# Switch Web

## User Manual

# Legal Information

## About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website ( ***https://www.hikvision.com/*** )company website.
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# Preface

## Applicable Models

This manual is applicable to switches.

## About the Default

- Default administrator account: admin.
- Default IP address: 192.168.1.64.

# Contents

# Chapter 1 Product Introduction

With multiple ports, the layer 2 switch (hereinafter referred to as "the device") is reliable and easy to install and maintain, providing advanced data exchanging on the basis of high-performance access. Through web or client, the switch supports status checking, port management, layer 2 configuration, and other functions. It is suitable for small-scale LAN device access.

**Note**

The specific functions vary with different models. If there are differences between the figures shown in this manual and your device, the latter prevails.

# Chapter 2 Activation and Login

For the first time usage, you must activate the switch and configure the password.

**Before You Start**

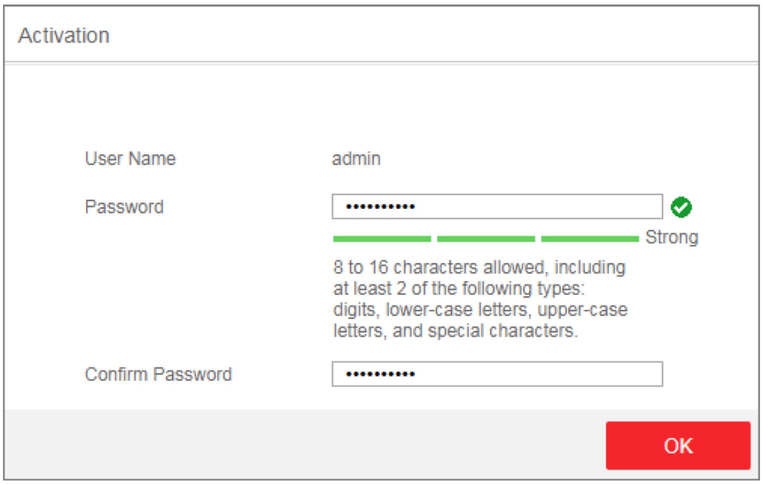
Ensure the computer and the switch are on the same network segment.

**Steps**

**Note**

All figures in this manual are for illustration purpose only.

1. Enter the default IP ***192.168.1.64*** in the browser address bar.



Activation

User Name admin

Password •••••••••• ✓

Strong

8 to 16 characters allowed, including at least 2 of the following types: digits, lower-case letters, upper-case letters, and special characters.

Confirm Password ••••••••••

**Figure 2-1 Activation**

**Note**

You are recommended to use the newest version of the following browsers: IE 10+, Edge, and Chrome 31+.

2. Configure the password and confirm it.
3. Click **OK**.

   Go to the login page.

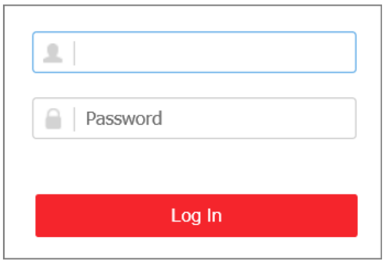
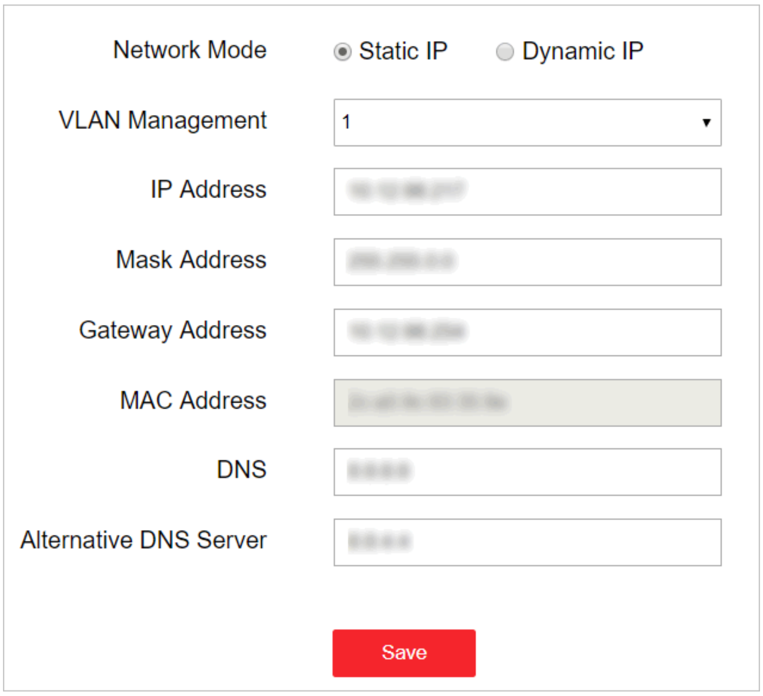


**Figure 2-2 Login**

4. Enter the **User Name** and **Password**, and click **Log In**.
5. **Optional:** Change the network configuration.
   1) Go to **System Management → Network Configuration → Basic Config** .



Network Mode ● Static IP ○ Dynamic IP

VLAN Management 1

IP Address [redacted]

Mask Address [redacted]

Gateway Address [redacted]

MAC Address [redacted]

DNS [redacted]

Alternative DNS Server [redacted]

**Figure 2-3 Network Configuration**

   2) Change the IP address, mask address, the gateway address, DNS and alternative DNS as needed. You can log in to the switch with the new IP address next time.

