

Juniper Apstra Device Replacement

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RELEASE

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An essential operation in a working data center network is the need to replace a device that failed or needs to be re-allocated or reused for other purposes. This document describes how to replace a Juniper Apstra managed device using the Apstra GUI and Apstra Terraform Provider.

Replace a Managed Device Using the Apstra GUI

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Replacing a managed device in the Apstra GUI is a straightforward set of tasks. The managed devices are abstracted from their role in the fabric using Logical Devices and Interface Maps and are assigned to a blueprint.

NOTE: In these procedures, we are replacing the leaf2 device in the GUI. The replacement device (leaf2) is exactly the same physical device (make, model and port configuration) as the device we are replacing.

In this topic, we'll show you how to replace a device using the following methods:

Delete a Leaf with a Still Connected Device

1. From the left navigation menu in the Apstra GUI, navigate to **Blueprints > Blueprint ID > Staged > Physical > Build**, then click the **Devices** icon.

The screenshot shows the Apstra GUI interface. The top navigation bar includes tabs for Dashboard, Analytics, Staged (highlighted with a red box), Uncommitted, Active, and Time Voyager. Below this, the Physical tab is also highlighted with a red box. The main content area displays a topology diagram with nodes like spine1, spine2, leaf1, leaf2, and leaf3. On the right side, there is a 'Selection' menu with a 'Build' button highlighted by a red box and a red arrow. Below the 'Build' button, there is a 'Devices icon' label. The 'Assigned System IDs - Managed Nodes' section is visible, showing a table of nodes and their system IDs.

Node	System ID
spine1	52540015C2CF
spine2	52540084E2E0
leaf1	525400AEAB0A
leaf2	525400A0F701
leaf3	52540060DF8

2. Click **Assigned System IDs - Managed Nodes**, then click the **Change System IDs Assignments** icon.

The screenshot shows the 'Assigned System IDs - Managed Nodes' section. The 'Selection' menu is open, and the 'Build' button is highlighted. Below the 'Build' button, there is a 'Change System IDs Assignments' icon, which is a pencil icon, highlighted by a red arrow. The 'Assigned System IDs - Managed Nodes' section is visible, showing a table of nodes and their system IDs.

Node	System ID
spine1	5254008CFC9A
spine2	52540076EB1C
leaf1	525400E0B6C0
leaf2	52540017A57F
leaf3	5254003CDBDA

- Click the trash icon, then click **Update Assignments** to unassign leaf2.

Assign Systems

				<input type="radio"/> Undeploy <input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
spine2	Spine	spine2	52540076EB1C (10.28.252.12) - spine2	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf1	Leaf	leaf1	525400E0B6C0 (10.28.252.13) - leaf1	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf2	Leaf	leaf2	52540017A57F (10.28.252.14) - leaf2	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy

Remove assignment

Here we can see that leaf2 is no longer assigned.

Selection Build

Assigned System IDs - Managed Nodes

1-5 of 5

Node	System ID
spine1	52540015C2CF
spine2	525400B4E2E0
leaf1	525400AEAB0A
leaf2	Not assigned
leaf3	52540060DFF8

-
-
-
-
- Navigate to the **Uncommitted** tab and click the **Commit** rocket icon.

Blueprints > zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual > Uncommitted > Logical Diff

Dashboard Analytics Staged **Uncommitted** Active Time Voyager

Logical Diff Full Nodes Diff Build Errors Warnings Commit Check

1-1 of 1

Type	Action	Name
System Node	CHANGED	leaf2

6. Add a comment if desired, and click **Commit**.

Commit changes from Staged to Active?

i

This action will automatically create a new blueprint revision. This blueprint has 5 out of 5 automatically saved revisions. If the blueprint reaches the maximum amount of revisions to store, this commit will automatically replace the oldest saved revision with this new one.

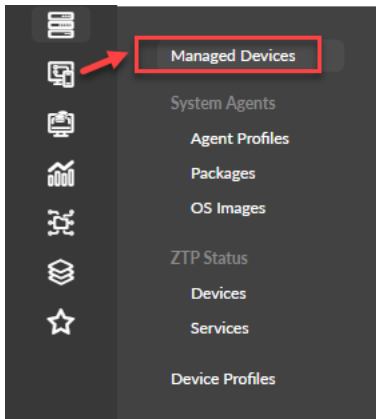
If you wish to increase the limit for automatically saved revisions, go to [Time Voyager](#) settings. You can also permanently save older revisions using the corresponding save button under Time Voyager.

Revision Description (optional)

Commit changes for Leaf2

Commit

7. When the commit is complete, navigate to the **Devices > Managed Devices** to return to the Managed Devices table view.



Leaf2 is now unassigned from the blueprint.

