

# Manage the Link Layer Discovery Protocol (LLDP) Neighbor Information on a Switch

## Objective

Link Layer Discovery Protocol (LLDP) Media Endpoint Discovery (MED) provides additional capabilities to support media endpoint devices such as to enable the advertisement of network policies for applications like voice or video, device location discovery, and troubleshooting information. LLDP and Cisco Discovery Protocol (CDP) are both similar protocols, and the difference is that LLDP facilitates vendor interoperability and CDP is Cisco proprietary. LLDP can be used in scenarios where the user needs to work between devices which are not Cisco proprietary and devices which are Cisco proprietary.

The LLDP protocol is useful to network administrators for troubleshooting purposes. The switch gives all the information about the current LLDP status of ports. The network administrator can use this information to fix connectivity problems within the network.

**Note:** To know how to configure LLDP properties on a switch, click [here](#) for instructions.

The LLDP Neighbor Information page contains information that was received from neighboring devices. After timeout based on the value received from the neighbor Time To Live (TLV) during which no LLDP Power Distribution Unit (PDU) was received from a neighbor, the information is deleted.

This article provides instructions on how to manage the LLDP neighbor information table on a switch.

## Applicable Devices

- Sx250 Series
- Sx300 Series
- Sx350 Series
- SG350X Series
- Sx500 Series
- Sx550X Series

## Software Version

- 1.4.7.05 — Sx300, Sx500
- 2.2.5.68 — Sx250, Sx350, SG350X, Sx550X

# Manage the LLDP Neighbor Information

## Manage the LLDP Neighbor Information

Step 1. Access the web-based utility of the switch then choose **Administration > Discover – LLDP > LLDP Neighbor Information**.

## ▼ Administration

System Settings

Console Settings

Stack Management

User Accounts

Idle Session Timeout

▶ Time Settings

▶ System Log

▶ File Management

Reboot

Routing Resources

Discovery - Bonjour

▼ Discovery - LLDP

Properties

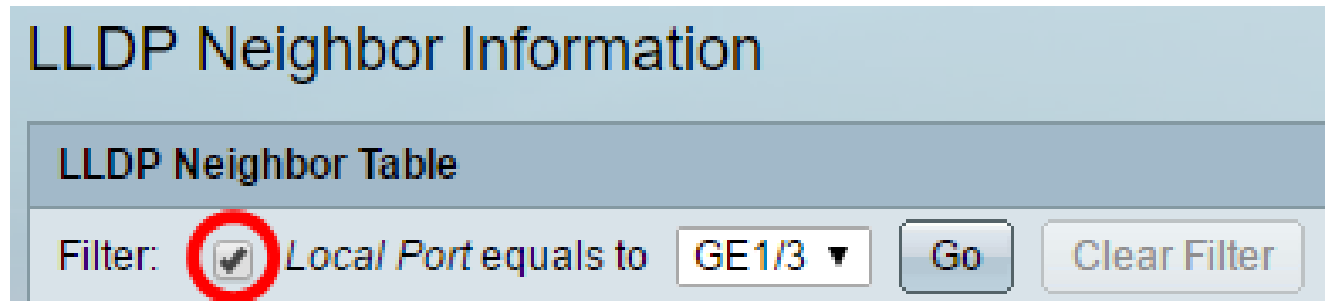
Port Settings

LLDP MED Network Policy

LLDP MED Port Settings

**Note:** The available menu options may vary depending on the device model. In this example, SG350X-48MP is used.

Step 2. (Optional) Check the **Filter** check box to filter the local ports that you want to be shown on the LLDP Neighbor Table.

