



AnsibleFest

Data-Driven Automation

Introducing NetBox for configuration management,
compliance, and validation

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\$ whoami



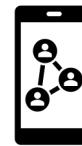
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10 Years at WWT. 6 years on the WWT Global Solutions & Architecture Team focused on Infrastructure Automation.



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Fun Fact: This is my **4th** time presenting at Ansiblefest



Data is the **foundation** for *scalable* and *reliable* infrastructure automation, but many organizations struggle with inventory management and data configuration as they work to fully automate their infrastructure lifecycle.

In this session, we'll introduce NetBox, a solution for modeling and documenting modern networks as a single source of truth for network automation, built on Red Hat Ansible Automation Platform.

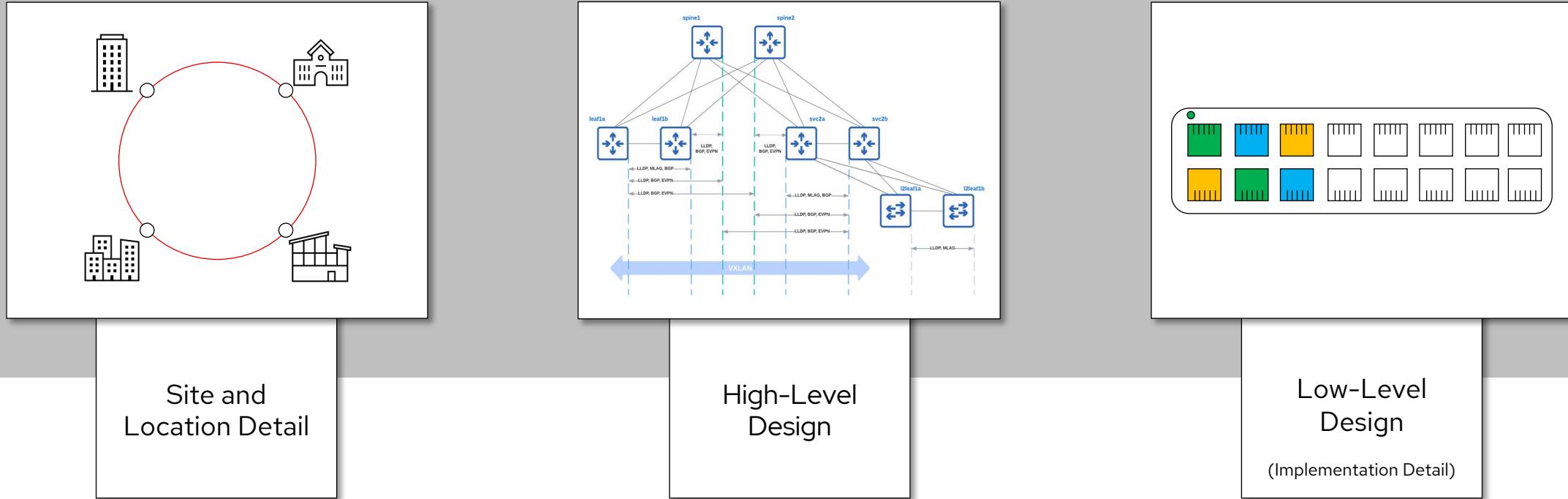
We'll explore this data-centric automation approach with live demonstrations of automating:

- Device and data onboarding into the NetBox platform using Ansible Automation Platform.
- Day 0 network provisioning.
- Day 2 operations and configuration compliance.
- Automated testing and validation.

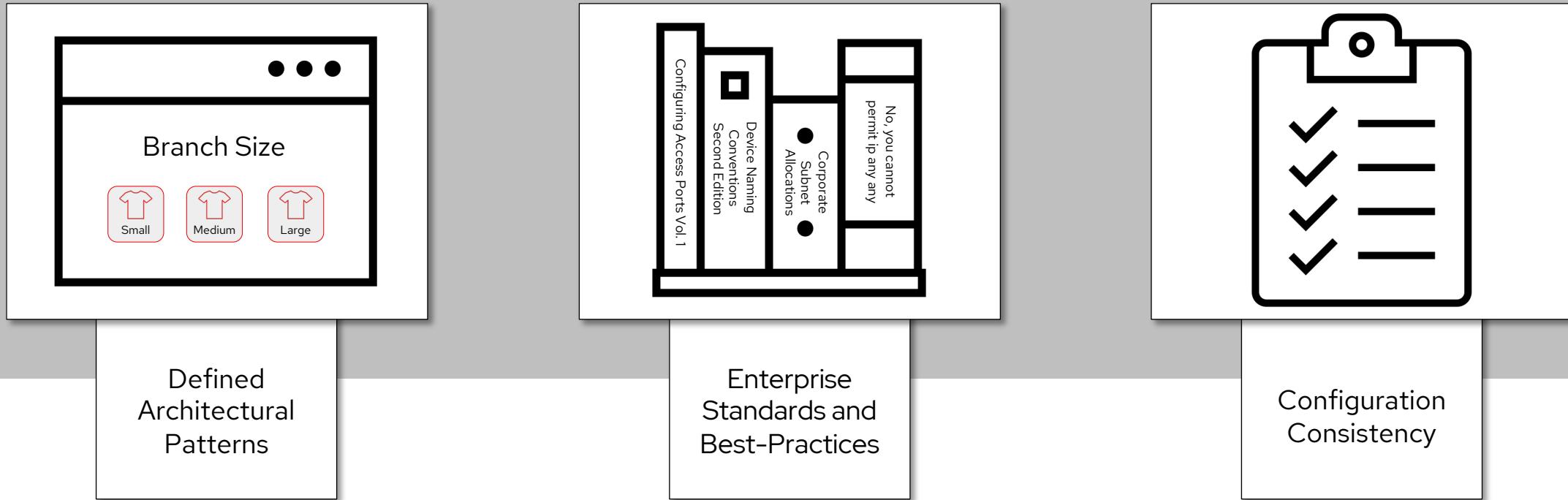
- Data-Driven Automation
 - Conceptual Overview
- NetBox Introduction
- NetBox & Ansible
- Live_(ish) Demos
 - NetBox-as-Code
 - NetBox Overview
 - Containerlab Deployment
 - Network Device Provisioning
 - Automated Testing
 - Day-2 Operations
 - Site Onboarding
- Getting Started
 - Code Repositories
 - NetBox
 - WWT On-Demand Lab

Data-Driven Automation

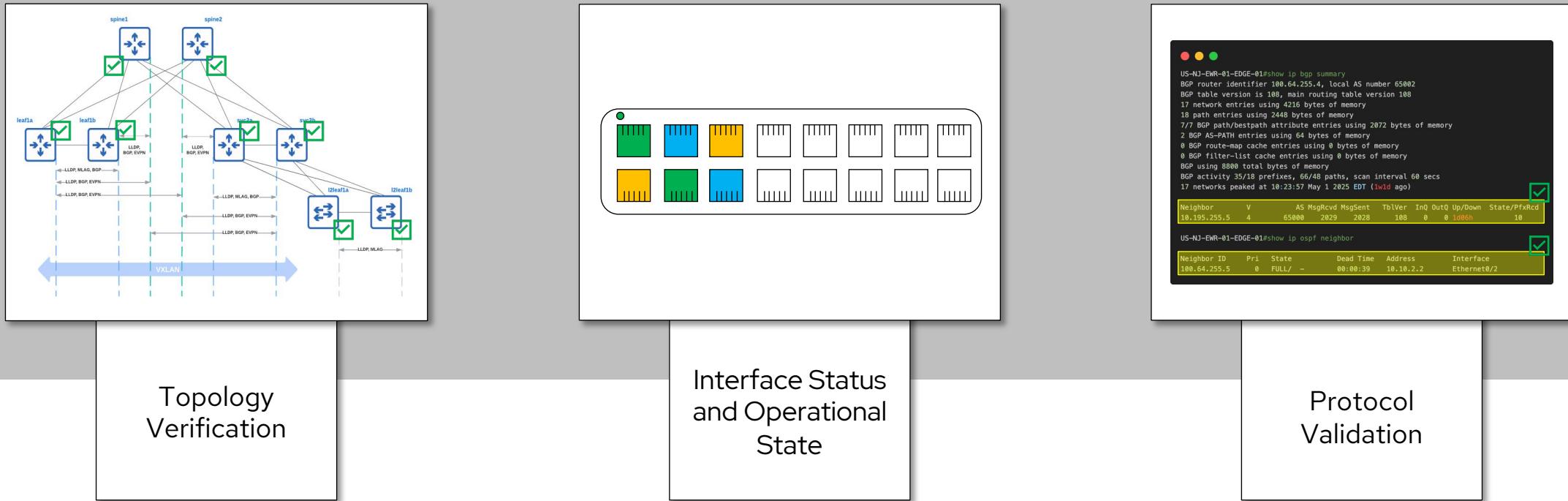
Data-driven automation begins with the *design*



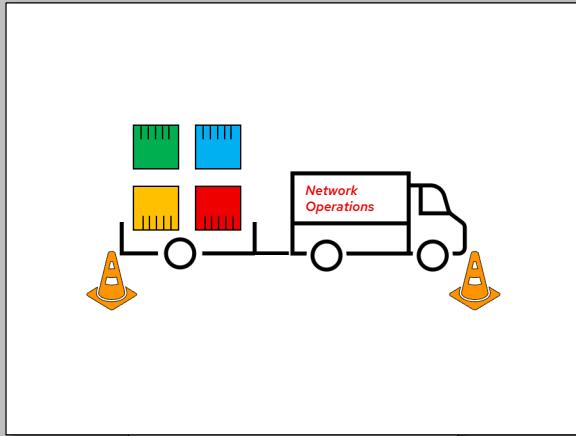
Data-driven automation provides a mechanism to enforce *architectural rigor*



Data-driven automation *validates current operational state* against the *intended state*



Data-driven automation can *streamline* day-to-day operations

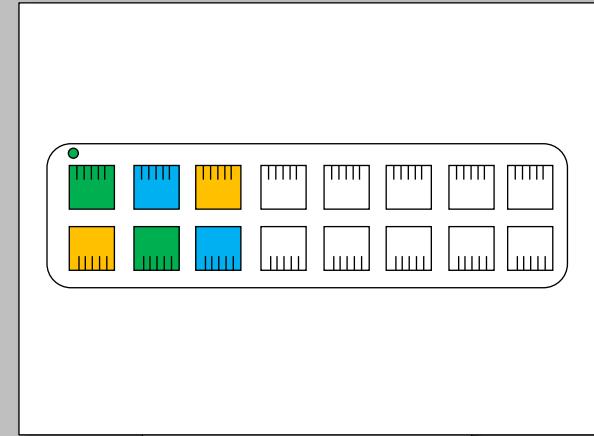


Moves, adds, and changes

```
US-MN-HSP-01-CORE-01#show run int eth1/3
Building configuration...
Current configuration : 173 bytes
!
interface Ethernet1/3
  description US-MN-HSP-01-SW-02 : Eth1/3
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 5,10,26,38
  switchport mode trunk
end

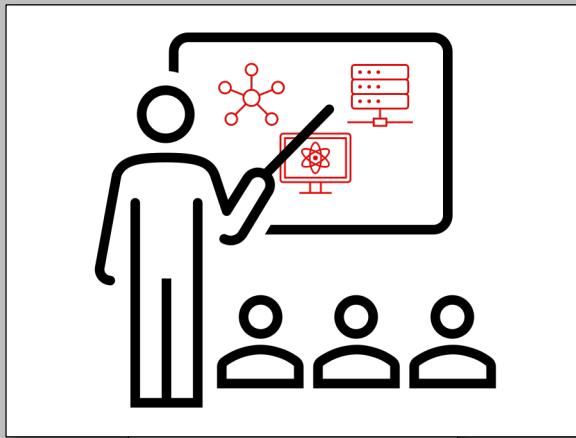
US-MN-HSP-01-CORE-01#conf t
Enter configuration commands, one per line. End with ONT/Z.
US-MN-HSP-01-CORE-01(config)#int eth1/3
[US-MN-HSP-01-CORE-01(config-if)#]switchport trunk allowed vlan 48
[US-MN-HSP-01-CORE-01(config-if)#]exit
US-MN-HSP-01-CORE-01(config)#exit
US-MN-HSP-01-CORE-01#show run int eth1/3
Building configuration...
Current configuration : 165 bytes
!
interface Ethernet1/3
  description US-MN-HSP-01-SW-02 : Eth1/3
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 48
  switchport mode trunk
end
```

Risk reduction



Ongoing state validation

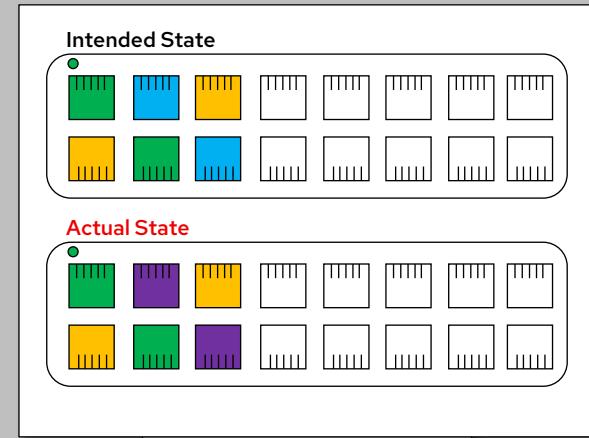
Data-driven automation will result in *organizational change*



New operational model



Avoid manual change



Configuration drift and remediation

NetBox

Introduction

What is NetBox?

Comprehensive network data model
From ASNs to VPNs, and everything between



API & integration first
REST, GraphQL, Event Streams, Webhooks



is the world's most popular
Network Source of Truth

Enormous ecosystem
Everything works with NetBox



Massive extensibility
Plugins, Device Types, Custom Scripts,
Custom Fields, etc.



Who is netbox labs?

- NetBox Labs is the **commercial steward** of the NetBox open-source project
- NetBox Labs was founded in 2023 in NYC and is led by a world class team that built and led NS1 and founded the NetBox project.
- NetBox Labs leverages open-source to generate commercial value and revenue and **reinvests in the community** to create open-source sustainability and scalability.
- Backed by World Class investors and customers.

FLYBRIDGE

Grafana Labs

Notable.



How do I get NetBox?