<input type="checkbox"/>	Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint
<input type="checkbox"/>	192.168.1.9						—	⊘	Not assigned
<input type="checkbox"/>	10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.13	525400E0B6C0	Juniper vQFX	leaf1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.12	52540076EB1C	Juniper vQFX	spine2	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.14	52540017A57F	Juniper vQFX	leaf2	Junos 21.4R3.15	OOS-READY	🟢	✓	Not assigned

8. Uninstall the agent from leaf2 by clicking the **Uninstall** icon.

Device Information										Agent Information		
Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint	Type	Agent Profile	Apstra Version	
10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	
10.28.252.13	525400E0B6C0	Juniper vQFX	leaf1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	
10.28.252.12	52540076EB1C	Juniper vQFX	spine2	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	
10.28.252.14	52540017A57F	Juniper vQFX	leaf2	Junos 21.4R3.15	OOS-READY	🟢	✓	Not assigned	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	
10.28.252.15	5254003CDBDA	Juniper vQFX	leaf3	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	

Device

Agent

Uninstall

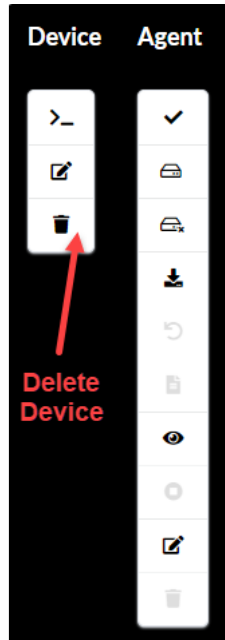
9. From the pop-up dialog box, click **Confirm** to uninstall the system agent.

10. After the uninstall completes, the leaf2 **State** shows as oos-nocomms with a red x in the **Comms** column.

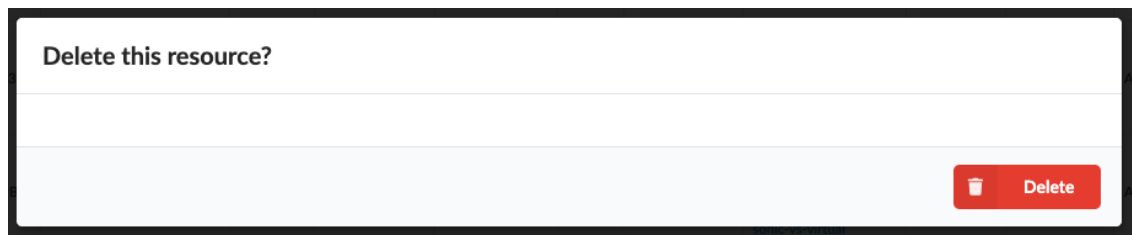
Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint	Type	Agent Profile	Apstra Version	Last Job Type	Job State	Actions
10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	INSTALL	SUCCESS	⋮
10.28.252.13	525400E0B6C0	Juniper vQFX	leaf1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	INSTALL	SUCCESS	⋮
10.28.252.12	52540076EB1C	Juniper vQFX	spine2	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	INSTALL	SUCCESS	⋮
10.28.252.14	52540017A57F	Juniper vQFX	leaf2	Junos 21.4R3.15	OOS-NOCOMMS	🔴	✓	Not assigned	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	UNINSTALL	SUCCESS	⋮
10.28.252.15	5254003CDBDA	Juniper vQFX	leaf3	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AOS_4.2.1_OB.207	INSTALL	SUCCESS	⋮

11. The final step is to delete the leaf2 device completely from Apstra. There are two steps:

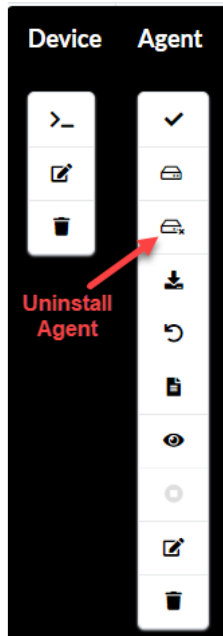
- a. First, click the trash icon in the **Device** panel.



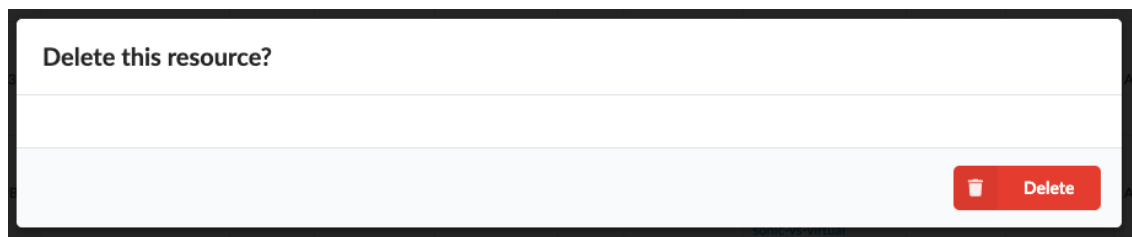
Then click **Delete** from the following dialog to remove the device.



- b. The click the Agent **Uninstall** icon in the **Agent** panel.



Then click **Confirm** from the dialog box to uninstall the agent.



When complete the leaf2 device is removed from the blueprint.

Delete a Failed Leaf Device


For this procedure, we'll delete a that has failed and is no longer communicating with Apstra.

1. From the left navigation menu in the Apstra GUI, navigate to **Blueprints > Staged > Physical > Build** and click the **Devices** icon. If the device already exists in the table, you can skip this step and proceed to Step 2.
2. Click **Assigned System IDs - Managed Nodes >** and click the **Change System IDs Assignments** icon.