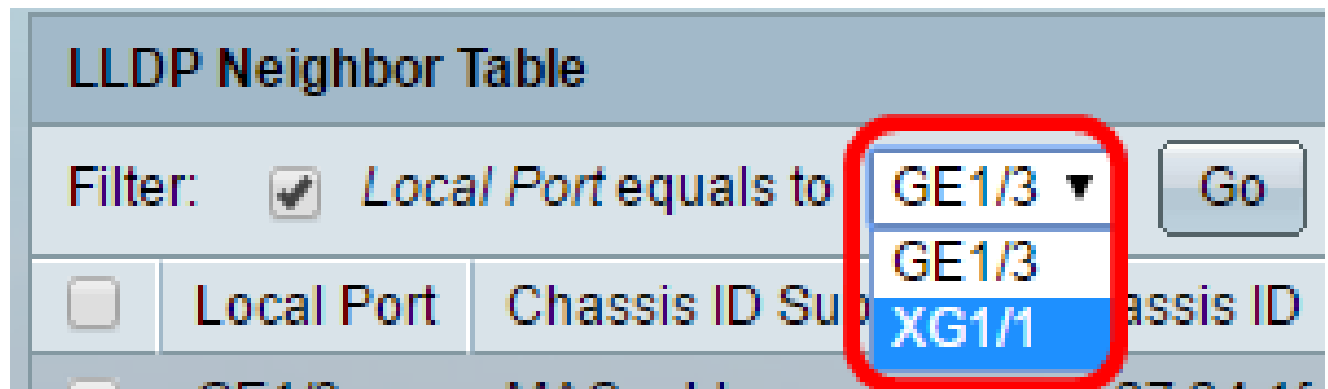


LLDP Neighbor Information

LLDP Neighbor Table

Filter:  *Local Port* equals to GE1/3 ▼ Go Clear Filter

Step 3. (Optional) Choose an interface from the Local Port drop-down list.



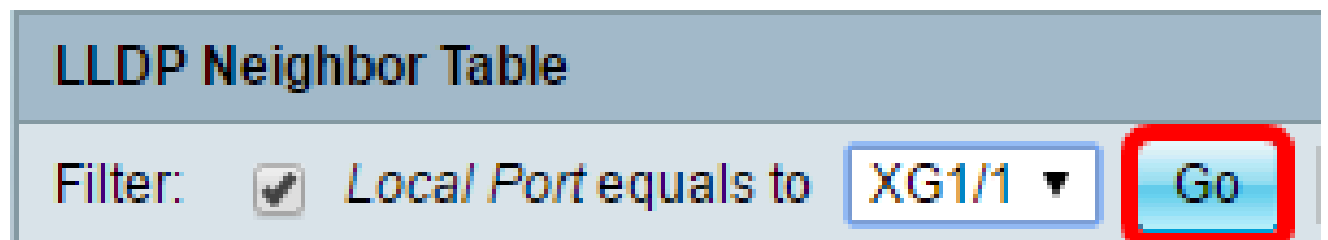
LLDP Neighbor Table

Filter:  *Local Port* equals to GE1/3 ▼ Go

<input type="checkbox"/>	Local Port	Chassis ID Sup	Chassis ID
<input type="checkbox"/>	GE1/3	MAC address	07:04:45
<input type="checkbox"/>	XG1/1	MAC address	07:04:45

**Note:** In this example, Port XG1 of Unit 1 is chosen.

Step 4. (Optional) Click **Go**.



LLDP Neighbor Table

Filter:  *Local Port* equals to XG1/1 ▼ Go

Step 5. (Optional) Click **Clear Filter** to clear the filter settings.

**LLDP Neighbor Table**

Filter:  Local Port equals to XG1/1 ▼ Go **Clear Filter**

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name
<input type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name	gi1	switchdbff53

Delete Details Refresh

LLDP Port Status Table

Step 6. (Optional) Click **Refresh** to refresh the LLDP Neighbor Table.

**LLDP Neighbor Table**

Filter:  Local Port equals to GE1/3 ▼ Go Clear Filter

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name
<input type="checkbox"/>	GE1/3	MAC address	0c:27:24:1f:47:a8	Interface name	gi1	switch1f47a8
<input type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name	gi1	switchdbff53

Delete Details **Refresh**

LLDP Port Status Table

Step 7. (Optional) Click **LLDP Port Status Table** button to view the LLDP Port Status table. To learn more about this feature, click [here](#) for instructions.

**LLDP Neighbor Table**

Filter:  Local Port equals to XG1/1 ▼ Go Clear Filter

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name	Time to Live
<input type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name	gi1	switchdbff53	109

Delete Details Refresh

**LLDP Port Status Table**

You should now have managed the LLDP Neighbor Information table.

## Delete LLDP Neighbor Information

Step 1. Check the check box next to the port that you want to delete.

**LLDP Neighbor Table**

Filter:  Local Port equals to GE1/3 ▼ Go Clear Filter

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype
<input type="checkbox"/>	GE1/3	MAC address	0c:27:24:1f:47:a8	Interface name
<input checked="" type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name

Delete Details Refresh

**Note:** In this example, Port XG1 of Unit 1 is chosen.

Step 2. (Optional) Click **Delete** to delete the chosen port from the LLDP Neighbor Table.

