

Switch connected to two networks

Article Overview

A single switch can connect to two networks using VLANs or routing, ensuring traffic isolation and proper communication between subnets.

Using VLANs for Network Segregation

To connect two networks to the same switch while keeping them isolated, the most common approach is to use VLANs (Virtual Local Area Networks). VLANs allow a managed switch to logically separate devices into different networks even if they share the same physical hardware. For example, you can assign VLAN 10 to Network A and VLAN 20 to Network B. Devices on VLAN 10 will only communicate with other devices on VLAN 10 unless routing is configured, and the same applies to VLAN 20 . Key points for VLAN setup:

- o Use a managed switch that supports VLANs.
- o Assign each port to the appropriate VLAN based on the device it connects to.
- o Configure a router or Layer 3 switch to route traffic between VLANs if inter-network communication is required.
- o Ensure DHCP and DNS services are available for each VLAN, either via the router or dedicated servers .

Using Subnets and Routing

If VLANs are not an option, you can connect two networks to the same switch by assigning different subnets to each network and using a router to manage traffic between them. For instance:

- o Network A: 192.168.1.0/24
- o Network B: 192.168.2.0/24 Each device should have the correct gateway IP pointing to the router that handles its subnet. The router must have static routes configured to direct traffic between the two subnets. This ensures that devices on different networks can communicate if needed, while still maintaining separate broadcast domains .

Practical Considerations

- o Unmanaged switches cannot enforce VLANs or routing, so using them for two networks may lead to traffic mixing and security risks.
- o Managed switches provide advanced features like VLANs, QoS, and routing, which are essential for multi-network setups.
- o If using wireless access points, ensure they are configured to match the VLAN or subnet of the network they serve .
- o Always plan IP addressing carefully to avoid conflicts and ensure proper routing between networks . By

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combining VLANs or subnetting with proper routing, a single switch can effectively support two separate networks while maintaining isolation and controlled communication.

I'm really confused about subnets right now, basically I have two separate networks that I need to connect to the same

Setting up two switches together can be a crucial step in expanding your network, providing more connectivity

Connecting switches can be achieved through two common methods: cascading and stacking. In this guide, we will

A switch connects devices within the same network, while a router connects different networks together, such as your

Switches vs Routers When expanding the ports on the network we use additional switches and not routers. Generally

Using a network bridge on a Windows computer, you can transparently connect two networks, and all clients from an

If this router is one of those then the solution is simple - connect each of the switches to a switch port (configured in

Network switch sharing refers to the practice of allowing multiple networks to share the same network switch. This

I am working in an institute where the internet connection is divided amongst 3 different floors: Ground Floor, First

You need an Ethernet cable to connect two routers in your home network. If your routers are wireless, use different Wi

Re:2 Routers connected to a switch in a single network I read somewhere that AP mode will disable their ethernet

Hi as above I need to have simultaneous network connections on two network cards in Windows 10. One Nic is

Where two or more Cisco switches are connected to a single common switch, each has a VLAN interface

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configured with a different

Yes, absolutely! You can, and often should, have multiple network switches on the same network. In fact, most modern

Hi there, I am a electronics engineer, not a network engineer. but I have done some basic cisco course, so I can

The environment I'm working in has an EdgeRouter and a single switch (EdgeSwitch 48). They are looking to add another

Web: <https://www.millstraining.co.za>