Selection Build

Assigned System IDs - Managed Nodes




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 **Change System IDs Assignments**

Node	System ID
spine1	5254008CFC9A
spine2	52540076EB1C
leaf1	525400E0B6C0
leaf2	52540017A57F
leaf3	5254003CDBDA

3. Click the trash icon to remove the leaf2 assignment, then click **Update Assignments**.

Assign Systems

Node	System	System ID	System ID (IP) - Node	Remove	Actions
spine2	Spine	spine2	52540076EB1C (10.28.252.12) - spine2		<input type="radio"/> Undeploy <input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf1	Leaf	leaf1	525400E0B6C0 (10.28.252.13) - leaf1		<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf2	Leaf	leaf2	52540017A57F (10.28.252.14) - leaf2		<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy

Remove assignment 

4. Verify that leaf2 is no longer assigned.

Selection Build

Assigned System IDs - Managed Nodes

1-5 of 5

Node	System ID
spine1	52540015C2CF
spine2	525400B4E2E0
leaf1	525400AEAB0A
leaf2	Not assigned
leaf3	52540060DFF8

5. Navigate to the **Uncommitted** tab, then click the **Commit** rocket icon.

☆ Blueprints > zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual > Uncommitted > Logical Diff

Dashboard Analytics Staged **Uncommitted** Active Time Voyager

Logical Diff Full Nodes Diff Build Errors Warnings Commit Check

1-1 of 1

Type	Action	Name
System Node	CHANGED	leaf2

6. Add a comment if desired, and click **Commit**.

Commit changes from Staged to Active?

This action will automatically create a new blueprint revision. This blueprint has 5 out of 5 automatically saved revisions. If the blueprint reaches the maximum amount of revisions to store, this commit will automatically replace the oldest saved revision with this new one.

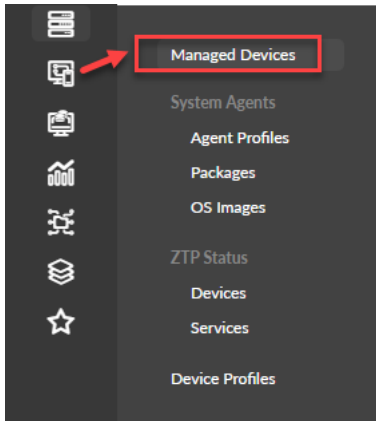
If you wish to increase the limit for automatically saved revisions, go to [Time Voyager](#) settings. You can also permanently save older revisions using the corresponding save button under Time Voyager.

Revision Description (optional)

Remove leaf2 from blueprint

Commit

7. When the commit is complete, navigate to the **Devices > Managed Devices** panel to return to the managed devices table view.



<input type="checkbox"/>	Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint
<input type="checkbox"/>	192.168.1.9						—	—	Not assigned
<input type="checkbox"/>	10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	🟢	✅	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.13	525400E0B6C0	Juniper vQFX	leaf1	Junos 21.4R3.15	IS-ACTIVE	🟢	✅	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.12	52540076EB1C	Juniper vQFX	spine2	Junos 21.4R3.15	IS-ACTIVE	🟢	✅	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual
<input type="checkbox"/>	10.28.252.14	52540017A57F	Juniper vQFX	leaf2	Junos 21.4R3.15	OOS-READY	🟢	✅	Not assigned

The Leaf2 device is now unassigned from the blueprint.

- Click the trash icon in the **Device** panel.

Device Information										Agent Information		
<div><div><div></div></div><div>0 selected</div></div>	Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint	Type	Agent Profile	Apstra Version
<div><div><div></div></div></div>	10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	<div><div></div></div>	<div><div></div></div>	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AO5_4.2.1_OB.207
<div><div><div></div></div></div>	10.28.252.13	525400E0B6C0	Juniper vQFX	leaf1	Junos 21.4R3.15	IS-ACTIVE	<div><div></div></div>	<div><div></div></div>	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AO5_4.2.1_OB.207
<div><div><div></div></div></div>	10.28.252.12	52540076EB1C	Juniper vQFX	spine2	Junos 21.4R3.15	IS-ACTIVE	<div><div></div></div>	<div><div></div></div>	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AO5_4.2.1_OB.207
<div><div><div></div></div></div>	10.28.252.14	52540017A57F	Juniper vQFX	leaf2	Junos 21.4R3.15	OOS-READY	<div><div></div></div>	<div><div></div></div>	Not assigned	OFFBOX	profile_vqfx	AO5_4.2.1_OB.207
<div><div><div></div></div></div>	10.28.252.15	5254003CDBDA	Juniper vQFX	leaf3	Junos 21.4R3.15	IS-ACTIVE	<div><div></div></div>	<div><div></div></div>	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx	AO5_4.2.1_OB.207

Device

Agent

</

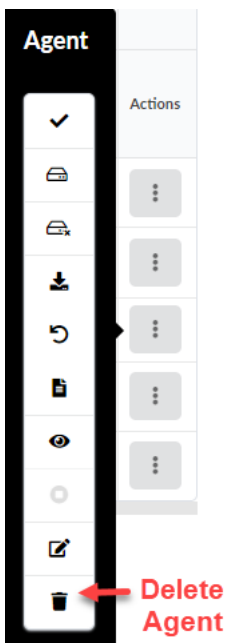
- Click **Delete** to remove the failed device (leaf2) from the **Managed Devices** table.

