



The bridge to possible

cisco
DevNet

FOSDEM

Drag, Drop, and Deploy Low-Code AI Agents for Network Ops

Alfonso Sandoval Rosas
Developer Advocate



```
!  
username Alfonso-(Poncho)-Sandoval  
!  
role developer title "Developer Avocado" 🥑  
organization "Cisco Systems Portugal" PT  
!  
interface LinkedIn0/0  
ip address linkedin.com/in/asandovalros  
no shutdown  
!  
interface GitHub0/1  
ip address github.com/ponchotitlan  
no shutdown  
!  
end  
!
```



Cisco Office in Tokyo, Japan JP

Agenda

AgenticOps in the World of Networking

An AgenticOps Open Ecosystem, brick-by-brick

Demo 1: Agentic ChatOps for NetAuto

Demo 2: Agentic Reporting & Ticketing for NetAuto

Wrap-up

AgenticOps in the World of Networking



Speaking CLI

Modern LLMs arrive with surprisingly deep prior exposure to real-world network CLIs across vendors, so they can generate command sequences without prior tuning



Reasoning about intent

Given a high-level intent (e.g. “check interface health”), an LLM can decompose it into a structured sequence of diagnostic steps and commands



Low-code tools available

Mature low-code frameworks enable agentic automation, reducing boilerplate and enabling guardrails, while still requiring explicit logic

An AgenticOps Open Ecosystem, brick-by-brick



Ollama (Local LLM runtime)

Open-source runtime for running LLMs locally, enabling self-hosted, data-local AI



n8n (Low-code orchestration)

Open-core, self-hosted workflow engine for auditable, guardrailed agent workflows



MCP server (based on pyATS framework)

pyATS-powered control plane enforcing structured, safe read/write access to network

