



The bridge to possible

# Automate Network Operations in NetBox with Python

Akhila Pamukuntla, Software Engineer

CISCOU-1034

cisco *Live!*

#CiscoLive

# Cisco Webex App

## Questions?

Use Cisco Webex App to chat with the speaker after the session

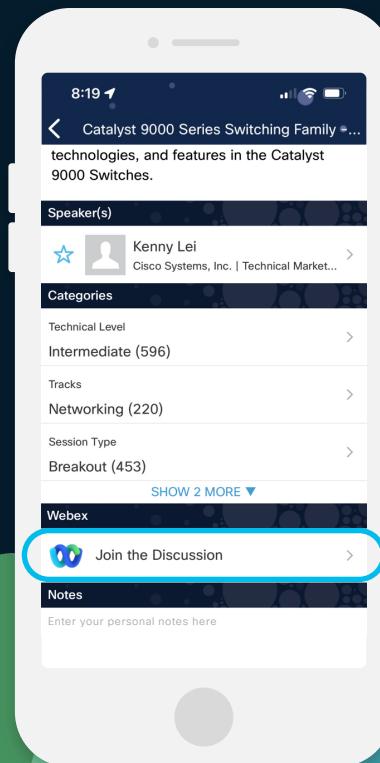
## How

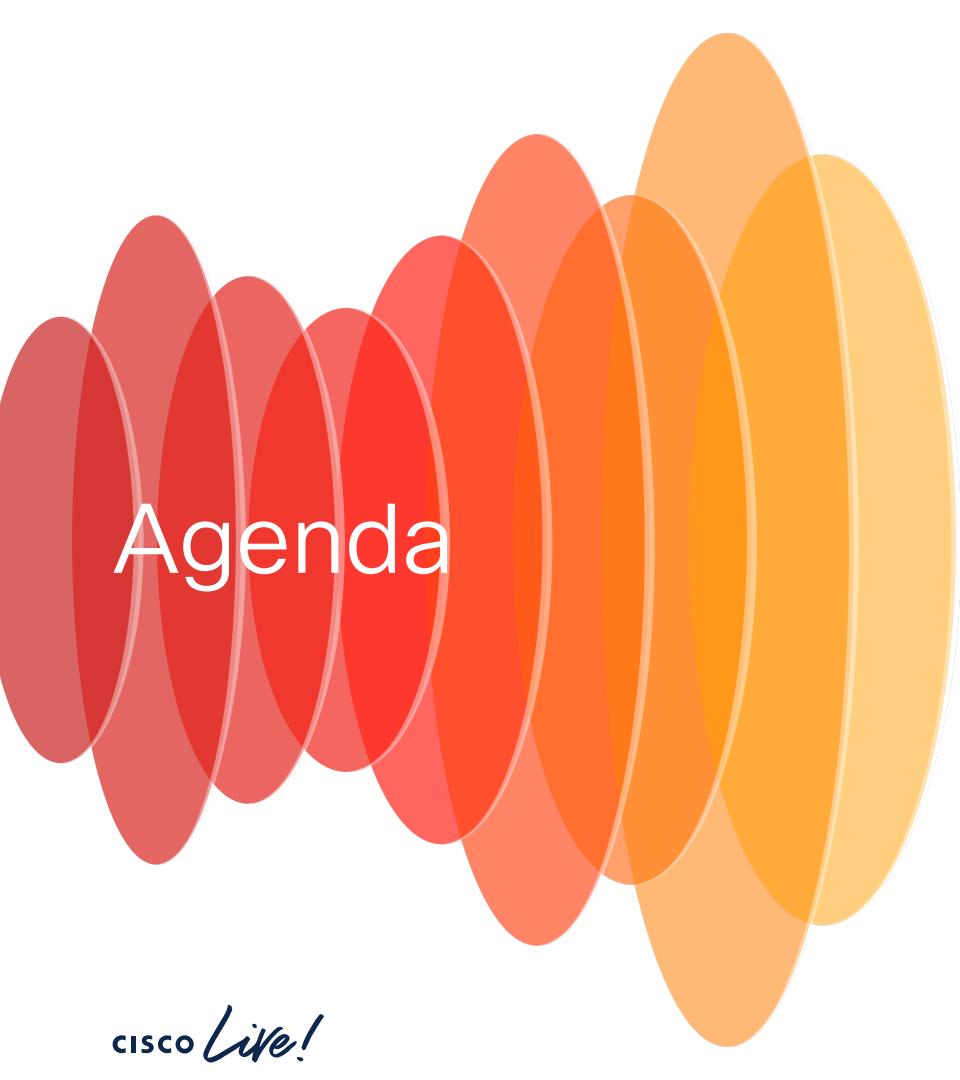
- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 7, 2024.