NetBox **Community**

Open-source network source of truth powered by the community

- Most widely used Network Source of Truth – by far
- Massive & active community = product & ecosystem velocity

NetBox **Enterprise**

Self-managed enterprise grade NetBox, fully supported, advanced integrations & features

- All capabilities of NetBox OSS
- Deploy on your own infrastructure
- Enterprise class features
- Integrate your IT stack
- NetBox experts in your corner
- NetBox Labs supported plugins

NetBox **Cloud**

Cloud-managed, secure, reliable: all the features of Enterprise, with turn-key operations and scaling

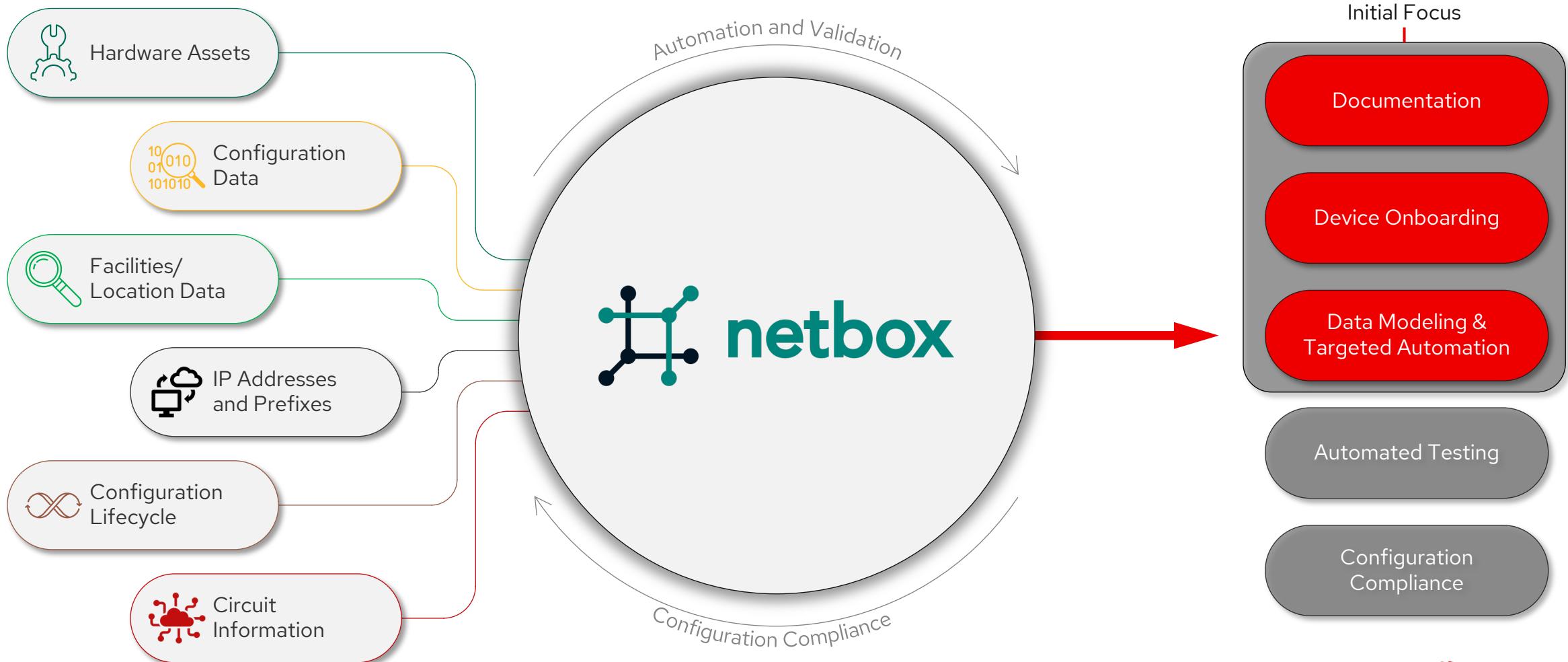
- All capabilities of NetBox OSS and Enterprise
- SaaS edition of NetBox
- Fully-hosted on NetBox Lab's platform
- Secure, easy to use, and ready for scale
- Customizable cloud isolation, redundancy, and performance
- Push button lifecycle operations
- Zero administrative overhead

Self-Managed

Self-Managed

SaaS

Implementing NetBox



NetBox Data Model

NetBox has a ***curated data model*** that delivers a wide assortment of object types carefully crafted to best serve the needs of infrastructure design and documentation. These include:

Hierarchical regions, sites, and locations

Data circuits and providers

FHRP groups (VRRP, HSRP, etc.)

Tenancy assignments

Racks, devices, and device components

Virtual machines and clusters

AS numbers

Contact management

Cables and wireless connections

IP prefixes, ranges, and addresses

VLANs and scoped VLAN groups

Power distribution tracking

VRFs and route targets

L2VPN overlays

NetBox Customization

NetBox offers mechanisms through which it can be customized and extended. Its powerful plugin architecture enables users to extend the application to meet their needs with ***minimal development effort***. This includes:

Custom fields

Custom model validation

Export templates

Event rules

Plugins

REST & GraphQL APIs

NetBox & Ansible

netbox.netbox Ansible Collection



- Contains modules that allow Ansible to be used to provision and manage data in NetBox
- Includes plugins that allow Ansible to drive downstream automation of infrastructure using data from NetBox
- Requirements:
 - You must be running one of the two most recent releases of NetBox
 - A NetBox write-enabled API token when using modules, or a read-only token when using *nb_lookup* and *nb_inventory* plugins

netbox.netbox.nb_inventory plugin

- Dynamic inventory plugin used to pull hosts and data from NetBox
- *group_by* creates dynamic inventory groups based on NetBox data model attributes
- *query_filters* and *device_query_filters* limit the objects returned by the NetBox API.
 - Multiple values for a single parameter result in logical OR operations.
- *config_context* adds configuration context data from NetBox to hostvars in Ansible

inventory.yml

```
1 ---  
2 plugin: netbox.netbox.nb_inventory  
3 token: "{{ lookup('ansible.builtin.env', 'NETBOX_TOKEN', default=undefined) }}"  
4 validate_certs: true  
5 oob_ip_as_primary_ip: true  
6 interfaces: true  
7 config_context: true  
8 services: true  
9 site_data: true  
10 group_by:  
11   - sites  
12 query_filters:  
13   - role: edge-router  
14   - role: core-switch  
15   - role: access-switch  
16   - role: wan-router  
17 device_query_filters:  
18   - status: active  
19 compose:  
20   ansible_network_os: platform.slug
```

netbox.netbox.nb_lookup plugin

- Lookup plugin that queries NetBox via its API to return *virtually any information* capable of being held in NetBox
- *endpoint* defines the API endpoint queried by the lookup plugin
- *api_filter* is constructed of key/value pairs separated by a space and is used to filter results from the queried endpoint
- *plugin* optionally defines the NetBox plugin to query

```
● ● ●  
1 - name: Construct API filter for {{ inventory_hostname }}  
2   ansible.builtin.set_fact:  
3     bgp_filter: "{{ 'status=active device=' + inventory_hostname }}"  
4  
5 - name: Querying active BGP session for {{ inventory_hostname }}  
6   ansible.builtin.set_fact:  
7     bgp_session_response: >-  
8       {{ query(  
9         'netbox.netbox.nb_lookup',  
10        'session',  
11        plugin='bgp',  
12        api_filter=bgp_filter,  
13        api_endpoint=netbox_url,  
14        token=netbox_token)  
15      }}  
16
```

NetBox Events + Event-Driven Ansible

- NetBox includes the ability to automatically perform certain functions in response to internal events including:
 - Executing a custom script
 - Sending a webhook
 - Generating user notifications
- *Event Rules* define the NetBox object and event types plus an optional set of conditions to match before performing the defined action

The screenshot shows the 'Event Rule' configuration page in NetBox. The rule is named 'DCIM-Device-and-Interface-Updates' and is described as 'Fire webhook on Device and Interface Updates'. It is set to trigger on 'Object updated' events for 'DCIM > Device' and 'DCIM > Interface' objects. The rule is enabled and has an empty 'Conditions' section. The 'Action' type is set to 'Webhook' with the target being 'AAP-EDA-Event-Stream'.

Event Rule

Name: DCIM-Device-and-Interface-Updates

Description: Fire webhook on Device and Interface Updates

Object types: DCIM > Device | x DCIM > Interface | x

Enabled

Tags

Triggers

Event types: Object updated | x

Conditions

Enter conditions in JSON format.

Action

Action type: Webhook

Webhook: AAP-EDA-Event-Stream

NetBox Events + Event-Driven Ansible

- NetBox includes the ability to automatically perform certain functions in response to internal events including:
 - Executing a custom script
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- *Event Rules* define the NetBox object and event types plus an optional set of conditions to match before performing the defined action

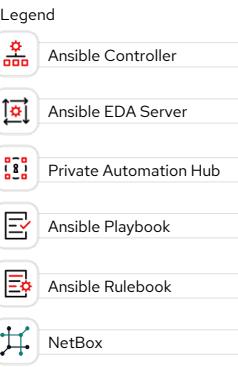
Rulebook Activations > NetBox Webhook > Details		
NetBox Webhook		
Back to Rulebook Activations Details History Team Access User Access		
Activation ID	23	Name
Project	data-driven-automation	Organization
		Data-Driven-Automation
Rulebook	netbox-webhook-rulebook.yml	Event stream(s)
		NetBox Event Stream
Credential(s)	AAP Credential	Decision environment
		Automation Hub Default Decision Environment
Restart policy	Always	
Activation status	Running	Status message
		Container running activation
Log level	Debug	
Project git hash	998cb95b3db4abb11986b385d6abc852c8c...	Number of rules
		2
Fire count		
Restart count	0	Created
		5/6/2025, 2:11:43 PM
Last modified		
		5/6/2025, 2:12:03 PM

NetBox Events + Event-Driven Ansible

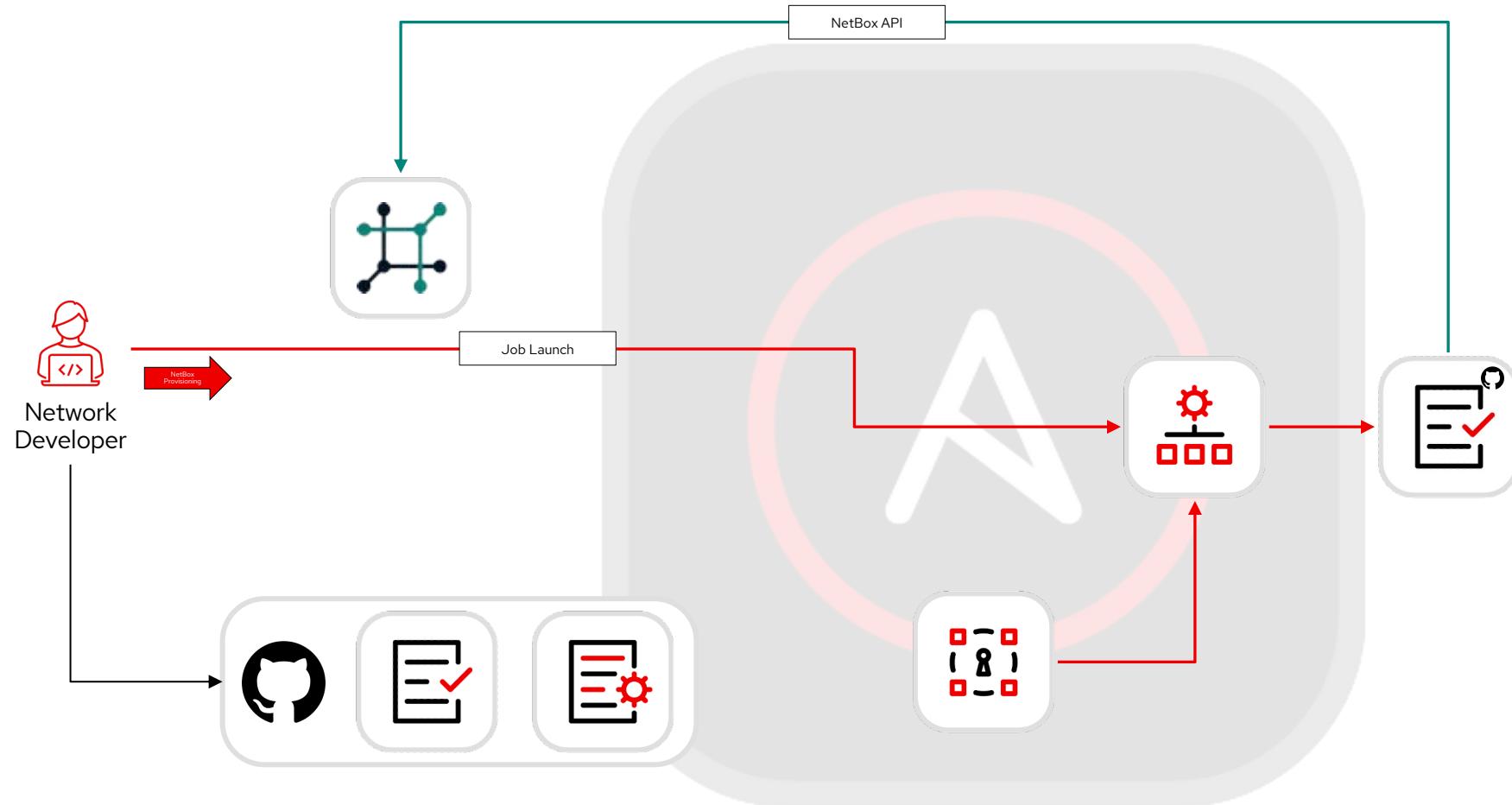
- NetBox includes the ability to automatically perform certain functions in response to internal events including:
 - Executing a custom script
 - Sending a webhook
 - Generating user notifications
- *Event Rules* define the NetBox object and event types plus an optional set of conditions to match before performing the defined action
- Ansible Automation Platform and Event-Driven Ansible bring this solution to life by connecting NetBox Events to Ansible Playbooks through EDA Event Streams and Ansible Rulebooks

```
● ● ●
1 ---
2 - name: Rulebook to trigger automation to enforce state against a changed device
3 hosts: all
4 gather_facts: false
5
6 sources:
7   - name: Listen for events from NetBox
8     ansible.eda.webhook:
9       host: 0.0.0.0
10      port: 5000
11
12 rules:
13   - name: Configure target device
14     condition: >-
15       (event.payload.event == "updated" and event.payload.model == "device") or
16       (event.payload.event == "updated" and event.payload.model == "interface")
17     action:
18       run_job_template:
19         name: Configure Network from NetBox
20         organization: Data-Driven-Automation
21         job_args:
22           limit: "{{ event.payload.data.device.name }}"
23           job_tags: "{{ event.payload.model }}"
24   - name: Trigger webhook parsing playbook
25     condition: event.payload.event == "updated" and event.payload.model == "configcontext"
26     action:
27       run_job_template:
28         name: Parse NetBox Config Context Webhook
29         organization: Data-Driven-Automation
30         job_args:
31           job_tags: "{{ event.payload.data.tags | join(',') }}"
```

Live_(ish) Demos

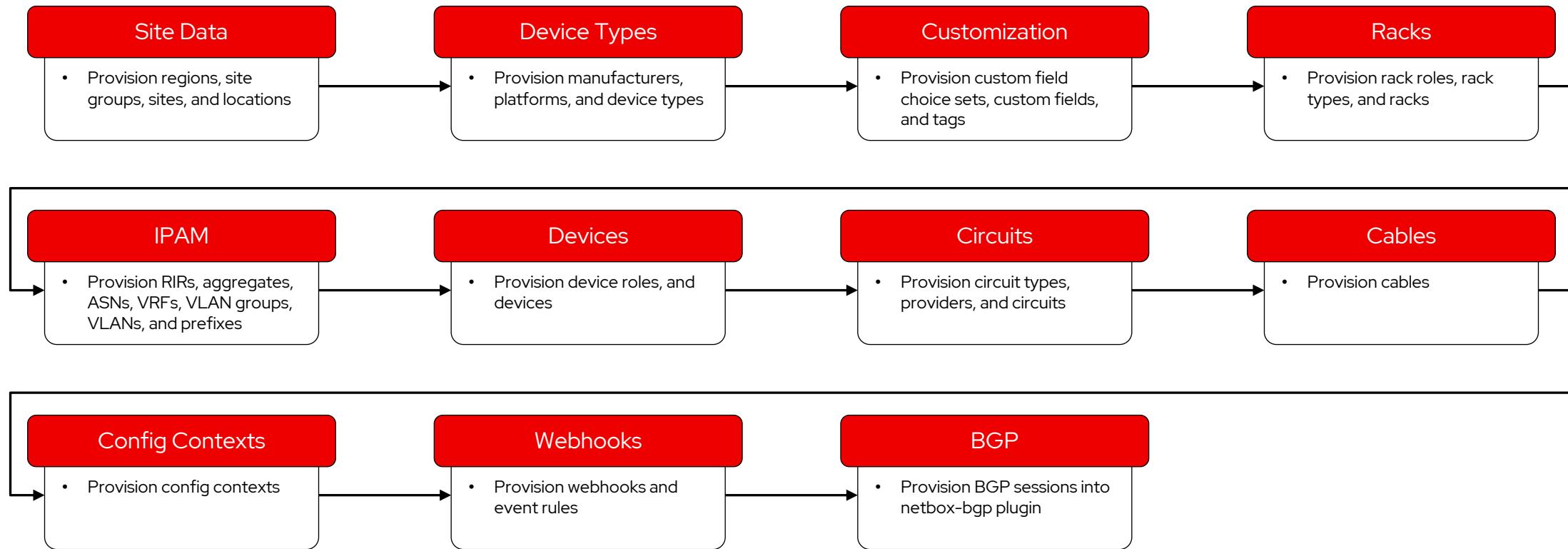


NetBox-as-Code



NetBox-as-Code

High-Level Overview





NetBox-as-Code

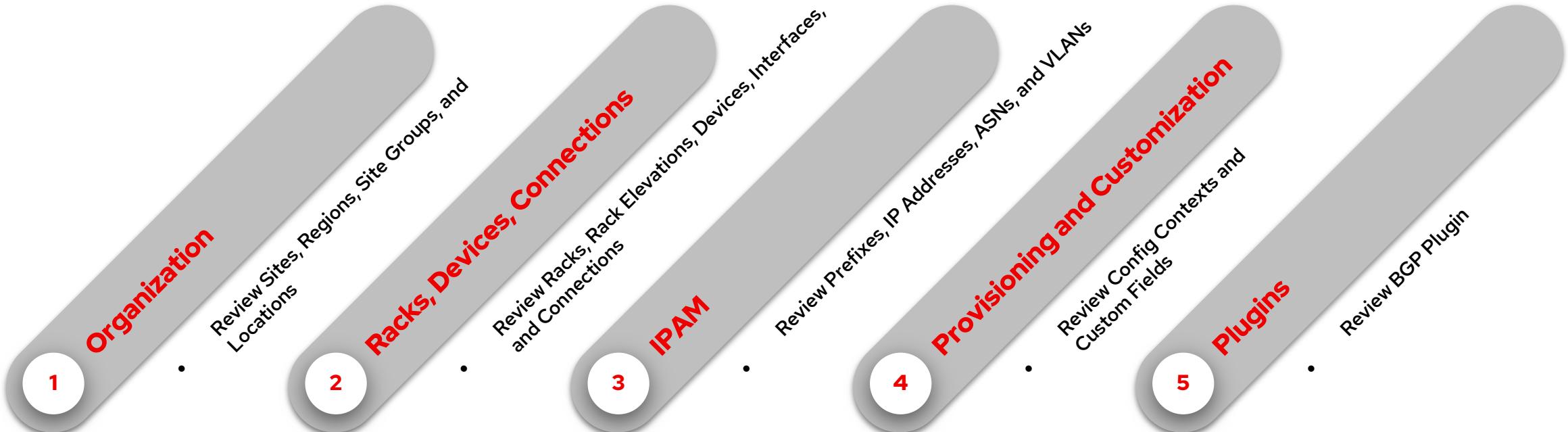
Provisioning Demonstration

The screenshot displays the NetBox Cloud interface with a dark theme. On the left is a sidebar with navigation links for Organization, Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, Plugins, and Admin.