Delete this resource?

Delete

10. Delete the agent from the device.

Select the device from the Managed Devices table (10.28.252.14 in our example) and click the trash icon in the Agent panel to delete the agent.



11. Click the Force delete check box, then click **Delete** to force the deletion.

Delete System Agent

⚠

Apstra cannot communicate with this device. It will not be possible to uninstall any agents or revert the device to its Pristine config before deleting. Only select this box if you understand the consequences and cannot reestablish communication with the device.

☐ Force delete?

Delete

You successfully removed the failed device from the blueprint.

Add the Replacement Device to the Blueprint

Let's now take a look at what is required to replace the device back into the blueprint.

1. From the left navigation menu in the Apstra GUI, navigate to **Devices > Managed Devices**.

If the device already exists in the table, you can skip this step and proceed to Step 2.

2. From the **Managed Devices** page, click **Create Onbox Agent(s)**. Note that SONIC devices use Onbox Agents.

☆ 🏠 > Devices > Managed Devices

Create Onbox Agent(s) **Create Offbox Agent(s)** **Advanced Settings**

1-5 of 5

Filter selected by ☒ all ☐ selected only ☐ unselected only

Device Information										Agent Information			
	Management IP	Device Key	Device Profile	Hostname	OS	State	Comms	Acknowledged?	Blueprint	Type	Agent Profile	Apstra Version	Last Job Ty
<input checked="" type="checkbox"/>	10.28.252.11	5254008CFC9A	Juniper vQFX	spine1	Junos 21.4R3.15	IS-ACTIVE	🟢	✓	zz-mknudson-evpn.vqfx_offbox.2485377892355-1824801620 - evpn-vqfx_offbox-virtual	OFFBOX	profile_vqfx...	AOS_4.2.1_OB.207	INSTALL

3. Enter the device address, username and password, then click **Create**.

Create Onbox System Agent(s)

Agent Parameters

Device Addresses (25 max) *

10.28.252.14

Comma-separated list of hostnames, individual IP addresses, and IP address ranges, e.g. '192.168.1.5-192.168.1.10,mydevice.local' →

Operation Mode

☒ FULL CONTROL ☐ TELEMETRY ONLY

Username

☒ Set username?

myusername

Password

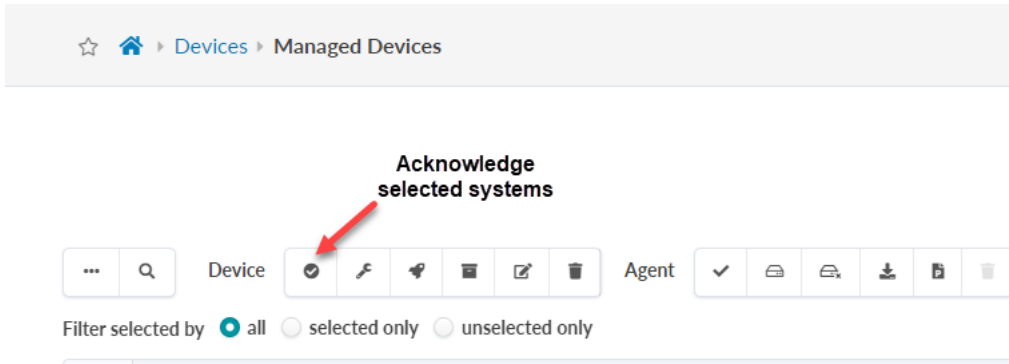
☒ Set password?

Agent Profile

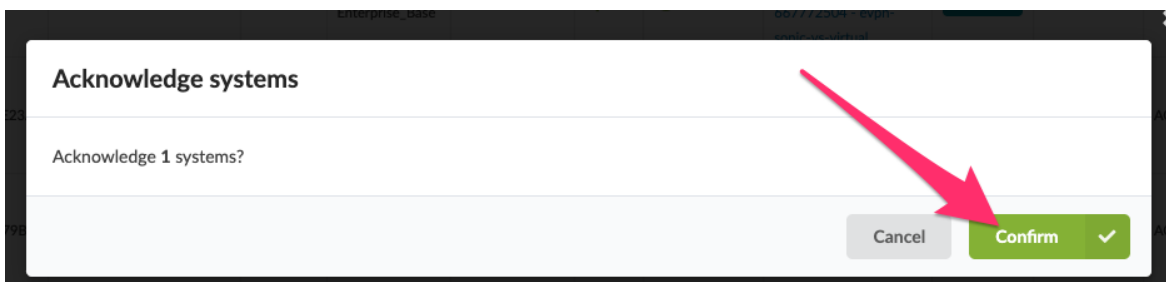
Select...

