

Configure the fiber optic ports of a Layer 3 switch



AI Overview

To configure a fiber optic port on a Layer 3 switch, you need to install the appropriate SFP module, connect the fiber cabling, and configure the port as a routed interface with an IP address and routing settings.

Step 1: Prepare the Fiber Connection
Select the correct SFP module based on your fiber type: duplex multimode (OM3) or duplex single mode (OS2) with LC connectors. Install the SFP module into the fiber-enabled port on the switch. Ensure it is fully seated. Connect the fiber optic cables to the SFP module, making sure the transmit (Tx) and receive (Rx) strands are correctly crossed between devices (A to B, B to A). Verify the fiber link using the switch's interface status commands to ensure the port detects the SFP module and link is up.

Step 2: Access the Switch CLI
Connect your computer to the switch via Ethernet and log in using a terminal client (e.g., PuTTY) with administrator credentials. Ensure your computer is in the same IP range as the switch for initial access.

Step 3: Configure the Port as a Layer 3 Interface
Enter global configuration mode:
`CodeCopy enable`
configure terminal
Select the fiber port (e.g., GigabitEthernet1/1 or TenGigabitEthernet1/1):
`CodeCopy interface`
Convert the port to a routed (Layer 3) interface:
`CodeCopy no switchport`
Assign an IP address and subnet mask:
`CodeCopy ip address 192.168.1.1 255.255.255.0` (Optional) Configure the interface type as point-to-point if required:
`CodeCopy ip address 192.168.1.1 255.255.255.0 p2p`
Enable the interface:
`CodeCopy no shutdown`

Step 4: Configure Routing
If the switch is performing inter-VLAN routing or connecting to other Layer 3 devices, configure static routes or dynamic routing protocols as needed. Example for a static route:
`CodeCopy ip route 0.0.0.0 0.0.0.0 192.168.1.254`

Step 5: Verify and Save Configuration
Check interface status and IP configuration:
`CodeCopy show ip interface brief`
show interface
Save the...

Article Content

Computer network

Switches normally have numerous ports, facilitating a star topology for devices, and for cascading additional switches. Bridges and switches operate at the data link layer (layer 2) of the OSI model

Application Guide: Connecting Fiber-ready Network Switches

Always integrate duplex (two strand) fiber optic cabling or higher strand counts. Most modern SFP transceiver modules feature duplex LC connections. Terminate your fiber optic cabling with two LC

Cisco Switch Port Guide: Types, Speeds & CLI Config

A switchport can be configured logically as an access port for a single VLAN, a trunk port utilizing 802.1Q encapsulation to carry multiple VLANs, or a routed port for Layer 3 IP forwarding.

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Qlogic SAN- switch with optical Fibre Channel connectors installed The fabric layer consists of SAN networking devices that include SAN switches, routers, protocol

MS Layer 3 Switching and Routing

A routed port is a physical port on a switch or router that is configured to act as a Layer 3 interface. It is used for routing IP packets instead of switching layer 2 frames.

Network Switches

Cisco network switches deliver performance, flexibility, and security. Cisco switches are scalable and cost-efficient and meet the demands of hybrid work.

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Read this data sheet to learn the benefits, specifications, and ordering information for the Cisco Catalyst 2960 C Series Switches with LAN Lite Software.

HMS Networks

HMS creates products that enable industrial equipment to communicate and share information with software and systems. In short: Hardware Meets Software™.

How to configure fiber optics on a Cisco switch

By following this step-by-step guide, you'll be able to configure your Cisco switch for fiber optics. It's important to keep in mind that your specific switch configuration may vary, so it's always

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 system default switchport command. You can assign an IP address to the

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Ethernet

A switching loop or bridge loop occurs in computer networks when there is more than one Layer 2 (OSI model) path between two endpoints (e.g., multiple connections between two network switches or two

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Bulkier and less flexible due to multiple layers. More vulnerable to security breaches, as the cable can be physically tapped. 3. Optical Fiber Cable Optical Fiber Cable is a guided

Fiber Optic Connector Accessories / Fiber Optic Connectors /

Fiber optic connector accessories are additional components that are used to complement or enhance the performance and functionality of fiber optic connectors. These accessories may include items like

Layer 3 Switches

A Layer 3 switch is a networking device that operates at the network layer (Layer 3) of the OSI model. Unlike traditional Layer 2 switches that rely on MAC addresses for data forwarding, a Layer 3 switch

DGS-3630 Series

The DGS-3630 Series Layer 3 Stackable Managed Switch Hardware Installation Guide contains detailed information about the hardware specifications of the switches in this series.

Layer 3 Etherchannel on Cisco IOS Switch

The switch won't "switch" traffic on this interface but route it. Because it's a layer three interface, we configure an IP address on it. I'll be using two switches for this: Before we configure the port channel

How to Check SFP Light Levels Using CLI Commands

Learn how to check SFP light levels using CLI commands and DOM telemetry. Understand Rx/Tx optical power readings, interpret SFF-8472 and CMIS standards, and troubleshoot

Layer 3 Switch Example

This article outlines a basic example of how layer 3 routing functionality on MS series switches could be implemented. Before proceeding, please refer to the Layer 3 Switch Overview for general information

Example for Switching an Interface to Layer 3 Mode

To enable SwitchA and SwitchB to communicate with each other and provide high link bandwidth, Layer 3 Eth-Trunk interfaces need to be used between SwitchA and SwitchB.

Contact Us

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