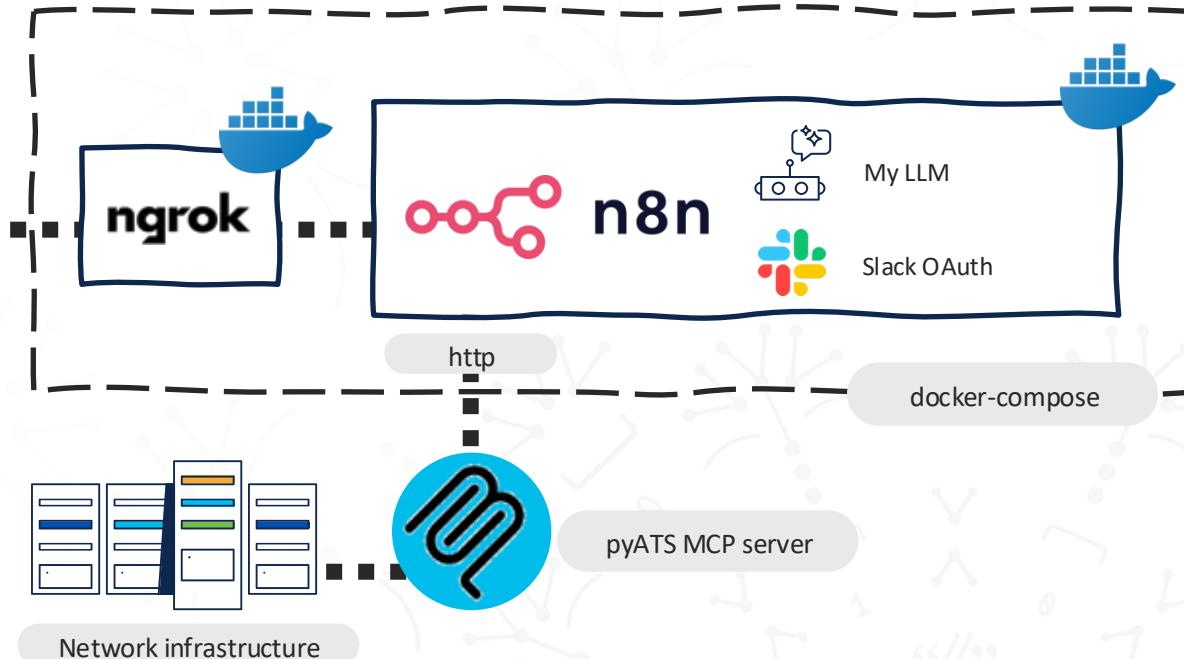
Demo 1: Agentic ChatOps for NetAuto



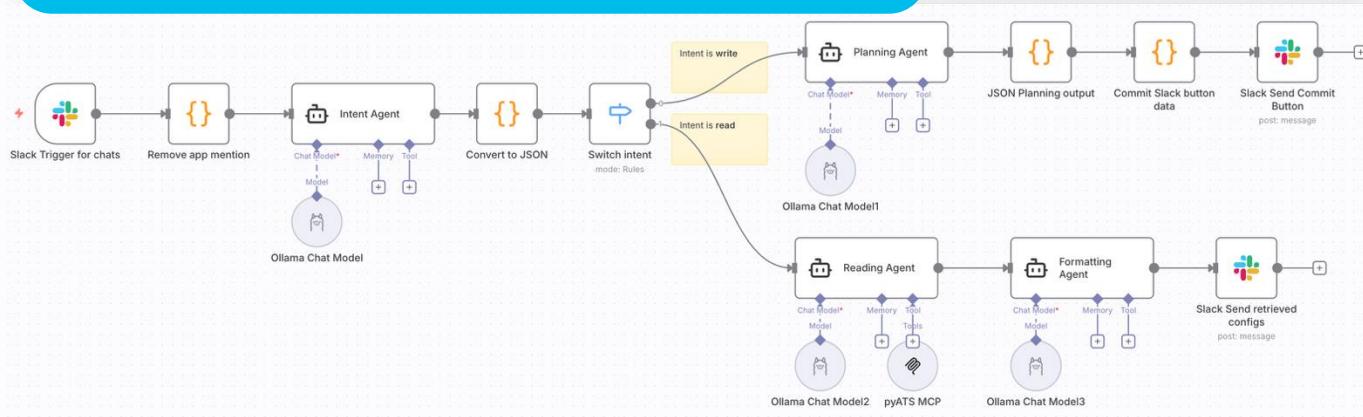
webhooks

Read queries

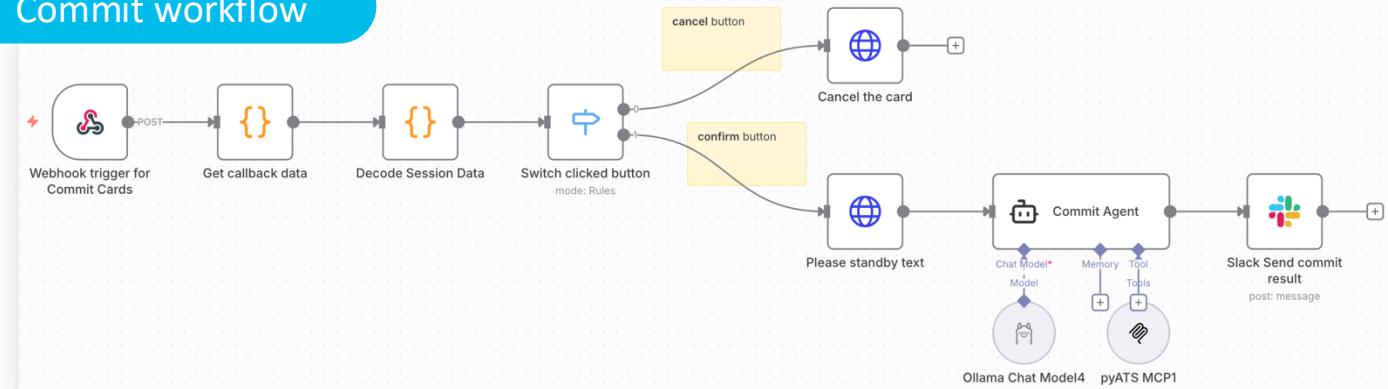
Commit queries with Slack cards for human-in-the-loop



Reading + Commit intent (planning) workflow



Commit workflow



Reading interaction

The screenshot shows a Slack channel named '# net-hot-gossip'. A message from user 'Poncho Sandoval' at 7:33 AM asks for a table with VLAN details for device SW1. Below the message is a table showing VLAN configuration:

VLAN Name	Status	Ports
1 default	active	
10 VLAN0010	active	Ethernet0/0, Ethernet0/2
20 VLAN0020	active	Ethernet0/1

Below the table, a note states: "The output shows the current VLAN configuration on SW1, including VLAN ID, name, status, and ports associated with each VLAN. Note that some VLANs like fddi-default, token-ring-default, etc., are not user-configurable by default."

At the bottom, there is a message input field with placeholder text "Message #net-hot-gossip" and a toolbar with various message formatting options.

Commit interaction

The screenshot shows the same Slack channel '# net-hot-gossip'. A message from user 'Poncho Sandoval' at 7:38 AM asks for a new primary VLAN on SW1 named MGMT attached to port Ethernet0/1.

