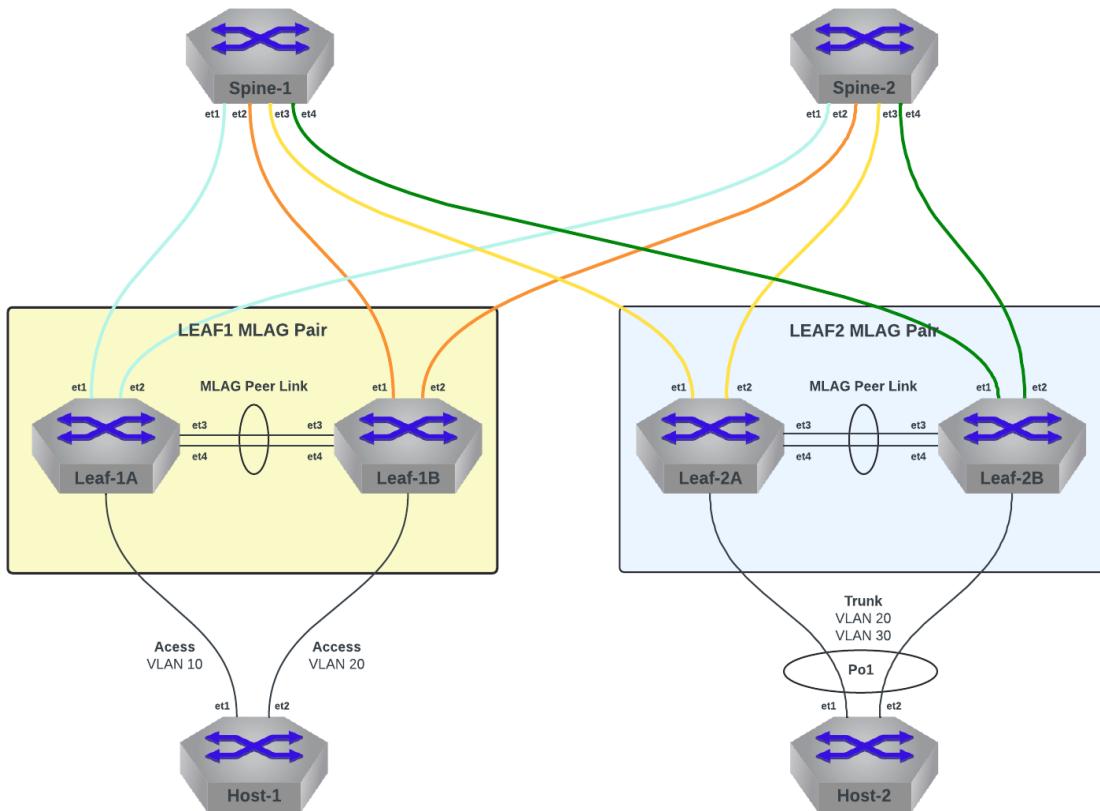


CloudVision Provisioning Lab Guide

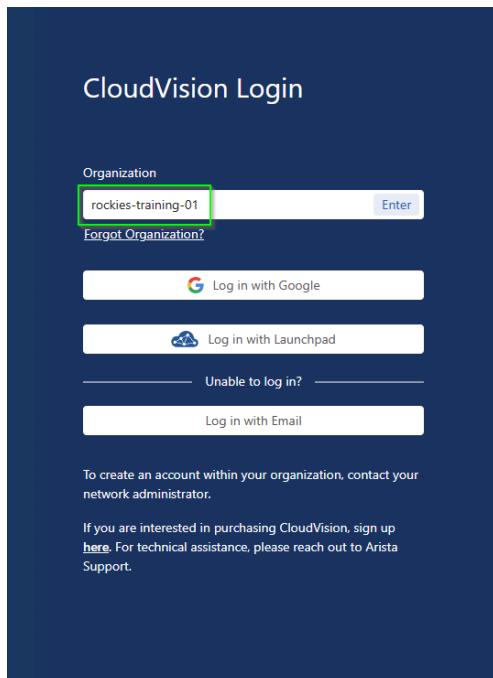
Lab Topology

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.

