

Access Switch Security Configuration



Overview

Security Configuration Guide, Cisco IOS XE 17.17.x (Catalyst 9300) This chapter provides configuration information about controlling switch access with pass.

Key Takeaways

Switch access security can be enforced through strong password management, privilege levels, authentication policies, and secure remote access protocols. Password and Privilege Management

To prevent unauthorized access, configure strong enable secrets and user passwords. Use encrypted password types such as Type 9 (convoluted) or Type 6 (AES) for Cisco switches, which store passwords in a non-reversible format. Assign privilege levels to commands, allowing different users access to specific functions. For example, less critical commands can be set to level 2, while configuration commands are restricted to level 3 or higher. Always save changes to the startup configuration to ensure persistence.

Authentication and Access Policies

Implement 802.1X authentication or RADIUS-based access policies to control which devices can connect to the network. Use Closed mode to allow only authorized devices, and configure Critical Authentication Group Policies to maintain access to essential services during authentication failures. Failed or guest authentication policies can restrict access to sensitive resources while allowing limited connectivity, such as internet access.

Secure Remote Access

Disable insecure protocols like Telnet and HTTP and enable SSH and HTTPS for remote management . Configure IP-based, MAC-based, or port-based access control to restrict which users or devices can access the switch management interface . For SNMP management, ensure community strings are secure and encrypted.

Management Plane Hardening

Secure the management plane by using centralized AAA servers (TACACS+ or RADIUS) for authentication, authorization, and accounting . This allows consistent enforcement of password policies, monitoring of user activity, and easy revocation of access. Encrypt all cleartext passwords using commands like service password-encryption to prevent casual exposure .

Additional Best Practices

- Regularly update firmware to support the latest encryption and authentication features .
- Limit console and auxiliary port access to trusted personnel.
- Apply security group tags (SGTs) to segregate traffic and enforce policy-based access .
- Monitor logs for unauthorized access attempts and configure alerts for suspicious activity. By combining strong password policies, privilege management, authentication protocols, secure remote access, and management plane hardening, you can significantly reduce the risk of unauthorized access to network switches and protect sensitive network resources.

Article Content

Security Configuration Guide, Cisco IOS XE 17.17.x (Catalyst 9300)

This chapter provides configuration information about controlling switch access with passwords and privilege levels.

9 Configuring Switch Security

Using the CLI or an SNMP application, you can configure authentication, authorization, and accounting (AAA) switch functionalities in

Best Practices for Securing Cisco Switches in Enterprise Environments

Cisco switches, often forming the backbone of such networks, require robust security configurations to ensure the

11.6.1 Packet Tracer – Switch Security Configuration

You are enhancing security on two access switches in a partially configured network. You will implement the range of

NCP

Using the information presented here, administrators can configure switches to control access, resist attacks, shield

Switchport Port Security Explained With Examples

This tutorial explained the commands and configuration steps you need to secure switch ports. Learning these

How to Configure a Cisco Switch in 10 Steps

Configuring a Cisco switch is a fundamental task for network administrators, as it lays the groundwork for efficient and

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8 Steps to configure your network switch

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Basic Switch Security Concepts Explained

Switch security is a crucial aspect of maintaining a secure network infrastructure. By understanding and implementing

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Configuring Port Security on Cisco IOS Switch

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How to configure port security on Cisco Catalyst switches that run ...

Introduction: Configuration Steps: Configuration Example: Related Information:
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CIS Control 11: Secure Configuration for Network Devices, such as Firewalls, Routers, and Switches Establish, implement, and

Switch Security: The Silent Guardian of Your Network

Network switch security best practices are essential measures to protect your network from

Harden IOS Devices

This document describes the information to help you secure your Cisco IOS® system devices, which increases the

Network Security During Switch Configuration: 8 Steps

Attackers or anyone with physical access to the network switch can easily get into the internal network by connecting

Securing Your Switch: Essential Steps for a Safer Network!

Monitoring your network activity helps detect security incidents before they become a disaster. Using Syslog and

Cisco Switch Security Best Practices

This is a summary and command reference for Cisco Switch Security Best Practices from the Cisco CCNP material.

Secure Router & Switch Configurations: Best Practices

Expert guide on secure router and switch configurations to protect your computer networking products and defend against cyber threats.

Guide to Basic Switch Configuration | Auvik

What basic switch configuration includes Basic switch configuration can be thought of as the minimum network, port,

Configuring Port Security

Static secure MAC addresses—These are manually configured by using the switchport port-security mac-address mac-address

Basic Switching Concepts and Configuration

Security is applied in a layered approach, and switches illustrate this with the configurable security options. In this section, the basic

Configuring Access Security

1 Access Security 1.1 Overview Access Security provides different security measures for accessing the switch remotely so as to

Cisco IOS XE Software Hardening Guide

For configuration details, see the Configuring TACACS+ over TLS section of the Security Configuration Guide, Cisco IOS XE 17.18.x

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Securing Cisco Switches | Configuring Port Security

Those would be local to the switch and then tie your lines of access to local database with the login local command. A more

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10 Network Switch Security Best Practices

A network switch is a key part of any network infrastructure, providing the ability to connect multiple devices and form a

Section 4 – Router and Switch Security

The larger the network, the more valuable the equipment, and the higher the need to protect the data and router

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Switchport Port-Security | NetworkAcademy.IO

Secure your campus LAN access layer with Cisco port security. Learn how to limit MACs, block rogue devices, and recover err

10 Network Switch Security Best Practices

Network switches are a critical part of any network, so it's important to make sure they're secure. Here are 10 best

Basic Switch Security Concepts Explained

In this article, we will explore basic switch security concepts and best practices to ensure a secure network environment.

11.6.2 Lab

Other routers, switches, and Cisco IOS versions can be used. Depending on the model and Cisco IOS version, the

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