

## **Configuring Auto-MDIX**

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## **Prerequisites for Auto-MDIX**

To configure Layer 2 parameters, if the interface is in Layer 3 mode, you must enter the **switchport** interface configuration command without any parameters to put the interface into Layer 2 mode. This shuts down the interface and then re-enables it, which might generate messages on the device to which the interface is connected. When you put an interface that is in Layer 3 mode into Layer 2 mode, the previous configuration information related to the affected interface might be lost, and the interface is returned to its default configuration.

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

### **Restrictions for Auto-MDIX**

- The device 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 device through a crossover cable. This is regardless of whether auto-MIDX is enabled on the switch port.
- After each device reload, interfaces configured with the **no mdix auto** command will be in down state. To enable the interface, each time after a reload, you have to remove the SFP and reinsert the SFP.

## **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 devices 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 devices 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.



Note

Auto-MDIX is enabled by default.

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**

Auto MDIX is turned on by default. To disable Auto MDIX on a port, use the **no mdix auto** command under the interface configuration mode. To put it back to default, use the **mdix auto** command in the interface configuration mode. The following steps show how to enable the Auto MDIX.

#### **Procedure**

	Command or Action	Purpose		
Step 1 enable		Enables privileged EXEC mode.		
	Example:	• Enter your password if prompted.		
	Device> enable			

	Command or Action	Purpose	
Step 2	configure terminal	Enters global configuration mode	
	Example:		
	Device# configure terminal		
Step 3	interface interface-id  Example:	Specifies the physical interface to be configured, and enter interface configuration mode.	
	<pre>Device(config)# interface gigabitethernet1/0/1</pre>		
Step 4	mdix auto	Enables the Auto MDIX feature.	
	Example:  Device (config-if) # mdix auto		
Step 5	end	Returns to privileged EXEC mode.	
	Example:		
	Device(config-if)# end		
Step 6	copy running-config startup-config	(Optional) Saves your entries in the configuration file.	
	Example:	configuration file.	
	Device# copy running-config startup-config		

# **Example for Configuring Auto-MDIX**

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

Device# configure terminal
Device(config)# interface gigabitethernet1/0/1
Device(config-if)# mdix auto
Device(config-if)# end

## **Auto-MDIX and Operational State**

Table 2: Auto-MDIX and Operational State

Auto-MDIX Setting and Operational State on an Interface	Description
Auto-MDIX on (operational: on)	Auto-MDIX is enabled and is fully functioning.
Auto-MDIX on (operational: off)	Auto-MDIX is enabled on this interface but it is not functioning. To allow auto-MDIX feature to function properly, you must also set the interface speed to be autonegotiated.
Auto-MDIX off	Auto-MDIX has been disabled with the <b>no mdix auto</b> command.

## **Additional References for Auto-MDIX**

## **Feature History for Auto-MDIX**

This table provides release and related information for features explained in this module.

These features are available on all releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Fuji 16.9.2	Auto-MDIX on an Interface	An automatic medium-dependent interface crossover (Auto-MDIX) enabled interface detects the required cable connection type (straight through or crossover) and configures the connection appropriately.

Use Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to <a href="http://www.cisco.com/go/cfn">http://www.cisco.com/go/cfn</a>.