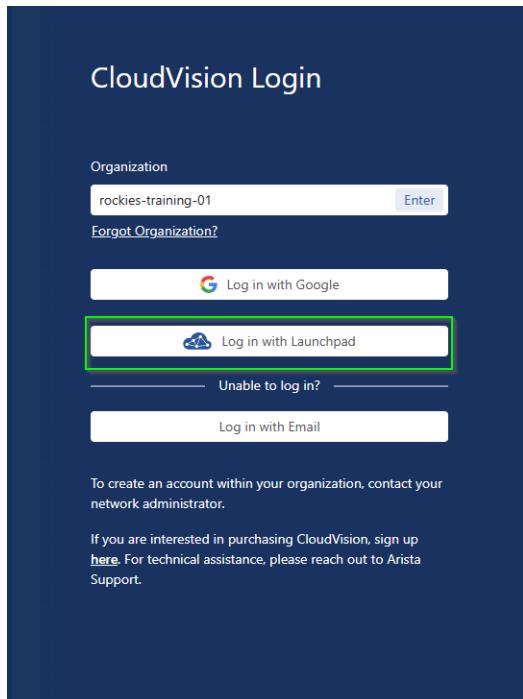


Connecting to your CVaaS Instance

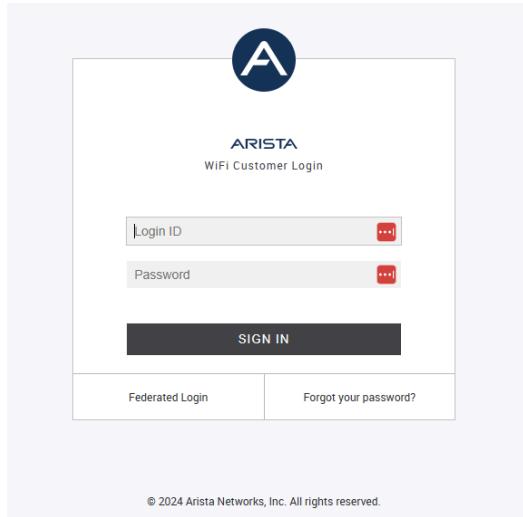
1. Open a browser (preferably Chrome or Firefox) and go to <https://www.arista.io/>.
2. In the “Organization” box, enter your assigned CVaaS instance name. For example, ***rockies-training-01***.



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	44b5:1ea1:01:71	SN-P2-ztpUpdate
sw-10.18.160.13	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.18	44f4:c0:05:b9:8b	SN-P2-Leaf2B
sw-10.18.160.112	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.17	4418:01:42:21:a8	SN-P2-Leaf2A
sw-10.18.167.203	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.12	4490:6ccb:b6:5b	SN-P2-Leaf1A
sw-10.18.167.204	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.15	44d9:35:8b:c3:43	SN-P2-Leaf1B
sw-10.18.167.205	● Active	⚠️	vEOS-lab	4.30.6M	1.28.3	192.168.0.16	443d: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	44ea: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**

The screenshot shows the Arista Network Provisioning interface. On the left is a sidebar with various navigation options: Provisioning, Network Provisioning (selected), 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 table with columns: Name, IP Address, Mac Address, Serial No., Container, and Status. A message at the top right says "No data to be displayed". On the far right, there's a "Tenant" panel with statistics: Associated Configs (0), Associated Switches (0), Created by (cvp system), and Created on (2024-04-02 18:10:14). At the bottom are "Preview", "Save", and "Cancel" buttons.

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”

This screenshot is identical to the one above, showing the Arista Network Provisioning interface with the "Network Provisioning" tab selected. The sidebar and main table are the same, showing no data. The "Tenant" panel on the right also remains unchanged. The context menu over the "Tenant" section is still open, with "Container" highlighted under the "Add" option.

