

How to configure an OSPF access layer switch



AI Overview

To configure OSPF on an access layer switch, enable IP routing, assign IP addresses to SVIs or routed ports, and activate OSPF on the relevant interfaces with proper area assignments.

Step 1: Enable IP Routing Before OSPF can function, the Layer 3 switch must have IP routing enabled. This allows the switch to forward packets between VLANs and participate in OSPF routing. On Cisco switches, use the following command in global configuration mode:

```
CodeCopySwitch(config)# ip routing
```

Step 2: Configure SVIs (Switched Virtual Interfaces) Each VLAN on the access switch should have an SVI with an IP address, which acts as the default gateway for hosts in that VLAN. For example:

```
CodeCopySwitch(config)# interface vlan 10Switch(config-if)# ip address 192.168.10.1 255.255.255.0Switch(config-if)# no shutdown
```

Repeat for each VLAN that requires routing. These SVIs will be advertised into OSPF.

Step 3: Configure Routed Ports (Optional) If there are direct Layer 3 links to other switches or routers, convert the physical interfaces to routed ports and assign IP addresses:

```
CodeCopySwitch(config)# interface gigabitEthernet 1/0/1Switch(config-if)# no switchportSwitch(config-if)# ip address 10.0.0.1 255.255.255.252Switch(config-if)# no shutdown
```

Step 4: Enable OSPF Start the OSPF process and assign a router ID (unique identifier for the switch):

```
CodeCopySwitch(config)# router ospf 1Switch(config-router)# router-id 1.1.1.1
```

Step 5: Advertise Networks into OSPF Use the network command to specify which interfaces participate in OSPF and their area:

```
CodeCopySwitch(config-router)# network 192.168.10.0 0.0.0.255 area 0Switch(config-router)# network 192.168.20.0 0.0.0.255 area 0
```

For routed ports, include their IP subnets as well. The wildcard mask is the inverse of the subnet mask.

Step 6: Verify OSPF Neighbor Relationships Check that the access switch has f...

Article Content

Best Layer 3 Switch in 2026: Tested and Reviewed

In this guide, we've tested and reviewed some of the top Layer 3 switches available today to help you make an informed decision.

Building the Cisco Cloud Fabric Underlay

Conclusion This underlay build covers the transition from a flat Layer 2 topology to a deterministic routed Layer 3 fabric. The process includes migrating the UAC management ports,

Step-by-Step OSPF Configuration on Cisco Routers

In this post, we walked through the complete process of configuring OSPF on Cisco routers. By first configuring the interfaces, we ensured that our network topology was properly

Cisco-Packet-Tracer-Enterprise-Network/README.md at main

Implement VLAN-based network segmentation. Configure dynamic routing using OSPF. Enable secure remote administration using SSH. Configure DHCP for automatic IP allocation. Implement PAT (Port

How to Configure OSPF on Cisco Routers (With Example Commands)

Open Shortest Path First (OSPF) is a routing protocol developed by Internet Engineering Task Force (IETF). OSPF is standards-based which means it is available on routers by Cisco as well as other

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Overview & Thematic Scope Understanding the Layer 3 routing capabilities of an H3C switch is critical for both network architects planning new deployments and engineers troubleshooting existing

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Layer 2 vs. Layer 3 Switch: A Complete Guide for 2026

Unsure whether to choose a Layer 2 or Layer 3 switch? This guide breaks down the key differences, pros, cons, and use cases to help MSPs and IT professionals

Chapter 9 Configuring OSPF

This chapter provides details on how to configure OSPF on HP routing switches using the CLI and Web management interface.

ENCOR 350-401 Practice Test

A. A software version of a physical multilayer switch B. A software version of a physical Layer 2 switch C. A software version of a physical switch with advanced

Configuring Per Interface OSPF in Cisco

Step 1: Go into global configuration mode. Step 2: Using the router ospf command and a process ID, enable OSPF on the router. Step 3: Using the network command, provide the network

CCNA 2026 Syllabus: Key Topics for Exam Success

Static and Dynamic Routing: Understand how to configure static routes for small networks and dynamic routing protocols like OSPF for scalable

ahhmedmostafaa/Network-Multi-Protocol-Routing

Frame Relay WAN backbone: Routers 0, 3, 6, and 7 connect over serial interfaces using Frame Relay encapsulation with multiple DLCIs, running OSPF over the Frame Relay cloud VLAN segmentation

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Learn how to set up and configure OpenVPN 2.x with community how-to guides covering certificates, routing, networking, and advanced features.

OSPF Configuration for Switches | Mist | Juniper Networks

Follow these steps and example to configure OSPF at the organization and site level.

Basic OSPF Configuration

This lesson explains the basics of an OSPF configuration on Cisco IOS. We look at different configuration and show commands.

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 practical guide for networking!

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Primary Role: High-performance, stackable access/distribution for large campus networks. **Key Specs:** Switching capacity up to 1.92 Tbps; stacking

Cisco Catalyst 3750 Series Switches Data Sheet

For mid-sized organizations and enterprise branch offices, the Cisco Catalyst 3750 Series Switches ease deployment of converged applications and

Cisco OSPF Configuration Guide

In this OSPF tutorial, we'll walk through a step-by-step OSPF configuration on a Cisco router – from starting the OSPF process to verifying it

How to configure OSPF Routing Protocol

This tutorial explained how to configure, test, and verify OSPF configuration on Packet Tracer. Learning these steps helps you implement and manage the OPSF routing protocol on a live

OSPF Configuration Guide

OSPF for Routed Access refers to a network design in which OSPF is implemented at the access layer of a network using Layer 3 switches. In a routed access design, the Layer 2 functionality, such as

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