Create

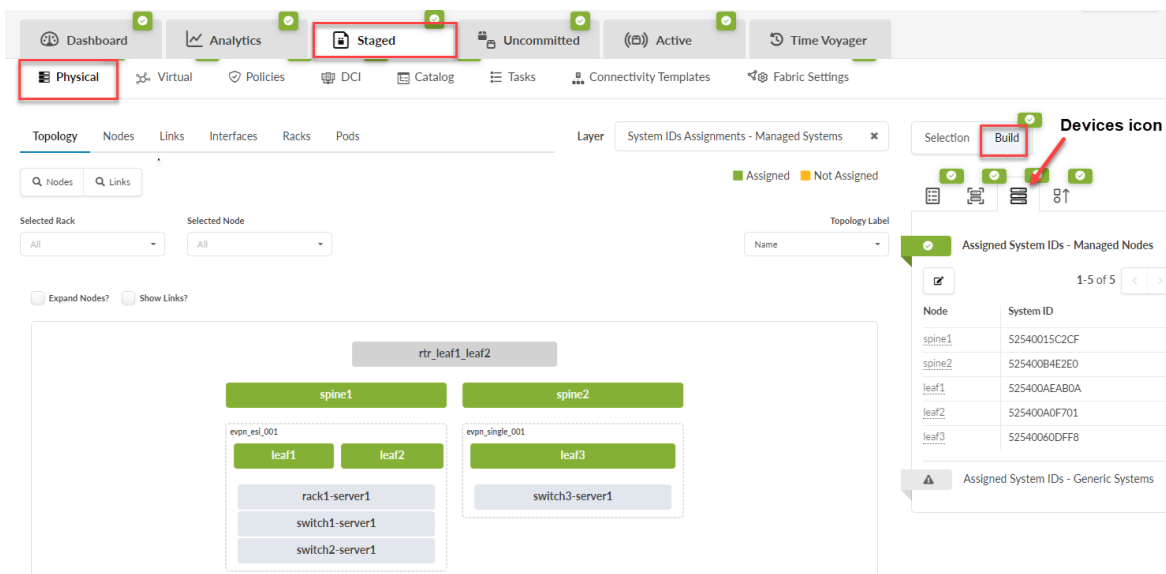
4. When the agent completes the installation, click **Acknowledge selected systems** from the Device panel located above the **Managed Devices** table.



- Click **Confirm** from the dialog box to acknowledge the device.



- Navigate to **Blueprints > Blueprint ID > Staged > Physical > Build**, then click the **Devices** icon.




- Click **Assigned System IDs - Managed Nodes**, then click the **Change System IDs Assignments** icon.

Selection Build

Assigned System IDs - Managed Nodes

1-5 of 5

 **Change System IDs Assignments**

Node	System ID
spine1	5254008CFC9A
spine2	52540076EB1C
leaf1	525400E0B6C0
leaf2	52540017A57F
leaf3	5254003CDBDA

8. Select the leaf2 replacement device, click the **Deploy** radio button, then click **Update Assignments**.

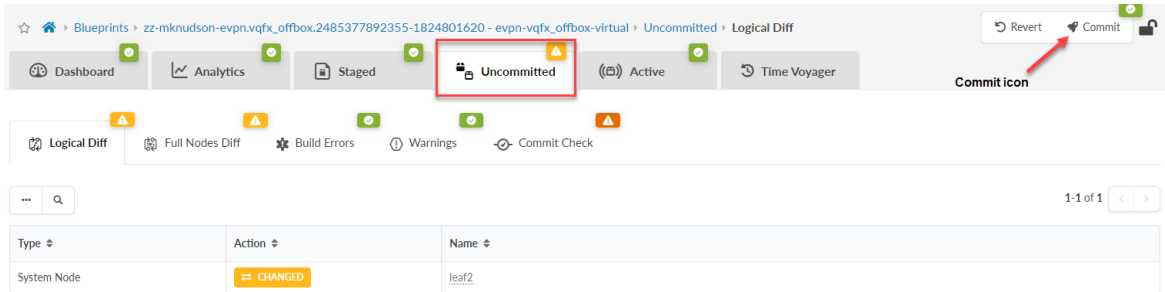
Assign Systems

1-5 of 5

Name	Role	Hostname	System ID	Deploy Mode
spine1	Spine	spine1	5254008CFC9A (10.28.252.11) - spine1	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
spine2	Spine	spine2	Select...	<input type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf1	Leaf	leaf1	525400E0B6C0 (10.28.252.13) - leaf1	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy
leaf2	Leaf	leaf2	52540076EB1C (10.28.252.12) - leaf2	<input checked="" type="radio"/> Deploy <input type="radio"/> Ready <input type="radio"/> Drain <input type="radio"/> Undeploy

Update Assignments

9. Commit the change by navigating to the **Uncommitted** tab, then click the **Commit** rocket icon.



10. Comment and click **Commit** to add the replacement device to your blueprint.

NOTE: The deployment will take some time to stabilize and any anomalies should eventually converge and disappear.

Commit changes from Staged to Active?



This action will automatically create a new blueprint revision. This blueprint has 5 out of 5 automatically saved revisions. If the blueprint reaches the maximum amount of revisions to store, this commit will automatically replace the oldest saved revision with this new one. If you wish to increase the limit for automatically saved revisions, go to [Time Voyager](#) settings. You can also permanently save older revisions using the corresponding save button under Time Voyager.

