.

The screenshot shows the Arista Network provisioning interface. On the left, a sidebar contains navigation links: Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled "Network Provisioning" and "Assign devices to containers and manage device-specific configuration". It shows a tree view of tenants (Tenant 0, DC1, Leaf 1, Leaf 2, Spines), and a table of devices. The table includes columns for Name, IP Address, Mac Address, Serial No., Container, and Status. A context menu is open over a device entry, showing options like Manage, View, Image Bundle, Labels, IPAddress, Snapshot, Factory Reset, Move, Replace, and Remove. At the bottom right of the main area, there are "Preview", "Save", and "Cancel" buttons.

12. Now select “leaf-1a” from the list of configlets and click “Validate” at the bottom of the screen.

The screenshot shows the Arista Network provisioning interface. The sidebar and main navigation are identical to the previous screenshot. The main area is titled "Network Provisioning" and "Assign devices to containers and manage device-specific configuration". It shows a tree view of tenants and a table of configlets for device sw-10.18.167.203.arista.local. The table includes columns for Name, Notes, Type, Created By, and Created Date. A context menu is open over the "leaf-1a" configlet entry, showing options like Search here, BASE, LEAF1, and leaf-1a. To the right, a "Proposed Configuration" pane displays the configuration code for "leaf-1a". The configuration includes various network interface definitions (ethernet1, ethernet2, management1, loopback0, vlan10, vlan20, vlan4093, vlan4094) with their respective descriptions, IP addresses, and other parameters. At the bottom right of the main area, there are "Validate" and "Cancel" buttons.

13. Under the “Designed Configuration” pane, we should see approximately **77** New Lines, **03** Mismatch Lines, and **157** Lines To Reconcile.

Proposed Management IP :

**Designed Configuration**

Total Lines : 305 New Lines : 77 Mismatch Lines : 03 To Reconcile : 157 [Select Reconcile Lines](#)

14. Verify the “**Designed Configuration**” against the “**Running Configuration**”. If you’re satisfied with the proposed changes, click “**Save**” at the bottom of the screen.
15. Let’s repeat the above steps for “**Leaf1B**”, “**Leaf2A**”, & “**Leaf2B**” by assigning all device-level configlets to the appropriate switches.

**NOTE:** For “**Leaf1B**” we should see the same number of New Lines, Mismatch Lines and Lines To Reconcile as we did for “**Leaf1A**”. For “**Leaf2A & 2B**” we should see approximately 81 New Lines, 03 Mismatch Lines, and 157 Lines To Reconcile.

16. Once all configlets have been assigned to the individual switches, we can go ahead and click “**Save**” at the bottom of the Network Provisioning screen.
17. You should now notice that all of the switches in the Network Provisioning view still show up under the “**Undefined**” container. You’ll now see the switches are all shown in yellow with a “T” in the status section, indicating that these devices have available tasks.

The screenshot shows the Arista Network Provisioning interface. On the left, there's a sidebar with various navigation options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled "Network Provisioning" and has a sub-header "Assign devices to containers and manage device-specific configuration". It shows a tree structure under "Network Provisioning > Undefined": Tenant (0) -> Undefined (7) -> DC1 (0) -> Leaf1 (0) -> Spines (0). Below this, there's a table listing seven switches:

Name	IP Address	Mac Address	Serial No.	Container	Status	Actions
sw-10.18.159.104.arista.local	10.18.159.104	44:b5:1e:11:71	SN-P2-029Update	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.160.112.arista.local	10.18.160.112	44:10:04:42:21:08	SN-P2-Leaf2A	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.160.13.arista.local	10.18.160.13	44:14:00:05:09:08	SN-P2-Leaf2B	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.167.203.arista.local	10.18.167.203	44:90:0c:0b:06:50	SN-P2-Leaf1A	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.167.204.arista.local	10.18.167.204	44:d9:35:b0:c2:53	SN-P2-Leaf1B	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.167.205.arista.local	10.18.167.205	44:36:0d:7c:2f:27	SN-P2-Spine1	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>
sw-10.18.167.206.arista.local	10.18.167.206	44:ee:9c:01:20	SN-P2-Spine2	Undefined	<span style="color: yellow;">T</span>	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Details</a>

At the bottom of the table, there are buttons for "Preview", "Save", and "Cancel". On the right side of the table, there are summary statistics: Associated Configlets (0), Associated Switches (7), Created by (crp system), and Created on (2024-04-02 18:41:15).