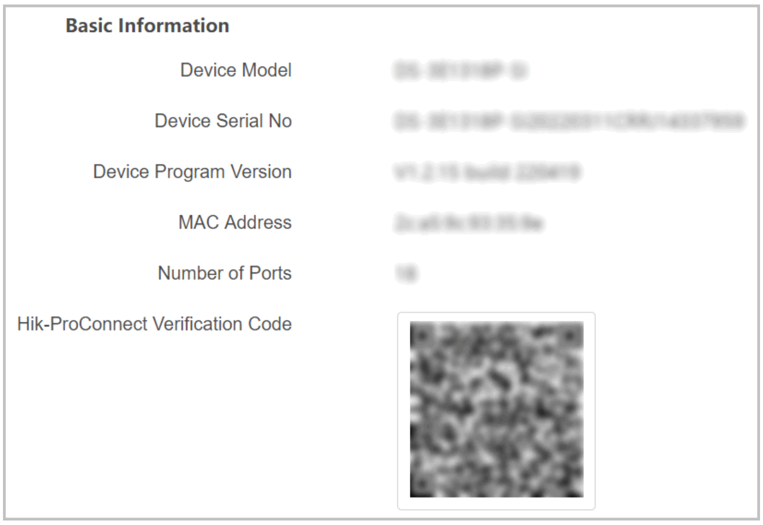
**Note**

You are recommended to change the network configuration to better manage the switch.

# Chapter 3 Device Management

After logging in to the device, you can go to **Device Status** to view the device status, including the device information, working status, port status, port statistics, and PoE status.

## Device Information



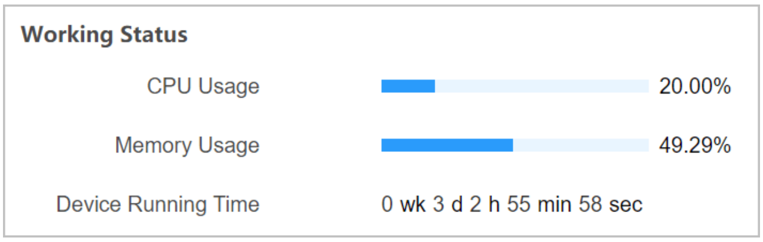
Basic Information

| | |
|---|---|
| Device Model | [redacted] |
| Device Serial No | [redacted] |
| Device Program Version | [redacted] |
| MAC Address | [redacted] |
| Number of Ports | [redacted] |
| Hik-ProConnect Verification Code | [redacted] |

**Figure 3-1 Device Information**

## Working Status

View the working status, including device running time, memory usage, and CPU usage.

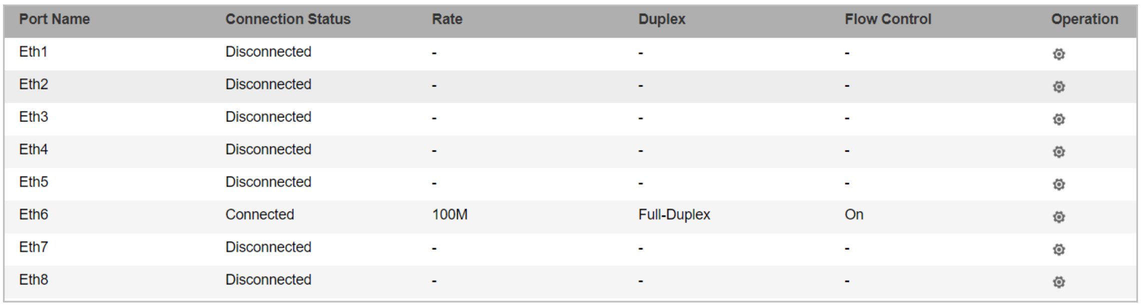


Working Status

| | |
|---|---|
| CPU Usage | 20.00% |
| Memory Usage | 49.29% |
| Device Running Time | 0 wk 3 d 2 h 55 min 58 sec |

**Figure 3-2 Working Status**

## Port Status

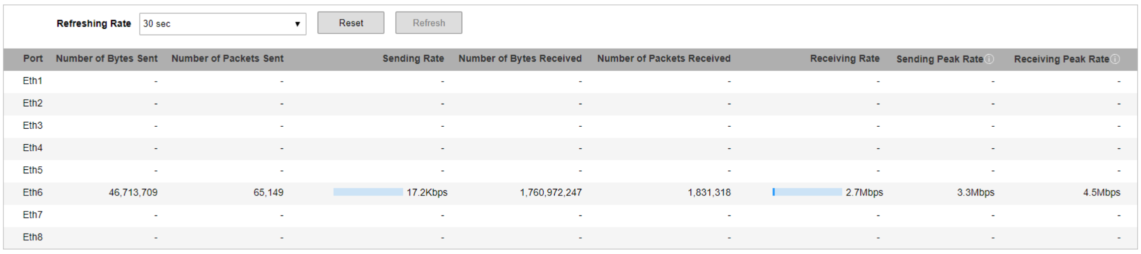


| Port Name | Connection Status | Rate | Duplex | Flow Control | Operation |
|---|---|---|---|---|---|
| Eth1 | Disconnected | - | - | - | ⚙ |
| Eth2 | Disconnected | - | - | - | ⚙ |
| Eth3 | Disconnected | - | - | - | ⚙ |
| Eth4 | Disconnected | - | - | - | ⚙ |
| Eth5 | Disconnected | - | - | - | ⚙ |
| Eth6 | Connected | 100M | Full-Duplex | On | ⚙ |
| Eth7 | Disconnected | - | - | - | ⚙ |
| Eth8 | Disconnected | - | - | - | ⚙ |

**Figure 3-3 Port Status**

View the connection status, rate, duplex, and flow control of all ports.