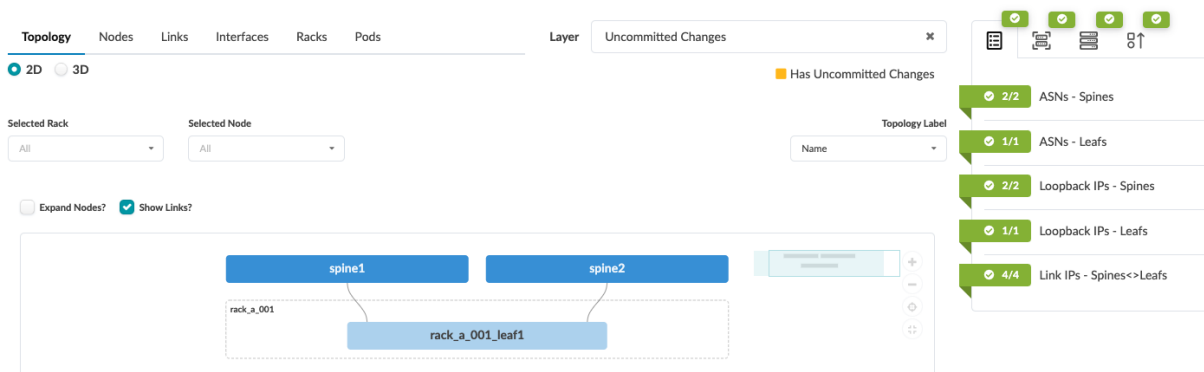
Revision Description (optional)

Replace leaf2

Commit

Replace a Device in Apstra Using Apstra Terraform Provider

You can easily replace a device in a blueprint using [Apstra Terraform Provider](#). The below diagram shows the topology we are using in this procedure.



In the following example Terraform configuration, we are replacing the leaf device (rack_a_001_leaf1).

NOTE: We assume that the Terraform configuration is applied to the Apstra server and all of the resources for the blueprint are allocated and committed.

Example Terraform Configuration

```

terraform {
  required_providers {
    apstra = {
      source = "Juniper/apstra"
    }
  }
}

provider "apstra" {
  url = "https://admin:admin@10.28.24.3:443"
  tls_validation_disabled = true
  blueprint_mutex_enabled = false
  experimental = true #New Apstra 4.2 API
}

resource "apstra_rack_type" "a_rack" {
  name = "rack_a"
  leaf_switches = {
    leaf1 = {
      logical_device_id = "slicer-7x10-1"
      spine_link_speed = "10G"
      spine_link_count = 1
    }
  }
  fabric_connectivity_design = "l3clos"
}

resource "apstra_template_rack_based" "a_template" {
  name = "template_a"
  asn_allocation_scheme = "unique"
  overlay_control_protocol = "evpn"
  spine = {
    logical_device_id = "slicer-7x10-1"
    count = 2
  }
}

```

```

    rack_infos = {
      (apstra_rack_type.a_rack.id) = { count = 1}
    }
  }
  resource "apstra_datacenter_blueprint" "a_blueprint" {
    name = "blueprint_a"
    template_id = apstra_template_rack_based.a_template.id
  }

  resource "apstra_managed_device_ack" "spine1" {
    agent_id = "e44df49e-556b-446e-a02f-7fd23804901e"
    device_key = "525400BBC20C"
  }
  resource "apstra_managed_device_ack" "spine2" {
    agent_id = "b5726b1d-29ba-4ab0-ac76-5def33291cc4"
    device_key = "525400AF79BA"
  }
  resource "apstra_managed_device_ack" "leaf1" {
    agent_id = "8f448798-c260-46b7-b7fa-46609f0598d4"
    device_key = "525400E9E2FF"
  }
  resource "apstra_datacenter_device_allocation" "spine1" {
    blueprint_id = apstra_datacenter_blueprint.a_blueprint.id
    node_name = "spine1"
    device_key = apstra_managed_device_ack.spine1.device_key
    deploy_mode = "deploy"
  }
  resource "apstra_datacenter_device_allocation" "spine2" {
    blueprint_id = apstra_datacenter_blueprint.a_blueprint.id
    node_name = "spine2"
    device_key = apstra_managed_device_ack.spine2.device_key
    deploy_mode = "deploy"
  }
  resource "apstra_datacenter_device_allocation" "leaf1" {
    blueprint_id = apstra_datacenter_blueprint.a_blueprint.id
    node_name = "rack_a_001_leaf1"
    device_key = apstra_managed_device_ack.leaf1.device_key
    deploy_mode = "deploy"
  }
}

```

To replace a device using Terraform:

1. Remove the following resource block for the device from the Terraform configuration. Note that you cannot remove a device from Apstra without first removing it from your blueprint.

