

How to configure a private network access switch

Article Overview

A Private Network Access Switch can be configured by creating a private VLAN or private virtual switch, assigning it to devices, and ensuring isolation from external networks.

Configuring a Private VLAN on Physical Switches

- o Use the Default SDM Template: Ensure the switch uses the default Switch Database Management (SDM) template to balance system resources between Layer 2 entries and unicast routes. If needed, reset with `sdm prefer default`.
- o Create Primary and Secondary VLANs: Define a primary VLAN and associate secondary VLANs as either isolated or community VLANs.
- o Assign Ports: Configure ports as promiscuous (can communicate with all secondary VLANs) or isolated (restricted to primary VLAN communication). Avoid using SPAN destination ports or combining 802.1x with port security on private VLAN ports.
- o Trunking and Aggregation: Use PAgP or LACP only on promiscuous or isolated trunk ports. Configure trunk encapsulation with `switchport trunk encapsulation dot1q` if supported.
- o Avoid Conflicts: Do not configure fallback bridging or RSPAN VLANs as part of private VLANs.

Configuring a Private Virtual Switch in Hyper-V

- o Open Hyper-V Manager: Launch Hyper-V Manager and select your host.
- o Create a Private Switch: Click Virtual Switch Manager, select Private, and click Create Virtual Switch.
- o Name the Switch: Assign a descriptive name for the private network and click OK.
- o Assign to Virtual Machines: Edit each VM's network adapter settings, select the newly created private switch, and apply the changes.
- o IP Configuration: Configure IP addresses for VMs within the private network. No default gateway is required since the VMs cannot access external networks.
- o Test Connectivity: Verify that VMs can communicate with each other but are isolated from the host and external network.

Key Considerations

- o Isolation: Private VLANs or private virtual switches prevent devices from accessing the broader network, enhancing security.
- o VLAN Consistency: Ensure VLAN IDs are consistent across devices if using VLAN tagging.
- o Network Planning: For Hyper-V, consider using multiple physical NICs if external connectivity is also required to avoid conflicts.
- o Security: Avoid combining private VLANs with incompatible features like SPAN destination ports or certain 802.1x configurations. By following these steps, you can successfully configure a private network

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access switch, whether in a physical environment using private VLANs or in a virtualized Hyper-V setup, ensuring secure and isolated communication between devices.

Thanks! We actually have two Cisco SG300-10 switches so my plan is to keep the current switch and network topology for the public

Switch configuration on your own can seem like a daunting task. Use this handy guide to get your network switch up

If you want to change the Network profile type in Windows 11/10, here is how to do that using Windows Settings,

Let's start with the configuration of the community VLAN. First, I create VLAN 501 and tell the switch that this is a community VLAN

This document describes the procedure to configure isolated PVLANS on Cisco Catalyst switches with either Catalyst

If you're looking to configure a switch for the first time, this post is for you. Learn step-by-step configuration commands

In this video, I'll show you how to configure a Cisco switch from scratch! Whether you're

A private home network allows you to connect your computer, laptop, tablet, phone, and other devices to a secure

When you first install the Hyper-V role on Windows Server, you can optionally create a virtual switch at the same time.

Complete guide to Hyper-V virtual switches. Configure External, Internal & Private switches with step-by-step

This article shows you how easy it is to switch your network profile in Windows 10 from public to private.

How to Create a Private Virtual Switch in Hyper-V The main reason for creating a Private Virtual Switch on Hyper-V is

This article provides instructions on how to configure private VLAN settings on a switch.

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Learn exactly how to switch your network from public to private quickly and securely. Easy step-by-step instructions

In this tutorial, we'll teach you how to set up a local area network with a switch without an internet connection. A local

Learn how to seamlessly switch your Windows 11 network from public to private with our step-by-step guide, ensuring

Web: <https://bssoda.pl>