## Port Statistics



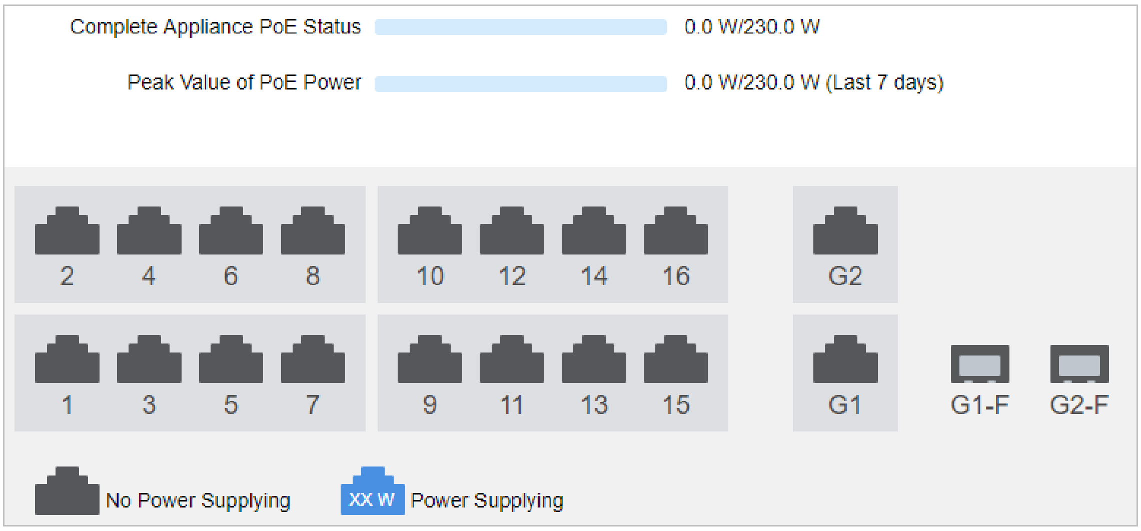
Refreshing Rate: 30 sec

| Port | Number of Bytes Sent | Number of Packets Sent | Sending Rate | Number of Bytes Received | Number of Packets Received | Receiving Rate | Sending Peak Rate | Receiving Peak Rate |
|---|---|---|---|---|---|---|---|---|
| Eth1 | - | - | - | - | - | - | - | - |
| Eth2 | - | - | - | - | - | - | - | - |
| Eth3 | - | - | - | - | - | - | - | - |
| Eth4 | - | - | - | - | - | - | - | - |
| Eth5 | - | - | - | - | - | - | - | - |
| Eth6 | 46,713,709 | 65,149 | 17.2Kbps | 1,760,972,247 | 1,831,318 | 2.7Mbps | 3.3Mbps | 4.5Mbps |
| Eth7 | - | - | - | - | - | - | - | - |
| Eth8 | - | - | - | - | - | - | - | - |

**Figure 3-4 Port Statistics**

- **Refreshing Rate**: **10 sec**, **30 sec**, **60 sec**, and **Manually Refresh** is available.
- **Refresh**: When you choose **Manually Refresh**, you can click **Refresh** to refresh the statistics.
- **Reset**: You can click **Reset** to clear all the statistics.

## PoE Status



Complete Appliance PoE Status 0.0 W/230.0 W

Peak Value of PoE Power 0.0 W/230.0 W (Last 7 days)

**Figure 3-5 PoE Status**

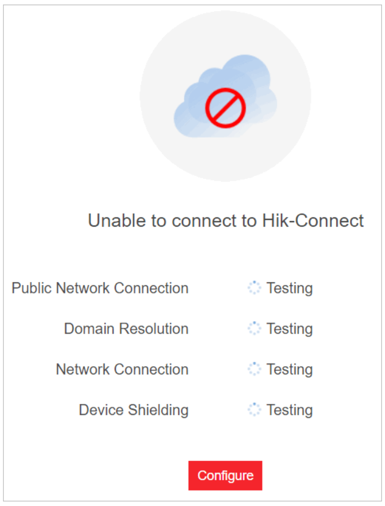
View the complete appliance PoE status and the output power of each PoE port.

# Chapter 4 Network Configuration

You can click **Cloud Management** on the home page to check Hik-Connect status. Go to **System Management → Network Configuration** , configure the basic parameters of the device, or perform trouble shooting for offline problems.

## Cloud Management

Click **Cloud Management** to check device status and detection information, and click **Configure** to set related parameters.



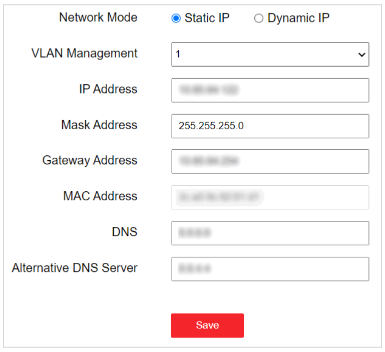
Unable to connect to Hik-Connect

| | |
|---|---|
| Public Network Connection | Testing |
| Domain Resolution | Testing |
| Network Connection | Testing |
| Device Shielding | Testing |

**Figure 4-1 Cloud Management**

## Basic Configuration

Go to **System Management → Network Configuration → Basic Config** , and configure the parameters.