**LLDP Neighbor Table**

Filter:  Local Port equals to GE1/3 ▼ Go Clear Filter

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype
<input type="checkbox"/>	GE1/3	MAC address	0c:27:24:1f:47:a8	Interface name
<input checked="" type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name

Delete Details Refresh

Step 3. (Optional) Click **Save** to save to settings to the startup configuration file.

Save cisco Language: Eng

**Port Gigabit PoE Stackable Managed Switch**

**LLDP Neighbor Information**

**LLDP Neighbor Table**

Filter:  Local Port equals to GE1/3 ▼ Go Clear Filter

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name	Time to Live
<input type="checkbox"/>	GE1/3	MAC address	0c:27:24:1f:47:a8	Interface name	gi1	switch1f47a8	102

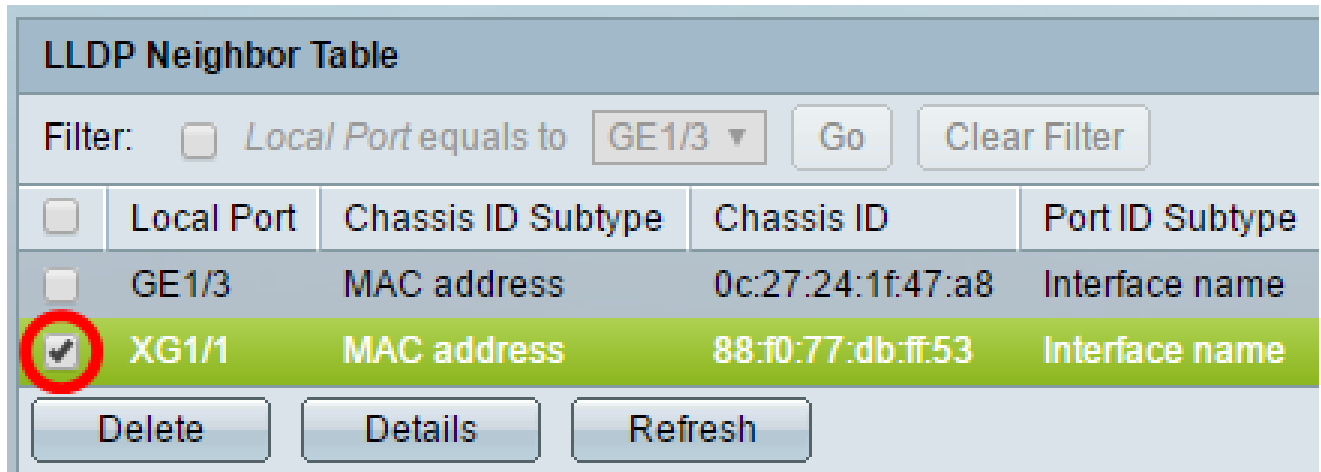
Delete Details Refresh

LLDP Port Status Table

You should now have deleted the port from the LLDP Neighbor Table.

## View LLDP Neighbor Information

Step 1. Check the check box next to the port that you want to view.