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" with the sub-section "Network Provisioning". It displays a tree view under "Tenant (0)" with "DC1 (0)" and "Leafs (0)". A modal window titled "New Container" is open, showing the input field "Container Name" with "Leaf1" typed in. At the bottom of the screen are "Preview", "Save", and "Cancel" buttons.

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 tree view now shows "Leafs (2)" under "DC1 (0)", with "Leaf1 (0)" and "Leaf2 (0)" listed. To the right of the tree view, a "Tenant" panel is open, showing details for the newly created container: "Associated Configs: 0", "Associated Switches: 0", "Created by: cvx system", and "Created on: 2024-04-02 18:10:14". At the bottom of the screen are "Preview", "Save", and "Cancel" buttons.

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**”
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
!

```

- 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 Provisioning interface. At the top, there's a header bar with the Arista logo. Below it, the main content area has a title "Configlets" and a subtitle "Manage configlets and view configlet details". There's a search bar with a magnifying glass icon and the word "Search". Underneath, there's a section titled "Configlets" with a sub-section titled "Configlets". A table is displayed with the following data:

Name
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 is 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, a tree view shows a tenant structure: Tenant (0) > DC1 (0) > Spines. A context menu is open over the 'Spines' node, with options: Manage, Configlet, Add, Image Bundle, Device, Snapshots, Network Rollback, Recomile, and Remove. The 'Manage' option is highlighted. To the right of the tree view, there is 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.

The screenshot shows the Arista Network provisioning interface. The left sidebar is identical to the previous screenshot. The main area shows the 'Network Provisioning' screen with the 'DC1' container selected. In the center, there is a table of configlets with columns: Name, Notes, Type, Created By, Created Date, and Proposed Configuration. The 'BASE' configlet is selected and highlighted with a blue border. The 'Proposed Configuration' section on the right displays the configuration code for the 'BASE' configlet, which includes network settings like IP, MAC, and interface configurations. At the bottom of the screen, 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 options like Provisioning, Network Provisioning, Configlets, Actions, and Change Control. The main area is titled "Network Provisioning" and "Spines". A search bar is at the top. Below it, a table header includes columns for IP Address, Mac Address, Serial No., Container, and Status. A message says "No data to be displayed". On the right, there's a "Spines" section with a table showing 0 associated configlets and 0 associated switches. It also shows the creator "jhardy" and creation date "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

This screenshot shows the same Network Provisioning interface as above, but the "SPINES" configlet is now selected in the list. The "Proposed Configuration" panel on the right displays the configuration code:

```

$ show running-config
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

```

At the bottom, there 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 (All), Created By, Created Date, and Proposed Configuration. A search bar at the top right is used to filter the proposed configuration. The proposed configuration pane shows the detailed configuration for the selected Leaf2 container, including interface definitions like Port-Channel2000 and Ethernet3, and MLAG configurations.

Name	Notes	Type	Created By	Created Date	Proposed Configuration
BASE		Static	hardy	2024-05-20 19:24:41	LEAF2
LEAF1		Static	hardy	2024-05-20 19:32:25	vlan 30..40
<input checked="" type="checkbox"/> LEAF2		Static	hardy	2024-05-20 19:34:40	vlan 4093-4094
SPINES		Static	hardy	2024-05-20 19:32:04	trunk group MLAG_Peer_Link
leaf-1a		Static	hardy	2024-05-20 19:32:45	interface Port-Channel1
leaf-1b		Static	hardy	2024-05-20 19:33:02	description Host-2
leaf-2a		Static	hardy	2024-05-20 19:35:56	switchport mode trunk
leaf-2b		Static	hardy	2024-05-20 19:35:54	relay 1
spine-1		Static	hardy	2024-05-20 19:37:02	interface Port-Channel2000
spine-2		Static	hardy	2024-05-20 19:38:00	description MLAG_Peer_Link

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 DC1 container details in the Arista CloudVision interface. The container name "DC1" is at the top. Below it, there are three icons: a folder, a blue square with '</>', and a key. The middle icon is highlighted with a green box. The text "Configlet (1)" is displayed, followed by a search bar labeled "Search Configlets". A single configlet named "BASE" is listed, also highlighted with a green box.

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 lists various options like Provisioning, Configlets, Image Repository, and Tasks. The main area is titled 'Network Provisioning' under 'DC1'. A context menu is open over a selected 'Spine1' device, with the 'Device' option highlighted. Other options in the menu include 'Container', 'View Config', 'Synchronizations', 'Reconcile', and 'Remove'.

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 undefined devices. The sidebar is identical to the previous screenshot. The main area shows a table of undefined devices. Two specific entries are highlighted with checkboxes: 'sw-192.168.225.247' (Serial No: SN-P1-Spine1) and 'sw-192.168.225.252' (Serial No: SN-P1-Spine2). Both checkboxes are checked. At the bottom of the table, there are 'Add' and 'Back' buttons.

Name	Serial No	IP Address	Mac Address	Model	Version
<input type="checkbox"/> sw-192.168.225.242	6A0000C7F0E1028A9-BEAD03071EF715	192.168.225.242	0c:31:a5:66:04		4.29.10.1M
<input checked="" type="checkbox"/> sw-192.168.225.247	SN-P1-Spine1	192.168.225.247	0c:d8:3e:x3:3e		4.29.1M
<input type="checkbox"/> sw-192.168.225.248	SN-P1-Leaf#A	192.168.225.248	0c:ea:82:9e:04:2d		4.29.1M
<input type="checkbox"/> sw-192.168.225.249	SN-P1-Leaf#B	192.168.225.249	0c:08:56:7e:54:43		4.29.1M
<input type="checkbox"/> sw-192.168.225.250	SN-P1-Leaf#B	192.168.225.250	0c:e5:22:fb:44:b7		4.29.1M
<input type="checkbox"/> sw-192.168.225.251	SN-P1-Leaf#A	192.168.225.251	0c:c0:70:02:3d		4.29.1M
<input checked="" type="checkbox"/> sw-192.168.225.252	SN-P1-Spine2	192.168.225.252	0c:2f:d7:03:73		4.29.1M

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:31:43:69:88:04	42810.1M	4.29.7M
sw-192.168.225.247	SN-P1-Spine1	192.168.225.247	0c:dc:08:3e:x3:3e		
<input checked="" type="checkbox"/> sw-192.168.225.248	SN-P1-Leaf1A	192.168.225.248	0c:ea:82:36:94:2d		4.29.7M
<input checked="" type="checkbox"/> sw-192.168.225.249	SN-P1-Leaf1B	192.168.225.249	0c:08:5d:76:54:43		4.29.7M
<input checked="" type="checkbox"/> sw-192.168.225.250	SN-P1-Leaf2A	192.168.225.250	0c:e5:22:9b:44:b7		4.29.7M
<input type="checkbox"/> sw-192.168.225.251	SN-P1-Leaf2B	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:af:d5: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