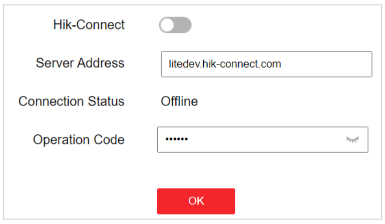


| | |
|---|---|
| Network Mode | ● Static IP ○ Dynamic IP |
| VLAN Management | 1 |
| IP Address | [redacted] |
| Mask Address | 255.255.255.0 |
| Gateway Address | [redacted] |
| MAC Address | [redacted] |
| DNS | [redacted] |
| Alternative DNS Server | [redacted] |

**Figure 4-2 Basic Configuration**

## Hik-Connect Configuration

If "Device Offline" is prompted when you add the device to Hik-ProConnect, you should edit the DNS server address and configure Hik-Connect parameters.
Go to **System Management → Network Configuration → Hik-Connect Config** , ensure **Hik-Connect** is enabled. You can also check the operation code.



Hik-Connect

Server Address: litedev.hik-connect.com

Connection Status: Offline

Operation Code: ••••••

**Figure 4-3 Hic-Connect Configuration**

**Note**

It takes a while for reconnecting to Hik-Connect service.

# Chapter 5 Switch Configuration

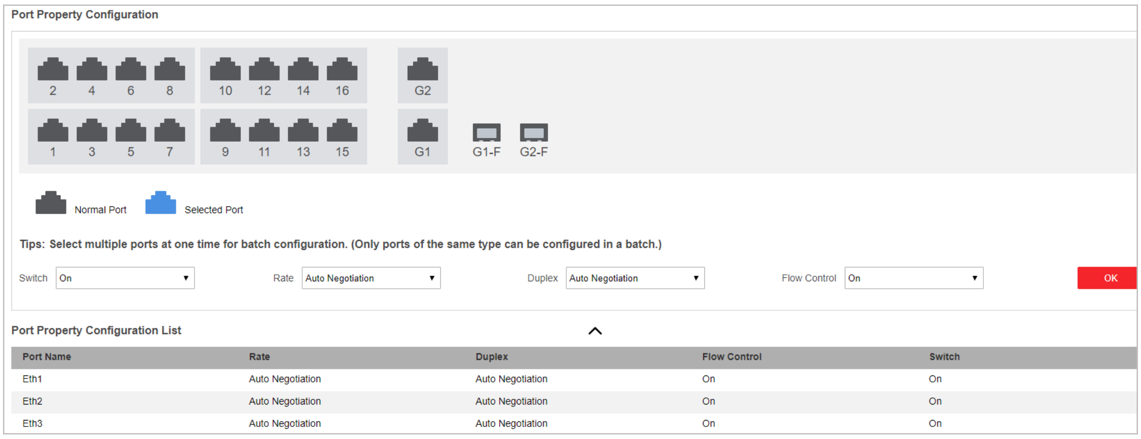
## 5.1 Port Configuration

### 5.1.1 Configure Property

The basic parameters can influence the working status of ports. Configure the parameters according to the actual situation.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Property Configuration** .



Tips: Select multiple ports at one time for batch configuration. (Only ports of the same type can be configured in a batch.)

Switch: On ▾ Rate: Auto Negotiation ▾ Duplex: Auto Negotiation ▾ Flow Control: On ▾

Port Property Configuration List

| Port Name | Rate | Duplex | Flow Control | Switch |
|---|---|---|---|---|
| Eth1 | Auto Negotiation | Auto Negotiation | On | On |
| Eth2 | Auto Negotiation | Auto Negotiation | On | On |
| Eth3 | Auto Negotiation | Auto Negotiation | On | On |

**Figure 5-1 Configure Port Property**

2. Select desired port(s) and configure the parameters.

   **Switch**

   Enable or disable the port. No data will be transmitted if the port is disabled.

   **Rate**

   The speed of data transmission of the port.

   **Duplex**

   The duplex mode of the port.

   - RJ45 port: **Auto Negotiation** is set by default and cannot be edited.
   - SFP fiber optical port: **Auto Negotiation** is set by default. You can also set is as **Full-Duplex**.

   **Flow Control**

   Enabling the flow control can prevent data loss in data transmission.

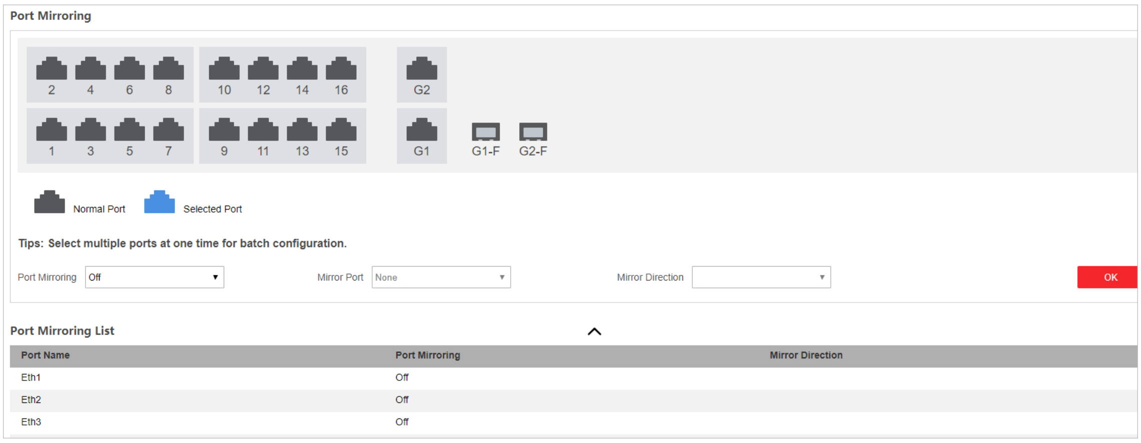
3. Click **OK** to save.
4. **Optional:** Check port properties in **Port Property Configuration List**.