cisco *Live!*

[https://ciscolive.ciscoevents.com/  
ciscolivebot/#CISCOU-1034](https://ciscolive.ciscoevents.com/ciscolivebot/#CISCOU-1034)





# Agenda

- What's in the (Net)Box?
- Automation with Python
- Demo 1
- Demo 2
- Questions

# What's in the (Net)Box?

Centralized Platform

1

3

Leverages Automation

Scalability

2

4

Enhanced Collaboration



NOT for Monitoring

# Automation with Python

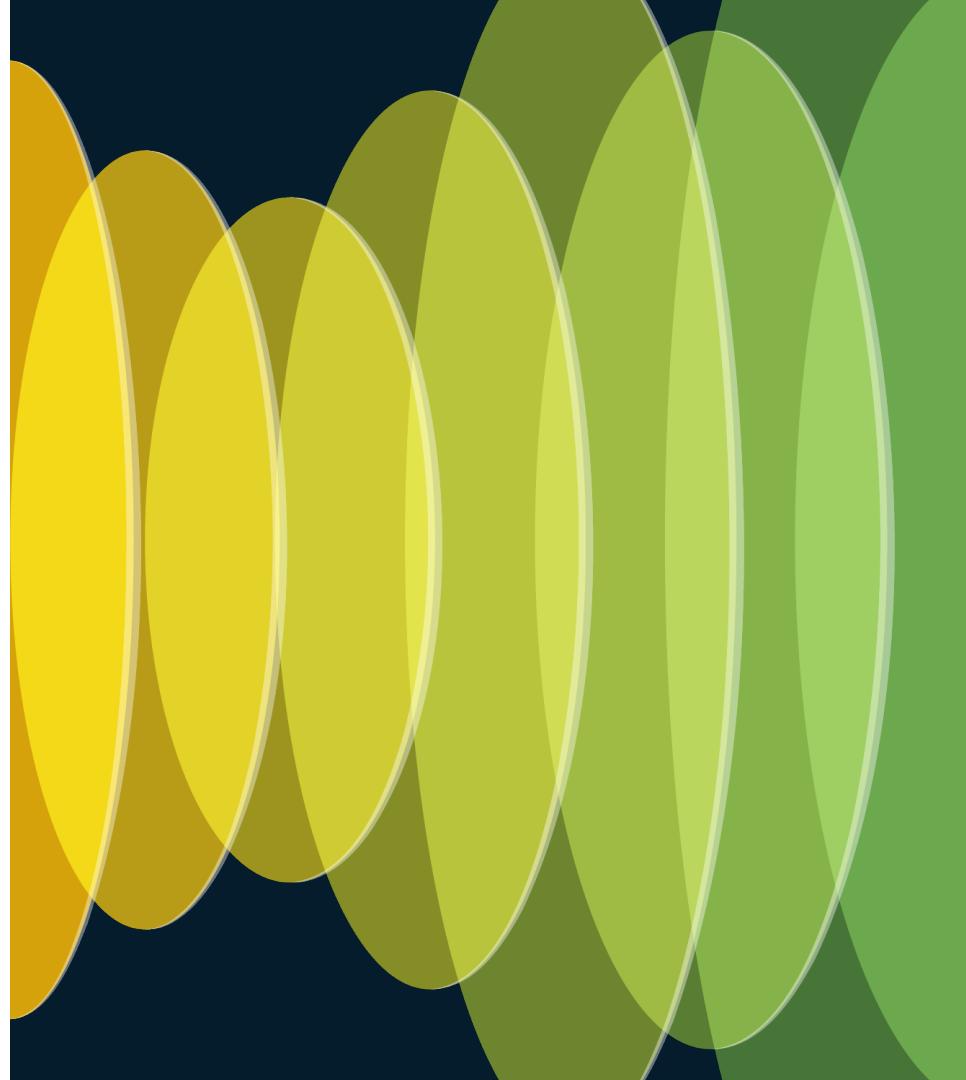
## Network Automation Tools



## Python

- Choose a library or framework for a specific need.
- For NetBox:
  - `pynetbox`

