

# Catalyst 2900 Switch Information

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### Related Information

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## Introduction

This document contains information on the Catalyst 2900 switch.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

The information in this document is based on the Catalyst 2900 switch.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

## Frequently Asked Questions

This section contains answers to frequently asked questions about the Catalyst 2900 switch.

### Is the port administratively disabled?

If the **Link** LED is orange, and does not flash, the port is administratively disabled or the port is disabled due to error situations found by the switch. In order to determine which cause set the LED to orange, issue the **show port** command on the switch. A port status of **disabled** means the port is administratively shut down. A port status of **errDisable** means that the port is shut down due to errors.

### What are the proper cables for this product?

These are the proper cables:

- 10BaseT port straight through RJ-45 cable to a router or workstation, or rolled RJ-45 cable to a hub or another switch (Category 3, 4, or 5 UTP)
- 100BaseFX port multimode fiber with a MIC connector for connections up to 2 km long, or singlemode fiber with an ST connector for connections longer than 2 km
- 100BaseTX straight through RJ-45 cable to a router or workstation, or rolled RJ-45 cable to a hub or another switch (Category 5 UTP)
- MII see the Catalyst 2900 User Guide Cabling Instructions

### How do I enable the port module?

Issue the **set port enable** *[mod\_num]/[port\_num]* command, where *mod\_num* is the module number and *port\_num* is the port number.

### How do I determine if an IP address is configured on the switch?

Issue the **show interface** command and check the settings of inet, netmask, and broadcast for the interface named **sc0**. If they are all set to **0.0.0.0**, the IP address is not set.

### How do I configure an IP address?

Issue the **set interface sc0** **[IP address]** **[subnet mask]** command.

### How do I check the subnet mask on the switch and reconfigure it?

Complete these steps:

1. Issue the **show interface** command. Look for a **netmask** **[subnet mask]** entry in order to check the subnet mask on the switch.

2. Issue the **set interface sc0 [IP address] [subnet mask]** command in order to reconfigure the subnet mask.

## Is there a default route on the switch?

Issue the **show ip route** command in order to display the ip route table. Check the table for a default route:

*!--- This is with no default route for sc0.*

```
cat5k> (enable) show ip route
Fragmentation  Redirect  Unreachable
-----
enabled        enabled   enabled
```

Destination	Gateway	Flags	Use	Interface
172.16.84.0	172.16.84.20	U	867	sc0
default	default	UH	0	sl

## How do I set a default route on the switch?

Issue the **set ip route default [gateway] [metric]** command.

*!--- Make sure the default gateway is available.*

```
cat5k> (enable) ping 172.16.84.1
172.16.84.1 is alive
```

*!--- Add the default route for sc0.*

```
cat5k> (enable) set ip route default 172.16.84.1
Route added.
```

*!--- Verify that the route is added.*

```
cat5k> (enable) show ip route
Fragmentation  Redirect  Unreachable
-----
enabled        enabled   enabled
```

Destination	Gateway	Flags	Use	Interface
<b>default</b>	<b>172.16.84.1</b>	<b>UG</b>	<b>0</b>	<b>sc0</b>
172.16.84.0	172.16.84.20	U	868	sc0
default	default	UH	0	sl0

cat5k\_84.20 (enable)

## What VLAN configuration documents exist on Cisco.com?

Refer to the Setting Virtual LANs (VLANs) of Initially Configuring the Switch for more information.

## Are the switch ports to which the end devices connect in the same VLAN?

Issue the **show vlan** command in order to view port assignments. Both ports you try to connect across must be assigned to the same VLAN.

## How do I assign both ports to the same VLAN?

Issue the **set vlan** [vlan] [module/port] command in order to set ports into VLANs.

## Are the VLAN or trunk ports configured to pass that VLAN?

Issue the **show vlan** command in order to view port assignments. In order to check which VLANs are allowed on a trunk port, issue the **show trunk** command.

## How do I assign all non-trunk ports along the link to the same VLAN, and configure any trunk ports along the link to pass that VLAN?

Issue the **set vlan** command in order to change port assignments. In order to change which VLANs are enabled on a trunk port, issue the **set trunk** command.

## Are all the switch ports along the link between the end device and the router either in the same VLAN or trunk ports configured to pass that VLAN?

Issue the **show vlan** command in order to view port assignments. In order to check which VLANs are allowed on a trunk port, issue the **show trunk** command.

## Is the trunk port connected and configured with the correct speed and duplex settings?

Issue the **show port** [module\_#]/[port\_#] command, where module\_# and port\_# are the module and port numbers for the trunk port in question. Check the output in the Status, Duplex, and Speed columns. The status must be **connected** and the speed and duplex must match on both ends of the trunk, or one or both ends of the trunk can be set to auto-negotiate the speed and/or duplex.

## How do I connect the trunk port and/or correct its speed and duplex configuration?

Complete these steps

1. Issue the **set port speed** [module\_#]/[port\_#] [speed] command, where module\_# and port\_# are the module and port numbers for the trunk port in question and **speed** is the desired port speed. The port speed must either be **100** or **auto**, when in doubt use 100.
2. Issue the **set port duplex** [module\_#]/[port\_#] [dup\_type] command, where module\_# and port\_# are the module and port numbers for the trunk port in question and **dup\_type** is the desired duplex setting. The duplex setting must either be **full** or **half**.

## Is the trunk port trunking and configured to pass the desired VLAN range?

Issue the **show trunk** [module\_#]/[port\_#] command, where module\_# and port\_# are the module and port numbers for the trunk port in question. The status must be **trunking**. Under **Vlans allowed on trunk** you see the VLAN range or individual VLAN numbers you want the trunk to carry.

## How do I disable auto–negotiation and change the speed and/or duplex settings?

Complete these steps

1. In order to change the port speed of a 100BaseTX port on the 10/100 Mbps Fast Ethernet Switching module, issue the **set port speed [module#]/[port#] [speed]** command, where **speed** is either **10**, **100**, or **auto**.
2. In order to change the transmission type of a port, issue the **set port duplex [module#]/[port#]** command.
3. Verify that the speed and/or transmission type of a port is set correctly with the **show port [module#]/[port#]** command.

## Do all switches in the VTP domain run the same version of VTP?

Issue the **show vtp domain** command. The VTP version is shown in the output.

## How do I standardize the VTP version that runs on all switches in the VTP domain?

All switches in the same VTP domain must run the same version of VTP. It is possible that some switches in your network can not run VTP version 2. If this is the case, you must revert all switches to version 1 in order to use VTP with these switches. You must run CatOS version 3.1(1) or later in order to use VTP version 2. In order to set the VTP version, issue this command:

```
set vtp v2 {enable | disable}
```

Refer to [Configuring VLANs: VTP Version 2](#) for more information on VTP versions.

## How do I configure the correct domain name on the problem switch?

Issue the **set vtp domain [domain\_name]** command.

## Is the problem switch configured with the correct VTP domain name?

Issue the **show vtp domain** command. The domain name is shown in the output. The domain name must be the same for all switches in the management domain.

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## Related Information

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