Configuring Auto-MDIX

Prerequisites for Auto-MDIX

Automatic medium-dependent interface crossover (auto-MDIX) is enabled by default.

Auto-MDIX is supported on all 10/100/1000-Mb/s and on 10/100/1000BASE-TX small form-factor pluggable (SFP)-module interfaces. It is not supported on 1000BASE-SX or -LX SFP module interfaces.

Restrictions for Auto-MDIX

The switch might not support a pre-standard powered device—such as Cisco IP phones and access points that do not fully support IEEE 802.3af—if that powered device is connected to the switch through a crossover cable. This is regardless of whether auto-MIDX is enabled on the switch port.

Information about Configuring Auto-MDIX

Auto-MDIX on an Interface

When automatic medium-dependent interface crossover (auto-MDIX) is enabled on an interface, the interface automatically detects the required cable connection type (straight through or crossover) and configures the connection appropriately. When connecting switches without the auto-MDIX feature, you must use straight-through cables to connect to devices such as servers, workstations, or routers and crossover cables to connect to other switches or repeaters. With auto-MDIX enabled, you can use either type of cable to connect to other devices, and the interface automatically corrects for any incorrect cabling. For more information about cabling requirements, see the hardware installation guide.

This table shows the link states that result from auto-MDIX settings and correct and incorrect cabling.

Table 1: Link Conditions and Auto-MDIX Settings

Local Side Auto-MDIX	Remote Side Auto-MDIX	With Correct Cabling	With Incorrect Cabling
On	On	Link up	Link up
On	Off	Link up	Link up
Off	On	Link up	Link up
Off	Off	Link up	Link down

How to Configure Auto-MDIX

Configuring Auto-MDIX on an Interface

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *interface-id*
4. **speed auto**
5. **duplex auto**
6. **end**
7. **copy running-config startup-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `SwitchDevice> enable`	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	**configure terminal** **Example:** `SwitchDevice# configure terminal`	Enters global configuration mode
Step 3	**interface** *interface-id* **Example:** `SwitchDevice(config)# interface`	Specifies the physical interface to be configured, and enter interface configuration mode.

	Command or Action	Purpose
	gigabitethernet1/0/1	
Step 4	**speed auto** **Example:** `SwitchDevice(config-if)# speed auto`	Configures the interface to autonegotiate speed with the connected device.
Step 5	**duplex auto** **Example:** `SwitchDevice(config-if)# duplex auto`	Configures the interface to autonegotiate duplex mode with the connected device.
Step 6	**end** **Example:** `SwitchDevice(config-if)# end`	Returns to privileged EXEC mode.
Step 7	**copy running-config startup-config** **Example:** `SwitchDevice# copy running-config startup-config`	(Optional) Saves your entries in the configuration file.

Example for Configuring Auto-MDIX

This example shows how to enable auto-MDIX on a port:

```
SwitchDevice# configure terminal
SwitchDevice(config)# interface gigabitethernet1/0/1
SwitchDevice(config-if)# speed auto
SwitchDevice(config-if)# duplex auto
SwitchDevice(config-if)# mdix auto
SwitchDevice(config-if)# end
```