The main area contains several cards:

- Bookmarks**: Shows "No bookmarks have been added yet."
- Organization**: Shows counts for Sites (0), Tenants (0), and Contacts (0).
- Welcome!**: A message encouraging customization of the dashboard.
- IPAM**: Shows counts for VRFs (0), Aggregates (0), Prefixes (0), IP Ranges (0), IP Addresses (0), and VLANs (0).
- NetBox News**: A card listing news items:
 - NetBox Integration with SolarWinds IP Address Manager (IPAM) Enters Private Preview
 - Introducing NetBox 4.3: Driving Innovation Across the NetBox Ecosystem
- Circuits**: Shows counts for Providers (0), Circuits (0), Provider Networks (0), and Provider Accounts (0).
- DCIM**: Shows counts for Sites (0), Racks (0), Device Types (0), Devices (0), and Cables (0).
- Virtualization**: Shows counts for Clusters (0) and Virtual Machines (0).
- Change Log**: A table with columns: TIME, USERNAME, FULL NAME, ACTION, TYPE, OBJECT, and REQUEST ID. It displays the message: "— No object changes found —".

NetBox Overview



NetBox Organization Data

The screenshot displays the NetBox Cloud interface with a dark theme. On the left, a sidebar menu is open, showing categories like Organization, Sites, Regions, Site Groups, Locations, Tenancy, Contacts, Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, and Plugins. A red box highlights the 'Organization' section of the sidebar.

The main area contains several cards:

- Bookmarks**: Shows "No bookmarks have been added yet."
- Organization**: Displays counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome!**: A green card with the message: "This is your personal dashboard. Feel free to customize it by rearranging, resizing, or removing widgets. You can also add new widgets using the 'add widget' button below. Any changes affect only *your* dashboard, so feel free to experiment!"
- IPAM**: Displays counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- Circuits**: Displays counts for Providers (1), Circuits (2), and Provider Networks (0).
- DCIM**: Displays counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- NetBox News**: A card listing news items:
 - NetBox Integration with Microsoft DNS Enters Private Preview
 - Announcing the NetBox Hero Award Winners for 2025
 - NetBox Integration with SolarWinds IP Address Manager (IPAM) Enters Private Preview
- Virtualization**: Displays counts for Clusters (0) and Virtual Machines (0).
- Change Log**: A table showing a log of recent changes:

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f958-4a4a-a9d9-4646490c8fcf

NetBox Organization Data

Sites

The screenshot shows the NetBox organization data interface. On the left, a sidebar menu is visible with various categories: Organization, SITES (with 'Sites' selected), Regions, Site Groups, Locations, TENANCY (Tenants, Tenant Groups), CONTACTS (Contacts, Contact Groups, Contact Roles, Contact Assignments), Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, and Plugins. The 'Sites' section is highlighted with a red border. The main content area displays a table titled 'Sites' with three entries:

NAME	STATUS	FACILITY	REGION	GROUP	TENANT	DESCRIPTION
US-MN-MSP-01	Active	—	US-MN	Branches	—	Minneapolis Branch 01
US-MO-STL-60	Active	—	US-MO	Data Centers	—	WWT ATC - 60 Weldon Pkwy
US-NJ-EWR-01	Active	—	US-NJ	Branches	—	Newark Branch Office

Below the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right corner shows the user 'nthompson Admin' and navigation links for 'Main', 'Import', and 'Export'. The bottom right corner includes a circular icon with a bookmark symbol and the text '2025-05-16 20:26:01 UTC · nb-4b02ef30b789-57c68c74fc-fd5qf · NetBox Cloud v4.2.5'.

NetBox Organization Data

Site: US-MN-MSP-01

The screenshot displays the NetBox organization data interface for the site **US-MN-MSP-01**. The site details include:

- Region:** US / US-Midwest / US-MN
- Group:** Branches
- Status:** Active
- Tenant:** —
- Facility:** —
- Description:** Minneapolis Branch 01
- Time Zone:** —
- Physical Address:** —
- Shipping Address:** —
- GPS Coordinates:** —

The **Related Objects** section lists:

- ASNs (1)
- BGP Sessions (1)
- Circuits (1)
- Devices (15)
- Locations (3)
- Prefixes (7)
- Racks (3)
- VLANs (4)
- VLAN Groups (1)

The **Comments** section indicates "No tags assigned".

The **Locations** section lists three locations:

NAME	SITE	STATUS	FACILITY	TENANT	RACKS	DEVICES	DESCRIPTION
US-MN-MSP-01-IDF-01	US-MN-MSP-01	Active	—	—	1	4	Minneapolis Branch IDF 01
US-MN-MSP-01-IDF-02	US-MN-MSP-01	Active	—	—	1	4	Minneapolis Branch IDF 02
US-MN-MSP-01-MDF	US-MN-MSP-01	Active	—	—	1	7	Minneapolis Branch MDF

NetBox Organization Data

Regions

The screenshot shows the NetBox organization data interface. On the left, a sidebar menu is visible with various categories like SITES, TENANCY, CONTACTS, and more. The 'Regions' item under the SITES category is highlighted with a red box. The main content area is titled 'Regions' and shows a list of regions with columns for NAME, SITES, and DESCRIPTION. One row, 'US', is highlighted with a yellow box. At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right corner shows the user 'nthompson Admin' and navigation links for Main, Add, Import, and Export.

NAME	SITES	DESCRIPTION
US-MN	1	Minnesota
US-Midwest	2	United States Midwest Region
US-MO	1	Missouri
US	3	United States of America
US-Northeast	1	United States Northeast Region
US-South	0	United States South Region
US-West	0	United States West Region
US-NJ	1	New Jersey

NetBox Organization Data

Region: US

The screenshot shows the NetBox interface for managing organization data. The left sidebar has a 'Organization' section selected, showing 'SITES' (Sites), 'Regions' (Regions), 'TENANCY' (Tenants, Tenant Groups), 'CONTACTS' (Contacts, Contact Groups, Contact Roles, Contact Assignments), and various network infrastructure categories like Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, and Plugins. The main content area is titled 'Regions' and shows a single entry for 'US'. The 'US' entry has a red box around it. Below the entry, there are tabs for Region, Contacts, Journal, and Changelog. The 'Region' tab is active. The 'Region' table has one row with the following data:

Name	SITES	DESCRIPTION
United States of America	—	—

The 'Tags' section below the table says 'No tags assigned'.

The right side of the screen shows 'Related Objects' and 'Child Regions' sections. The 'Related Objects' section is highlighted with a yellow box and contains the following data:

Object Type	Count
Circuit Terminations	4
Locations	5
Prefixes	16
Racks	5
Sites	3

The 'Child Regions' section is also highlighted with a yellow box and contains the following data:

NAME	SITES	DESCRIPTION
United States Midwest Region	2	United States Midwest Region
United States Northeast Region	1	United States Northeast Region
United States South Region	0	United States South Region
United States West Region	0	United States West Region

At the bottom of the page, there are footer links for Home, Documentation, GitHub, LinkedIn, and Slack, along with a Red Hat logo.

NetBox Organization Data

Site Groups

The screenshot shows the NetBox interface for managing Site Groups. On the left, a sidebar lists various organization categories like Sites, Regions, Site Groups, Locations, Tenancy, Contacts, and many network-related modules. The 'Site Groups' item is highlighted with a red box. The main content area is titled 'Site Groups' and shows a table with two entries:

NAME	SITES	DESCRIPTION
Data Centers	1	Data Centers
Branches	2	Branch Offices

Below the table are buttons for 'Edit Selected' and 'Delete Selected'. The top right of the screen shows a user profile for 'nthompson Admin' and standard navigation buttons for Main, Import, Export, and Add.

NetBox Organization Data

Site Group: Branches

The screenshot shows the NetBox organization interface. On the left is a sidebar with categories like Organization, Sites, Regions, Site Groups, Locations, Tenancy, Contacts, and various network components. The 'Site Groups' section is expanded, and the 'Branches' group is selected, highlighted with a red box. The main content area shows the 'Branches' site group details: Name is 'Branches', Description is 'Branch Offices', and Parent is listed as '—'. Under 'Tags', it says 'No tags assigned'. A 'Related Objects' sidebar on the right lists Circuits (2), Circuit Terminations (2), Locations (4), Prefixes (14), Racks (4), and Sites (2). A yellow box highlights the 'Related Objects' sidebar. At the bottom, there's a 'Child Groups' table with no data, and a footer with a timestamp and version information.

NAME	SITES	DESCRIPTION
— No site groups found —		

Created 2025-05-13 19:33 - Updated 2025-05-13 19:33

dcim.sitegroup:2 (branches)

+ Add Site | Bookmark | Subscribe | Edit | Delete

+ Add Site Group

2025-05-16 20:31:02 UTC · nb-4b02ef30b789-57c68c74fc-fd5qf · NetBox Cloud v4.2.5

NetBox Organization Data

Locations

The screenshot shows the NetBox Locations page. On the left, a sidebar menu is open under the 'Organization' section, with 'Locations' highlighted and a red box around it. The main content area displays a table of locations with the following data:

NAME	SITE	STATUS	FACILITY	TENANT	RACKS	DEVICES	DESCRIPTION
US-MN-MSP-01-IDF-01	US-MN-MSP-01	Active	—	—	1	4	Minneapolis Branch IDF 01
US-MN-MSP-01-IDF-02	US-MN-MSP-01	Active	—	—	1	4	Minneapolis Branch IDF 02
US-MN-MSP-01-MDF	US-MN-MSP-01	Active	—	—	1	7	Minneapolis Branch MDF
US-MO-STL-60-DC1	US-MO-STL-60	Active	—	—	1	1	WWT ATC DC1
US-NJ-EWR-01-MDF	US-NJ-EWR-01	Active	—	—	1	9	Newark Branch 01 MDF

At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The status bar at the bottom right indicates the date and time as 2025-05-16 20:32:08 UTC, the session ID as nb-4b02ef30b789-57c68c74fc-fd5qf, and the software version as NetBox Cloud v4.2.5.

NetBox Organization Data

Location: US-MN-MSP-01-MDF

The screenshot shows the NetBox interface for managing organization data. The main title is "US-MN-MSP-01-MDF". The left sidebar includes sections for Organization, Sites, Regions, Site Groups, Locations, Tenancy, Contacts, Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, and Plugins. The top right shows the user "nthompson Admin" and various navigation buttons like Main, Add Child Location, Bookmark, Subscribe, Clone, Edit, and Delete.

Related Objects:

- Devices: 7
- Racks: 1

Images:

No image attachments found.

Child Locations:

No locations found.

Non-Racked Devices:

No devices found.

NetBox Rack Data

The screenshot displays the NetBox Cloud interface. On the left, a sidebar menu is open, showing various organizational and management categories. A red box highlights the 'Racks' section under 'Organization'. The main dashboard area contains several cards:

- Bookmarks:** Shows a message: "No bookmarks have been added yet."
- Organization:** Displays counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome:** A personal dashboard introduction with a note about customizing the layout.
- IPAM:** Displays counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- Circuits:** Displays counts for Providers (1), Circuits (2), Provider Networks (0), and Provider Accounts (0).
- DCIM:** Displays counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- NetBox News:** A news card about NetBox integration with Microsoft DNS.
- Virtualization:** Displays counts for Clusters (0) and Virtual Machines (0).
- Change Log:** A table showing recent changes made by nthompson, including updates to interfaces and branches.

NetBox Rack Data

Racks

The screenshot shows the NetBox Cloud interface for managing racks. On the left, a sidebar menu is open under the 'RACKS' section, with 'Racks' highlighted by a red box. The main content area is titled 'Racks' and displays a table of five network racks. One rack, 'US-MN-MSP-01-MDF-R1', is highlighted with a yellow box. The table columns include: NAME, SITE, LOCATION, STATUS, FACILITY ID, TENANT, ROLE, TYPE, HEIGHT, DEVICES, and SPACE. The 'SPACE' column shows a progress bar indicating usage. At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'.

Name	SITE	LOCATION	Status	Facility ID	Tenant	Role	Type	Height	Devices	Space
US-MN-MSP-01-IDF-01-R1	US-MN-MSP-01	US-MN-MSP-01-IDF-01	Active	—	—	network rack	APC NetShelter SX Server Rack	42U	4	14.3%
US-MN-MSP-01-IDF-02-R1	US-MN-MSP-01	US-MN-MSP-01-IDF-02	Active	—	—	network rack	APC NetShelter SX Server Rack	42U	4	14.3%
US-MN-MSP-01-MDF-R1	US-MN-MSP-01	US-MN-MSP-01-MDF	Active	—	—	network rack	APC NetShelter SX Server Rack	42U	7	23.8%
US-MO-STL-60-DC1-R1	US-MO-STL-60	US-MO-STL-60-DC1	Active	—	—	network rack	APC NetShelter SX Server Rack	42U	1	2.4%
US-NJ-EWR-01-MDF-R1	US-NJ-EWR-01	US-NJ-EWR-01-MDF	Active	—	—	network rack	APC NetShelter SX Server Rack	42U	9	31.0%

NetBox Rack Data

Rack: US-MN-MSP-01-MDF-R1

The screenshot shows the NetBox interface for managing a rack. The left sidebar has sections for Organization, Racks, RACKS, and RACK TYPES. The main content area shows the details for 'Rack US-MN-MSP-01-MDF-R1'. The top navigation bar includes links for Main, nthompson, Admin, and dcim.rack:2. Below the navigation are buttons for US-MN-MSP-01-MDF-R1 (Bookmark, Subscribe, Clone, Edit, Delete), and an 'Images and Labels' dropdown.

Rack Details:

- Region: US / US-Midwest / US-MN
- Site: US-MN-MSP-01
- Location: US-MN-MSP-01-MDF
- Facility ID: —
- Tenant: —
- Status: Active
- Rack Type: APC APC NetShelter SX Server Rack
- Role: network rack
- Description: MSP Branch 01 MDF Network Rack
- Serial Number: —
- Asset Tag: —
- Airflow: —

Space Utilization: 23.8% (highlighted with a yellow box)

Power Utilization: 0.0%

Dimensions:

- Form factor: 4-post cabinet
- Width: 19 inches
- Height: 42U
- Outer Width: 32 Inches
- Outer Depth: 42 Inches
- Mounting Depth: 91 Millimeters

Front View: Shows the physical rack unit numbers from 31 to 42. Units 31 through 36 are highlighted in green and labeled: US-MN-MSP-01-MDF-R1-PP1, US-MN-MSP-01-MDF-R1-CM1, US-MN-MSP-01-MDF-R1-PP2, US-MN-MSP-01-MDF-R1-CM2, US-MN-MSP-01-CORE-01, US-MN-MSP-01-MDF-R1-CM3, and US-MN-MSP-01-EDGE-01. Unit 37 is blue. Units 38 through 42 are also blue. A yellow box highlights the green-highlighted units.

