Activate Traceroute Configuration on a Switch

Objective

The first time that you log in to the web-based utility of your switch, you have to use Traceroute as a diagnostic tool that is used to determine which path IP packets take to get to a remote destination. This can be used to troubleshoot a problem that has occurred across a network connection. Traceroute operates through the use of three User Datagram Protocol (UDP) datagrams with Time to Live (TTL) values. TTL is a mechanism that limits the lifespan of data in a network. Every time a packet is sent to a router, the TTL value decrements by one. Once the TTL value reaches 0, the router responds with an Internet Control Message Protocol (ICMP) Time Exceeded Message (TEM) which indicates that the datagram has expired.

At first, traceroute sends three UDP datagrams to the first router with TTL values of one. The first router responds with a ICMP TEM message which provides information for the traceroute feature. Next, traceroute sends three more UDP datagrams with TTL values of two. The second router along the route responds with an ICMP TEM message. This process continues until either the destination is reached or the configured max TTL value is reached. Once the traceroute is complete, the information that regards the traceroute is displayed in the Traceroute Table.

This article provides instructions on how to activate traceroute configuration on your switch.

Applicable Devices

- Sx300 Series
- Sx350 Series
- SG350X Series
- Sx300 Series
- Sx550X Series

Software Version

- 1.4.7.05 — Sx300, Sx500
- 2.2.8.04 — Sx350, SG350X, Sx550X

Activate Traceroute Configuration on your Switch

Traceroute discovers the IP routes along which packets forwarded by sending an IP packet to the target host and back to the device. The Traceroute page shows each hop between the device and a target host, and the round-trip time to each hop. To configure traceroute settings on your switch, follow these steps:
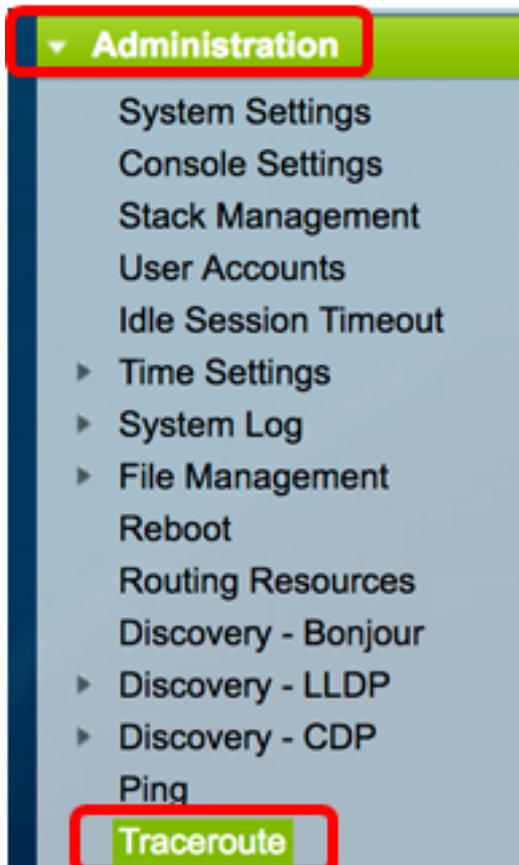
Step 1. Log in to the web-based utility of your switch then choose **Advanced** in the Display Mode drop-down list.

Note: In this example, SG350X-48MP switch is used.
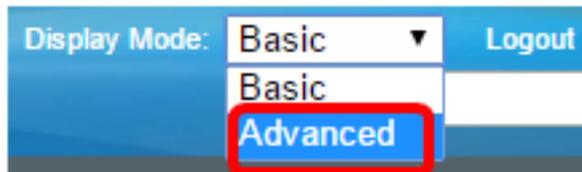
Note: If you have an Sx300 or Sx500 Series switch, skip to Step 2.

Step 2. Choose **Administration > Traceroute**.

Step 3. Click the radio button that corresponds to the desired way the host will be defined in the Host Definition area.

The options are:

- By IP address — Hosts are identified by their IP address.
- By name — Hosts are identified by their name.