## 5.1.2 Configure Port Mirroring

Port mirroring monitors network traffic by sending copies of incoming and outgoing packets from the source port to the target port(s).

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Port Mirroring** .



Port Mirroring

Tips: Select multiple ports at one time for batch configuration.

Port Mirroring: Off

Mirror Port: None

Mirror Direction:

Port Mirroring List

| Port Name | Port Mirroring | Mirror Direction |
|---|---|---|
| Eth1 | Off | |
| Eth2 | Off | |
| Eth3 | Off | |

**Figure 5-2 Configure Port Mirroring**

2. Select the desired port(s) as target port(s) to monitor network traffic of the source port, and configure the parameters.

**Port Mirroring**

Enable or disable port mirroring of the selected port(s).

**Mirror Port**

Only one port can be set as the mirror port (the source port).

**Mirror Direction**

**Inbound**

The data received by the source port will be under monitoring.

**Outbound**

The data sent from the source port will be under monitoring.

**Inbound and Outbound**

Both received and sent data of the source port will be under monitoring.

**Note**

- If **Port Mirroring** is enabled, at least on port should be selected as the target port.
- If **Mirror Port** is set as **None**, **Port Mirroring** should be disabled.

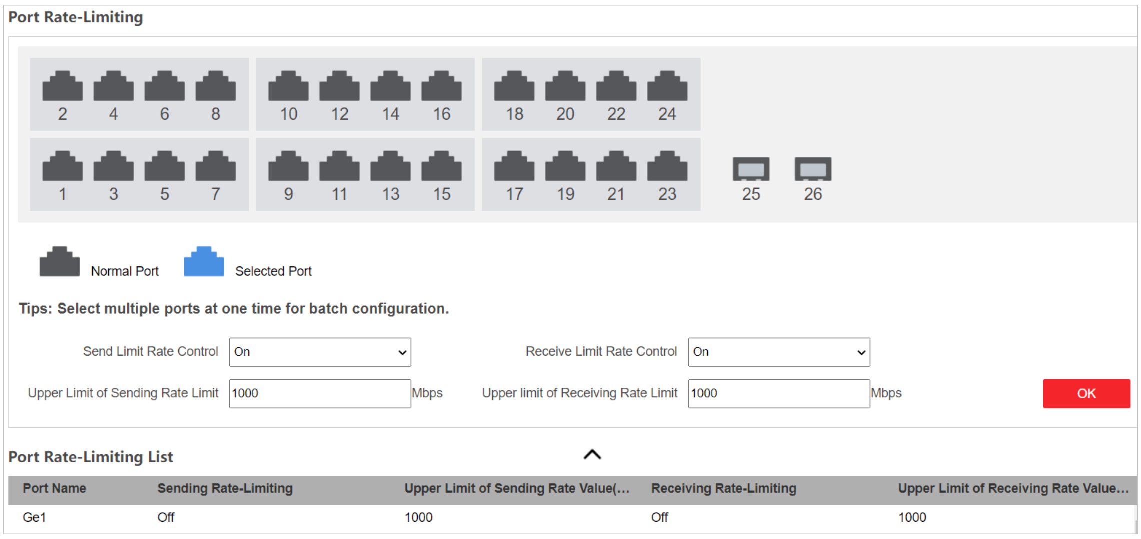
3. Click **OK** to save.
4. **Optional:** Check mirroring status of different ports in **Port Mirroring List**.

### 5.1.3 Configure Port Rate-Limiting

Port rate-limiting refers to the limitation of the sending rate and receiving rate of each port. This function is only applicable to Gigabit switches.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Port Rate-Limiting** .



Port Rate-Limiting

Normal Port    Selected Port

Tips: Select multiple ports at one time for batch configuration.

Send Limit Rate Control: On

Receive Limit Rate Control: On

Upper Limit of Sending Rate Limit: 1000 Mbps

Upper limit of Receiving Rate Limit: 1000 Mbps

Port Rate-Limiting List

| Port Name | Sending Rate-Limiting | Upper Limit of Sending Rate Value(... | Receiving Rate-Limiting | Upper Limit of Receiving Rate Value... |
|---|---|---|---|---|
| Ge1 | Off | 1000 | Off | 1000 |

**Figure 5-3 Configure Port Rate-Limiting**

2. Select desired port(s), and configure the parameters.

   **Send Limit Rate Control**

   Enable or disable sending rate limit of the selected port(s).

   **Upper Limit of Sending Rate Limit**

   Set the upper limit of sending rate.

   **Receive Limit Rate Control**

   Enable or disable sending rate limit of the selected port(s).

   **Upper Limit of Receiving Rate Limit**

   Set the upper limit of receiving rate.

