DANI ALONSO OPTICAL CONNECTIVITY

How to find all IPs on the core switch

Overview

How to find the IPs connected to an Access SwitchIn this figure, you can find a Core Switch and two Access switches connected to it. There are two end devi.

Key Takeaways

To find all IP addresses on a core switch, you need to correlate the ARP table with the MAC address table and optionally use IP device tracking or network management tools.Step 1: Access the Switch CLI

Log in to the core switch using SSH, Telnet, or a console connection. Ensure you have privileged EXEC mode access to run the necessary commands.

Step 2: Check the ARP Table

The ARP table maps IP addresses to MAC addresses. Use the command:

show ip arp

This will display all IPs that the switch knows about and their corresponding MAC addresses. On a Layer 3 core switch, this table includes devices across multiple VLANs and subnets .

Step 3: Check the MAC Address Table

The MAC address table shows which MAC addresses are associated with which switch ports. Use:

show mac address-table

or

show mac address-table dynamic

This allows you to determine the physical port or VLAN where each device is connected .

Step 4: Correlate ARP and MAC Tables

By matching the MAC addresses from the ARP table with the MAC addresses in the MAC table, you can identify the IP address associated with each port on the switch. This is essential because switches operate at Layer 2 and do not inherently track IPs per port .

Step 5: Use IP Device Tracking (Optional)

Cisco switches support IP Device Tracking (IPDT), which can simplify this process. The command:

show ip device track interface

will display the IP addresses of devices connected to a specific interface, including those with dynamically assigned IPs .

Step 6: Consider Network Management Tools

For large networks, manually correlating tables can be cumbersome. Tools like SNMP-based network management systems or scripts using Python modules (e.g., Netmiko, NAPALM) can automate the collection of ARP and MAC tables and generate a complete IP-to-port mapping .

Step 7: Additional Methods
• Ping sweep or Nmap scan: Identify active IPs in a subnet, then cross-reference with ARP tables .

• DHCP server logs: If devices receive IPs via DHCP, the lease table can provide IP-to-MAC mappings .

• CDP/LLDP: Discover neighboring devices and their IPs if supported. By following these steps, you can generate a comprehensive list of all IP addresses connected to your core switch, along with the corresponding ports and VLANs, which is crucial for network monitoring, troubleshooting, and inventory management.

Article Content

Check all the active IP addresses on a switch

IP is a layer-3 protocol, and IP addresses are in the packet headers, which are encapsulated inside the ethernet

All IPs CONNECTED TO A SWITCH USING CMD

Hello My computer connected to PLC network and has the ip 192.168.1.33. This Ethernet switch connects to some

Contact Us

Continue your research online:

Website: https://danialonso.es
Technical inquiry: https://danialonso.es/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.