Rear View: Shows the physical rack unit numbers from 8 to 42, with a dark gray background.

NetBox Rack Data

Elevations

The screenshot shows the NetBox interface for managing rack data. On the left, a sidebar navigation includes 'Organization', 'Racks' (selected), 'RACKS' (Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, Provisioning, Customization, Operations, NetBox Labs, Change Management, Branching, Plugins, Admin), and 'Reservations' (Elevations). The main area displays 'Rack Elevations' for five racks:

- US-MN-MSP-01-IDF-01-R1**: network rack, 42 slots, top slot US-MN-MSP-01-IDF-01-R1-PP1.
- US-MN-MSP-01-IDF-02-R1**: network rack, 42 slots, top slot US-MN-MSP-01-IDF-02-R1-PP1.
- US-MN-MSP-01-MDF-R1**: network rack, 42 slots, top slot US-MN-MSP-01-MDF-R1-PP1.
- US-MO-STL-60-DC1-R1**: network rack, 42 slots, top slot US-MO-STL-60-WAN-01.
- US-NJ-EWR-01-MDF-R1**: network rack, 42 slots, top slot US-NJ-EWR-01-MDF-R1-PP1.

Each rack table lists slots numbered from 1 at the bottom to 42 at the top. A red box highlights the 'Elevations' link in the sidebar.

NetBox Device Data

The screenshot displays the NetBox Cloud interface. On the left, a sidebar menu is visible with several collapsed sections. A red box highlights the 'Devices' section under 'DEVICES', which is expanded to show sub-options: Devices, Modules, Device Roles, Platforms, Virtual Chassis, and Virtual Device Contexts. Another red box highlights the 'MAC Addresses' option under 'ADDRESSING'. The main content area features several cards:

- Bookmarks:** Shows a message: "No bookmarks have been added yet."
- Organization:** Shows counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome:** A personal dashboard message encouraging customization.
- IPAM:** Shows counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- Circuits:** Shows counts for Providers (1), Circuits (2), Provider Networks (0), and Provider Accounts (0).
- DCIM:** Shows counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- NetBox News:** Headlines include "NetBox Integration with Microsoft DNS Enters Private Preview" and "Announcing the NetBox Hero Award Winners for 2025".
- Virtualization:** Shows counts for Clusters (0) and Virtual Machines (0).
- Change Log:** A table showing recent changes:

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:58	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f058-4543-a9d9-4646490c8fe5

NetBox Device Data

Devices

The screenshot shows the NetBox Cloud interface with the 'Devices' list page. The sidebar on the left has a 'Devices' section with a red box around the 'Devices' tab. The main area shows a table of devices with columns: NAME, STATUS, TENANT, SITE, LOCATION, RACK, ROLE, MANUFACTURER, TYPE, and IP ADDRESS. The first device listed is 'US-MN-MSP-01-CORE-01' with status 'Active'. The table also lists other components like 'US-MN-MSP-01-EDGE-01' (edge router), 'US-MN-MSP-01-IDF-01-R1-CM1' (cable management), and various patch panels.

NAME	STATUS	TENANT	SITE	LOCATION	RACK	ROLE	MANUFACTURER	TYPE	IP ADDRESS
US-MN-MSP-01-CORE-01	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	core switch	Cisco	IOL-L2	—
US-MN-MSP-01-EDGE-01	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	edge router	Cisco	IOL	—
US-MN-MSP-01-IDF-01-R1-CM1	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-01	US-MN-MSP-01-IDF-01-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-IDF-01-R1-CM2	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-01	US-MN-MSP-01-IDF-01-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-IDF-01-R1-PP1	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-01	US-MN-MSP-01-IDF-01-R1	structured cabling	Leviton	QUICKPORT 24-Port 1-RU Patch Panel	—
US-MN-MSP-01-IDF-02-R1-CM1	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-02	US-MN-MSP-01-IDF-02-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-IDF-02-R1-CM2	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-02	US-MN-MSP-01-IDF-02-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-IDF-02-R1-PP1	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-02	US-MN-MSP-01-IDF-02-R1	structured cabling	Leviton	QUICKPORT 24-Port 1-RU Patch Panel	—
US-MN-MSP-01-MDF-R1-CM1	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-MDF-R1-CM2	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-MDF-R1-CM3	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	cable management	Leviton	Horizontal Cable Management 2RU Front Only	—
US-MN-MSP-01-MDF-R1-PP1	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	structured cabling	Leviton	QUICKPORT 24-Port 1-RU Patch Panel	—
US-MN-MSP-01-MDF-R1-PP2	Active	—	US-MN-MSP-01	US-MN-MSP-01-MDF	US-MN-MSP-01-MDF-R1	structured cabling	Leviton	QUICKPORT 24-Port 1-RU Patch Panel	—
US-MN-MSP-01-SW-01	Active	—	US-MN-MSP-01	US-MN-MSP-01-IDF-01	US-MN-MSP-01-IDF-01-R1	access switch	Cisco	IOL-L2	—

NetBox Device Data

Device: US-MN-MSP-01-CORE-01

The screenshot displays the NetBox device configuration interface for the device **US-MN-MSP-01-CORE-01**. The interface is organized into several sections:

- Device Details:** Shows basic information like Region (US / US-Midwest / US-MN), Site (US-MN-MSP-01), Location (US-MN-MSP-01-MDF), Rack (US-MN-MSP-01-MDF-R1), Position (U36 / Front), and Device Type (Cisco IOL-L2 (1U)).
- Management:** Displays Status (Active), Role (core switch), Platform (ios), Primary IPv4, Primary IPv6, and Out-of-band IP (10.115.115.11).
- Services:** Shows no services found.
- Images:** Shows no image attachments found.
- Dimensions:** Shows Height (1.0U) and Weight.
- Rack Diagram:** Shows the device's position in the rack (U36) and its front/rear panels.
- Custom Fields:** Contains two highlighted sections:
 - BGP:** Includes fields for **Enable bgp** (unchecked) and **OSPFv2**.
 - OSPFv2:** Includes fields for **Enable ospfv2** (checked), **Ospfv2 process id** (1), and **Ospfv2 router id** (100.64.255.3).

NetBox Device Data

Device: US-MN-MSP-01-CORE-01 - Interfaces

The screenshot shows the NetBox interface for the device **US-MN-MSP-01-CORE-01**. The left sidebar contains navigation links for Organization, Racks, Devices, and various components like Interfaces, Modules, and Power Ports. The main content area displays a table of 14 interfaces. The table columns include NAME, LABEL, ENABLED, TYPE, PARENT, LAG, MTU, MODE, DESCRIPTION, IP ADDRESSES, CABLE, and CONNECTION. The table shows the following data:

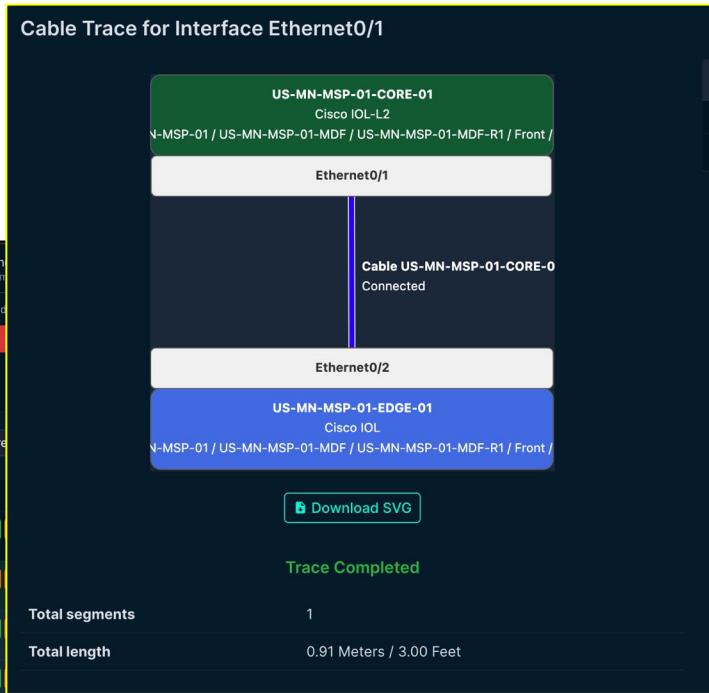
NAME	LABEL	ENABLED	TYPE	PARENT	LAG	MTU	MODE	DESCRIPTION	IP ADDRESSES	CABLE	CONNECTION
Ethernet0/0		✓	1000BASE-T (1GE)	—	—	—	—	OOB Management	10.115.115.11/24	—	—
Ethernet0/1		✓	1000BASE-T (1GE)	—	—	1500	—	US-MN-MSP-01-EDGE-01 : Eth0/2	10.10.0.2/30	US-MN-MSP-01-CORE-01 to US-MN-MSP-01-EDGE-01	US-MN-MSP-01-EDGE-01 > Ethernet0/2
Ethernet0/2		✗	1000BASE-T (1GE)	—	—	—	—	—	—	—	—
Ethernet0/3		✗	1000BASE-T (1GE)	—	—	—	—	—	—	—	—
Ethernet1/0		✗	1000BASE-T (1GE)	—	—	—	—	—	—	—	—
Ethernet1/1		✗	1000BASE-T (1GE)	—	—	—	—	—	—	—	—
Ethernet1/2		✓	1000BASE-T (1GE)	—	—	—	Tagged	US-MN-MSP-01-SW-01 : Eth1/3	US-MN-MSP-01-CORE-01 to US-MN-MSP-01-MDF-R1-PP1	US-MN-MSP-01-SW-01 > Ethernet1/3	
Ethernet1/3		✓	1000BASE-T (1GE)	—	—	—	Tagged	US-MN-MSP-01-SW-02 : Eth1/3	US-MN-MSP-01-CORE-01 to US-MN-MSP-01-MDF-R1-PP2	US-MN-MSP-01-SW-02 > Ethernet1/3	
Loopback0		✓	Virtual	—	—	—	—	—	100.64.255.3/32	—	—
Vlan1		✗	Virtual	—	—	—	—	Default VLAN	—	—	—
Vlan5		✓	Virtual	—	—	—	—	Mgmt VLAN	10.10.0.113/28	—	—
Vlan10		✓	Virtual	—	—	—	—	User VLAN	10.10.0.129/25	—	—
Vlan20		✓	Virtual	—	—	—	—	Voice VLAN	10.10.1.1/25	—	—
Vlan30		✓	Virtual	—	—	—	—	IOT VLAN	10.10.1.129/25	—	—

Showing 1-14 of 14

NetBox Device Data

Device: US-MN-MSP-01-CORE-01 – Interface Connection

The screenshot shows the NetBox interface for the device **US-MN-MSP-01-CORE-01**. The left sidebar contains navigation links for Organization, Racks, Devices, Device Roles, Platforms, Virtual Chassis, and more. The main content area displays the device's interfaces. The **Interfaces** tab is selected, showing 14 interfaces. One interface, **Ethernet0/1**, is highlighted with a red border and a yellow box on its connection status icon. The table includes columns for NAME, LABEL, ENABLED, TYPE, PARENT, LAG, MTU, MODE, DESCRIPTION, IP ADDRESSES, CABLE, and CONNECTION. The connection row for Ethernet0/1 shows it is connected to **US-MN-MSP-01-EDGE-01 : Eth0/2**. The bottom of the interface list shows pagination from 1-14 of 14.



NetBox IPAM Data

The screenshot displays the NetBox IPAM Data interface. On the left, a sidebar menu is shown with a red box highlighting the 'IPAM' section. This section includes categories such as IP Addresses, Prefixes, ASNs, Aggregates, VRFs, VLANs, and OTHER. Below this, there are sections for Racks, Devices, Connections, Wireless, and VPN.

The main dashboard area contains several cards:

- Bookmarks:** Shows a message: "No bookmarks have been added yet."
- Organization:** Shows counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome!**: A green card with the message: "This is your personal dashboard. Feel free to customize it by rearranging, resizing, or removing widgets. You can also add new widgets using the 'add widget' button below. Any changes affect only your dashboard, so feel free to experiment!"
- IPAM:** Shows counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- Circuits:** Shows counts for Providers (1), Circuits (2), and Provider Networks (0).
- DCIM:** Shows counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- NetBox News:** A card with the title "NetBox Integration with Microsoft DNS Enters Private Preview". It discusses the integration between NetBox and Microsoft DNS, mentioning a direct connection and its benefits.
- Virtualization:** A card with the title "Announcing the NetBox Hero Award Winners for 2025". It highlights individuals who have contributed significantly to the NetBox community.
- Change Log:** A table showing a history of changes made by nthompson on May 15, 2025. The log includes columns for TIME, USERNAME, FULL NAME, ACTION, TYPE, OBJECT, and REQUEST ID.

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f95a-4ada-a9d9-4646490c8fcf

NetBox IPAM Data

Prefixes

The screenshot shows the NetBox IPAM Prefixes page. The left sidebar navigation includes sections for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, IP Ranges, Prefixes (highlighted with a red box), ASNs, Aggregates, VRFs, Route Targets, VLANs, and OTHER. The main content area displays a table of prefixes with columns: PREFIX, STATUS, CHILDREN, VRF, UTILIZATION, TENANT, SCOPE, VLAN, ROLE, and DESCRIPTION. A specific row for '10.10.0.0/30' is highlighted with a yellow box. The table has 20 results and includes filters and configuration options.