In this example, we are removing the rack_a_001_leaf1 device.

```
resource "apstra_datacenter_device_allocation" "leaf1" {
  blueprint_id = apstra_datacenter_blueprint.a_blueprint.id
  node_name = "rack_a_001_leaf1"
  device_key = apstra_managed_device_ack.leaf1.device_key
  deploy_mode = "deploy"
}
```

Run the terraform apply command to apply the changes.

```
user@user-mbp terraform % terraform apply
apstra_datacenter_device_allocation.leaf1: Refreshing state...
apstra_managed_device_ack.spine2: Refreshing state...
apstra_managed_device_ack.leaf1: Refreshing state...
apstra_managed_device_ack.spine1: Refreshing state...
apstra_rack_type.a_rack: Refreshing state... [id=wjdosvpvs8qdkyec2slrw]
apstra_template_rack_based.a_template: Refreshing state... [id=3fcd246d-f7eb-4850-ba18-
bd8429aa3c8d]
apstra_datacenter_blueprint.a_blueprint: Refreshing state... [id=9c2404f6-
a875-4d29-9add-919601601b04]
apstra_datacenter_device_allocation.spine2: Refreshing state...
apstra_datacenter_device_allocation.spine1: Refreshing state...

Terraform used the selected providers to generate the following execution plan. Resource
actions are indicated with the following symbols:
  - destroy

Terraform will perform the following actions:

# apstra_datacenter_device_allocation.leaf1 will be destroyed
# (because apstra_datacenter_device_allocation.leaf1 is not in configuration)
- resource "apstra_datacenter_device_allocation" "leaf1" {
  - blueprint_id          = "9c2404f6-a875-4d29-9add-919601601b04" -> null
  - deploy_mode          = "deploy" -> null
  - device_key           = "525400E9E23A" -> null
  - device_profile_node_id = "sfBQVnyC5MBMtWoYLpU" -> null
  - initial_interface_map_id = "VS_SONiC_BUZZNIK_PLUS__slicer-7x10-1" -> null
  - interface_map_name     = "VS_SONiC_BUZZNIK_PLUS__slicer-7x10-1" -> null
```

```

- node_id          = "v4U3_ek6bH3t_ppYEXA" -> null
- node_name        = "rack_a_001_leaf1" -> null
}

```

Plan: 0 to add, 0 to change, 1 to destroy.

Do you want to perform these actions?

Terraform will perform the actions described above.

Only 'yes' will be accepted to approve.

Enter a value: yes

apstra_datacenter_device_allocation.leaf1: Destroying...

apstra_datacenter_device_allocation.leaf1: Destruction complete after 4s

Apply complete! Resources: 0 added, 0 changed, 1 destroyed.

2. After the apply is complete, commit the changes.
3. Update the Terraform configuration with the new information for the replacement device.
Replace the device_key and the agent_id with the new values.

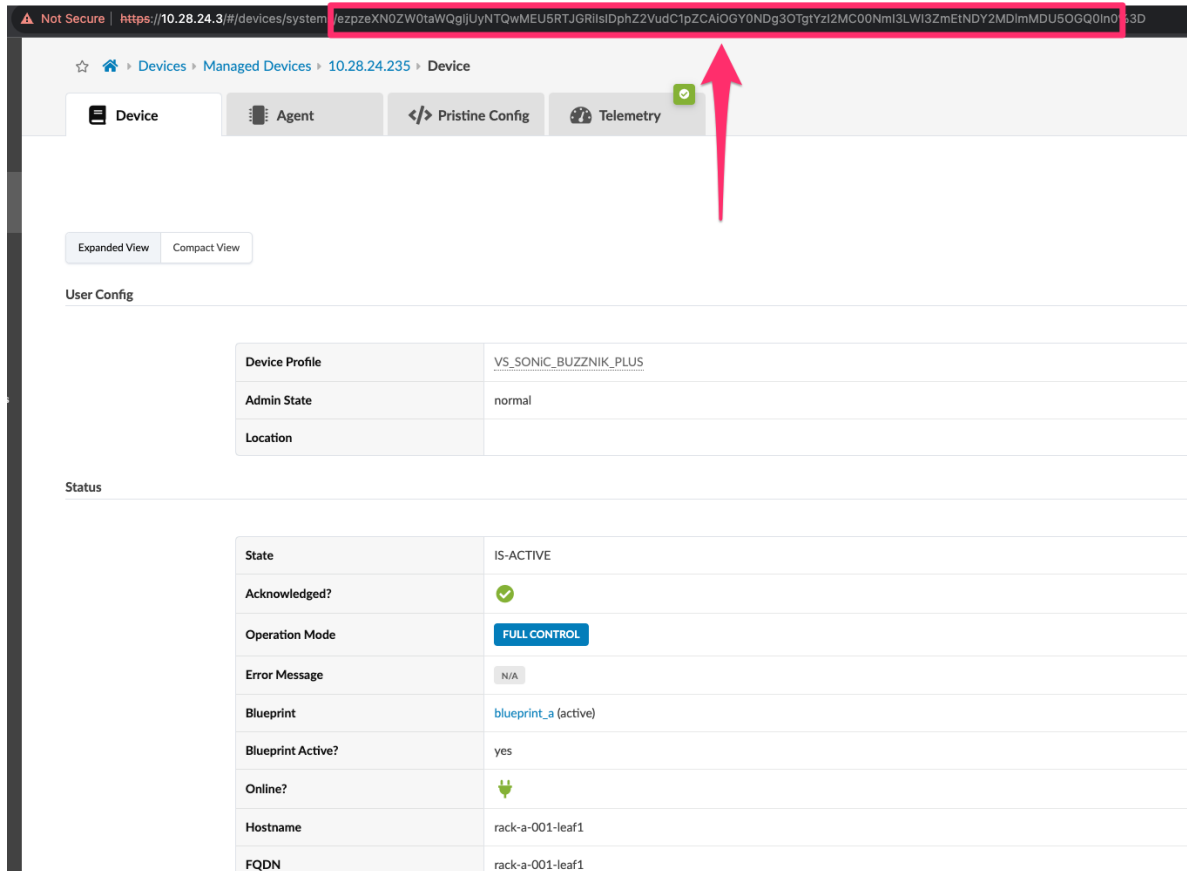
```

resource "apstra_managed_device_ack" "leaf1" { agent_id = "8f448798-c260-46
b7-b7fa-46609f0598d4" device_key = "525400E9E2FF" }