Below the message, a configuration plan titled "Configuration Plan for SW1" is displayed:

Create primary VLAN 1 named MGMT and assign it to Ethernet0/1 interface

Risk Level: MEDIUM

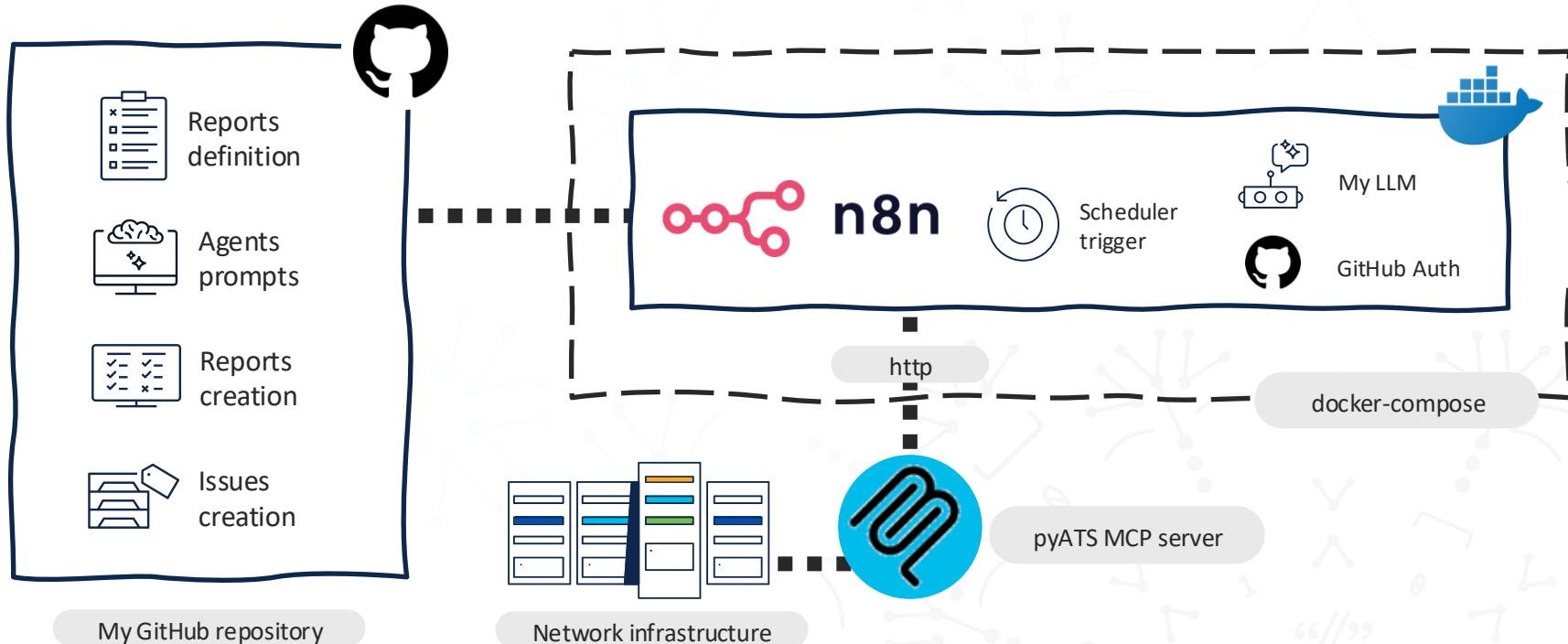
Commands to execute:

```
configure terminal
vlan database
vlan 1 name MGMT
exit
interface Ethernet0/1
switchport mode access
switchport access vlan 1
end
```

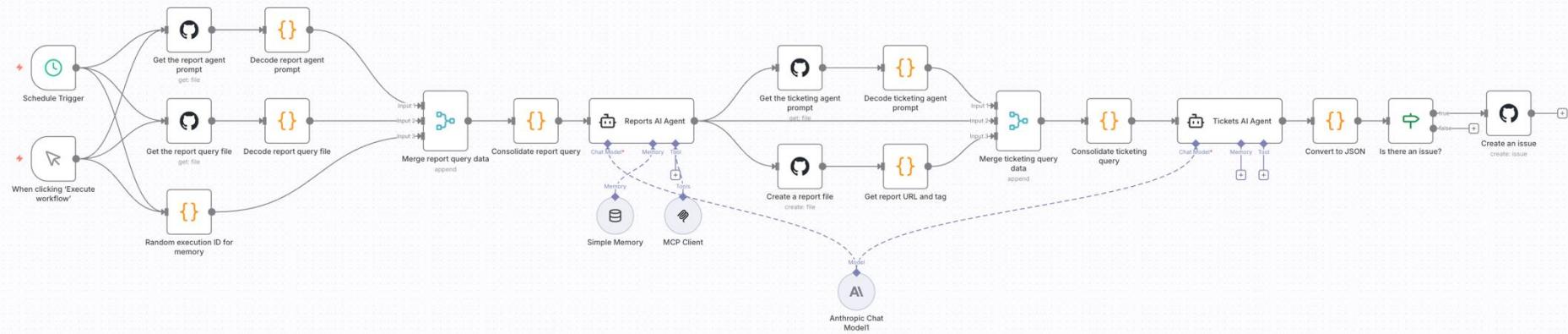
At the bottom, there are two buttons: "Confirm & Apply" (green checkmark) and "Cancel".