PREFIX	STATUS	CHILDREN	VRF	UTILIZATION	TENANT	SCOPE	VLAN	ROLE	DESCRIPTION
10.10.0.0/16	Container	14	Global	<div style="width: 16%;">1.6%</div>	—	—	—	—	Branch Networks
· 10.10.0.0/23	Container	6	Global	<div style="width: 100%;">100.0%</div>	—	US-MN-MSP-01	—	—	US-MN-MSP-01 Subnet
·· 10.10.0.0/25	Container	2	Global	<div style="width: 15.6%;">15.6%</div>	—	US-MN-MSP-01	—	—	US-MN-MSP-01 Utility Subnets
··· 10.10.0.0/30	Active	0	Global	<div style="width: 100%;">100.0%</div>	—	US-MN-MSP-01	—	—	US-MN-MSP-01 Edge Routing Subnet
··· 10.10.0.112/28	Active	0	Global	<div style="width: 21.4%;">21.4%</div>	—	US-MN-MSP-01	US-MN-MSP-01 Mgmt VLAN (5)	—	US-MN-MSP-01 Management Subnet
··· 10.10.0.128/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-MN-MSP-01	US-MN-MSP-01 User VLAN (10)	—	US-MN-MSP-01 User Subnet
··· 10.10.0.128/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-MN-MSP-01	US-MN-MSP-01 Voice VLAN (20)	—	US-MN-MSP-01 Voice Subnet
··· 10.10.1.128/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-MN-MSP-01	US-MN-MSP-01 IOT VLAN (30)	—	US-MN-MSP-01 IOT Subnet
·· 10.10.2.0/23	Container	6	Global	<div style="width: 100%;">100.0%</div>	—	US-NJ-EWR-01	—	—	US-NJ-EWR-01 Subnet
··· 10.10.2.0/25	Container	2	Global	<div style="width: 15.6%;">15.6%</div>	—	US-NJ-EWR-01	—	—	US-NJ-EWR-01 Utility Subnets
··· 10.10.2.0/30	Active	0	Global	<div style="width: 100%;">100.0%</div>	—	US-NJ-EWR-01	—	—	US-NJ-EWR-01 Edge Routing Subnet
··· 10.10.2.112/28	Active	0	Global	<div style="width: 14.3%;">14.3%</div>	—	US-NJ-EWR-01	US-NJ-EWR-01 Mgmt VLAN (5)	—	US-NJ-EWR-01 Management Subnet
··· 10.10.2.128/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-NJ-EWR-01	US-NJ-EWR-01 User VLAN (10)	—	US-NJ-EWR-01 User Subnet
··· 10.10.3.0/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-NJ-EWR-01	US-NJ-EWR-01 Voice VLAN (20)	—	US-NJ-EWR-01 Voice Subnet
··· 10.10.3.128/25	Active	0	Global	<div style="width: 0.8%;">0.8%</div>	—	US-NJ-EWR-01	US-NJ-EWR-01 IOT VLAN (30)	—	US-NJ-EWR-01 IOT Subnet
· 10.195.0.0/16	Container	2	Global	<div style="width: 0.4%;">0.4%</div>	—	US-MO-STL-60	—	—	ATC DC1 Subnet
·· 10.195.255.0/24	Container	1	Global	<div style="width: 1.6%;">1.6%</div>	—	US-MO-STL-60	—	—	ATC DC1 WAN Subnet
··· 10.195.255.0/30	Active	0	Global	<div style="width: 100%;">100.0%</div>	—	—	—	—	ATC DC1 WAN to US-MN-MSP-01 Routing Subnet
· 100.64.255.0/24	Active	0	Global	<div style="width: 2.0%;">2.0%</div>	—	—	—	—	Loopback Subnet
· 10.115.115.0/24	Active	0	clab-mgmt	<div style="width: 3.1%;">3.1%</div>	—	—	—	—	OOB Management Subnet

NetBox IPAM Data

Prefix: 10.10.0.0/30

The screenshot shows the NetBox IPAM Prefix detail page for the prefix **10.10.0.0/30**. The prefix was created on 2025-05-13 19:35 and updated on the same day at 19:35. The main interface includes a search bar, navigation tabs (Prefix, Child Prefixes, Child Ranges, IP Addresses, Contacts, Journal, Changelog), and action buttons (Bookmark, Subscribe, Clone, Edit, Delete). The prefix details table shows the following information:

Family	IPv4
VRF	Global
Tenant	—
Aggregate	10.0.0.0/8 (RFC1918)
Scope	US-MN-MSP-01 (site)
VLAN	—
Status	Active
Role	—
Description	US-MN-MSP-01 Edge Routing Subnet
Is a pool	✗

The addressing section displays utilization at 100.0% (2 child IPs available), and the comments field is set to "None". Below the prefix details, a table lists parent prefixes:

PREFIX	STATUS	CHILDREN	TENANT	SCOPE	VLAN	ROLE	DESCRIPTION
10.10.0.0/16	Container	14	—	—	—	—	Branch Networks
+ 10.10.0.0/23	Container	6	—	US-MN-MSP-01	—	—	US-MN-MSP-01 Subnet
++ 10.10.0.0/25	Container	2	—	US-MN-MSP-01	—	—	US-MN-MSP-01 Utility Subnets

At the bottom of the page, there are footer links for Home, Documentation, GitHub, LinkedIn, and Slack, along with a Red Hat logo.

NetBox IPAM Data

IP Addresses

The screenshot shows the NetBox IPAM interface. The left sidebar has a dark theme with various navigation links. The 'IP Addresses' link under the 'IP Addresses' section is highlighted with a red box. The main content area is titled 'IP Addresses' and shows a table with 32 results. The table columns are: IP ADDRESS, VRF, STATUS, ROLE, TENANT, ASSIGNED, DNS NAME, and DESCRIPTION. One specific row, '10.10.0.129/25', is highlighted with a yellow box. The 'ASSIGNED' column for this row contains a green checkmark. The 'DESCRIPTION' column for this row shows 'US-MN-MSP-01-CORE-01 : Vlan10'. The top right of the interface includes buttons for '+ Add', 'Import', and 'Export'.

IP ADDRESS	VRF	STATUS	ROLE	TENANT	ASSIGNED	DNS NAME	DESCRIPTION
10.10.0.1/30	Global	Active	—	—	✓	—	US-MN-MSP-01-EDGE-01 : Eth0/2
10.10.0.2/30	Global	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Eth0/1
10.10.0.113/28	Global	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Vlan5
10.10.0.114/28	Global	Active	—	—	✓	—	US-MN-MSP-01-SW-01 : Vlan5
10.10.0.115/28	Global	Active	—	—	✓	—	US-MN-MSP-01-SW-02 : Vlan5
10.10.0.129/25	Global	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Vlan10
10.10.1.1/25	Global	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Vlan20
10.10.1.129/25	Global	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Vlan30
10.10.2.1/30	Global	Active	—	—	✓	—	US-NJ-EWR-01-EDGE-01 : Eth0/2
10.10.2.2/30	Global	Active	—	—	✓	—	US-NJ-EWR-01-CORE-01 : Eth0/1
10.10.2.113/28	Global	Active	—	—	✓	—	US-NJ-EWR-01-CORE-01 : Vlan5
10.10.2.114/28	Global	Active	—	—	✓	—	US-NJ-EWR-01-SW-01 : Vlan5
10.10.2.129/25	Global	Active	—	—	✓	—	US-NJ-EWR-01-CORE-01 : Vlan10
10.10.3.1/25	Global	Active	—	—	✓	—	US-NJ-EWR-01-CORE-01 : Vlan20
10.10.3.129/25	Global	Active	—	—	✓	—	US-NJ-EWR-01-CORE-01 : Vlan30
10.115.115.10/24	clab-mgmt	Active	—	—	✓	—	US-MO-STL-60-WAN-01 : Eth0/0
10.115.115.11/24	clab-mgmt	Active	—	—	✓	—	US-MN-MSP-01-CORE-01 : Eth0/0
10.115.115.12/24	clab-mgmt	Active	—	—	✓	—	US-MN-MSP-01-EDGE-01 : Eth0/0
10.115.115.13/24	clab-mgmt	Active	—	—	✓	—	US-MN-MSP-01-SW-01 : Eth0/0
10.115.115.14/24	clab-mgmt	Active	—	—	✓	—	US-MN-MSP-01-SW-02 : Eth0/0

NetBox IPAM Data

IP Address: 10.10.0.129/25

The screenshot shows the NetBox IPAM interface for the IP address 10.10.0.129/25. The left sidebar navigation includes Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, IP Ranges, Prefixes, Prefix & VLAN Roles, ASNs, ASN Ranges, ASNs, Aggregates, Aggregates, RIRs, VRFs, VRFs, Route Targets, VLANs, VLANs, VLAN Groups, VLAN Translation Policies, VLAN Translation Rules, OTHER, FHRP Groups, Service Templates, Services, and VPN. The main content area displays the IP Address details: Family (IPv4), VRF (Global), Tenant (—), Status (Active), Role (—), DNS Name (—), Description (US-MN-MSP-01-CORE-01 : Vlan10), Assignment (US-MN-MSP-01-CORE-01 / Vlan10), NAT (inside) (—), NAT (outside) (—), Primary IP (✗), OOB IP (✗), Tags (No tags assigned), and Comments (None). The Parent Prefixes table lists three entries: 10.10.0/16 (Container, 14 children, Branch Networks), 10.10.0/23 (Container, 6 children, US-MN-MSP-01 Subnet), and 10.10.0.128/25 (Active, 0 children, US-MN-MSP-01 User VLAN (10), US-MN-MSP-01 User Subnet). The Services table shows "No services found". The top right corner shows the user nthompson (Admin) and a bookmark icon.

NetBox IPAM Data

ASNs

The screenshot shows the NetBox IPAM Data interface with the 'ASNs' page selected. The left sidebar contains navigation links for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, Prefixes, ASNs, Aggregates, VRFs, VLANs, and OTHER. The 'ASNs' link in the ASNs section is highlighted with a red box. The main content area displays a table of ASNs with the following data:

ASN	RIR	SITE COUNT	PROVIDER COUNT	SITES	DESCRIPTION	TENANT
65000	Private	1	0	US-MO-STL-60	ATC Core ASN	—
65001	Private	1	0	US-MN-MSP-01	US-MN-MSP-01 ASN	—
65002	Private	1	0	US-NJ-EWR-01	US-NJ-EWR-01 ASN	—

At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right corner of the interface shows the user 'nthompson Admin' and navigation links for Main, Import, Export, and a 'Configure Table' button. The bottom right corner includes a circular icon with a bookmark symbol and the footer text '2025-05-16 21:42:29 UTC · nb-4b02ef30b789-57c68c74fc-fd5qf · NetBox Cloud v4.2.5'.

NetBox IPAM Data

ASN: 65001

The screenshot shows the NetBox IPAM Data interface. On the left is a sidebar with navigation links for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, Prefixes, ASNs, Aggregates, VRFs, VLANs, and OTHER. The 'ASNs' link is highlighted with a red box. The main content area shows the details for ASN 65001, which is highlighted with a yellow box. The details include:

ASN	65001
RIR	Private
Tenant	—
Description	US-MN-MSP-01 ASN

Below the details, there is a 'Tags' section stating 'No tags assigned'. To the right, under 'Related Objects', there is a list with three items, each with a count of 1:

- BGP Sessions
- BGP Sessions
- Sites

At the bottom right of the main content area is a circular icon with a bookmark symbol.

At the very bottom of the page, there is footer text: '2025-05-16 21:43:12 UTC · nb-4b02ef30b789-57c68c74fc-fd5qf · NetBox Cloud v4.2.5'

NetBox IPAM Data

VLANs

The screenshot shows the NetBox IPAM interface for managing VLANs. The left sidebar navigation includes sections for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, Prefixes, ASNs, Aggregates, VRFS, and OTHER. The 'VLANs' section is currently selected, highlighted by a red box. The main content area displays a table of VLANs with the following data:

VID	NAME	SITE	GROUP	PREFIXES	TENANT	STATUS	ROLE	DESCRIPTION
5	US-MN-MSP-01 Mgmt VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.0.112/28	—	Active	—	—
10	US-MN-MSP-01 User VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.0.128/25	—	Active	—	—
20	US-MN-MSP-01 Voice VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.1.0/25	—	Active	—	—
30	US-MN-MSP-01 IOT VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.1.128/25	—	Active	—	—
5	US-NJ-EWR-01 Mgmt VLAN	US-NJ-EWR-01	US-NJ-EWR-01-VLANS	10.10.2.112/28	—	Active	—	—
10	US-NJ-EWR-01 User VLAN	US-NJ-EWR-01	US-NJ-EWR-01-VLANS	10.10.2.128/25	—	Active	—	—
20	US-NJ-EWR-01 Voice VLAN	US-NJ-EWR-01	US-NJ-EWR-01-VLANS	10.10.3.0/25	—	Active	—	—
30	US-NJ-EWR-01 IOT VLAN	US-NJ-EWR-01	US-NJ-EWR-01-VLANS	10.10.3.128/25	—	Active	—	—

At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right of the interface shows the user 'nthompson Admin' and navigation links for Main, Import, and Export.

NetBox IPAM Data

VLAN: US-MN-MSP-01 Mgmt VLAN

The screenshot shows the NetBox IPAM interface. The left sidebar navigation includes sections for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, Prefixes, ASNs, Aggregates, VRFs, and OTHER. The IPAM section is currently selected. The main content area displays the details of a VLAN named "VLAN US-MN-MSP-01 Mgmt VLAN (5)". The VLAN details include:

- Region:** US / US-Midwest / US-MN
- Site:** US-MN-MSP-01
- Group:** US-MN-MSP-01-VLANS
- VLAN ID:** 5
- Name:** US-MN-MSP-01 Mgmt VLAN
- Tenant:** —
- Status:** Active
- Role:** —
- Description:** —
- Q-in-Q Role:** —
- L2VPN:** —

The "Prefixes" section shows one prefix entry:

PREFIX	STATUS	CHILDREN	VRF	UTILIZATION	TENANT	SCOPE	VLAN	ROLE	DESCRIPTION
10.10.0.112/28	Active	0	Global	21.4%	—	US-MN-MSP-01	US-MN-MSP-01 Mgmt VLAN (5)	—	US-MN-MSP-01 Management Subnet

At the bottom of the page, there is a footer with the text "2025-05-16 20:54:32 UTC · nb-4b02ef30b789-57c68c74fc-fd5qf · NetBox Cloud v4.2.5".

NetBox IPAM Data

VLAN Groups

The screenshot shows the NetBox IPAM interface for managing VLAN Groups. The left sidebar navigation includes sections for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, Prefixes, ASNs, Aggregates, VRFs, and VLANs. Under VLANs, the 'VLAN Groups' option is selected and highlighted with a red box. The main content area displays a table titled 'VLAN Groups' with the following data:

NAME	SCOPE TYPE	SCOPE	VLANS	UTILIZATION	DESCRIPTION
US-MN-MSP-01-VLANS	Site	US-MN-MSP-01	4	0.1%	US-MN-MSP-01 Branch Office VLANs
US-NJ-EWR-01-VLANS	Site	US-NJ-EWR-01	4	0.1%	US-NJ-EWR-01 Branch Office VLANs

At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right of the screen shows the user 'nthompson Admin' and navigation links for Main, Import, Export, and a 'Configure Table' icon.

NetBox IPAM Data

VLAN Group: US-MN-MSP-01-VLANS

The screenshot shows the NetBox IPAM interface. The left sidebar navigation includes sections for Organization, Racks, Devices, Connections, Wireless, IPAM, IP Addresses, IP Ranges, Prefixes, Prefix & VLAN Roles, ASNs, ASN Ranges, ASNs, Aggregates, Aggregates, RIRs, VRFs, VRFs, Route Targets, VLANs, VLANs, VLAN Groups, VLAN Translation Policies, VLAN Translation Rules, and OTHER (FHRP Groups, Service Templates, Services, VPN). The main content area displays the 'VLAN Groups / US-MN-MSP-01' page for the 'US-MN-MSP-01-VLANS' group. The page title is 'US-MN-MSP-01-VLANS'. It shows a table with the following data:

VID	NAME	SITE	GROUP	PREFIXES	TENANT	STATUS	ROLE	DESCRIPTION
5	US-MN-MSP-01 Mgmt VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.0.112/28		Active	—	—
10	US-MN-MSP-01 User VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.0.128/25		Active	—	—
20	US-MN-MSP-01 Voice VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.1.0/25		Active	—	—
30	US-MN-MSP-01 IOT VLAN	US-MN-MSP-01	US-MN-MSP-01-VLANS	10.10.1.128/25		Active	—	—

Below the table, it says 'Showing 1-9 of 9'. At the bottom of the page are buttons for 'Edit Selected' and 'Delete Selected'. The top right of the page shows the user 'nthompson Admin' and various navigation links like 'Main', 'ipam.vlangroup:1 (us-mn-msp-01-vlans)', '+ Add VLAN', 'Bookmark', 'Subscribe', 'Edit', and 'Delete'.

NetBox Provisioning Data

The screenshot displays the NetBox provisioning dashboard with a dark theme. On the left, a sidebar menu is open, showing various categories like Organization, Racks, Devices, Connections, Wireless, IPAM, VPN, Virtualization, Circuits, Power, and Provisioning. The 'Provisioning' section is highlighted with a red box and contains 'CONFIGURATIONS' sub-sections: Config Contexts and Config Templates. The main content area features several cards:

- Bookmarks**: Shows a message: "No bookmarks have been added yet."
- Organization**: Displays counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome!**: A green card with the text: "This is your personal dashboard. Feel free to customize it by rearranging, resizing, or removing widgets. You can also add new widgets using the 'add widget' button below. Any changes affect only your dashboard, so feel free to experiment!"
- IPAM**: Displays counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- NetBox News**: A news card about NetBox integration with Microsoft DNS.
- Circuits**: Displays counts for Providers (1), Circuits (2), Provider Networks (0), and Provider Accounts (0).
- DCIM**: Displays counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- Virtualization**: Displays counts for Clusters (0) and Virtual Machines (0).
- Change Log**: A table showing a history of changes made by nthompson on May 15, 2025:

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f95a-4ada-a9d9-4646490c8fcf

NetBox Provisioning Data

Config Contexts

The screenshot shows the NetBox Cloud interface with a dark theme. On the left, a sidebar menu is open under the 'CONFIGURATIONS' section, with 'Config Contexts' highlighted by a red box. The main content area is titled 'Config Contexts' and displays a table of configuration contexts. The table has columns for NAME, WEIGHT, ACTIVE, SYNCED, and DESCRIPTION. A yellow box highlights the row for 'Global Service Configuration Best Practices'. At the bottom of the table, there are buttons for 'Sync Data', 'Edit Selected', and 'Delete Selected'.