```

You can derive these values in the Apstra GUI by navigating to the **Devices > Managed Devices** page and selecting the device IP address as follows:

4. From the **Device** page, copy the encoded device key and agent ID from the URL string.



The screenshot shows a web browser window with the URL `https://10.28.24.3/#/devices/system/ezpzeXN0ZW0taWQgUjYNTQwMEU5RTJGRlslDphZ2VudC1pZCAiOGY0NDg3OTgtYzl2MC00NmI3LWl3ZmEtNDY2MDImMDU5OGQ0ln0...3D`. The URL string is highlighted in red. A red arrow points to the 'Telemetry' tab in the top navigation bar.

The page displays the 'Device' page for the device `10.28.24.235`. The 'Device' tab is selected. The 'User Config' section shows the following details:

Device Profile	VS_SONIC_BUZZNIK_PLUS
Admin State	normal
Location	

The 'Status' section shows the following details:

State	IS-ACTIVE
Acknowledged?	✓
Operation Mode	FULL CONTROL
Error Message	N/A
Blueprint	blueprint_a (active)
Blueprint Active?	yes
Online?	🌱
Hostname	rack-a-001-leaf1
FQDN	rack-a-001-leaf1

To decode the URL string and obtain the new `device_key` (system-id) and agent ID values, run the `pbpaste | base64 --decode` command. For example:

```
pbpaste | base64 --decode
{:system-id "525400E9E2FF", :agent-id "8f448798-c260-46b7-b7fa-46609f0598d4%
```

NOTE: You can also derive the agent-id from a data source, from [Swagger](#), or from the Terraform resource that created it.

5. Once you have replaced the information into Terraform, apply the new configuration:

```
user@user-mbp terraform % terraform apply
apstra_managed_device_ack.spine1: Refreshing state...
apstra_managed_device_ack.spine2: Refreshing state...
apstra Rack Type.a_rack: Refreshing state... [id=wjdosvpvs8qdkyec2slrw]
apstra_template_rack_based.a_template: Refreshing state... [id=3fcd246d-f7eb-4850-ba18-
```

```
bd8429aa3c8d]
```

```
  apstra_datacenter_blueprint.a_blueprint: Refreshing state... [id=9c2404f6-
a875-4d29-9add-919601601b04]
```

```
  apstra_datacenter_device_allocation.spine2: Refreshing state...
```

```
  apstra_datacenter_device_allocation.spine1: Refreshing state...
```

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:

```
+ create
```

Terraform will perform the following actions:

```
# apstra_datacenter_device_allocation.leaf1 will be created
```

```
+ resource "apstra_datacenter_device_allocation" "leaf1" {
  + blueprint_id      = "9c2404f6-a875-4d29-9add-919601601b04"
  + deploy_mode       = "deploy"
  + device_key        = "525400E9E2FF"
  + device_profile_node_id = (known after apply)
  + initial_interface_map_id = (known after apply)
  + interface_map_name  = (known after apply)
  + node_id           = (known after apply)
  + node_name          = "rack_a_001_leaf1"
}
```

```
# apstra_managed_device_ack.leaf1 will be created
```

```
+ resource "apstra_managed_device_ack" "leaf1" {
  + agent_id  = "8f448798-c260-46b7-b7fa-46609f0598d4"
  + device_key = "525400E9E2FF"
  + system_id  = (known after apply)
}
```

Plan: 2 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?

Terraform will perform the actions described above.

Only 'yes' will be accepted to approve.

Enter a value: yes

```
apstra_managed_device_ack.leaf1: Creating...
```

```
apstra_managed_device_ack.leaf1: Creation complete after 1s
```

```
apstra_datacenter_device_allocation.leaf1: Creating...
```

```
apstra_datacenter_device_allocation.leaf1: Creation complete after 7s
```

Apply complete! Resources: 2 added, 0 changed, 0 destroyed.

6. Commit your changes in the Apstra GUI or in Terraform to finish replacing the device.

Good job! You successfully replaced a device in Apstra.

NOTE: In our examples, we removed any existing configuration from the new device and performed a device reboot. However, in some use cases, such as SONiC devices, you might be required to remove any existing configuration from the device.

For example:

```
root@sonic:/home/admin# rm /etc/sonic/config_db.json
root@sonic:/home/admin# config-setup factory
root@sonic:/home/admin# reboot
```

See the [Juniper Apstra User Guide](#) for information about configuring a SONiC device.