Note: In this example, By IP address is chosen.

Step 4. (Optional) If the chosen host is defined by an IP address in Step 3, click the radio button that corresponds to the desired IP version in the IP Version area.

The options are:

- Version 6 — Hosts are identified by their IP address in Internet Protocol version 6 (IPv6) format.
- Version 4 — Hosts are identified by their IP address in Internet Protocol version 4 (IPv4) format.
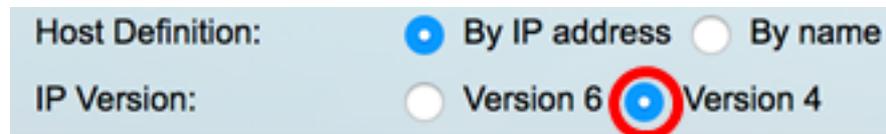
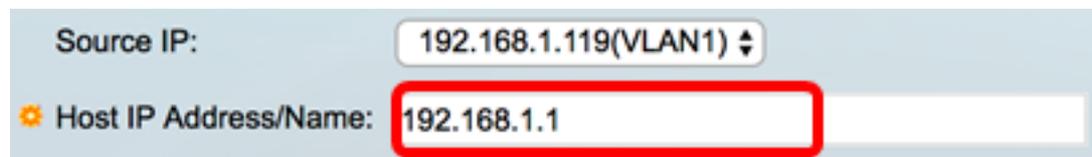**Note:** In this example, Version 4 is chosen.

Step 5. Choose the source interface whose IPv4 address will be used as the source IPv4 address for communication messages. If the chosen Host Definition field was By Name, all IPv4 and IPv6 addresses will be displayed in this drop-down field. If the chosen Host Definition field was By IP Address, only the existing IP addresses of the type specified in the IP Version field will be displayed.
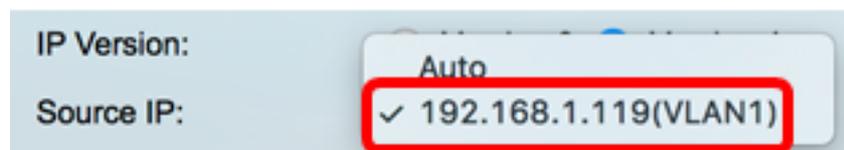
Note: Alternatively, you can choose **Auto** to allow the switch to automatically choose the Source interface. In this example, 192.168.1.119(VLAN1) is chosen.

Step 6. Enter the host address or name of the destination host in *the Host IP Address/Name* field.

Note: In this example, 192.168.1.1 is used.

Step 7. Click the radio button that corresponds to the desired TTL. This is used to prevent datagrams from looping endlessly.

- Use Default — Use the default value of 30.
- User Defined — Enter a value between the range of 1 and 255.

Note: In this example, Use Default is chosen.

Step 8. Click the radio button that corresponds to the desired Timeout value. The timeout value is the time that the switch will wait for a frame to return before it declares that the frame is lost.

- Use Default — Use the default value of 3.
- User Defined — Enter a value between the range of 1 and 60.

Note: In this example, User Defined is chosen with 4 seconds Timeout value.

Step 9. Click **Activate Traceroute** to run traceroute.

The Traceroute page will display the status of the concluded traceroute in the Status area. In this example, the status is Traceroute Complete.

The Traceroute Table displays the following information:

- Index — The number of the hop.
- Host — A stop along the route to the destination.
- Round Trip (1 to 3) Time and Status — The round trip time (in milliseconds) for the first through third frame and the status of the first through third operation.

Step 10. (Optional) Click **Back** to return to the previous Traceroute page.

Traceroute

Status: Traceroute Complete

Traceroute Table

Index	Host	Round Trip 1		Round Trip 2		Round Trip 3	
		Time (ms)	Status	Time (ms)	Status	Time (ms)	Status
1	192.168.1.1	20	Succeeded	40	Succeeded	20	Succeeded

Back

You should now have successfully activated traceroute configuration on your switch.