18. Navigate to **Provisioning > Configlets** and verify that each of the configlets have been assigned. Your list of configlets should look like this:

## Configlets

Manage configlets and view configlet details

 Search

Configlets

### Configlets

Name	Containers	Devices
spine-2	0	1
spine-1	0	1
leaf-2b	0	1
leaf-2a	0	1
leaf-1b	0	1
leaf-1a	0	1
SPINES	1	2
LEAF2	1	2
LEAF1	1	2
BASE	1	6

Notice that the “**BASE**”, “**LEAF1**”, “**LEAF2**”, and “**SPINES**” configlets have been assigned to “**Containers**”. Again, those will be inherited by the devices under those containers. Configlets “leaf-1a”, “leaf-1b”, “leaf-2a”, “leaf-2b”, “spine-1”, & “spine-2” have been assigned directly to our “**Devices**”.

We can now execute the tasks that we created using a Change Control - which we’ll cover in the next section. Only after the tasks have been executed will the switches show up under their appropriate container structure in the Network Provisioning hierarchy.

## Tasks & Change Controls

Tasks in CloudVision are generated whenever there are changes made to configlets, image bundles, etc. Those Tasks are executed using a Change Control operation. A Change Control allows a user to select and execute an individual task or a group of tasks that you want to process simultaneously.

In this lab we will assign our existing Tasks to a Change Control and then execute it so that our switches will finish the Provisioning process.

1. Navigate to **Provisioning > Tasks**. You should see our 6 pending “**Add Device**” Tasks. Under “**Assignable Tasks**” click the top check box next to “**ID**”. This will select all 6 tasks in the list. Now click “**Create Change Control**”

**CloudVision**

- Search
- Devices
- Events
- repository
- Provisioning
- Configured and Downlo...
- Dashboards
- Topology
- Bundles
- States
- Cloud Accounts
- Cloud Configuration
- Cloud Provisioning
- Lock Sidebar
- Settings

**Tasks**  
View tasks and assign tasks to new change control operations

+ Create Change Control Cancel 6 Tasks

**Assignable Tasks**

ID	Device	Creator	Type	Updated	Status
49	sw-192.168.225.249 MAC: 0c:8e:8d:6:04:2d IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending
48	sw-192.168.225.247 MAC: 0cad:a8:8e:3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending
47	sw-192.168.225.251 MAC: 0c:8e:7:b:02:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending
46	sw-192.168.225.249 MAC: 0c:08:5:d:7:e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending
45	sw-192.168.225.250 MAC: 0c:a5:2:2:fb:44:67 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending
44	sw-192.168.225.252 MAC: 0c:2:f:ff:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending

Export to CSV Showing 6 of 6 rows

**All Tasks**

ID	Device	Creator	Type	Updated	Status	Change Control
49	sw-192.168.225.249 MAC: 0c:8e:8d:6:04:2d IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending	
48	sw-192.168.225.247 MAC: 0cad:a8:8e:3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending	
47	sw-192.168.225.251 MAC: 0c:8e:7:b:02:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending	
46	sw-192.168.225.249 MAC: 0c:08:5:d:7:e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending	
45	sw-192.168.225.250 MAC: 0c:a5:2:2:fb:44:67 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending	
44	sw-192.168.225.252 MAC: 0c:2:f:ff:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending	
43	Host-2 MAC: 0cf:3:c1:ace:3:7a IP: 192.168.225.217	aeolson	Update Config	2 weeks ago	Completed	Change 2024-05-09-12-26-00

**Provisioning**

- Network Provisioning
- Configlets
- Image Repository
- Tasks
- Actions
- Change Control
- Action Bundles
- Templates
- Studies
- Workspaces
- Snapshot Configuration
- Public Cloud Accounts
- Tags
- Zero Touch Provisioning

