

Core and Layer 3 Switch Configuration

Article Overview

A Layer 3 core switch is configured by enabling routed interfaces, creating VLANs and SVIs, assigning IP addresses, and enabling IP routing to support inter-VLAN and external routing.

Step 1: Configure Management Interface

Begin by configuring a dedicated management interface for switch administration. Assign an IP address in a management VLAN that allows connectivity to network administrators and monitoring systems. Ensure this interface is separate from data or voice VLANs to avoid conflicts .

Step 2: Create VLANs

Define all required VLANs for your network segments. For example, separate VLANs for data, voice, and management traffic. On Cisco switches, use the `vlan` command to create VLANs and assign names for clarity .

Step 3: Configure Layer 3 Interfaces (SVIs)

For each VLAN, create a Switched Virtual Interface (SVI) to enable inter-VLAN routing. Assign an IP address to each SVI, which will act as the default gateway for hosts in that VLAN. Example:

```
interface vlan 10 ip address 192.168.10.1 255.255.255.0 no shutdown
Repeat for all VLANs . Ensure each SVI is in a unique subnet....
```

Article Content

Jul 26, 2025

How to Add Layer 3 Switch in GNS3 | A Practical Guide!

Learn how to add and configure Layer 3 Switch (L3) to the GNS3 emulator seamlessly. Follow our step-by-step

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Three-Tier Network Architecture Lab: Building Enterprise-Grade

The three-tier (or three-layer) hierarchical model is a Cisco-advocated network design that divides an enterprise LAN

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Chapter: Configuring Layer 3 Interfaces

Layer 3, the network layer, is primarily responsible for the routing of data in packets across logical internetwork paths.

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Core, Distribution, and Access Layer Explained with Examples ...

Small business implementations: Collapsed core Small to medium businesses don't need the same scale, but they can

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Access, Distribution, and Core Layers Explained

This tutorial provides an overview of the access, distribution, and core layers and explains two-tier and three-tier

Sep 10, 2025

Basic & Advanced Catalyst Layer 3 Switch Configuration: Creating

This article covers basic and advanced configuration of Cisco Catalyst Layer-3 switches such as the Cisco Catalyst 3560G, 3560E,

Oct 11, 2025

Layer 3 Switch Routing – Concepts, Configuration, and Best Practices

What Is a Layer 3 Switch? A Layer 3 switch is a high-performance network device that combines the port density and wire-speed

Nov 30, 2025

Cisco Layer 3 Switch InterVLAN Routing Configuration

A simple approach in understanding how to configure Cisco Layer 3 switch interVLAN routing to enable routing capabilities among

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Cisco Layer 3 Switch InterVLAN Routing Configuration

Below is a diagram that we can use as a reference in understanding how to configure Inter-VLAN routing and test inter-switch

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Understanding the Core Switch: Key Differences and Uses

Explore the core switch's role as the backbone of your network. Discover key differences,

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Cisco Switch Layer2 Layer3 Design and Configuration

One simple and popular switch design scenario will be shown in the following tutorial. This scenario will fit most SMB networks (or

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Catalyst 2948G-L3 Sample Configurations

This document provides three sample configurations for the Catalyst 2948G-L3. The

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What is Layer 3 Switch and How Does it Works?

An introduction to Layer 3 switch and how it works within the network to further understand its benefits and capabilities.

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MS Layer 3 Switching and Routing

Layer 3 routing capabilities are available on most Cisco Meraki switches. This allows the switches to route traffic

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Core Switch vs. Distribution Switch vs. Access Switch

The access layer consists of layer 3 switches, which take routed and switched data packets from the distribution switches and then

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Layer 3 Switch Example

This article outlines a basic example of how layer 3 routing functionality on MS series switches could be implemented. Before

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Layer 2 vs Layer 3 Switch: What's the Difference? | Auvik

A network switch is a fundamental piece of any network, so it's critical that you as an IT professional understand the

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InterVLAN routing using Layer 3 switch | NetworkAcademy.IO

InterVLAN routing using Layer 3 switch In this lesson, we will learn to configure a multilayer switch (also called Layer 3 switch) to

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Two-tier and three-tier switch architectures

1) Core switches Core switches represent the heart of the network and are the top layer of a three-tier network. With its high

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Configuring Layer 3 Interfaces

All Ethernet ports are switched interfaces by default. You can change this default behavior with the CLI setup script or through the

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Example for Configuring a Layer 3 Switch to Work with a Router for ...

Layer 3 switches provide the routing function, which indicates a network-layer function in the OSI model. Layer 3 switches can work

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Fundamentals of Operations on a Layer 3 Switch

Now, all the standard configurations, of normal interface on routers, are applicable to these non-switching interfaces The first

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Inter-VLAN Routing using Layer 3 Switches (4.3)

Inter-VLAN routing using a Layer 3 switch is simpler to configure than the router-on-a-stick method. After the configuration is

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Configuring Layer 3 Interfaces

Information About Layer 3 Interfaces Layer 3 interfaces forward packets to another device using static or dynamic routing protocols.

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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

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Network Design and when to use layer 3 on switches

So I have a network of about 150 devices that I am looking at optimizing. Current setup: Only one VLAN, although I

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Access vs. Distribution vs. Core Switch Comparison Guide

Distribution Layer Switches: Positioned between the access and core layers, distribution switches aggregate traffic from multiple

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Layer-Three Switching and Forwarding

This page contains information about Layer-Three Switching and Forwarding technology.

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Mastering the Core: A Practical Guide to Layer 3 Switch Configuration

In this post, we'll explore how to configure a Layer 3 switch to handle Inter-VLAN routing, turning your flat network into

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layer 3 connection between core and distribution switch

If the port is acting as a routed port, do both ports on the each switch needs to be on the same subnet? If I have

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