NAME	WEIGHT	ACTIVE	SYNCED	DESCRIPTION
Clock Configuration - US Central Time	100	✓	—	US Central Time Configuration for IOS-XE Devices
Clock Configuration - US Eastern Time	100	✓	—	US Eastern Time Configuration for IOS-XE Devices
Global AAA Configuration	100	✓	—	Approved AAA Configuration for All IOS-XE Devices
Globally Disabled Configuration	100	✓	—	Default Disabled Configuration for All IOS-XE Devices
Global OSPFv2 Configuration Best Practices	100	✓	—	Global OSPFv2 Configuration Best Practices for IOS-XE Devices
Global Service Configuration Best Practices	100	✓	—	Global Configuration Best Practices for All IOS-XE Devices
Global VTP Configuration Best Practices	100	✓	—	Global VTP Configuration Best Practices for All IOS-XE Devices
US-MN-MSP-01 Static Routes	100	✓	—	Static Routes for Access Switches in US-MN-MSP-01
US NTP Configuration	100	✓	—	US NTP Servers for IOS-XE Devices

NetBox Provisioning Data

Config Context: Global Service Configuration Best Practices

NetBox Cloud

Config Contexts

Global Service Configuration Best Practices

Config Context Changelog

Name: Global Service Configuration Best Practices

Weight: 100

Description: Global Configuration Best Practices for All IOS-XE Devices

Active: ✓

Data Source: —

Data File: —

Data Synced: —

Assignment

Region	None
Site Groups	None
Sites	None
Locations	None
Device Types	None
Roles	None
Platforms	ios
Cluster Types	None
Cluster Groups	None
Clusters	None
Tenant Groups	None
Tenants	None
Tags	None

Data

```
{ "controller_tags": [ "device" ], "service_configuration": { "password_encryption": true, "tcp_keepalives_in": true, "tcp_keepalives_out": true, "timestamps": [ { "datetime_options": { "localtime": true, "msc": true, "show_timezone": true }, "enable": true, "msg": "debug", "timestamp": "datetime" }, { "datetime_options": { "localtime": true, "msc": true, "show_timezone": true }, "enable": true, "msg": "log", "timestamp": "datetime" } ] } }
```

NetBox Customization Data

The screenshot displays the NetBox web interface with a customized dashboard layout. The left sidebar, which typically contains navigation links, is currently redacted. The main content area features several data tables and a 'Change Log' table.

- Bookmarks:** Shows a message: "No bookmarks have been added yet."
- Organization:** Shows counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome!**: A green header panel containing a welcome message: "This is your personal dashboard. Feel free to customize it by rearranging, resizing, or removing widgets. You can also add new widgets using the 'add widget' button below. Any changes affect only your dashboard, so feel free to experiment!"
- IPAM:** Shows counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- NetBox News:** A news feed with two items:
 - NetBox Integration with Microsoft DNS Enters Private Preview**: "NetBox's position as the network source of truth continues to strengthen, and as our community grows, so does the demand for integrations with critical infrastructure services. Today, we're announcing the Private Preview of our latest integration: a direct connection between NetBox and Microsoft DNS. Microsoft DNS is one of the most widely deployed DNS solutions..."
 - Announcing the NetBox Hero Award Winners for 2025**: "The NetBox community has always been something special—full of builders, automators, and infrastructure obsessives who love making networks better. This year, we decided it was time to shine a light on some of the individuals who've gone above and beyond in how they're using NetBox to drive change in their orgs and across the industry..."
- Circuits:** Shows counts for Providers (1), Circuits (2), Provider Networks (0), and Provider Accounts (0).
- DCIM:** Shows counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- Virtualization:** Shows counts for Clusters (0) and Virtual Machines (0).
- Change Log:** A table showing a history of changes made by nthompson on May 15, 2025:

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f95a-4a4a-a9d9-4646490c8fcf

NetBox Customization Data

Custom Fields

The screenshot shows the NetBox web interface for managing custom fields. The left sidebar has a 'CUSTOMIZATION' section with 'Custom Fields' selected, highlighted by a red box. The main content area is titled 'Custom Fields' and displays a table of 8 entries:

NAME	OBJECT TYPES	LABEL	GROUP NAME	TYPE	REQUIRED	VALIDATE UNIQUENESS	DESCRIPTION
enable_voice	Interface	—	—	Boolean (true/false)	—	—	Enable voice vlan configuration
enable_bgp	Device	—	BGP	Boolean (true/false)	—	—	Enable BGP
enable_ospfv2	Device	—	OSPFv2	Boolean (true/false)	—	—	Enable OSPFv2
ospfv2_area	Interface	—	OSPFv2	Integer	—	—	OSPFv2 Area
ospfv2_network_type	Interface	—	OSPFv2	Selection	—	—	OSPFv2 Network Type
ospfv2_passive_interface	Interface	—	OSPFv2	Boolean (true/false)	—	—	OSPFv2 Passive Interface
ospfv2_process_id	Device	—	OSPFv2	Integer	—	—	OSPFv2 Process ID
ospfv2_router_id	Device	—	OSPFv2	Text	—	—	OSPFv2 Router ID

A yellow box highlights the row for 'ospfv2_process_id'. At the bottom of the table are buttons for 'Edit Selected' and 'Delete Selected'.

NetBox Customization Data

Custom Field: ospfv2_process_id

The screenshot shows the NetBox interface for managing custom fields. A specific custom field, 'Ospfv2 process id', is selected and highlighted with a red box. The right side of the screen displays the configuration details for this field, which is defined as an Integer type. The 'Object Types' section is highlighted with a yellow box and contains the entry 'DCIM | device'. Other validation rules include a minimum value of 1 and a maximum value of 65535. The 'Related Objects' section shows a list of 4 devices. The left sidebar shows various navigation options under 'Customization'.

Name	ospfv2_process_id
Type	Integer
Label	—
Group Name	OSPFv2
Description	OSPFv2 Process ID
Required	✗
Must be Unique	✗
Cloneable	✗
Default Value	None
Related object filter	—
Behavior	
Search Weight	1000
Filter Logic	Loose
Display Weight	100
UI Visible	Always
UI Editable	Yes
Comments	
None	

NetBox Plugins

BGP Plugin

The screenshot shows the NetBox Cloud dashboard with a dark theme. On the left, a sidebar menu is open, showing various categories like Organization, Racks, Devices, and a section for Plugins. The Plugins section is highlighted with a red box and contains sub-options: BGP, Communities, Community Lists, Sessions, Routing Policies, Prefix Lists, and Peer Groups.

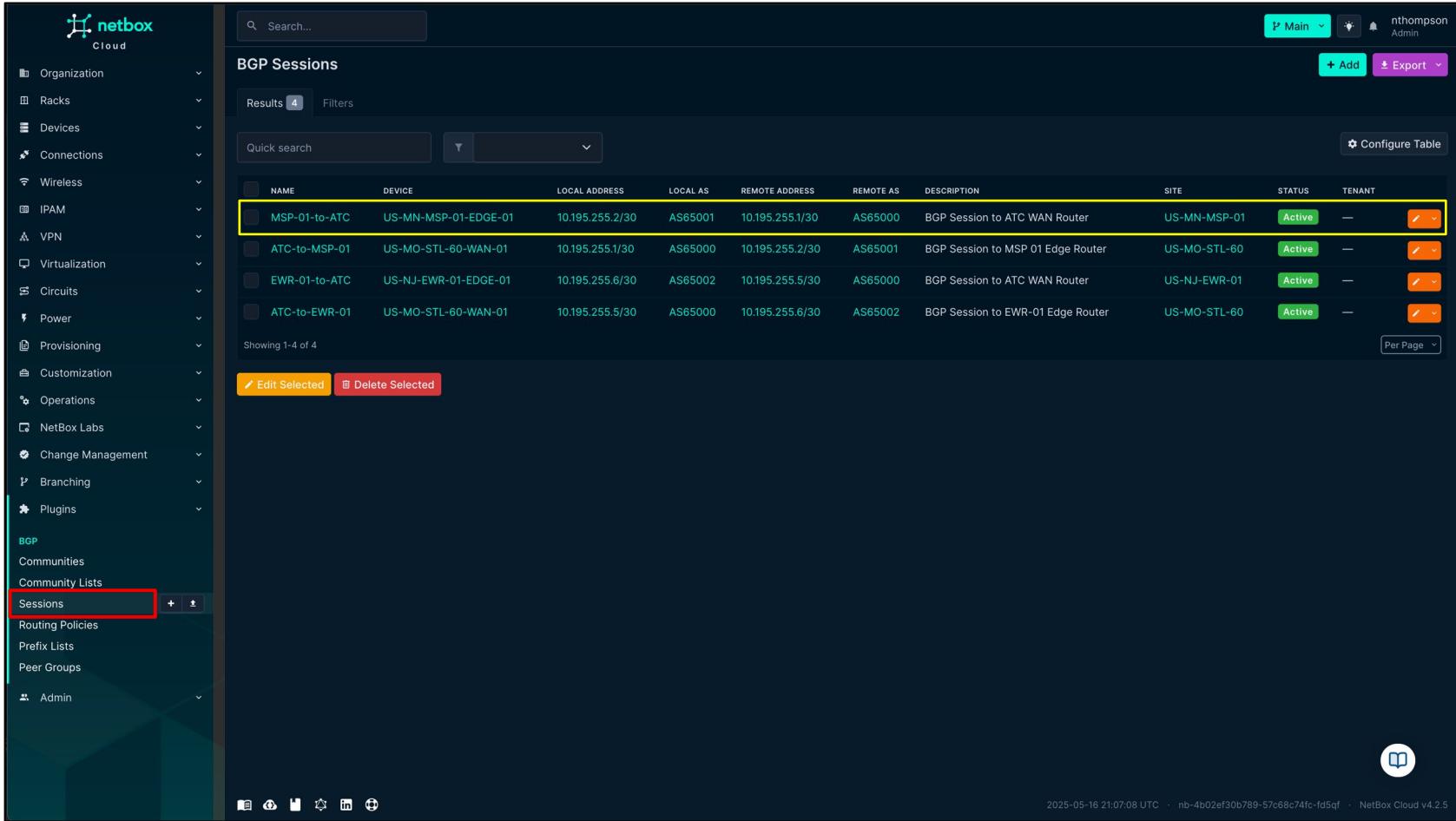
The main content area displays several cards:

- Bookmarks**: Shows a message: "No bookmarks have been added yet."
- Organization**: Shows counts for Sites (3), Tenants (0), and Contacts (0).
- Welcome!**: A green card with the text: "This is your personal dashboard. Feel free to customize it by rearranging, resizing, or removing widgets. You can also add new widgets using the 'add widget' button below. Any changes affect only your dashboard, so feel free to experiment!"
- IPAM**: Shows counts for VRFs (1), Aggregates (4), Prefixes (20), IP Ranges (0), IP Addresses (32), and VLANs (8).
- Circuits**: Shows counts for Providers (1), Circuits (2), Provider Networks (0), and Provider Accounts (0).
- DCIM**: Shows counts for Sites (3), Racks (5), Device Types (4), Devices (25), and Cables (59).
- NetBox News**: A card with news items:
 - NetBox Integration with Microsoft DNS Enters Private Preview
 - Announcing the NetBox Hero Award Winners for 2025
 - NetBox Integration with SolarWinds IP Address Manager (IPAM) Enters Private Preview
- Virtualization**: Shows counts for Clusters (0) and Virtual Machines (0).
- Change Log**: A table showing recent changes:

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 21:12	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	e3537b0e-07aa-413f-bbc3-abda27b7fd17
2025-05-15 21:10	nthompson	Nick Thompson	Created	Branch	Ansiblefest-Interface-Update	d61ec32c-485f-4fc6-810f-faa27b7a86a3
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f95a-4ada-a9d9-4646490c8fcf

NetBox Plugins

BGP Plugin Sessions



The screenshot shows the NetBox Cloud interface with the 'BGP' plugin active. The left sidebar has a red box around the 'Sessions' link under the 'BGP' section. The main content area displays a table of BGP sessions with the following data:

NAME	DEVICE	LOCAL ADDRESS	LOCAL AS	REMOTE ADDRESS	REMOTE AS	DESCRIPTION	SITE	STATUS	TENANT
MSP-01-to-ATC	US-MN-MSP-01-EDGE-01	10.195.255.2/30	AS65001	10.195.255.1/30	AS65000	BGP Session to ATC WAN Router	US-MN-MSP-01	Active	—
ATC-to-MSP-01	US-MO-STL-60-WAN-01	10.195.255.1/30	AS65000	10.195.255.2/30	AS65001	BGP Session to MSP 01 Edge Router	US-MO-STL-60	Active	—
EWR-01-to-ATC	US-NJ-EWR-01-EDGE-01	10.195.255.6/30	AS65002	10.195.255.5/30	AS65000	BGP Session to ATC WAN Router	US-NJ-EWR-01	Active	—
ATC-to-EWR-01	US-MO-STL-60-WAN-01	10.195.255.5/30	AS65000	10.195.255.6/30	AS65002	BGP Session to EWR-01 Edge Router	US-MO-STL-60	Active	—

At the bottom of the table, there are buttons for 'Edit Selected' and 'Delete Selected'. The top right corner shows the user 'nthompson Admin'.

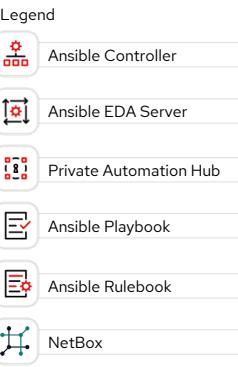
NetBox Plugins

BGP Plugin Session: MSP-01-to-ATC

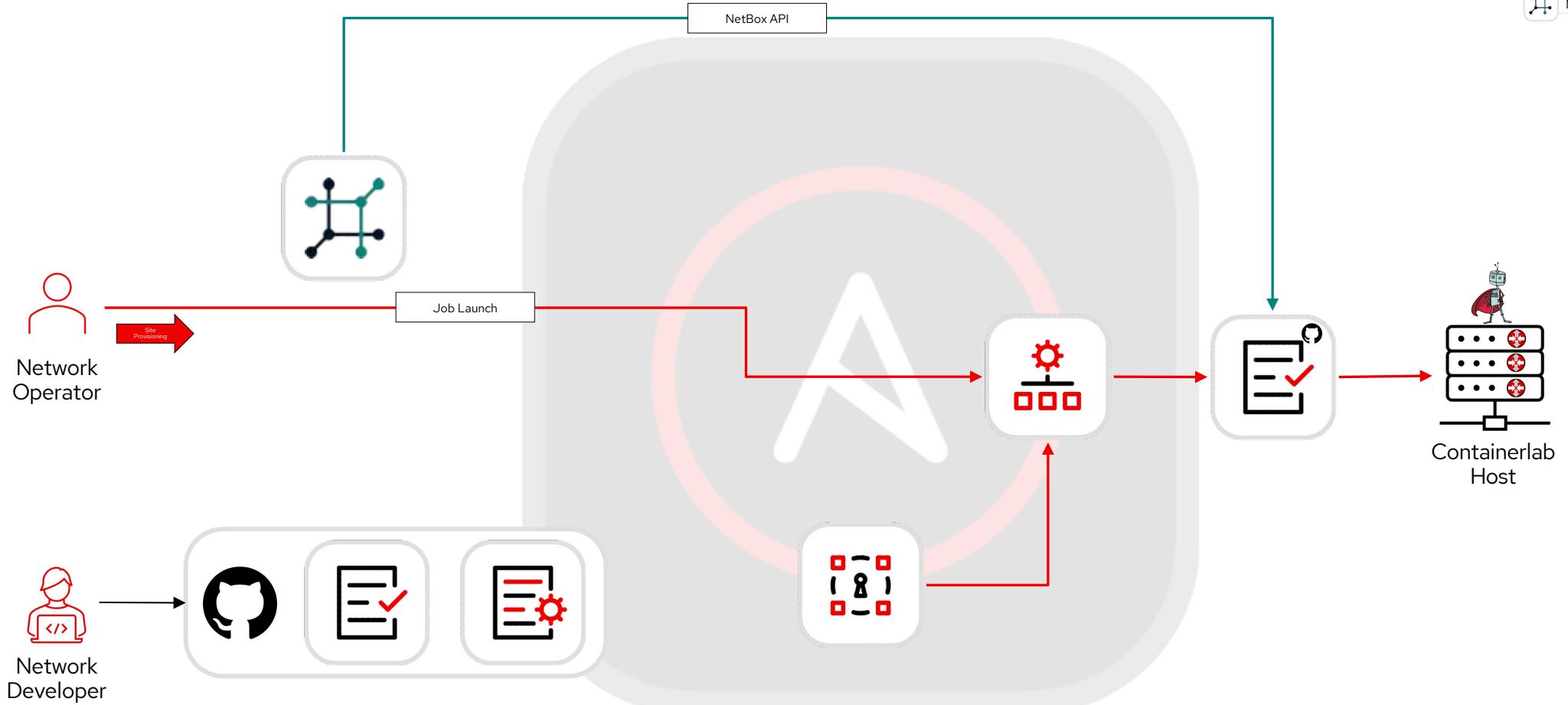
The screenshot shows the NetBox interface for managing BGP sessions. The left sidebar has a 'BGP' section under 'Plugins'. The main page title is 'BGP Sessions' with a session named 'US-MN-MSP-01-EDGE-01:MSP-01-to-ATC' highlighted with a red border. A yellow box highlights the session details table. The table contains the following information:

Name	MSP-01-to-ATC
Device	US-MN-MSP-01-EDGE-01
Site	US-MN-MSP-01
Local AS	AS65001
Local IP	10.195.255.2/30
Remote AS	AS65000
Remote IP	10.195.255.1/30
Status	Active
Prefix List In	None
Prefix List Out	None
Description	BGP Session to ATC WAN Router
Peer Group	None
Tenant	None

Below the table are sections for 'Import Policies' and 'Export Policies', both showing 'No Routing Policies found'. At the bottom are sections for 'Tags' (No tags assigned) and 'Comments' (None). The top right shows session statistics: 'Created 2025-05-13 19:39 - Updated 2025-05-13 19:39' and 'netbox_bgp.bgpSession:1'. Action buttons include 'Bookmark', 'Subscribe', 'Edit', and 'Delete'.



