How to check IP and MAC addresses in a core switch

Overview

These commands give you general details about your switch, like the software it is running, how long it has been powered on, and what hardware is installed.

Key Takeaways

To find the MAC address for a given IP on a core switch, use ARP to resolve the IP to a MAC, then check the MAC address table to identify the switch port. Step 1: Resolve the IP to a MAC AddressOn the core switch, first determine the MAC address associated with the IP address using the ARP table: Cisco IOS: CodeCopyshow ip arp This command displays the MAC address corresponding to the IP, along with the VLAN and interface if directly connected. Juniper JunOS: CodeCopyshow arp | match This will return the MAC address for the specified IP.

Step 2: Locate the MAC in the Switch MAC Address TableOnce you have the MAC address, identify the port on the switch where the device is connected: Cisco IOS: CodeCopyshow mac address-table address This command shows the VLAN and the port (e.g., Gi1/0/1) where the MAC is learned.

If the MA

C appears on a trunk port, it indicates the device is connected to a downstream access switch, and you may need to repeat the command on that switch to find the exact access port. Juniper JunOS: CodeCopyshow ethernet-switching table | match This displays the VLAN and interface associated with the MAC. Step 3: Trace Through Multiple Switches (if needed)In larger networks, the MAC may appear on a trunk port of the core switch.

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To locate the end device: Identify the trunk port on the core switch where the MAC is learned. Log into the connected access switch.

Repeat the MA

C address table lookup on the access switch to find the exact port of the end device.

Additional Tips

Ensure the device is active; MAC addresses age out after a default period (e.g., 300 seconds on Cisco).

If the MA

C is static, it will appear in the table permanently. For Layer 3 devices, the ARP table is essential to map IPs to MACs before checking the MAC table. By following these steps, you can reliably determine the MAC address corresponding to an IP and trace it to the specific switch port, even in multi-switch topologies.

Article Content

Useful Cisco Switch Verification Commands

These commands give you general details about your switch, like the software it is running, how long it has been powered on, and what hardware is installed. Operating system (IOS) version, uptime,

How to find IP & MAC addresses on Cisco IOS Devices

As a Network Administrator/Engineer you may be asked to find MAC addresses and/or IP Addresses, hopefully this can make your job a little bit easier. These commands work on most Cisco

Commands to Find Device Mac Address on Cisco Switch Port

To find the MAC Address on a Cisco switch port, we use the command show mac-address-table. Let''s understand the step by step process under different scenarios.

Back to Basics: Network Tracing

Efficiently trace and verify network ports using commands like ''show mac address-table'' and ''show arp'' for IP and MAC address identification.

Commands to find mac-address and IP on a port

Solved: Can someone show me the commands to find a mac-address on a switch and if I know the port I am looking to find it on, also how i find the IP address on that port

Useful Cisco Switch Verification Commands

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This guide provides a comprehensive overview of commands to check switch health, interface status, VLAN configurations, MAC address tables, port security, and spanning tree protocol

How to Map an IP Address to a Cisco Switch Port (Step-by-Step Guide)

Learn how to map an IP address to a physical port on a Cisco switch using MAC and ARP tables, or a DHCP server. Step-by-step tutorial for network troubleshooting.

How to Find a Device MAC Address on a Cisco Switch

In this article, we''ll explore how this can be done on Cisco-based networks ranging from a single switch to a larger enterprise network with several switches. On another article we have explained how to

How to find ip address on Cisco Switch?

To correlate MAC addresses to switch ports, use the show mac address-table command. Then, use CDP or LLDP to identify connected devices and their possible IP addresses.

MAC Address Table On a Cisco Switches

Dynamic: Through a process known as MAC learning, in which the switch retrieves the source MAC address (and VLAN ID, if present) of each Ethernet packet received on a port, dynamic

Layer 2 vs Layer 3 Switches in 2026: Optimizing

Layer 2 switches: Use MAC addresses and VLANs; do not route between subnets
Layer 3 switches: Support IP routing, act as VLAN gateways, and run routing

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Types of Network Protocols

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Address Resolution Protocol (ARP) ARP is the critical bridge that maps a logical IP address (Network Layer) to a physical MAC address (Data Link Layer) to facilitate communication

How to find port it connected to a switch using mac-address/ip add ...

On a Cisco switch, you can issue the “sh cam 00-0d-60-cb-44-5d” command. The output should tell you the VLAN they are on, the MAC address you entered and the port that MAC shows up

Switch – Trace device Mac Address to Port number

Switch – Trace device Mac Address to Port number Sometimes it can be a pain to trace back which device is connected to which port on the Switch ? Especially when you have multiple

From core : Finding Mac address and port interface of the end device ...

The mac table on the core will only contain addresses layer 2 adjacent through the core switch and show on the interface from core to the access switch where the device is located.

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