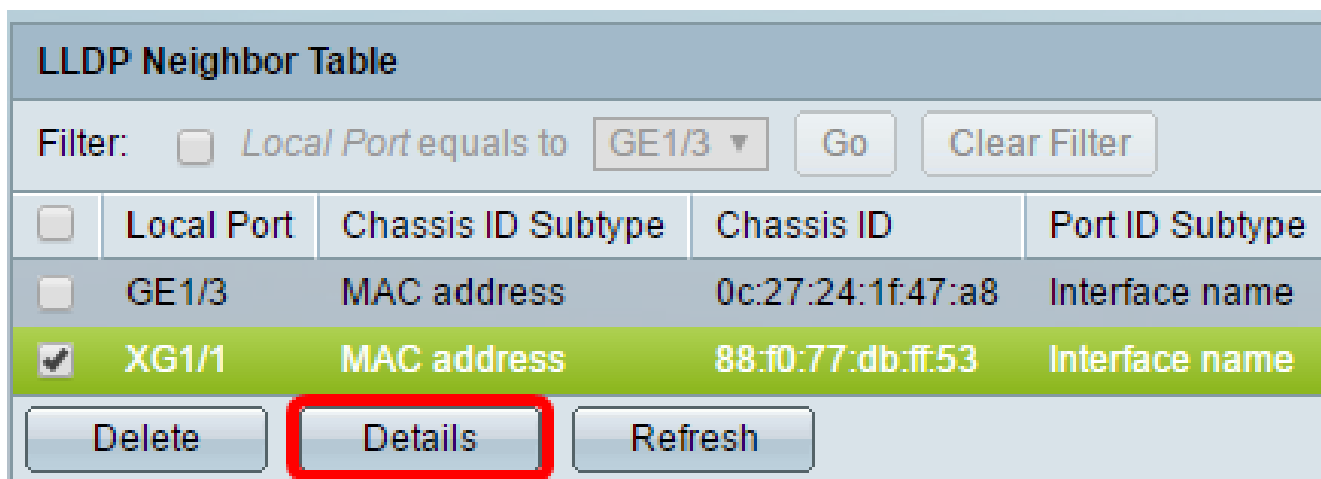


The screenshot shows the 'LLDP Neighbor Table' interface. At the top, there is a filter section with a dropdown menu set to 'GE1/3' and buttons for 'Go' and 'Clear Filter'. Below this is a table with the following columns: 'Local Port', 'Chassis ID Subtype', 'Chassis ID', and 'Port ID Subtype'. The table contains two rows: one for 'GE1/3' with 'MAC address' as the subtype and '0c:27:24:1f:47:a8' as the ID, and another for 'XG1/1' with 'MAC address' as the subtype and '88:f0:77:db:ff:53' as the ID. The 'XG1/1' row is highlighted in green, and its checkbox is checked and circled in red. Below the table are three buttons: 'Delete', 'Details', and 'Refresh'.

<input type="checkbox"/>	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype
<input type="checkbox"/>	GE1/3	MAC address	0c:27:24:1f:47:a8	Interface name
<input checked="" type="checkbox"/>	XG1/1	MAC address	88:f0:77:db:ff:53	Interface name

**Note:** In this example, Port XG1 of Unit 1 is chosen.

Step 2. Click **Details** to view the LLDP neighbor information.



This screenshot is identical to the previous one, but the 'Details' button at the bottom of the interface is now highlighted with a red rectangle, indicating it is the next step in the process.

### Port Details

The following information will be displayed:

# LLDP Neighbor Information

## Port Details

Local Port:	XG1/1
MSAP Entry:	15

- Local Port — Port number.
- MSAP Entry — Device Media Service Access Point (MSAP) entry number.

## Basic Details

The following information will be displayed:

### Basic Details

Chassis ID Subtype:	MAC Address
Chassis ID:	88:f0:77:db:ff:53
Port ID Subtype:	Interface Name
Port ID:	gi1
Port Description:	N/A
System Name:	switchdbff53
System Description:	N/A
Supported System Capabilities:	Bridge
Enabled System Capabilities:	Bridge

- Chassis ID Subtype — Type of chassis ID. (For example, the MAC address.)
- Chassis ID — Identifier of the 802 Local Area Network (LAN) neighboring device chassis. Where the chassis ID subtype is a Media Access Control (MAC) address, the MAC address of the device appears.
- Port ID Subtype — Type of the port identifier that is shown.
- Port ID — Identifier of port.
- Port Description — Information about the port, including manufacturer, product name and



hardware or software version.

- System Name — Name of device.
- System Description — Description of the device (in alpha-numeric format). This includes the system name and versions of the hardware, operating system, and networking software supported by the device. The value equals the sysDescr object.
- Supported System Capabilities — Primary functions of the device. The capabilities are indicated by two octets. Bits 0 through 7 indicate Other, Repeater, Bridge, Wireless LAN (WLAN) Access Point (AP), Router, Telephone, Data Over Cable Service Interface Specification (DOCSIS) cable device, and station, respectively. Bits 8 through 15 are reserved.
- Enabled System Capabilities — Primary enabled function or functions of the device.

## Management Address

The following information will be displayed:

Management Address			
Management Address Table			
Address Subtype	Address	Interface Subtype	Interface Number
IPv4	192.168.0.254	Interface Index	10

- Address Subtype — Type of management IP address that is listed in the Management Address field (For example, IPv4).
- Address — Returned address most appropriate for management use.
- Interface Subtype — Numbering method used for defining the interface number.
- Interface Number — Specific interface associated with this management address.

