

The IP addresses of the switch and the access network are different



AI Overview

Switches and access networks can operate on different IP addresses because switches primarily function at Layer 2, forwarding traffic based on MAC addresses, while IP addresses are assigned to devices for network communication and management purposes.

Switches and IP Addresses

Not all switches have IP addresses. Unmanaged switches do not require IP addresses as they simply forward traffic between devices without configuration. Managed switches, however, are assigned IP addresses—either statically or via DHCP—to allow administrators to configure, monitor, and manage the switch remotely. The IP address of a managed switch is primarily for management purposes and does not affect the forwarding of data between devices on different subnets.

Access Networks and Subnets

An access network typically refers to the subnet or LAN segment that connects end devices like PCs, printers, or access points. Each subnet has its own IP address range, and devices within that subnet receive IP addresses from a DHCP server, usually configured on a router. It is common for the switch's management IP to be in a different subnet than the devices it connects, especially in larger networks with hierarchical designs (core, distribution, and access layers).

How Devices Communicate Across Different IPs

Article Content

Can't access swiches located on different VLAN. How to do routing for ...

Do I have to run separate cable for that port in entire network structure to collect all swiches under one VLAN? No,

networking

A third port is connected to my modem. I confirmed that both the router and the standalone computer get different external-facing IP

How do devices connected to a switch get their IPs?

It should go without saying, I'm new and still learning about networking. One of the things I'm not clear on and couldn't

Do VLANS need different IPs on each switch?

As soon as you want the switch to do the routing, than you need to define IP addresses for the VLANs, that you want

Azure virtual network service endpoints | Microsoft Learn

Azure virtual network service endpoints provide secure and direct connectivity to Azure services over an optimized

How Devices Communicate Across Networks: MAC, IP, and Routers

Switches forward frames using MAC addresses within local networks (Layers 1-2), while routers route packets across

Difference Between Router and Switch

Working of Switch As far as we are aware, every networking device has a distinct Media Access Control (MAC)

Two switches connected by access port but with two different vlan at ...

I have two switch connected by access port. And in syslog it is showing native vlan mismatch. Can anyone describe it

networking

I have a device on my local network that has a static IP address of 10.0.0.100 (apparently, this setting is set internally

Identify Network Hardware IP Addresses on Local Network

Learn how to find fixed IP address of device on LAN for your network hardware, such as routers, switches, and access

Basic networking question (changing IP addresses of switches)

If you have a question about how a specific brand/model of switch (or other device) handles access or changing its IP from a networking

I'd approach this in a totally different way: Configure a PC (laptop) with 3 IP addresses: 192.168.213.250 and

8 Steps to configure your network switch

So, before you add your switch to the network, you're going to want to set its revision number to zero. To easily reset the domain

How to Find Any Device's IP Address, MAC Address, and Other Network ...

Every network-connected device — computers, smartphones, tablets, smart home gadgets, and more — has an IP

How To Access Your Network Switch

Introduction Introduction Accessing your network switch is essential for managing and configuring its settings.

How to find the IPs connected to an Access Switch

In this figure, you can find a Core Switch and two Access switches connected to it. There are two end devices PC0 and PC1

networking

Can anyone tell me what some of the implications of having two different subnets on the same switch would be if

Private network

Private addresses are also commonly used in corporate networks which, for security reasons, are not connected directly to the

VLAN Configuration Commands Step by Step Explained

The vlan command in global configuration mode creates a new VLAN and updates an existing VLAN. The switchport

Fix Wi-Fi connection issues in Windows | Microsoft Support

If you're unable to access email, browse the web, or stream music, it's likely you're not connected to your network and can't access

access to different network

I assume, this is a business network. so first of all, consumer grade "routers" really should not be deployed as

IP Subnet Calculator

This IP subnet calculator covers both IPv4 and IPv6 protocols, providing information such as IP address, network address, subnet

Do Network Switches and Wi-Fi Access Points Have IP Addresses?

A frequently asked question is whether these devices have IP addresses. The answer varies based on the type and

What is Network Switching?

Switching in IT and computer networking is the transfer of data packets, or blocks of data, through a network switch.

Communicating with devices on a different subnet

The situation is: I have a gateway with a fixed ip address (192.168.0.51) which I would like to configure as a normal

How to configure a network to access systems on a different switch

2 different switches | 2 different networks with 2 different IP range (192.168.0.XX) & (10.X.X.X) I am trying to configure

Access points taking IP address from Different Vlan

Problem I am facing is my laptop is taking IP address from Vlan-2 when I am connected to the AP of Vlan-7. I removed

Essential Network Settings and Tasks in Windows

Learn about essential network settings and tasks in Windows, such as finding your IP address, setting data limits, toggling Airplane

Troubleshooting virtual machine network connection issues

Destination Host Unreachable Network error: Connection Refused Network cable is unplugged Ping request could not

Do Network Switches and Wi-Fi Access Points Have IP Addresses?

Explore whether network switches and wireless ap require IP addresses, understand their roles in network

Communication between different subnet MASKS with IP address that

This may be a dumb question. Actually I'm sure of it, but i'd like a thorough explanation for it so i can wrap my head

Set up a NAT network | Microsoft Learn

NAT Overview NAT gives a virtual machine access to network resources using the host computer's IP address and a

Why do switches and access points have ip addresses?

Some layer two devices need IP addresses in some networks or vlan to be able to use different services, such as

Common IP configuration issues and how to fix them

Discover common IP configuration issues and how to troubleshoot them effectively. Learn about IP address conflicts,

How can I access the switch on my network?

Recently set up my home network and everything is working great but I'm trying to access the switch for one so that I can see what

How to Find Gateway Address on Any Device

How to Find Your Default Gateway IP Address in Windows The default gateway IP address is stored in Windows

What is a Network Switch and How Does it Work?

The Switch is a network device that is used to segment the networks into different subnetworks called subnets or LAN

10.4.4 Packet Tracer

This is because PC-B is on a different network than PC-A, which requires the default-gateway router to route these

Contact Us

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