3. Click **OK** to save.

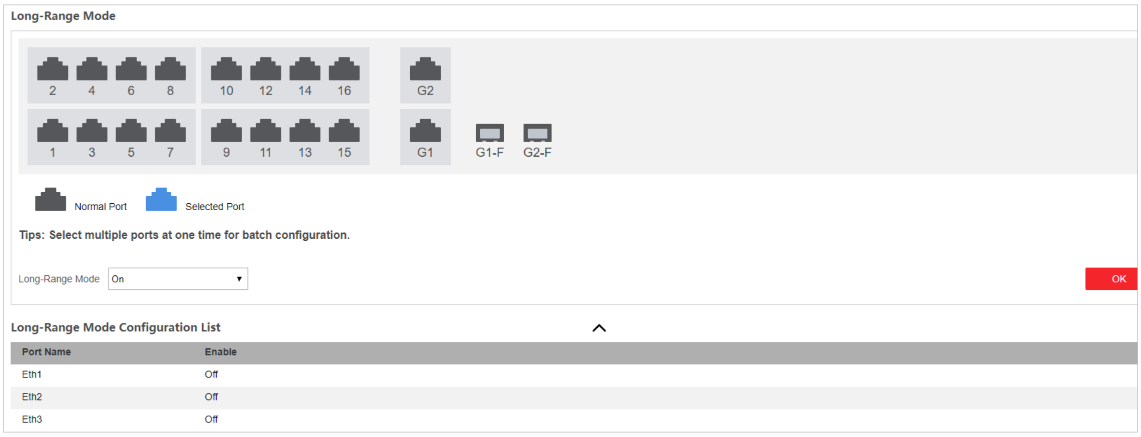
   You can check rate limiting information of different ports in **Port Rate-Limiting List**.

### 5.1.4 Configure Long-Range Mode

When long-range mode is enabled, the transmission distance of the port can reach 300 meters, and the rate is 10 Mbps.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Long-Range Mode** .



Tips: Select multiple ports at one time for batch configuration.

Long-Range Mode: On

Long-Range Mode Configuration List

| Port Name | Enable |
|---|---|
| Eth1 | Off |
| Eth2 | Off |
| Eth3 | Off |

**Figure 5-4 Configure Long-Range Mode**

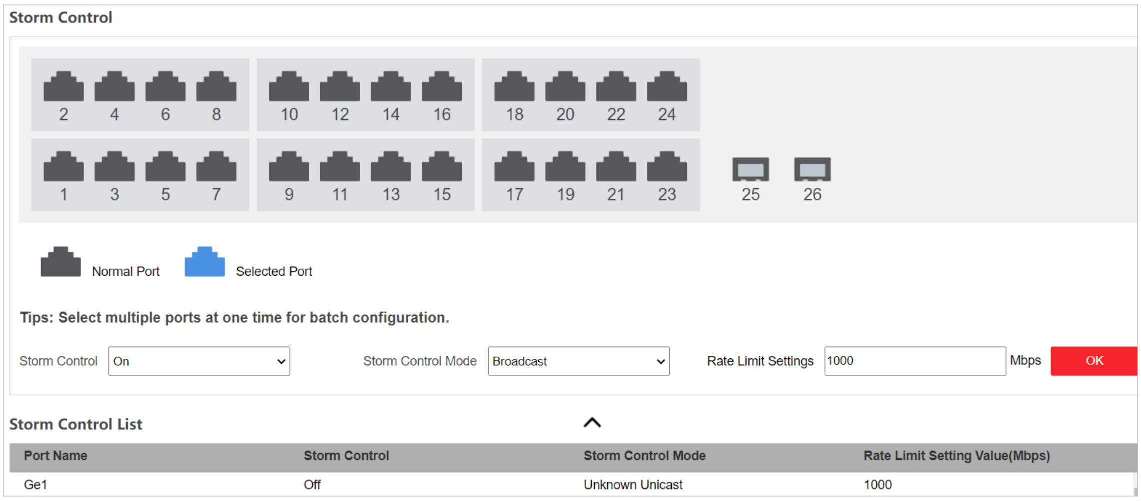
2. Select the desired port(s), and enable or disable **Long-Range Mode**.
3. Click **OK** to save.
4. **Optional:** Check long range status of different ports in **Long-Range Mode Configuration List**.

## 5.1.5 Configure Storm Control

Storm control prevents the ports from being disrupted by a broadcast storm. Both errors in the protocol-stack implementation and mistakes in network configuration can cause a storm. The storm congests the network and degrades the network performance. This function is only applicable to Gigabit switches.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Storm Control** .



Storm Control

Tips: Select multiple ports at one time for batch configuration.

Storm Control: On

Storm Control Mode: Broadcast

Rate Limit Settings: 1000 Mbps

Storm Control List

| Port Name | Storm Control | Storm Control Mode | Rate Limit Setting Value(Mbps) |
|---|---|---|---|
| Ge1 | Off | Unknown Unicast | 1000 |

**Figure 5-5 Storm Control**

2. Select the desired port(s), and configure the parameters.

   **Storm Control**

   Enable or disable storm control of the selected port(s).

   **Storm Control Mode**

   **Broadcast**

   The data packets are sent to all the devices on the same network.

   **Multicast**

   The data packets are sent to the specified devices.

   **Unknown Unicast**

   The data packets are sent to the specified device.

   **Rate Limit Settings**

   Set the rate limit of the selected port(s).