At the very bottom, there is a message input field with placeholder text "Message #net-hot-gossip" and a toolbar with various message formatting options.

Demo 2: Agentic Reporting & Ticketing for NetAuto



Reporting & ticketing workflow



 ponchotitlan interfaces_status report gen

Preview | Code | Blame 95 lines (70 loc) · 4.28 KB

Report generation

Network Interface Status Summary Report

Executive Summary

Analysis of interface operational states across the network infrastructure reveals **14 operational interfaces** and **4 administratively down interfaces** across 4 devices. The network demonstrates healthy connectivity with active traffic on management interfaces and no packet drops or queue congestion detected.

Scope & Assumptions

- **Scope:** Complete interface status analysis for all devices (R1 , R2 , SW1 , SW2)
- **Data Source:** Real-time interface status via `show ip interface brief` and `show interfaces summary`
- **Assessment Period:** Current operational state snapshot

Environment Overview

Infrastructure Components:

- **Routers:** 2 IOS-XE devices (R1 , R2)
- **Switches:** 2 IOS-XE devices (SW1 , SW2)
- **Total Interfaces:** 18 interfaces analyzed
- **Platform:** IOL (IOS on Linux) virtual environment

[interfaces_status report gen] [⚠️medium] Address interface redundancy and documentation gaps on Router R1 #17

[Edit](#)[New issue](#)

Issue creation

[Open](#)

ponchotitlan opened last week

Owner

...

Context

Router R1 interface analysis reveals healthy operations with 3/4 interfaces functional and zero errors. However, several operational improvements are needed to enhance network reliability and maintainability.

Key Issues Identified

- Single Point of Failure: Ethernet0/3 remains unused, reducing redundancy options
- Documentation Gap: Missing interface descriptions on Ethernet0/0 and Ethernet0/1
- Traffic Concentration: All traffic flowing through only 3 active interfaces
- Monitoring Gap: Lack of standardized interface monitoring

Action Items

Immediate Actions

- Add descriptions to Ethernet0/0 and Ethernet0/1 for operational clarity
- Evaluate Ethernet0/3 - determine if it should be activated for redundancy or permanently removed

...

...

Operational Improvements

- Implement regular interface health checks focusing on error counters and utilization trends
- Establish consistent interface naming and description conventions

...

...

Assignees

No one - [Assign yourself](#)



Labels

No labels



Projects

No projects



Milestone

No milestone



Relationships

None yet



Development

[Code with agent mode](#)



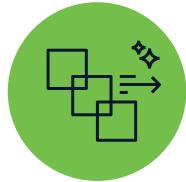
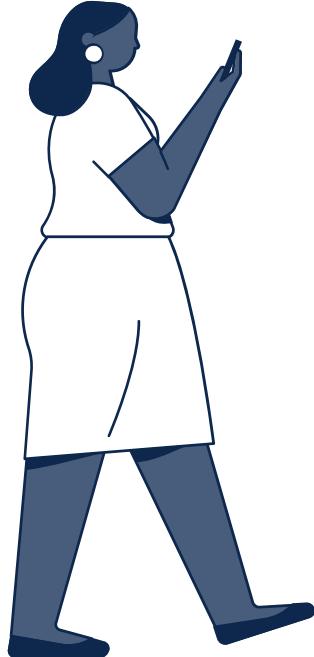
[Create a branch](#) for this issue or link a pull request.

Notifications

Customize

[Unsubscribe](#)

You're receiving notifications because you're subscribed to this thread.



Start small: build single-purpose agents for well-defined operational tasks



Treat LLM agents like junior network engineers: restrict what they can touch and how



Build agents on top of real network tools (CLI, APIs, pyATS) – Also, low-code is your ally!



About n8n

docs.n8n.io/

About pyATS

developer.cisco.com/docs/pyats/

Our demo repo: pyATS loves AgenticOps

cs.co/pyATS-loves-agenticops



FOSDEM



The bridge to possible