

## Configuring Unidirectional Ethernet

**Note**

Supervisor Engine 6-E does *not* support this feature.

This chapter describes how to configure Unidirectional Ethernet on the Catalyst 4000 family switch and contains these sections:

- [Overview of Unidirectional Ethernet, page 28-1](#)
- [Configuring Unidirectional Ethernet, page 28-1](#)

**Note**

For complete syntax and usage information for the switch commands used in this chapter, first look at the *Cisco Catalyst 4500 Series Switch Command Reference* and related publications at this location:

<http://www.cisco.com/en/US/products/hw/switches/ps4324/index.html>

If the command is not found in the *Catalyst 4500 Command Reference*, it will be found in the larger Cisco IOS library. Refer to the *Cisco IOS Command Reference* and related publications at this location:

<http://www.cisco.com/en/US/products/ps6350/index.html>

## Overview of Unidirectional Ethernet

You can set stubless Gigabit Ethernet ports to unidirectionally transmit or receive traffic. Unidirectional Ethernet uses only one strand of fiber for either transmitting or receiving one-way traffic for the GigaPort, instead of two strands of fiber for a full-duplex GigaPort Ethernet. Configuring your GigaPorts either to transmit or receive traffic effectively doubles the amount of traffic capabilities for applications, such as video streaming, where most traffic is sent as unacknowledged unidirectional video broadcast streams.

## Configuring Unidirectional Ethernet

**Note**

You must configure Unidirectional Ethernet on the non-blocking GigaPort, which will automatically disable UDLD on the port.

To enable Unidirectional Ethernet, perform this task:

	Command	Purpose
Step 1	Switch(config)# <b>interface</b> { <b>vlan</b> <i>vlan_ID</i>   { <b>fastethernet</b>   <b>gigabitethernet</b>   <b>tengigabitethernet</b> } <i>slot/interface</i>   <b>Port-channel</b> <i>number</i> }	Selects the interface to configure.
Step 2	Switch(config-if)# [ <b>no</b> ] <b>unidirectional</b> { <b>send-only</b>   <b>receive-only</b> }	Enables Unidirectional Ethernet. Use the <b>no</b> keyword to disable Unidirectional Ethernet.
Step 3	Switch(config-if)# <b>end</b>	Exits configuration mode.
Step 4	Switch# <b>show interface</b> { <b>vlan</b> <i>vlan_ID</i>   { <b>fastethernet</b>   <b>gigabitethernet</b>   <b>tengigabitethernet</b> } <i>slot/interface</i> ) <b>unidirectional</b>	Verifies the configuration.

This example shows how to set Gigabit Ethernet interface 1/1 to unidirectionally send traffic:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# interface gigabitethernet 1/1
Switch(config-if)# unidirectional send-only
Switch(config-if)# end
```

Warning!

Enable 12 port unidirectional mode will automatically disable port udld.  
You must manually ensure that the unidirectional link does not create  
a spanning tree loop in the network.

Enable 13 port unidirectional mode will automatically disable ip routing  
on the port. You must manually configure static ip route and arp entry  
in order to route ip traffic.

This example shows how to set Gigabit Ethernet interface 1/1 to receive traffic unidirectionally:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# interface gigabitethernet 1/1
Switch(config-if)# unidirectional receive-only
Switch(config-if)# end
```

Warning!

Enable 12 port unidirectional mode will automatically disable port udld.  
You must manually ensure that the unidirectional link does not create  
a spanning tree loop in the network.

Enable 13 port unidirectional mode will automatically disable ip routing  
on the port. You must manually configure static ip route and arp entry  
in order to route ip traffic.

This example shows how to verify the configuration

```
Switch>show interface gigabitethernet 1/1 unidirectional
show interface gigabitethernet 1/1 unidirectional
Unidirectional configuration mode: send only
CDP neighbour unidirectional configuration mode: receive only
```

This example shows how to disable Unidirectional Ethernet on Gigabit Ethernet interface 1/1:

```
Switch# configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)# interface gigabitethernet 1/1  
Switch(config-if)# no unidirectional  
Switch(config-if)# end
```

This example shows the result of issuing the **show interface** command for a port that does not support Unidirectional Ethernet:

```
Switch#show interface f6/1 unidirectional  
Unidirectional Ethernet is not supported on FastEthernet6/1
```