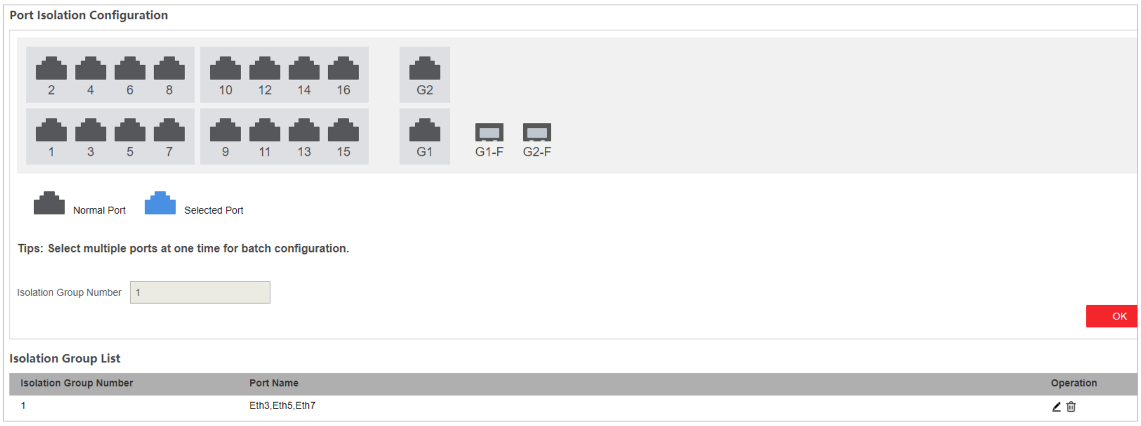
3. Click **OK** to save.

## 5.1.6 Configure Port Isolation

Add multiple ports to a isolation group, and ports in the same isolation group cannot communicate with each other.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → Port Isolation** .



Port Isolation Configuration

Tips: Select multiple ports at one time for batch configuration.

Isolation Group Number: 1

Isolation Group List

| Isolation Group Number | Port Name | Operation |
|---|---|---|
| 1 | Eth3,Eth5,Eth7 | ✎ 🗑 |

**Figure 5-6 Configure Port Isolation**

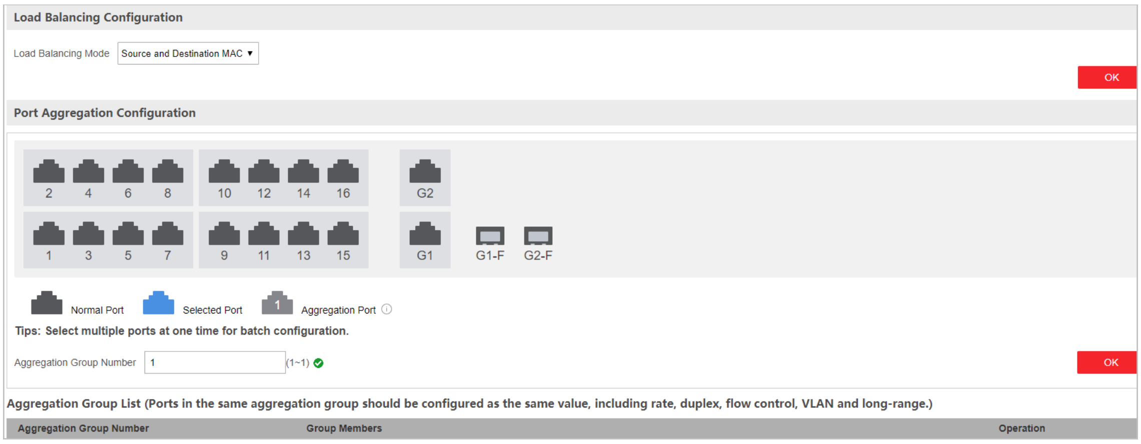
2. Select the desired ports.
3. Click **OK** to add the selected port into a isolation group.
4. **Optional:** Edit the isolation group.
   1) Click ✎ of the desired isolation group.
   2) Select or deselect the desired port(s) to add to or delete from the group.
   3) Click **OK** to save.
5. **Optional:** Click 🗑 to delete the isolation group.

## 5.2 Configure Link Aggregation

Link aggregation is used to aggregate physical ports to create a logical channel. Link aggregation provides higher transmission speed and wider bandwidth.

### Steps

1. Go to **Switch Configuration → Basic Configuration → Link Aggregation** .



Load Balancing Configuration

Load Balancing Mode: Source and Destination MAC ▾

Port Aggregation Configuration

Tips: Select multiple ports at one time for batch configuration.

Aggregation Group Number: 1 (1~1) ✓

Aggregation Group List (Ports in the same aggregation group should be configured as the same value, including rate, duplex, flow control, VLAN and long-range.)

| Aggregation Group Number | Group Members | Operation |
|---|---|---|

**Figure 5-7 Configure Link Aggregation**

**Load Balancing Mode**

**Source and Destination MAC** is set by default.

2. Select the desired ports to add.

**Note**

- Only the selectable ports can be added.
- This function is not applicable to all combos. Please refer to the actual conditions.
- 2 to 4 ports are allowed for each link aggregation group:
- Ports in the same aggregation group should be configured as the same value, including rate, duplex, flow control, VLAN, and long-range.

3. Set **Aggregation Group Number**, and click **OK**.

**Note**

The numbers of aggregation group depends on the actual conditions of the mode.

4. **Optional:** Edit the aggregation group.
   1) Click ✎ of the desired isolation group.
   2) Select or deselect the desired port(s) to add to or delete from the group.
   3) Click **OK** to save.
5. **Optional:** Click 🗑 to delete the aggregation group.

