

Router Core Switch Configuration



Overview

8 Steps to configure your network switch Follow these simple best practices to set up a new network switch. Still fuzzy?

Just like riding a bicycle, nobody.

Key Takeaways

To connect a core switch to a router, configure VLANs, trunking, IP addresses, and routing protocols to enable communication between subnets and ensure efficient network traffic flow.

Step 1: Physical Connection

Connect the core switch to the router using a physical Ethernet cable. Ensure the interfaces on both devices are operational and compatible with the intended speed and duplex settings .

Step 2: IP Address Configuration

Assign IP addresses and subnet masks to the interfaces on both the core switch and the router that are directly connected. This allows the devices to communicate at Layer 3 .

Step 3: VLAN Creation

Create VLANs (Virtual LANs) on the core switch to segment the network into logical subnets. For each VLAN:

- Assign a VLAN ID and name.

- Configure VLAN interfaces (VLANIF) and bind them to the VLAN .
- Assign switch ports to the appropriate VLANs as access ports.

Step 4: Trunk Configuration

Configure trunk ports on both the core switch and the router interfaces that carry multiple VLANs. Use 802.1Q encapsulation to allow VLAN traffic to pass through the trunk .

Step 5: Routing Protocols

Enable routing protocols on the router to allow dynamic routing between VLANs and external networks. Common protocols include:

- RIP
- OSPF
- EIGRP Configure the router to advertise the VLAN subnets and ensure the core switch can forward traffic appropriately .

Step 6: VPN and Security (Optional)

For enterprise environments, configure VPN instances on the core switch to isolate traffic between public networks, firewalls, and egress routers. Bind VLANIF interfaces to the VPN instance to maintain secure routing .

Step 7: Verification

Verify connectivity and proper configuration:

- Use ping to test communication between VLANs and the router.
- Use show vlan brief and show ip route commands to confirm VLANs and routing tables are correctly configured .
- Check trunk status with show interfaces trunk to ensure VLAN traffic is passing correctly.

Step 8: Best Practices

- Use consistent naming conventions for VLANs and interfaces.
- Document IP addressing and VLAN assignments.
- Regularly back up switch and router configurations.
- Monitor network traffic to detect misconfigurations or bottlenecks. By following these steps, the core switch and router will be properly configured to handle inter-VLAN routing, efficient traffic management, and scalable network growth .

Article Content

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Router / Core Switch Configuration

The 3845 will be providing internet access to our core. The main purpose of this network is to provide transit and

Basic Router Configuration

What is the best method to use when connecting a router to your core switch? Should I put the switch port in a vlan

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Introduction to Core Switch Configuration

A switch that functions as part of a router and operates at the third layer of the OSI network standard model, the network layer. The

Configuring switches and router

Configuring switches and router When connecting layer 3 switches together in different buildings and linking them back to another

Configuring Layer 3 Interfaces

You configure a subinterface and associate the subinterface to a VLAN ID using 802.1Q trunking. The following figure shows a

Routers vs. Switches

Switches and routers are networking devices. Both are primarily used to make connections between computers, networked devices,

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Cisco switches are complex to configure and require in-depth knowledge in this field. We show you how to configure

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Table of Contents Router and Switch Configuration Benefits What Is a Switch? How to Configure Router Settings

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Redundant Core switches and Single Router Design

Hello Everyone, I am working on one design and need support for connectivity between two core switches and router.

Solved: Core Switch

You will need the above config to suit your core switches (ie the switchport naming scheme) and to set up the other

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Basic Switch Configuration Guide with Examples

Basic Switch Configuration Guide with Examples A Cisco switch is different from a regular plug-and-play switch. It

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

Difference between a Core Switch and Router

A core switch can also be a router that is a layer 3 switch that has a router engine in it. In essence it is a router/switch

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Configuring Cisco switches and routers is part of a network engineer's daily routine. With proper configuration, you

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Hello, without seeing the actual configs, since you are using HSRP on the core switches, you could configure an IP

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This document provides three sample configurations for the Catalyst 2948G-L3. The configurations are a single-VLAN

Core Switch vs. Distribution Switch vs. Access Switch

A core switch is the primary switch installed at the backbone of a layered or hierarchical network. These data switches are

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Understanding the Core Switch: Key Differences and Uses

Maintain appropriate configurations of the LAG on the downstream switches, routers, servers, and all other devices

LAN Switching Configuration Guide

Whereas switches require IEEE 802.1Q tunnels on interfaces to carry double-tagged traffic, routers need only encapsulate Q-in-Q

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The typical hierarchical design model is broken up in to three layers: Access, Distribution and Core. Access Layer-

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Whether you're configuring a single switch for a small office or managing a more complex network with multiple

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The most important purpose of the layer 3 switch is to speed up the data exchange within the large LAN, and the routing function is

Basic Switch Configuration in Cisco

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

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