**Tasks**  
View tasks and assign tasks to new change control operations

+ Create Change Control Cancel 6 Tasks

**Assignable Tasks**

ID	Device	Creator	Type	Updated	Status
63	sw-192.168.0.12 MAC: 64:8f:97:71:ad:34 IP: 192.168.0.12	jstratford	Add Device	3 minutes ago	Pending
62	sw-192.168.0.19 MAC: 64:d9:65:cd:ce:7:6:c IP: 192.168.0.19	jstratford	Add Device	3 minutes ago	Pending
61	sw-192.168.0.17 MAC: 64:c0:3:c4:ed:f4 IP: 192.168.0.17	jstratford	Add Device	3 minutes ago	Pending
60	sw-192.168.0.11 MAC: 64:d9:6:20:97:a:0:32 IP: 192.168.0.11	jstratford	Add Device	3 minutes ago	Pending
59	sw-192.168.0.13 MAC: 64:5:8:e:9:a:9:d:0 IP: 192.168.0.13	jstratford	Add Device	3 minutes ago	Pending
58	sw-192.168.0.18 MAC: 64:d2:51:97:50:45 IP: 192.168.0.18	jstratford	Add Device	3 minutes ago	Pending

Export to CSV Showing 6 of 6 rows

- Under “Select an Arrangement” click on “Parallel” and then click on “Create Change Control with 6 Tasks”

## Create Change Control &gt; Change 2024-05-22-15-15-53

X

Select an Arrangement

 Series
  Parallel
  Template
[Create Change Control with 6 Tasks](#)

Assignable Tasks

<input checked="" type="checkbox"/>	ID	Device	Creator	Type	Updated ↓	Status
Filter	Filter	Filter	Filter	Filter	Filter	Filter
<input checked="" type="checkbox"/>	49	sw-192.168.225.248 MAC: 0cea:82:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending
<input checked="" type="checkbox"/>	48	sw-192.168.225.247 MAC: 0ccdad:8b:eae3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending
<input checked="" type="checkbox"/>	47	sw-192.168.225.251 MAC: 0ccacc:7b:00:2d:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending
<input checked="" type="checkbox"/>	46	sw-192.168.225.249 MAC: 0c:08:5d:7e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending
<input checked="" type="checkbox"/>	45	sw-192.168.225.250 MAC: 0ce5:22:fb:44:b7 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending
<input checked="" type="checkbox"/>	44	sw-192.168.225.252 MAC: 0c:2faf:f3:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending

[Export to CSV](#)

Showing 6 of 6 rows

3. We're going to change the name of the Change Control to something more descriptive. This will allow us to quickly locate it later if necessary. Click on the pencil icon next to the name of the Change Control and name it,

[Change Control](#)

## Change 2024-05-22-15-15-53

Name	<a href="#">Change 2024-05-22-15-15-53</a> 	Description	-- 	Schedule Start	<input type="button" value="Select date"/> 
 		<input type="text" value="Search actions"/> 			

4. In the upper right-hand corner, click on “Review and Approve”. Review the changes that are being applied to each device and then click “Approve” if you’re satisfied with the proposed changes

The screenshot shows the Arista Change Control interface for a device named 'sw-192.168.225.247'. The main area displays a comparison between 'Designed Configuration' (proposed changes) and 'Running Configuration' (existing configuration). The 'Designed Configuration' section is highlighted in red, indicating new or modified lines. The 'Running Configuration' section is highlighted in green. A 'Configuration Warning' is present. The interface includes a search bar, a notes field, and approval buttons ('Execute immediately', 'Cancel', 'Approve'). The sidebar on the left lists various actions and tasks.

While reviewing the Change Control, you'll notice that it looks very similar to what we saw when Validating the config changes on each of the devices. Again, you can see how many **"New Lines"**, **"Mismatch Lines"**, and **"Lines To Reconcile"** are being proposed for each device. You can also click on the next to each device to collapse its changes - which will provide you with a more summarized view.

The screenshot shows the Arista Change Control interface for a device named 'sw-10.18.167.204'. The main area displays a comparison between 'Designed Configuration' and 'Running Configuration'. The 'Designed Configuration' section highlights proposed changes in red, while the 'Running Configuration' section shows existing configuration in green. A 'Configuration Warning' is present. The interface includes a search bar, a notes field, and approval buttons ('Execute immediately', 'Cancel', 'Approve'). The sidebar on the left lists various actions and tasks. A green box highlights the expand/collapse icon for this device.