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar navigation includes: Provisioning (Network Provisioning 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 area is titled "Network Provisioning" and displays "Assign devices to containers and manage device-specific configuration". A search bar is at the top right. Below it, a table lists "Spines" devices. One device, "sp-192.168.225.247", is selected and its details are shown in a modal: Name (sp-192.168.225.247), IP Address (192.168.225.247), Mac Address (0c:02:03:04:05:06), Serial No. (SN-P1-Spine1, SN-P1-Spine2), Container (Spines), and Status (Spines). The modal also includes options: Manage, View, Image Bundle, Labels, IP Address, Snapshot, Rollback, Factory Reset, Move, Replace, and Remove. To the right of the table is a "Configlets" section with a search bar and a list of "SPINES". At the bottom of the screen are "Preview", "Save", and "Cancel" buttons.

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

The screenshot shows the Arista Network Provisioning interface. The sidebar navigation is identical to the previous screenshot. The main area is titled "Network Provisioning" and displays "Assign devices to containers and manage device-specific configuration". A search bar is at the top right. Below it, a table lists "Spines" devices. One device, "sp-192.168.225.247", is selected and its details are shown in a modal. In the "Configlets" section, the "spine-1" configlet is selected. To the right of the table is a "Proposed Configuration" pane showing the configuration code for the selected device. At the bottom of the screen are "Validate", "Save", and "Cancel" buttons.

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar lists various management tasks like Provisioning, Configlets, Image Repository, and Change Control. The main pane is titled "Network Provisioning" and shows a comparison between "Current Management IP : 10.18.167.205" and "Proposed Management IP : 10.250.0.1". The "Designed Configuration" pane contains approximately 261 total lines, with 48 new lines, 3 mismatch lines, and 151 lines to reconcile. The "Running Configuration" pane also lists these metrics. The configuration code itself includes commands for booting, privilege levels, and service protocols.

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

A close-up of the "Designed Configuration" pane. It displays the following statistics: Total Lines : 261, New Lines : 48, Mismatch Lines : 03, To Reconcile : 151. Below these stats is a "Select Reconcile Lines" button.

- 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 for 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 displays a tree view of network components under "Leaf1": Tenant (1) > DC1 (1) > Leaf1 (1) > Leaf (4). Under Leaf (4), there are four devices: Leaf1 (1), Leaf2 (1), Leaf2 (2), and Spines (2). A context menu is open over Leaf1 (1), showing options: Manage, Conflict, View, Image Bundle, Labels, IPAddress, Snapshot, Rollback, Factory Reset, Move, Replace, and Remove. Below the tree view is a table with columns: Name, IP Address, Mac Address, Serial No, Container, and Status. Two entries are listed: SIN-P24-Leaf1A (IP 44.90.9c.4b.e6.5b, MAC 44.90.9c.4b.e6.5b, Serial SIN-P24-Leaf1A, Container Leaf1, Status Leaf1) and SIN-P24-Leaf1B (IP 44.91.35.88.c2.53, MAC 44.91.35.88.c2.53, Serial SIN-P24-Leaf1B, Container Leaf1, Status Leaf1). The status bar at the bottom right indicates "Associated Configlets 1", "Associated Switches 0", "Created by jhardy", and "Created on 2024-06-05 14:08:26". At the bottom of the screen 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 left sidebar is 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 list of configlets for the device sw-10.18.167.203.arista.local. The table has columns: Name, Notes, Type - All, Created By, and Created Date. The configlets listed are: BASE (Static, jhardy, 2024-06-05 11:50:08), LEAF1 (Static, jhardy, 2024-06-05 11:50:08), LEAF2 (Static, jhardy, 2024-06-05 14:12:04), SPINES (Static, jhardy, 2024-06-05 11:50:10), Host (Static, jhardy, 2024-06-05 11:50:09), leaf-1a (Static, jhardy, 2024-06-05 14:10:25), leaf-2a (Static, jhardy, 2024-06-05 14:10:16), spine-1 (Static, jhardy, 2024-06-05 11:50:09), and spine-2 (Static, jhardy, 2024-06-05 14:10:42). To the right of the table is a "Proposed Configuration" pane. The "leaf-1a" section shows the configuration code:

```

hostname Leaf-1A
!
interface Ethernet1
description Spine-1_eht1
no switchport
ip address 10.242.1.2/20
!
interface Ethernet2
description Spine-2_eht1
no switchport
ip address 10.242.1.3/20
!
interface Ethernet0
description Host-1_eht1
switchport access vlan 10
!
interface Loopback0
ip address 10.258.1.1/32
!
interface Management1
ip address dhcp
dhcp client accept default-route
!
interface Vlan10
ip address 10.10.10.2/24
!
interface Vlan20
ip address 10.20.20.2/24
!
interface Vlan4093
description BGP_Peering
no autostate
ip address 192.168.0.1/30
!
interface Vlan4094
description MLAG_Peering
no autostate

```

At the bottom of the screen 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 view of "Tenant (0)", "Undefined (7)", "DC1 (0)", "Leads (0)", and "Spines (0)". Below this is a table with columns: Name, IP Address, Mac Address, Serial No., Container, Status, and Undefined. The table contains 7 rows, each representing a switch with a yellow "T" icon in the Status column. At the bottom of the table, there are buttons for "Preview", "Save", and "Cancel".

Name	IP Address	Mac Address	Serial No.	Container	Status	Undefined
sw-10.18.159.104.arista.local	10.18.159.104	44:b5:1e:a1:01:71	SN-P2-029Update	Undefined	T	Edit Delete Details
sw-10.18.160.112.arista.local	10.18.160.112	44:18:01:42:21:a8	SN-P2-Leaf2A	Undefined	T	Edit Delete Details
sw-10.18.160.13.arista.local	10.18.160.13	44:f4:c0:05:b9:b8	SN-P2-Leaf2B	Undefined	T	Edit Delete Details
sw-10.18.167.203.arista.local	10.18.167.203	44:90:9c:db:b6:5b	SN-P2-Leaf1A	Undefined	T	Edit Delete Details
sw-10.18.167.204.arista.local	10.18.167.204	44:d9:35:b8:c2:53	SN-P2-Leaf1B	Undefined	T	Edit Delete Details
sw-10.18.167.205.arista.local	10.18.167.205	44:36:8d:7c:2f	SN-P2-Spine1	Undefined	T	Edit Delete Details
sw-10.18.167.206.arista.local	10.18.167.206	44:ea:5c:15:c1:2d	SN-P2-Spine2	Undefined	T	Edit Delete Details

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**”

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
sw-192.168.225.248	MAC:0cea8:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending
49	MAC:0cea8:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending
48	MAC:0cdad8:8e:e3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending
47	MAC:0ccac7:b0:02:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending
46	MAC:0c08:5d:7e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending
45	MAC:0ce5:22:fb:44:b7 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending
44	MAC:0c2faaff:f3:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending

Showing 6 of 6 rows

All Tasks

ID	Device	Creator	Type	Updated	Status	Change Control
49	MAC:0cea8:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending	
48	MAC:0cdad8:8e:e3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending	
47	MAC:0ccac7:b0:02:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending	
46	MAC:0c08:5d:7e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending	
45	MAC:0ce5:22:fb:44:b7 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending	
44	MAC:0c2faaff:f3:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending	
43	Host-2 MAC:0cf3:c3:ace3:7a IP: 192.168.225.217	aolison	Update Config	2 weeks ago	Completed	Change 2024-05-09-12-26-00

Showing 6 of 6 rows

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

Create Change Control > Change 2024-05-22-15-15-53

Select an Arrangement

Series Parallel Template

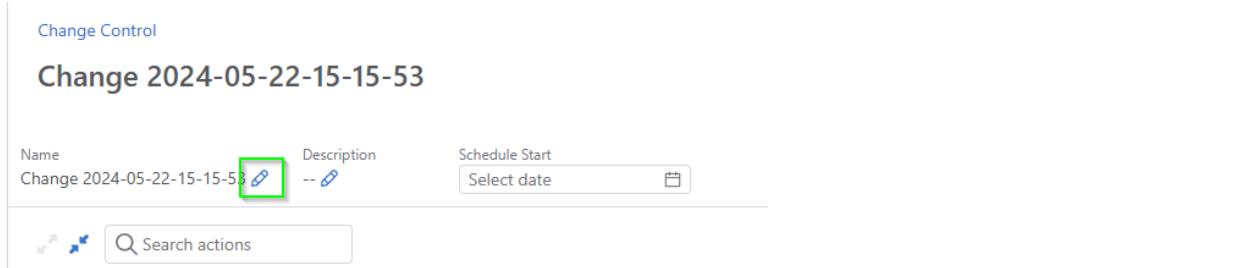
Create Change Control with 6 Tasks

Assignable Tasks

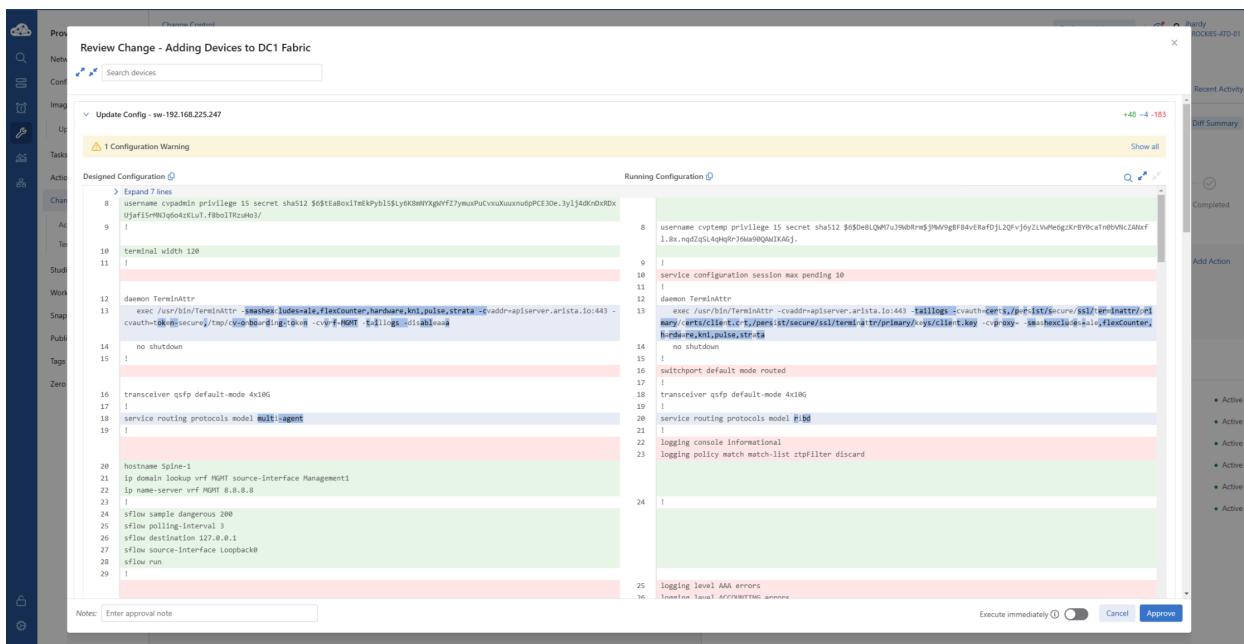
ID	Device	Creator	Type	Updated	Status
sw-192.168.225.248	MAC:0cea8:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending
49	MAC:0cea8:86:04:2d IP: 192.168.225.248	jhardy	Add Device	2 hours ago	Pending
48	MAC:0cdad8:8e:e3:3e IP: 192.168.225.247	jhardy	Add Device	2 hours ago	Pending
47	MAC:0ccac7:b0:02:3d IP: 192.168.225.251	jhardy	Add Device	2 hours ago	Pending
46	MAC:0c08:5d:7e:54:43 IP: 192.168.225.249	jhardy	Add Device	2 hours ago	Pending
45	MAC:0ce5:22:fb:44:b7 IP: 192.168.225.250	jhardy	Add Device	2 hours ago	Pending
44	MAC:0c2faaff:f3:c3:73 IP: 192.168.225.252	jhardy	Add Device	2 hours ago	Pending

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, “Adding Devices to DC1 Fabric”



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



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.

Review Change - Change 2024-06-05-16-47-55

Search devices

Update Config - sw-10.18.167.204

Designed Configuration [Edit](#)

[Expand 7 lines](#)