Containerlab Lab Deployment

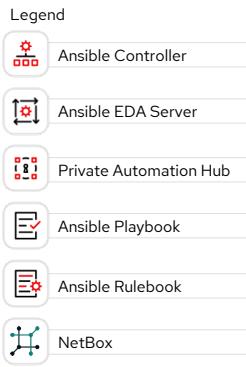




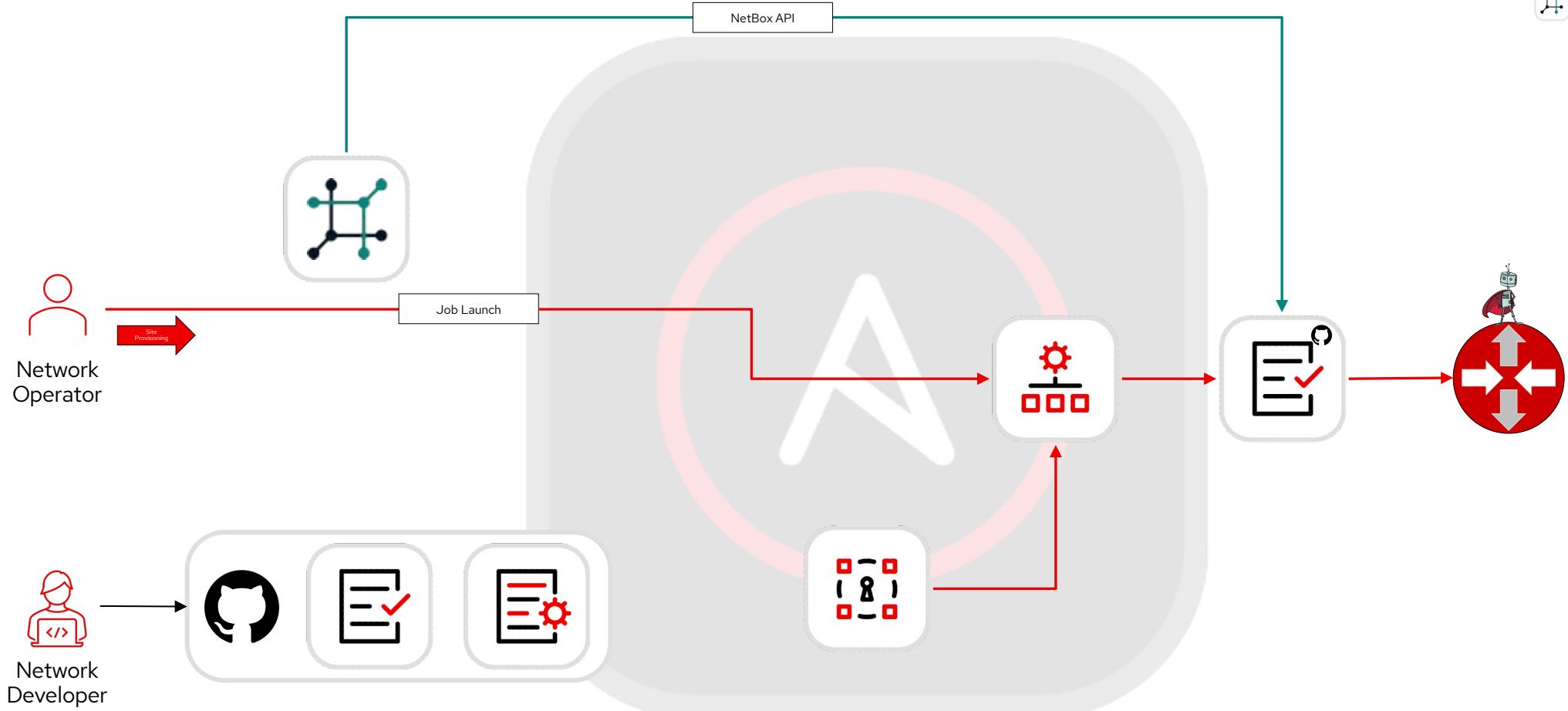
Containerlab Lab Deployment

The screenshot shows the Red Hat Ansible Automation Platform interface. The left sidebar is organized into several categories: Overview, Automation Execution (Automation Controller, Jobs, Templates, Schedules, Projects), Infrastructure (Topology View, Inventories, Hosts, Instance Groups, Instances, Execution Environments, Credentials, Credential Types), Administration (Activity Stream, Workflow Approvals, Notifiers, Management Jobs), and Automation Decisions (Event-Driven Ansible, Rule Audit, Rulebook Activations, Projects, Decision Environments). The main content area is titled "Templates" and contains a table listing various job templates. The table columns are Name, Type, Organization, and Last ran. The table shows the following entries:

Name	Type	Organization	Last ran
Build and Deploy Containerlab Topology	Workflow job template	Data-Driven-Automation	5/13/2025, 4:16:07 PM
Build Containerlab Topology	Job template	Data-Driven-Automation	5/13/2025, 4:15:39 PM
Claim Meraki Devices	Job template	Meraki-Demo	
Configure and Validate Network from NetBox	Workflow job template	Data-Driven-Automation	
Configure Meraki Network	Job template	Meraki-Demo	
Configure Meraki Network - AO	Job template	Meraki-Demo	
Configure NetBox Lab Environment	Job template	Data-Driven-Automation	5/13/2025, 2:39:46 PM
Configure Network from NetBox	Job template	Data-Driven-Automation	5/8/2025, 10:24:12 AM
Demo Job Template	Job template	Default	
Deploy Containerlab Topology	Job template	Data-Driven-Automation	5/13/2025, 4:16:07 PM



Network Device Provisioning





Network Device Provisioning

The screenshot shows the Red Hat Ansible Automation Platform interface. The left sidebar has a navigation menu with sections like Overview, Automation Execution, Jobs, Templates (which is selected), Schedules, Projects, Infrastructure, Credentials, Administration, and Automation Decisions. The main content area is titled "Templates" and contains a table of job templates. The table columns are Name, Type, Organization, and Last ran. The table lists the following templates:

Name	Type	Organization	Last ran
Build and Deploy Containerlab Topology	Workflow job template	Data-Driven-Automation	5/13/2025, 4:19:40 PM
Build Containerlab Topology	Job template	Data-Driven-Automation	5/13/2025, 4:19:14 PM
Claim Meraki Devices	Job template	Meraki-Demo	
Configure and Validate Network from NetBox	Workflow job template	Data-Driven-Automation	
Configure Meraki Network	Job template	Meraki-Demo	
Configure Meraki Network - AO	Job template	Meraki-Demo	
Configure NetBox Lab Environment	Job template	Data-Driven-Automation	5/13/2025, 2:39:46 PM
Configure Network from NetBox	Job template	Data-Driven-Automation	5/8/2025, 10:24:12 AM
Demo Job Template	Job template	Default	
Deploy Containerlab Topology	Job template	Data-Driven-Automation	5/13/2025, 4:19:40 PM



Network Device Provisioning

Manual Validation

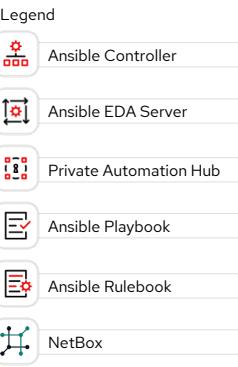
```
[nsmithson@clab01 ~]$ ssh admin@lab-data-driven-automation-US-MO-STL-60-WAN-01
Warning: Permanently added 'lab-data-driven-automation-us-mo-stl-60-wan-01' (RSA) to the list of known hosts.
(admin@clab-data-driven-automation-us-mo-stl-60-wan-01) Password:
US-MO-STL-60-WAN-01#
```

```
[nsmithson@clab01 ~]$ ssh admin@lab-data-driven-automation-US-MN-MSP-01-EDGE-01
Warning: Permanently added 'lab-data-driven-automation-us-mn-msp-01-edge-01' (RSA) to the list of known hosts.
(admin@clab-data-driven-automation-us-mn-msp-01-edge-01) Password:
US-MN-MSP-01-EDGE-01#
```

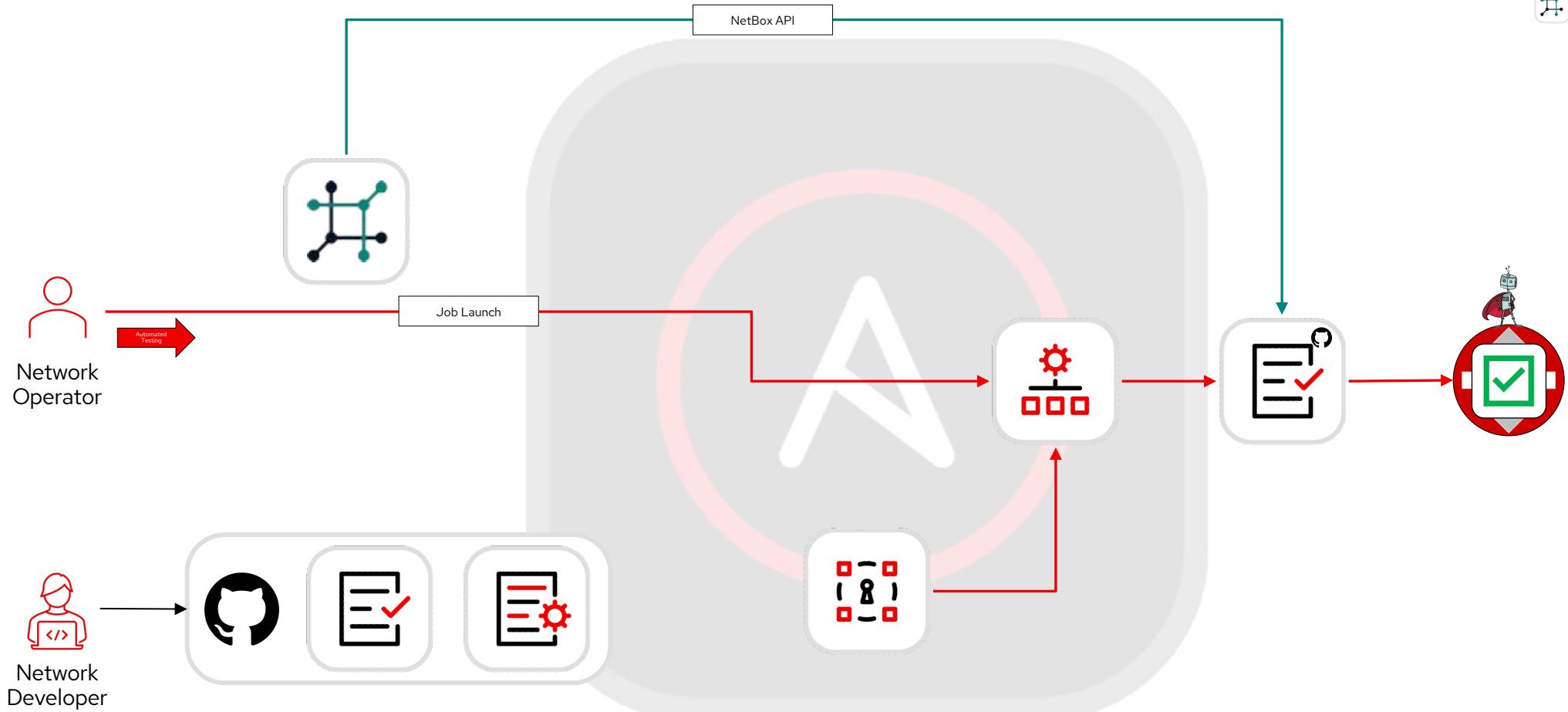
```
[nsmithson@clab01 ~]$ ssh admin@lab-data-driven-automation-US-MN-MSP-01-CORE-01
Warning: Permanently added 'lab-data-driven-automation-us-mn-msp-01-core-01' (RSA) to the list of known hosts.
(admin@clab-data-driven-automation-us-mn-msp-01-core-01) Password:
US-MN-MSP-01-CORE-01#
```

```
[nsmithson@clab01 ~]$ ssh admin@lab-data-driven-automation-US-MN-MSP-01-SW-01
Warning: Permanently added 'lab-data-driven-automation-us-mn-msp-01-sw-01' (RSA) to the list of known hosts.
(admin@clab-data-driven-automation-us-mn-msp-01-sw-01) Password:
US-MN-MSP-01-SW-01#
```

```
[nsmithson@clab01 ~]$ ssh admin@lab-data-driven-automation-US-MN-MSP-01-SW-02
Warning: Permanently added 'lab-data-driven-automation-us-mn-msp-01-sw-02' (RSA) to the list of known hosts.
(admin@clab-data-driven-automation-us-mn-msp-01-sw-02) Password:
US-MN-MSP-01-SW-02#
```



Automated Testing





Automated Testing

Red Hat Ansible Automation Platform

Welcome to the Ansible Automation Platform
Empower, automate, connect: Unleash possibilities with the Ansible Automation Platform.

