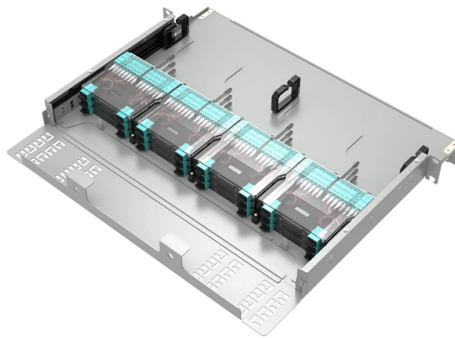


How to configure the network segment on the core switch



Overview

This post will deal with creating Layer 2 VLANs on Cisco switches and performing all relevant configurations.

Key Takeaways

Network segmentation on core switches is achieved using VLANs, subnetting, and Layer 3 routing to isolate traffic, enhance security, and optimize performance. Key Steps for Network Segmentation

1. Define VLANs for Each Segment Create VLANs to logically separate network traffic. Each VLAN represents a distinct broadcast domain, isolating devices within the same segment. For example, you might create VLAN10 for finance, VLAN20 for IT, and VLAN30 for guest access. Assign switch ports to the appropriate VLANs based on device roles or physical location .
2. Assign IP Subnets Each VLAN should have a unique IP subnet. This allows Layer 3 routing between VLANs and ensures proper addressing. For instance, VLAN10 could use 192.168.10.0/24, VLAN20 192.168.20.0/24, and VLAN30 192.168.30.0/24 .
3. Configure Layer 3 Interfaces On a Layer 3 core switch, create VLAN interfaces (SVIs) for each VLAN and assign the corresponding IP address. This enables inter-VLAN routing and allows devices in different segments to communicate through the core switch. Example configuration:

```
interface Vlan10 ip address 192.168.10.1 255.255.255.0 no shutdown
interface Vlan20 ip address 192.168.20.1 255.255.255.0 no shutdown
```

Set the default gateway for access switches to the corresponding VLAN interface on the core switch .

4. Implement Access Control Lists (ACLs) Use ACLs to control traffic between VLANs. This allows you to restrict access to sensitive segments, such as finance or servers, while permitting necessary communication. ACLs can filter traffic based on IP addresses, ports, and protocols .

5. Configure Trunk Links Between Switches Use VLAN trunking on uplinks between core and aggregation/access switches to carry multiple VLANs. Ensure proper tagging (e.g., 802.1Q) and consider using link aggregation (LACP) for redundancy and higher bandwidth .

6. Plan for Redundancy and High Availability Deploy multiple core switches in a redundant configuration. Use protocols like HSRP, VRRP, or GLBP for gateway redundancy, and ensure that routing between VLANs is resilient to switch failures .

7. Optional: Software-Defined Segmentation For advanced environments, consider software-defined segmentation using Security Group Tags (SGTs) or centralized policy management. This allows dynamic classification of traffic based on user identity, device type, or location, simplifying policy enforcement across the network .

Best Practices

- Keep VLANs logically grouped by function or security level.
 - Minimize the number of VLANs per switch to reduce complexity.
 - Document VLAN IDs, subnets, and ACL rules for easier management.
 - Monitor traffic and adjust ACLs or QoS policies to optimize performance.
 - Test inter-VLAN routing and ACLs in a lab environment before deployment.
- By following these steps, core switches can effectively segment the network, improve security, reduce broadcast traffic, and simplify management while maintaining high performance and scalability .

Article Content

How To Configure A Switch For Network Segmentation?

By following this comprehensive guide, you can effectively learn how to configure a switch for network segmentation,

8 Steps to configure your network switch

Just like riding a bicycle, nobody's born knowing how to setup a network switch. And this process is a little more advanced than, say,

How to Configure a Cisco Switch (step by step)

Virtual LansAccess & Trunk PortsVlan InterfacesDHCP ServerPort Channel InterfacesSsh Access with Local Aaa AuthenticationSummaryPort Channels are a technology that allows network devices to combine two or more physical interfaces into one single logical interface. On the device, when an IP packet needs to exit the port channel, each IP packet is run through a hash algorithm to decide what physical interface the IP packet will be sent to. If one physical interface fails, all...See more on howtorouteswitch lookingpoint

Creating a Base Configuration for a Cisco IOS Switch: A Step-by-Step

Learn how to set up a base configuration for network switches. Secure, optimize, and enable remote access with our step-by-step

