

Connect two switches to fiber optic interfaces

Article Overview

To connect two fiber optic switch interfaces, use compatible SFP transceivers with duplex fiber cables, ensuring proper fiber type, connector, and TX/RX alignment.

Step 1: Determine Fiber Type and Distance

Identify whether your connection requires single-mode (SMF) or multimode (MMF) fiber. Single-mode fiber is suitable for long distances (up to tens of kilometers), while multimode fiber is typically used for shorter distances (up to 550 meters for 1G or 300 meters for 10G) (). Ensure the fiber type matches the SFP transceiver specifications.

Step 2: Select Compatible SFP Modules

Each switch port with fiber capability requires an SFP or SFP+ transceiver. Choose modules that match:

- o Fiber type (single-mode or multimode)
- o Connector type (usually LC)
- o Bandwidth (1G, 10G, or higher) () Most SFPs are duplex, meaning they use two fiber strands: one for transmit (TX) and one for receive (RX). Some specialized SFPs can use a single strand for bidirectional communication, but these are less common ().

Step 3: Use Duplex Fiber Cables

Use duplex fiber optic patch cables with LC connectors. Pre-terminated cables save time and reduce installation errors (). Ensure the TX port on one switch connects to the RX port on the other switch, and vice versa, to maintain proper signal flow.

Step 4: Connect the Switches

- o Insert the SFP modules into the fiber ports of each switch.
- o Connect the duplex fiber cable between the SFP modules, ensuring TX/RX alignment.
- o Verify that the link lights on both switches indicate a successful connection.

Step 5: Configure Switch Settings (Optional)

While most switches auto-negotiate fiber links, you may need to:

- o Enable the SFP port

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- o Set the correct speed and duplex mode
- o Configure VLANs or trunking if required for your network topology ()

Additional Tips

- o Check that the wavelengths of the SFP modules match if using single-mode or multimode fiber ().
 - o Avoid exceeding the maximum supported distance for your fiber type and SFP module.
 - o For multiple switches, consider cascading in star or tree topologies to optimize performance ().
- By following these steps, you can establish a reliable fiber optic link between two switches, ensuring high-speed and low-latency network connectivity.

Firstly, insert SFP module into media convertor and plug in the fiber optical cable. Next Connect the PoE switch with media convertor

Hello Everyone, I have two Cisco SG500-28 switches. I would like to run a approximately 300ft-360ft fiber cable from

First of all, we have two sites in two different locations, and we are planning to implement fiber between them. I

In this video we take a look at the different ways of connect 2 switches together. There

Both options 1 and 2 are not good. Why? You run the risk of generating a network loop. So each floor has one

2- How to physically connect the new fibre to the main network switch in the house? (see bubble #1?) 3- How to

SFP (Small Form-factor Pluggable) and QSFP (Quad Small Form-factor Pluggable) are common optical module

Well, I have erased (write erase) the configuration of both switches, so they have the default cisco config. I have

If there is no link light when you connect the fiber port, you have most likely a physical layer issue. So, check to see if

I have two Cisco Catalyst 2960-24TC-L switches and would like to connect them using fibre over a distance of

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Here in the picture, Red links are fiber optic cables; and green is the fiber optic patch cord intended to connect with.

In order to extend long distance network, it's common practical operation to use fiber optical cable to link two PoE switch. PoE

I have an issue when connecting two switches with fiber. The switches connect as expected when in the same room

This is a simple video showing how to install a 850nm fiber optic link using SFP

SFP transceiver modules are specific to the type of fiber being connected (either single mode or multimode). Choose an SFP module

When connecting terminated duplex fiber optic cable between two network switches, ensure the

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