Manage view

Resource Counts

- 10 Hosts (10 Ready)
- 5 Projects (5 Ready)
- 6 Inventories (6 Synced)

Job Activity

Past month All job types View all Jobs

Job count

4/12 4/14 4/16 4/18 4/20 4/22 4/24 4/26 4/28 4/30 5/2 5/4 5/6 5/8 5/10 5/12

310 Success 16 Error 35 Failed 4 Canceled

Jobs

Recently finished jobs

Name Status

- Configure Network from NetBox Success
- data-driven-automation - netbox-cloud Success
- data-driven-automation Success
- Cleanup Activity Stream Success
- data-driven-automation Success
- Build and Deploy Containerlab Topology Success
- Deploy Containerlab Topology Success

View all Jobs

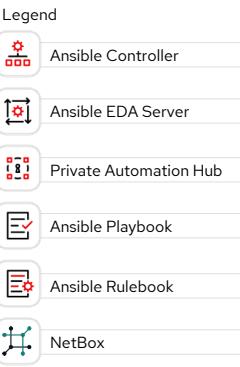
Projects

Recently updated projects

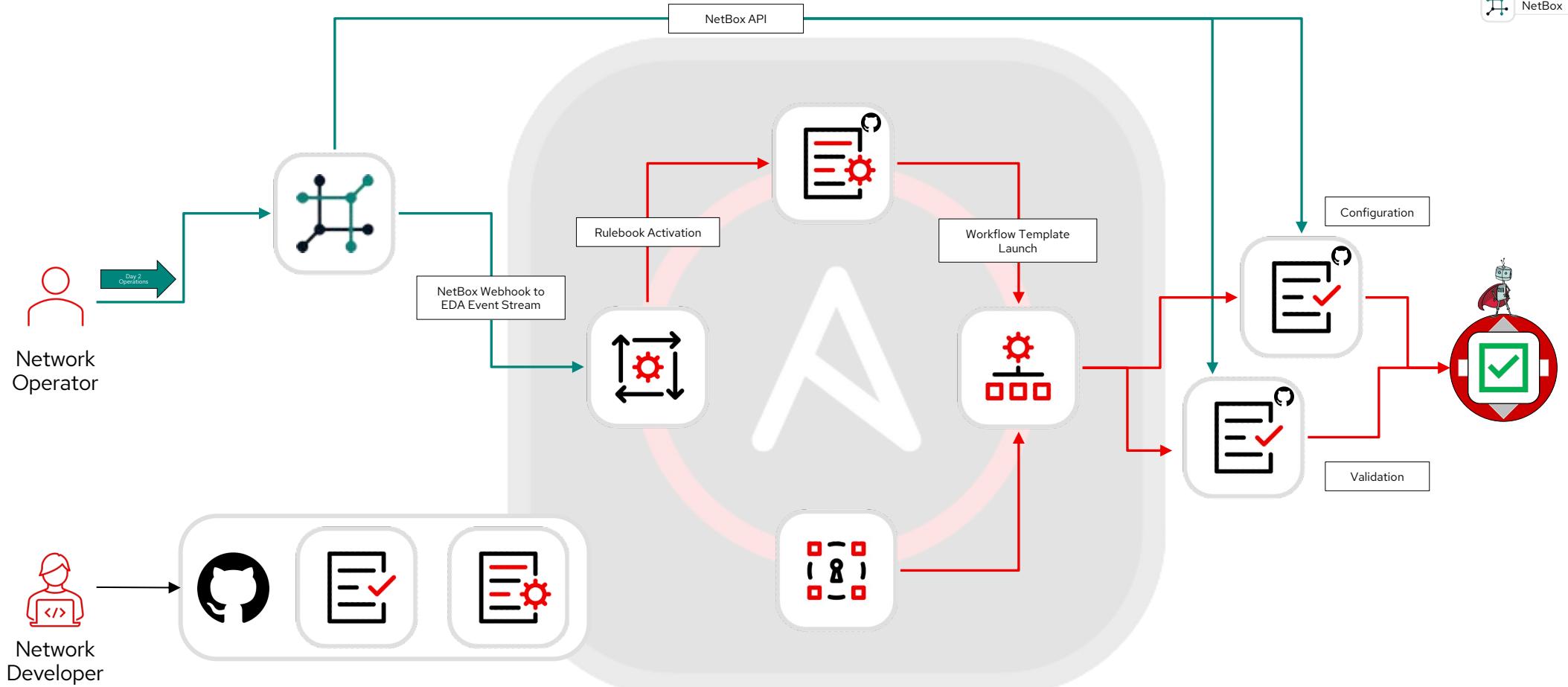
Name Status

- data-driven-automation Success
- deploy-wwt-demo-app Success
- ansible-meraki-demos-cached Success
- ansible-meraki-demos Success
- Demo Project Success

View all Projects



Day-2 Operations





Day 2 Operations

Screenshot of the NetBox Cloud interface showing various management dashboards and a change log.

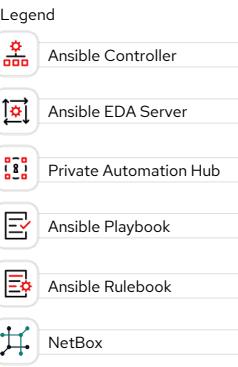
Left Sidebar:

- Organization
- Racks
- Devices
- Connections
- Wireless
- IPAM
- VPN
- Virtualization
- Circuits
- Power
- Provisioning
- Customization
- Operations
- NetBox Labs
- Change Management
- Branching
- Plugins
- Admin

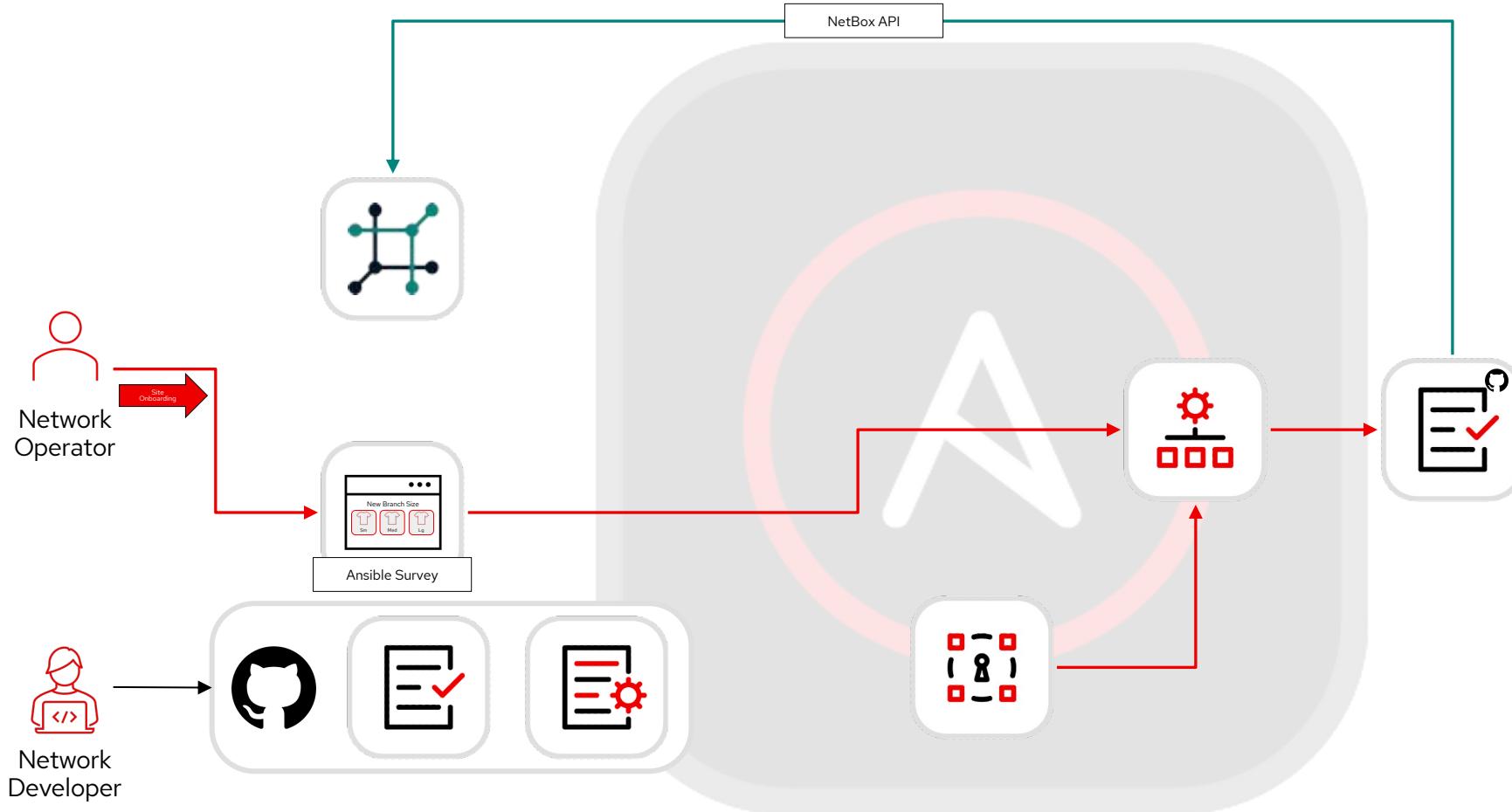
Dashboard Components:

- Bookmarks:** No bookmarks have been added yet.
- Organization:**
 - Sites: 3
 - Tenants: 0
 - Contacts: 0
- IPAM:**
 - VRFs: 1
 - Aggregates: 4
 - Prefixes: 20
 - IP Ranges: 0
 - IP Addresses: 32
 - VLANS: 8
- Welcome!** Personal dashboard introduction.
- NetBox News:**
 - NetBox Integration with SolarWinds IP Address Manager (IPAM) Enters Private Preview
 - Introducing NetBox 4.3: Driving Innovation Across the NetBox Ecosystem
- Circuits:**
 - Providers: 1
 - Circuits: 2
 - Provider Networks: 0
 - Provider Accounts: 0
- DCIM:**
 - Sites: 3
 - Racks: 5
 - Device Types: 4
 - Devices: 25
 - Cables: 59
- Virtualization:**
 - Clusters: 0
 - Virtual Machines: 0
- Change Log:**

TIME	USERNAME	FULL NAME	ACTION	TYPE	OBJECT	REQUEST ID
2025-05-15 20:58	nthompson	Nick Thompson	Updated	Interface	Ethernet1/2	1be384c3-2b1c-47d0-9df9-5bc56807b253
2025-05-15 20:56	nthompson	Nick Thompson	Created	Branch	Provision Interface	0258089a-f958-4a4a-a9d9-4646490c8fcf
2025-05-15 20:53	nthompson	Nick Thompson	Deleted	Branch	Testing Interface Update	db126dd4-1469-4201-ae3e-950af80d0ff1
2025-05-15 20:53	nthompson	Nick Thompson	Deleted	Branch	Test Branch	db126dd4-1469-4201-ae3e-950af80d0ff1



Site Onboarding





Site Onboarding

The screenshot shows the Red Hat Ansible Automation Platform interface. The left sidebar contains navigation links for Overview, Automation Execution (Jobs, Templates, Schedules, Projects), Infrastructure (Topology View, Inventories, Hosts, Instance Groups, Instances, Execution Environments, Credentials, Credential Types), Administration (Activity Stream, Workflow Approvals, Notifiers, Management Jobs), and Automation Decisions (Event-Driven Ansible, Rule Audit, Rulebook Activations, Projects, Decision Environments). The main content area is titled 'Jobs' and displays a table of completed tasks. The table columns are ID, Name, Status, Type, Duration, Started, and Finished. The tasks listed are:

ID	Name	Status	Type	Duration	Started	Finished
472	Validate Network	Success	Playbook run	1m 4s	5/13/2025, 4:50:49 PM	5/13/2025, 4:51:54 PM
474	data-driven-automation - netbox-cloud	Success	Inventory sync	14s	5/13/2025, 4:50:34 PM	5/13/2025, 4:50:49 PM
475	data-driven-automation	Success	Source control update	5s	5/13/2025, 4:50:34 PM	5/13/2025, 4:50:40 PM
473	data-driven-automation	Success	Source control update	6s	5/13/2025, 4:50:28 PM	5/13/2025, 4:50:34 PM
467	Configure Network from NetBox	Success	Playbook run	1m 21s	5/13/2025, 4:26:52 PM	5/13/2025, 4:28:13 PM
469	data-driven-automation - netbox-cloud	Success	Inventory sync	17s	5/13/2025, 4:26:35 PM	5/13/2025, 4:26:52 PM
470	data-driven-automation	Success	Source control update	7s	5/13/2025, 4:26:35 PM	5/13/2025, 4:26:42 PM
471	Cleanup Activity Stream	Success	Management job	3s	5/13/2025, 4:26:37 PM	5/13/2025, 4:26:41 PM
468	data-driven-automation	Success	Source control update	5s	5/13/2025, 4:26:29 PM	5/13/2025, 4:26:34 PM
462	Build and Deploy Containerlab Topology	Success	Workflow job	43s	5/13/2025, 4:18:57 PM	5/13/2025, 4:19:40 PM

Getting Started

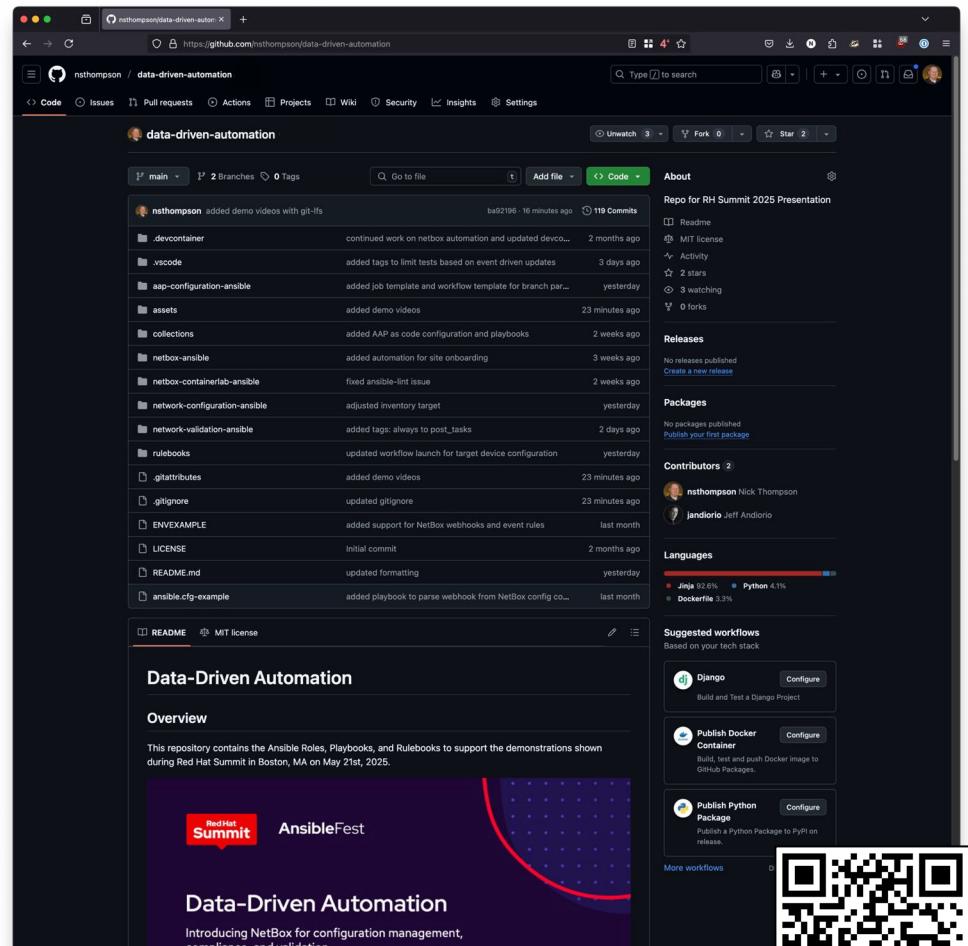
Code Repositories

Data-Driven Automation Repository

<https://github.com/nsthompson/data-driven-automation>

Execution Environment Repository

<https://github.com/nsthompson/ansible-execution-environments>



Getting started with netbox

NetBox Labs

<https://www.netboxlabs.com/>

NetBox Cloud

<https://www.netboxlabs.com/free-netbox-cloud/>

NetBox Community

<https://github.com/netbox-community>

NetBox GitHub Repository

<https://github.com/netbox-community/netbox>



World Wide Technology On-Demand Lab

Data-Driven Automation with NetBox

The screenshot shows the WWT On-Demand Lab interface. At the top, there's a navigation bar with links like 'What we do', 'Learn from us', 'Who we are', 'Our partners', 'The ATC', and a search bar. Below the navigation is a breadcrumb trail: 'asd-infra-redhat / NetBox Labs / ATC / Red Hat Ansible / Red Hat / Infrastructure Automation / +1'. The main content area is titled 'Data-driven Automation with Netbox'. It features a sub-section 'Advanced Configuration Lab - On-demand'. Below this, there's a 'Solution overview' section with a detailed description of data-driven automation, its importance, and what's included in the lab. There's also a 'Contributors' section with profiles for Jeff Andorio and Nick Thompson. A large image of a person working at a computer is displayed on the right side.





AnsibleFest

Thank you



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