## MAC/PHY Details

The following information will be displayed:

MAC/PHY Details	
Auto-Negotiation Supported:	True
Auto-Negotiation Enabled:	True
Auto-Negotiation Advertised Capabilities:	10 Base T, 10 Base TFD, 100 Base TX, 100 Base TXFD
Operational MAU Type:	dot3MauType10Base5

- Auto-Negotiation Supported — Port speed auto-negotiation support status. The possible values are True and False.
- Auto-Negotiation Enabled — Port speed auto-negotiation active status. The possible values are

True and False.

- Auto-Negotiation Advertised Capabilities — Port speed auto-negotiation capabilities; for example, 1000BASE-T half duplex mode, 100BASE-TX full duplex mode.
- Operational MAU Type — Medium Attachment Unit (MAU) type. The MAU performs physical layer functions, including digital data conversion from the collision detection of the Ethernet interfaces and bit injection into the network; for example, 100BASE-TX full duplex mode.

### 802.3 Power via MDI

The following information will be displayed:

802.3 Power via MDI	
MDI Power Support Port Class:	pClassPSE
PSE MDI Power Support:	Enabled
PSE MDI Power State:	Enabled
PSE Power Pair Control Ability:	Enabled
PSE Power Pair:	Signal
PSE Power Class:	5
Power Type:	Type 1 PSE
Power Source:	Primary Power Source
Power Priority:	Unknown
PD Requested Power Value:	30 Watt
PSE Allocated Power Value:	30 Watt

- MDI Power Support Port Class — Advertised power support port class.
- PSE MDI Power Support — Indicates if Maximum Demand Indicator (MDI) power is supported on the port.
- PSE MDI Power State — Indicates if MDI power is enabled on the port.
- PSE Power Pair Control Ability — Indicates if power pair control is supported on the port.
- PSE Power Pair — Power pair control type supported on the port.
- PSE Power Class — Advertised power class of the port.
- Power Type — Type of pod device connected to the port.
- Power Source — Port power source.
- Power Priority — Port power priority.

- PD Requested Power Value — Amount of power requested by the pod device.
- PSE Allocated Power Value — Amount of power allocated by the Power Source Equipment (PSE) to the Power Distributor (PD).

#### 4-Wire Power via MDI

**Note:** This area is only available on Sx250, Sx350, SG350X, and Sx550X Series switches.

The following information will be displayed:

#### 4-Wire Power via MDI

4-Pair POE Supported:	Yes
Spare Pair Detection/Classification Required:	Yes
PD Spare Pair Desired State:	Enabled
PD Spare Pair Operational State:	Enabled

- 4-Pair PoE Supported — Indicates system and port support enabling the 4-pair wire. This is true only for specific ports that have this hardware ability.
- Spare Pair Detection/Classification Required — Indicates that the 4-pair wire is needed.
- PD Spare Pair Desired State — Indicates a pod device requesting to enable the 4-pair ability.
- PD Spare Pair Operational State — Indicates if the 4-pair ability is enabled or disabled.

#### 802.3 Details

The following information will be displayed:

#### 802.3 Details

802.3 Maximum Frame Size:	65531
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- 802.3 Maximum Frame Size — Advertised maximum frame size that is supported on the port.

### 802.3 Link Aggregation

The following information will be displayed:

802.3 Link Aggregation	
Aggregation Capability:	Capable
Aggregation Status:	Not aggregated
Aggregation Port ID:	212

- Aggregation Capability — Indicates if the port can be aggregated.
- Aggregation Status — Indicates if the port is currently aggregated.
- Aggregation Port ID — Advertised aggregated port ID.

### 802.3 Energy Efficient Ethernet (EEE)

The following information will be displayed:

802.3 Energy Efficient Ethernet (EEE)	
Remote Tx:	30 $\mu$ sec
Remote Rx:	25 $\mu$ sec
Local Tx Echo:	30 $\mu$ sec
Local Rx Echo:	25 $\mu$ sec

- Remote Tx — Indicates the time (in micro seconds) that the transmitting link partner waits before it starts transmitting data after leaving Low Power Idle (LPI) mode.
- Remote Rx — Indicates the time (in micro seconds) that the receiving link partner requests that the transmitting link partner waits before transmission of data following LPI mode.
- Local Tx Echo — Indicates the reflection of the local link partner of the Tx value of the remote link partner.
- Local Rx Echo — Indicates the reflection of the local link partner of the of the Rx value of the remote link partner.