```
8 username cvpadmin privilege 15 secret sha512 $6$tEaBoxiTmEkPybl5$Ly6K8mNYXgWYfZ7ymuxPuCvxu
xUjafi5rMNJq6o4zKLuT.f8bolTRzuHo3/
```

Review Change - Change 2024-06-05-16-47-55

Search devices

- > Update Config - sw-10.18.167.204 +77 -3 -157
- > Update Config - sw-10.18.160.112 +81 -3 -157
- > Update Config - sw-10.18.167.206 +48 -3 -151
- > Update Config - sw-10.18.167.203 +77 -3 -157
- > Update Config - sw-10.18.167.205 +48 -3 -151
- > Update Config - sw-10.18.160.13 +81 -3 -157
- > Update Software - common changes on 6 devices

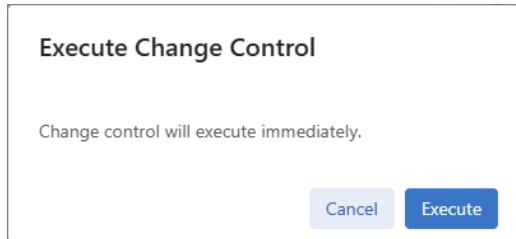
Notes: Enter approval note

Execute immediately Cancel Approve

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

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.

A screenshot of the Arista Change Control Summary interface. At the top, there are tabs for "Recent Activity", "Diff Summary", and "Logs", with "Logs" highlighted by a green box. Below this is a timeline with four status points: "Last Edit" (48s ago), "Approved" (jhardy), "Started" (jhardy 33s ago), and "Completed". Underneath the timeline is a "Action Summary" section showing a progress bar at 0% and a "Add Device" button. At the bottom, there are sections for "Device Status (6)", "Image Changes (6)", and "Configuration Changes (6)". 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.

The screenshot shows the Arista Cloud Provisioning interface. On the left, the navigation bar includes sections like Cloud Provisioning, Network Provisioning, Configuration, Image Repository, Tasks, Actions, Change Control (which is currently selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, Filter Management, and Zero Touch Provisioning. The main content area displays a "Change Control" task titled "Add Devices to DC1 Fabric" (status: Running). The task details show the name "Add Devices to DC1 Fabric" and a description of "Add Device". Below this is a search bar labeled "Search actions". To the right, a "Change Control Logs" section lists 15 logs, each detailing an action like "Add Device" or "Waiting for device" followed by a timestamp. The logs are ordered from newest at the top to oldest at the bottom.

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.

This screenshot shows a failed Change Control task titled "Add Devices to DC1 Fabric" (status: Failed). The task details and search bar are identical to the previous screenshot. The "Change Control Stages" section shows multiple stages: Leaf-1A, Spine-2, Leaf-2A, sw-192.168.225.237, Leaf-1B, and Leaf-2B. The stage "sw-192.168.225.237" is marked with a red "X" and has a tooltip indicating an error: "Error rebooting device SN-P1-Spine1: rpc error: code = DeadlineExceeded desc = context deadline exceeded". To the right, a detailed view of the failed task "Add Device" shows its summary, logs, and task details. The task details include the action name "Execute Task (341)", stage ID "QGMrivn2czuu96SvChqld", and an action description "Run this action with a pre-defined TaskID to execute the specified network changes". It also shows the start time (Jun 6, 2024 15:30:09) and end time (Jun 6, 2024 16:30:09), and an error message. The "Task Details" section provides information about the task type (Add Device), creation and start times, status (Failed), and changes. The "Associated Device" section shows a thumbnail of the switch "sw-192.168.225.237" with the status "Inactive".

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 Network Manager web interface. On the left is a sidebar with various navigation options: Provisioning, Network Provisioning, Configlets, Image Repository, Upload and Download, Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area has two tabs: "Change Control" and "Logs". The "Change Control" tab is active, showing a "Adding Devices to DC1 Fabric" task with a status of "Success". It lists several devices under "Change Control Stages": Spine-2, Leaf-1A, Leaf-2A, Spine-1, Leaf-1B, and Leaf-2B, each with a green checkmark indicating successful completion. Below this is a search bar and a "Recent Activity" section. The "Logs" tab is also visible, showing a log entry for the same task with details like "Action Add Device Task 21 completed successfully" and a timestamp of "Jun 6, 2024 14:59:25.858 GMT-6". Other log entries include device reboots and configuration updates.

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