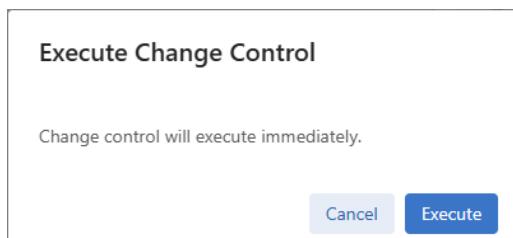


## 5. Once Approved, our Change Control should look something like this

The screenshot shows the 'Change Control' interface for a task named 'Adding Devices to DC1 Fabric'. The left sidebar has a 'Change Control' section under 'Actions'. The main area shows a 'Change Control Stages' list with multiple actions for different devices. To the right, the 'Change Control Summary' shows the status of the root execute (Parallel) as 'Approved' by user 'hardy'. Below it, the 'Action Summary' shows 6 actions, all of which are 'Add Device'. The 'Device Status' section lists six devices, all marked as 'Active'.

**NOTE:** No changes have actually been applied to the devices up to this point. The only way to push the changes is through the execution of the Change Control.

## 6. Now it's time to execute our Change Control. Click on “Execute Change Control” in the upper right corner. In the pop-up window, we'll click on “Execute”.



While the Change Control is running, you can click on “Logs” to get real-time updates as to what actions are being executed within the Change Control.

The screenshot shows the Arista Cloud UI interface. At the top, there's a navigation bar with 'Recent Activity'. Below it is the 'Change Control Summary' section. It displays a timeline with four stages: 'Last Edit' (48s ago), 'Approved' (jhardy), 'Started' (jhardy 33s ago), and 'Completed'. A 'Logs' button is located in the top right of this summary area, which is highlighted with a green box. Below the timeline is an 'Action Summary' section showing a progress bar at 0% and an 'Add Device' button. Further down are sections for 'Device Status' (6 items), 'Image Changes' (6 items), and 'Configuration Changes' (6 items). The 'Device Status' section lists several device IP addresses (sw-192.168.225.233, sw-192.168.225.234, etc.) each marked as 'Active' with a green dot.

This screenshot shows the 'Change Control Logs' page for the 'Add Devices to DC1 Fabric' task, which is currently 'Running'. On the left, there's a sidebar with various cloud provisioning and management options like 'Cloud Provisioning', 'Devices', 'Events', 'Repository', 'Provisioning', 'Topology', 'Change Control', 'Bundles', 'Spaces', 'Hot Configuration', 'Cloud Accounts', and 'Touch Provisioning'. The main area shows the 'Change Control Stages' for the task, listing multiple 'Add Device' tasks for different IP addresses (sw-192.168.225.237, sw-192.168.225.234, etc.). To the right is a detailed log of actions, with each entry showing the action type, target device, and timestamp. For example, one log entry shows 'Mapped device SN-P1-Spine1 to container Spines' on May 22, 2024, at 16:16:09.292 GMT-6. The log also includes entries for 'Waiting for device SN-P1-Leaf1B to be streaming' and 'Waiting for device SN-P1-Leaf2A to be streaming'.

If any task in the Change Control fails, you'll see a Red “X” next to the task. You can click on the failed task and get more details as to why the action failed.

In the example below, we can see that switch **SN-P1-Spine1** exceeded the timeout after it was rebooted during the provisioning process.

The screenshot shows the Arista Cloud UI interface. On the left, the navigation sidebar includes options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, Filter Management, and Zero Touch Provisioning. The main content area is titled "Change Control" and "Add Devices to DC1 Fabric". It shows a list of tasks under "Change Control Stages": Spine-2, Leaf-1A, Leaf-2A, Leaf-1B, Leaf-2B, and sw-192.168.225.237. The task for sw-192.168.225.237 failed with the error message: "Error rebooting device SN-P1-Spine1: rpc error: code = DeadlineExceeded desc = context deadline exceeded". The status for this task is "Failed". Below the tasks, there is a "Task Details" section and an "Associated Device" section showing a summary of the device configuration.

If the Change Control completes with no errors or failed Tasks, then **Congratulations**, you have successfully deployed all of the switches in your DC1 fabric!

The screenshot shows the Arista Cloud UI interface. The navigation sidebar is identical to the previous screenshot. The main content area is titled "Change Control" and "Adding Devices to DC1 Fabric". All tasks listed under "Change Control Stages" (Spine-2, Leaf-1A, Leaf-2A, Leaf-1B, Leaf-2B, and sw-192.168.225.237) have completed successfully, as indicated by green checkmarks. The overall status is "Success". To the right, the "Change Control Logs" section displays a list of log entries for each task, all of which completed successfully. The logs are timestamped at Jun 6, 2024, 14:59:25.058 GMT-4.

**\*\* If your Change Control failed for any reason, please reach out to an Arista team member for assistance. \*\***