## MED Details

The following information will be displayed:

MED Details	
Capabilities Supported:	Capabilities, Network Policy, Location, Extended PSE, Inventory
Current Capabilities:	Capabilities, Location, Extended PSE
Device Class:	Endpoint Class 3
PoE Device Type:	Powered Device
PoE Power Source:	
PoE Power Priority:	
PoE Power Value:	
Hardware Revision:	
Firmware Revision:	
Software Revision:	
Serial Number:	
Manufacturer Name:	
Model Name:	
Asset ID:	

- Capabilities Supported — MED capabilities supported on the port.
- Current Capabilities — MED capabilities enabled on the port.
- Device Class — LLDP-MED endpoint device class. The possible device classes are:
- Endpoint Class 1 — Generic endpoint class, offering basic LLDP services.
- Endpoint Class 2 — Media endpoint class, offering media streaming capabilities, as well as all Class 1 features.
- Endpoint Class 3 — Communications device class, offering all Class 1 and Class 2 features plus location, 911, Layer 2 device support, and device information management capabilities.
- PoE Device Type — Port Power over Ethernet (PoE) type; for example, PD or PSE.
- PoE Power Source — Port power source.
- PoE Power Priority — Port power priority.
- PoE Power Value — Port power value.
- Hardware Revision — Hardware version.
- Firmware Revision — Firmware version.
- Software Revision — Software version.
- Serial Number — Device serial number.
- Manufacturer Name — Device manufacturer name.
- Model Name — Device model name.
- Asset ID — Asset ID.

## 802.1 VLAN and Protocol

The following information will be displayed:

## 802.1 VLAN and Protocol

PVID:

4092

- PVID — Advertised port Virtual Local Area Network (VLAN) ID.

### PPVIDs

The following information will be displayed:

### PPVIDs

#### PPVID Table

VID	Supported	Enabled
0	Supported	Enabled
4093	Not Supported	Disabled
4094	Supported	Disabled

- VID — Protocol VLAN ID.
- Supported — Supported Port and Protocol VLAN IDs.
- Enabled — Enabled Port and Protocol VLAN IDs.

### VLAN IDs

The following information will be displayed:

# VLAN IDs

## VLAN ID Table

VID	VLAN Name
1	Test3
4093	Test2
4094	Test1

- VID — Port and Protocol VLAN ID.
- VLAN Name — Advertised VLAN names.

### Protocol IDs

The following information will be displayed:

# Protocol IDs

## Protocol ID Table

Protocol ID	
31	
32	
33	

- Protocol ID — Advertised protocol IDs.

### Location Information

The following information will be displayed:

Location Information	
Civic:	01:23:45:67:89:AB
Coordinates:	11:22:33:44:55:66:77:88:99:00:AA:BB:CC:DD:EE:FF
ECS ELIN:	A1:B2:C3:D4:E5:F6:A7:B8:C9:D0
Unknown:	



- Civic — Civic or street address.
- Coordinates — Location map coordinates — latitude, longitude, and altitude.
- ECS ELIN — The Emergency Call Service (ECS) Emergency Location Identification Number (ELIN) of the device.
- Unknown — Unknown location information.

## Network Policies

The following information will be displayed:

- Application Type — Network policy application type (For example, Voice).
- VLAN ID — VLAN ID for which the network policy is defined.
- VLAN Type — VLAN type, Tagged or Untagged, for which the network policy is defined.
- User Priority — Network policy user priority.
- DSCP — Network policy Differentiated Services Code Point (DSCP).

Network Policies				
Network Policy Table				
Application Type	VLAN ID	VLAN Type	User Priority	DSCP
0 results found.				

Step 3. (Optional) Click the **Neighbor Table** button to go back to the LLDP Neighbor Information page.

Network Policies				
Network Policy Table				
Application Type	VLAN ID	VLAN Type	User Priority	DSCP
0 results found.				
<div style="border: 2px solid red; border-radius: 10px; padding: 5px; display: inline-block;">Neighbor Table</div>				

You should now have viewed the neighbor information of a port on your switch.