

Do core switch ports need IP addresses



Article Overview

Core switch ports do not inherently need IP addresses unless they are configured as Layer 3 interfaces for routing purposes.

Layer 2 vs Layer 3 Ports

Core switch ports are Layer 2 by default, meaning they forward traffic based on MAC addresses and do not require an IP address for normal switching operations. In this configuration, the switch uses SVIs (Switched Virtual Interfaces) to provide IP addresses for VLANs, which act as gateways for devices connected to those VLANs. Individual Layer 2 ports simply belong to a VLAN and rely on the SVI for IP-based communication. If a port is configured as a Layer 3 routed port (using the `no switchport` command on Cisco devices), it functions like a router interface and must have an IP address to participate in routing and Layer 3 communication. This is typically used for uplinks between core switches or for direct routing to other networks.

Practical Scenarios

- **Server or Access Ports:** These are usually Layer 2 ports assigned to a VLAN. The server gets an IP address from the VLAN's SVI or a DHCP server. The port itself does not need an IP address.
- **Trunk Links Between Switches:** Often remain Layer 2, carrying multiple VLANs. IP addresses are not assigned to the physical ports; routing occurs via SVIs or Layer 3 interfaces elsewhere.
- **Layer 3 Uplinks or Routed Ports:** Require an IP address to enable routing between...

Article Content

Apr 05, 2026

networking

Correct? So a Switch needs to remember all addresses of Hosts connected to it. If the host is not found the packet is sent to the

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Does a switch use IP ADDRESSes?

Having an IP address assigned to your switch provides you with a way of connecting to it remotely and perform any

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How to configure a port on our core switch for a server

If you issue no switch on the interface, the interface will be configured as Layer3 interface and one IP address is

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Does an unmanaged switch deal with IP addresses at all

A switch ("multiport MAC bridge") learns locations of MAC nodes from the source addresses they use in the frames

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Core Switches: The Pillar of Network Infrastructure

Get a closer look at core switches: the nerve centers of network infrastructure that enhance performance and facilitate

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Does a Network Switch Have an IP Address?

Does a Network Switch Have an IP Address? Unveiling the Truth The short answer is yes, a network switch can have

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Do Network Switches Have Ip Addresses? When & How to Check

In this guide we'll map Layer 2 vs. Layer 3 behaviors, SVI vs. routed ports, and practical, security-first IP planning. Do network

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Do core switch ports need IP addresses

Unlike routers, which function at Layer 3 and use IP addresses for communication, Layer 2 switches typically do not require an IP

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Why would a Layer 2 switch need an IP address?

In summary, a Layer 2 switch does not need an IP address to perform its core function of forwarding Ethernet frames

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Do "dumb" (non-smart, non-managed) switches have an IP address?

Do "dumb" switches, i.e., non-smart, non-managed network switches have an IP address? I'm scanning various

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Do all ports in a router (switch ports) share same network address

Switches might not necessarily have a MAC address. A switch only needs a MAC address if it generates its own

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Is it bad practice to give a switch port a static IP address?

Normally I would give the a device that always needs to be on a static IP address through its web interface or

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Core Switch vs. Distribution Switch vs. Access Switch

Considering all the above-mentioned factors, core switches, distribution switches, and access switches can be chosen. However, to

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Must a L3 switch always have an IP address?

The switches don't require ip addresses. If you did assign them ip addresses then that would be subtracted from the

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How do devices connected to a switch get their IPs?

You need to configure the DHCP server once, no matter how many devices will use it (except if the number of devices

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Why a Layer 2 Switch Doesn't Need an IP | Layer 2 Explained

Layer 2 switches operate at OSI Model Layer 2 (data link), hence, communicate between MAC addresses, instead of

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One minute networks: Switches, routers, hubs and IP addresses

The server usually does not care what IP address and port the client uses. If the IP the address of my laptop is

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Why do switches and access points have ip addresses?

Layer-2 devices like switches and WAPs get IP addresses for management. There are unmanaged switches which

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ISP Hooked Up to Core Switch First... Instead of Straight to ...

Double check that there's no IP address on VLANs 17& 18, and then routing (L3 connectivity) isn't likely to exploit the switch

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Does Switch Have IP Address?

Does Switch Have IP Address? If you're planning to use a switch as a part of your network, you need to know whether

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Configuring the Core Switch

Configuring the Core Switch Context In this scenario, IP addresses of the interfaces connecting the core switch to the

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How to configure a port on our core switch for a server

I am looking for some guidance on how to configure a server port on our core switch. For some options, I was thinking

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Assign an IP address based on switch port

InB4: I am also considering using ZigBee network for this application, but I may need to transmit diagnostic images,

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Do VLANS need different IPs on each switch?

The Switches should only be layer 2 - so the vlans do not need ip addresses. The exception is that one vlan should

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How IP addresses work on Layer 2 switches

Hello All, How IP addresses work on Layer 2 switches and In real time, how we are monitoring L2 switches ? Thanks,

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Does a Switch Have an IP Address?

Does a Network Switch Need an IP Address? Demystifying the IP Connection The answer is nuanced: While not

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Configure IP Address for Interface in Cisco Switches

To configure an IP Address on a switch interface, first, we must change the interface from a layer 2 interface to a layer

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Core layer switches IP address for routing

For routing process I add a IP address of each Vlan's subnet that active on each Access and Distribution switches

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Cisco CCNA Introduction to Switches Part II

No, switches do not need an IP address. We would add an IP address to a switch only for management purposes and it is configured

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Difference between a core switch and "normal" switch?

Core switches have much higher limits: on number of VLANs, MAC addresses, ACL number and complexity. It's also commonly a

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How do you assign sequential IP addresses to individual ports on a ...

I'm thinking of having a simple router and a simple 52 port switch. But I need the IP addresses to not change whenever I change

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Why we need IP address on LAN if switches can't read IP addresses

A beginner question: Why we need to assign IP addresses on LAN if switches are not able to read them? Because of

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Network+ Switch IP Configuration Facts 6.2.2

Study with Quizlet and memorize flashcards containing terms like *Basic switches operate at Layer 2 and are therefore able to

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Why assign IP addresses to router/switch interfaces?

But why assign IP addresses to the interfaces? Is it so the router/switch knows which port to send the packet out?

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Do Vlan interfaces always need IP addresses without a router?

To route traffic you need an IP address and a gateway. Without these you cannot have inter-vlan routing. You can

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Introduction to TCP/IP (Part 1)

In this self-paced training, you will learn what routers, switches, IP addresses, and MAC addresses are, and how they

Contact Us

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