# Demo 1

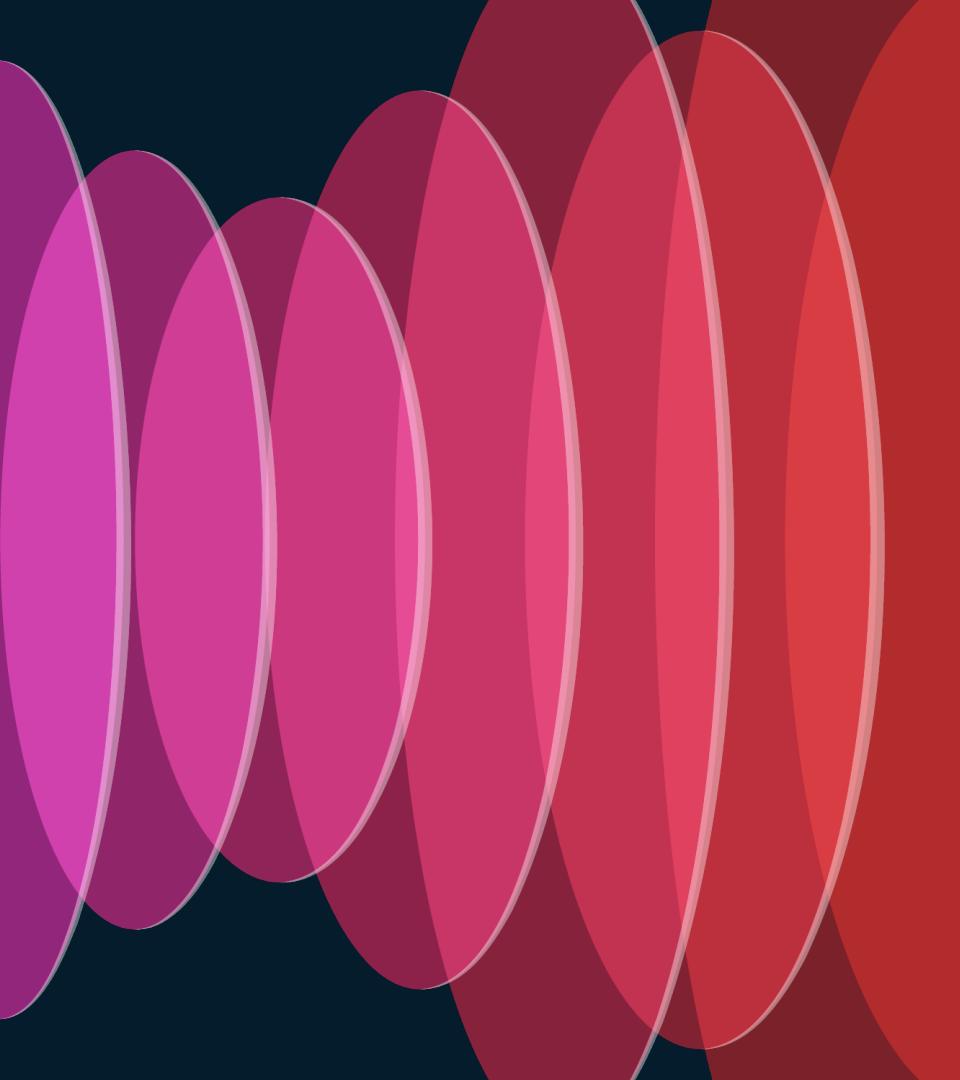


# Scenario 1: Importing New Devices into NetBox

- Import new **routers** and their details listed in a spreadsheet into NetBox.

	A	B	C	D	E	F	G	H	I
1	name	device_type	device_role	site	rack	position	face	status	serial
2	rcd-rtr-01	ISR4321	Router	Richardson	25Y	34	front	inventory	L23A4N8K4S
3	rcd-rtr-02	ISR4321	Router	Richardson	25Y	33	front	inventory	B6956JV2HP
4	rcd-rtr-03	ISR4321	Router	Richardson	25Y	32	front	inventory	4D3H42NSZZ
5	rcd-rtr-04	ISR4321	Router	Richardson	25Y	31	front	inventory	G5CYXXUBDH
6	rcd-rtr-05	ISR4321	Router	Richardson	25Y	30	front	inventory	FEUDTK7K4C
7	rcd-rtr-06	ISR4321	Router	Richardson	25Y	29	front	inventory	HT94WKFU5P
8	rcd-rtr-07	ISR4321	Router	Richardson	25Y	28	front	inventory	74ADY528AF
9	rcd-rtr-08	ISR4321	Router	Richardson	25Y	27	front	inventory	RSUJJ9B28Q
10	rcd-rtr-09	ISR4321	Router	Richardson	25Y	26	front	inventory	A2WDBG67GA
11	rcd-rtr-10	ISR4321	Router	Richardson	25Y	25	front	inventory	F5WRGEO934

# Demo 2



# Scenario 2: Updating Device Versions in NetBox

- Identify all **Cisco Firepower 4110** devices that are using the '**asa.9.12.3.9**' version and update the inventory in NetBox to reflect the new '**asa.9.14.2.8**' version.

# Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.

---



**Earn 100 points** per survey completed and compete on the Cisco Live Challenge leaderboard.

---



Level up and earn **exclusive prizes!**

---



Complete your surveys in the **Cisco Live mobile app**.

---

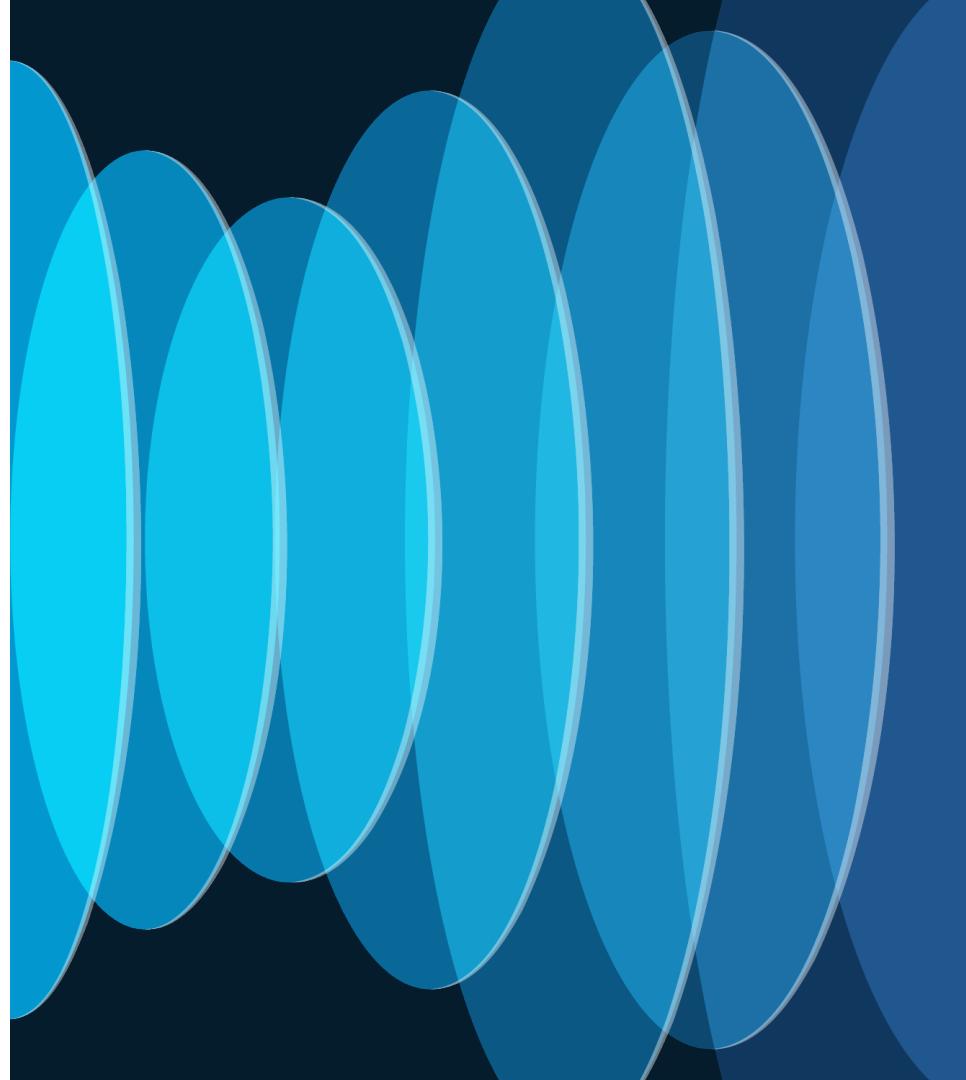


# Continue your education

CISCO Live!

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)

# Questions



# Connect



Akhila Pamukuntla  
Software Engineer at Cisco

A circular profile picture of a woman with long dark hair, identified as Akhila Pamukuntla, a Software Engineer at Cisco. Below the profile picture is her name and title. To the right of her name is a large QR code.

# Slides & Demos



<https://github.com/CiscoLearning/netops-netbox-python>



The bridge to possible

# Thank you

cisco *Live!*

#CiscoLive