How To Configure Virtual LANs (VLANs) for Segmented Networks

Learn how to configure VLANs to enhance network security, improve traffic management, and simplify troubleshooting

How To Configure VLANs on Cisco Switches for Network Segmentation

VLAN Configuration on Cisco Switches for Network Segmentation Discover how to configure VLANs on Cisco

How to Create and Configure VLANs on a Cisco Switch with Example

This post will deal with creating Layer 2 VLANs on Cisco switches and performing all relevant configurations. Up to 4094 VLANs can

VLAN Configuration: Step-by-Step Tutorial | NSC

In this guide, we'll walk through the fundamentals of VLAN configuration, ensuring you have a solid understanding of

How to Create a Separate Network on an Existing Switch

how to set up a secure, efficient separate network on an existing switch with easy, actionable steps for better

Support

Configure the devices to meet the following requirements: · Configure the spanning tree feature on all the switches to prevent loops. ·

How to Segment Your Network: 7 Steps

What is Network Segmentation? Network segmentation is an organizational tactic to divide

VLAN Configuration Explained: Segment Your Network Like a Pro!

VLANs are essential for modern network segmentation, improving security and efficiency. Whether on Cisco switches,

Layer 2 or 3? Choose the right switch for optimal

Learn how to choose the right network switches for your enterprise. Explore Layer 2 and

Guide to Basic Switch Configuration | Auvik

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

Network segmentation: All you need to know about its

What is network segmentation in cybersecurity? Learn about the benefits, common

Basic Cisco Switch Configuration Example in 10 Steps

Unlike other lower class switch vendors (which are plug-and-play), the Cisco switch needs some initial basic configuration in order to

Configuring a new core switch with VLANs

I have a core switch that I've purchased second hand, it's foundry switch. I have created 4 VLANs (VLAN1 to VLAN4). I

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

What is network segmentation?

How does network segmentation prevent lateral movement? Network segmentation limits an attacker's ability to move to other parts

Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide ...

You can configure segment routing traffic engineering with on-demand next hop on Cisco Nexus 9000 Series switches.

How to span vlans across core layer in core/distribution/access campus ...

Using the same VLAN in different buildings shouldn't be supported. Especially if you're Campus network is large

routing at the distributionCore switch

The network diagram is attached (Cores switches are 4506): My question is what is the best solution for users

Add a segment to an AWS Cloud WAN core network policy version

The following steps guide you through configuring a core network for a policy version using the Policy versions link on the AWS

What is a network segment? Is a network segment the same

A network segment is a logical group of computers that share a network resource. This can be accomplished with a

How to configure two Core switches in a network with intervlan routing ...

Dear All, Hi Friends, i have two 3750 switches. I configured intervlan routing between three vlans which are

Cisco Nexus 5600 Series NX-OS Layer 2 Switching Configuration

The VN-Segment feature is enabled on all leaf switches. Server A is connected to leaf switch S3 and server B is

Solved: VLAN Segmentation

We have a core stack of Cisco 3850 Layer 3 switches. Can I make the type of rules I need to to separate VLAN traffic

networking

We have a existing network setup where we have two D-Link switches,connected to each other. IPs are manually assigned in the

Understanding the Core Switch: Key Differences and Uses

Explore the core switch's role as the backbone of your network. Discover key differences, uses, and insights into layer

Network Segmentation

The only other option I can think of, is using ACL's on the core switches - but they don't offer the same level of flexibility and

How to Segment Your Network: 7 Steps

What is Network Segmentation? Network segmentation is an organizational tactic to divide

VLAN Configuration Explained: Segment Your Network Like a Pro!

VLANs are essential for modern network segmentation, improving security and efficiency. Whether on Cisco switches,

Layer 2 or 3? Choose the right switch for optimal

Learn how to choose the right network switches for your enterprise. Explore Layer 2 and

Guide to Basic Switch Configuration | Auvik

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

Network segmentation: All you need to know about its

What is network segmentation in cybersecurity? Learn about the benefits, common

Basic Cisco Switch Configuration Example in 10 Steps

Unlike other lower class switch vendors (which are plug-and-play), the Cisco switch needs some initial basic configuration in order to

How to implement network segmentation for better security

Learn how to implement network segmentation, and explore best practices that enable enterprises to improve network

LAN design

How would I use them as core switches? I was hoping someone could point me in the right direction on the best way

How To Configure A Network Switch

Learn how to configure a network switch for optimal performance and security. Follow these step-by-step instructions

How To Configure VLANs on Cisco Switches for Network Segmentation

Discover how to configure VLANs on Cisco switches to enhance network segmentation, improve security, and

Configuring a new core switch with VLANs

I have a core switch that I've purchased second hand, it's foundry switch. I have created 4 VLANs (VLAN1 to VLAN4). I

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

What is network segmentation?

How does network segmentation prevent lateral movement? Network segmentation limits an attacker's ability to move to other parts

Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide ...

You can configure segment routing traffic engineering with on-demand next hop on Cisco Nexus 9000 Series switches.

How To Configure A Switch For Network Segmentation?

By following this comprehensive guide, you can effectively learn how to configure a switch for network segmentation,

8 Steps to configure your network switch

Just like riding a bicycle, nobody's born knowing how to setup a network switch. And this process is a little more advanced than, say,

How to Configure a Cisco Switch (step by step)

Virtual LansAccess & Trunk PortsVlan InterfacesDHCP ServerPort Channel InterfacesSsh Access with Local Aaa AuthenticationSummaryPort Channels are a technology that allows network devices to combine two or more physical interfaces into one single logical interface. On the device, when an IP packet needs to exit the port channel, each IP packet is run through a hash algorithm to decide what physical interface the IP packet will be sent to. If one physical interface fails, all...See more on howtorouteswitch lookingpoint

Creating a Base Configuration for a Cisco IOS Switch: A Step-by-Step

Learn how to set up a base configuration for network switches. Secure, optimize, and enable remote access with our step-by-step

How To Configure Virtual LANs (VLANs) for Segmented Networks

Learn how to configure VLANs to enhance network security, improve traffic management, and simplify troubleshooting

How To Configure VLANs on Cisco Switches for Network Segmentation

VLAN Configuration on Cisco Switches for Network Segmentation Discover how to configure VLANs on Cisco

How to Create and Configure VLANs on a Cisco Switch with Example

This post will deal with creating Layer 2 VLANs on Cisco switches and performing all relevant configurations. Up to 4094 VLANs can

VLAN Configuration: Step-by-Step Tutorial | NSC

In this guide, we'll walk through the fundamentals of VLAN configuration, ensuring you have a solid understanding of

How to Create a Separate Network on an Existing Switch

how to set up a secure, efficient separate network on an existing switch with easy, actionable steps for better

Support

Configure the devices to meet the following requirements: · Configure the spanning tree feature on all the switches to prevent loops. ·

How To Configure A Switch For Network Segmentation?

By following this comprehensive guide, you can effectively learn how to configure a switch for network segmentation,

8 Steps to configure your network switch

Just like riding a bicycle, nobody's born knowing how to setup a network switch. And this process is a little more advanced than, say,

How to Configure a Cisco Switch (step by step)

Virtual LansAccess & Trunk PortsVlan InterfacesDHCP ServerPort Channel InterfacesSsh Access with Local Aaa AuthenticationSummaryPort Channels are a technology that allows network devices to combine two or more physical interfaces into one single logical interface. On the device, when an IP packet needs to exit the port channel, each IP packet is run through a hash algorithm to decide what physical interface the IP packet will be sent to. If one physical interface fails, all...See more on howtorouteswitch lookingpoint

Creating a Base Configuration for a Cisco IOS Switch: A Step-by-Step

Learn how to set up a base configuration for network switches. Secure, optimize, and enable remote access with our step-by-step

How To Configure Virtual LANs (VLANs) for Segmented Networks

Learn how to configure VLANs to enhance network security, improve traffic management, and simplify troubleshooting

How To Configure VLANs on Cisco Switches for Network Segmentation

VLAN Configuration on Cisco Switches for Network Segmentation Discover how to configure VLANs on Cisco

How to Create and Configure VLANs on a Cisco Switch with Example

This post will deal with creating Layer 2 VLANs on Cisco switches and performing all relevant configurations. Up to 4094 VLANs can

VLAN Configuration: Step-by-Step Tutorial | NSC

In this guide, we'll walk through the fundamentals of VLAN configuration, ensuring you have a solid understanding of

How to Create a Separate Network on an Existing Switch

how to set up a secure, efficient separate network on an existing switch with easy, actionable steps for better

Support

Configure the devices to meet the following requirements: · Configure the spanning tree feature on all the switches to prevent loops. ·

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Contact Us

Continue your research online:

Website: <https://coetzerinvestments.co.za>

Technical inquiry: <https://coetzerinvestments.co.za/contact.html>

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