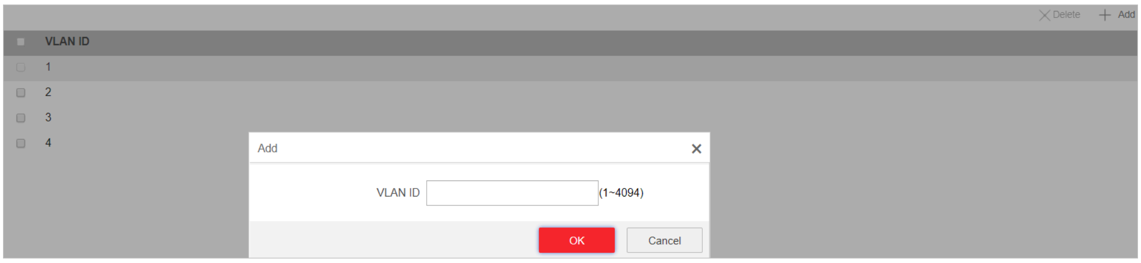
## 5.3 VLAN Configuration

A Virtual Local Area Network (VLAN) is a group of devices located on different LAN segments, and they are configured to communicate as if they were attached to the same wire. LANs are based on logical connections instead of physical connections, which is flexible for device connection.

### 5.3.1 Add a VLAN

**Steps**

1. Go to **Switch Configuration → Basic Configuration → VLAN → 802.1Q VLAN** .
2. Click **Add**.



| □ | VLAN ID |
|---|---|
| □ | 1 |
| □ | 2 |
| □ | 3 |
| □ | 4 |

VLAN ID (1~4094)

**Figure 5-8 Add a VLAN**

3. Enter a VLAN ID.

**Note**

- A maximum of 128 VLANs are supported.
- The range is from 1 to 4094.

4. Click **OK** to save.
5. **Optional:** You can also delete a VLAN by clicking **Delete**.

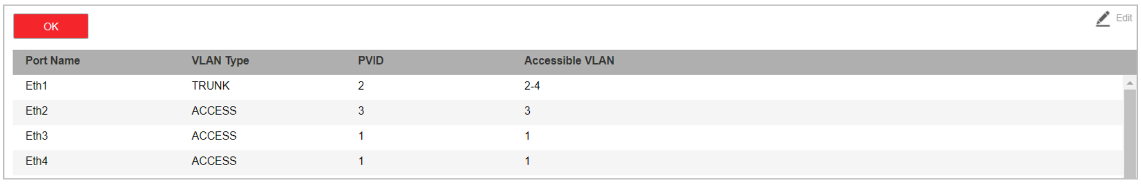
**Note**

You cannot delete the VLAN 1, because VLAN 1 is the Management VLAN.

### 5.3.2 Configure a Port

**Steps**

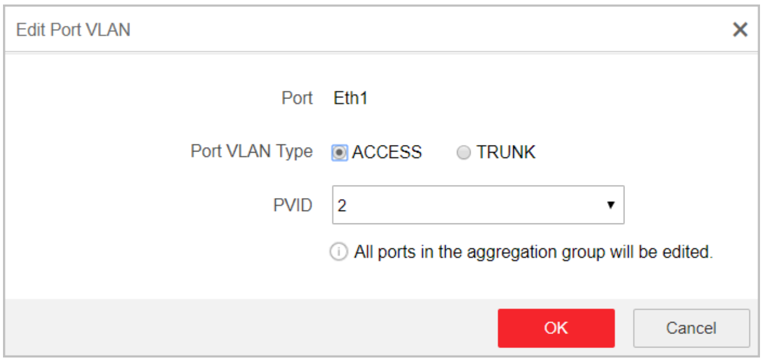
1. Select a port to configure on the **Port Configuration** page.



| Port Name | VLAN Type | PVID | Accessible VLAN |
|---|---|---|---|
| Eth1 | TRUNK | 2 | 2-4 |
| Eth2 | ACCESS | 3 | 3 |
| Eth3 | ACCESS | 1 | 1 |
| Eth4 | ACCESS | 1 | 1 |

**Figure 5-9 Configure a Port**

2. Click **Edit**.
3. Configure the port VLAN.
   - **Access Port**
     - An access port transports traffic to and from only the specified VLAN, usually the default VLAN, VLAN 1.
     - Select **Port VLAN Type** as **ACCESS**, and select the **PVID**.



Port Eth1

Port VLAN Type ● ACCESS ○ TRUNK

PVID 2

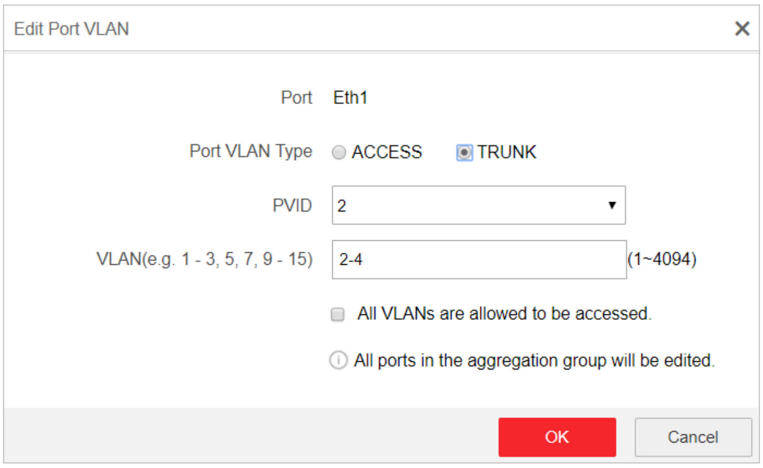
All ports in the aggregation group will be edited.

**Figure 5-10 Edit an Access Port VLAN**

**Note**

All ports in the same aggregation group will be edited automatically at the same time.

- **Trunk Port**
  - A trunk port is a port that is assigned to carry traffic for all the VLANs.
  - Select **Port VLAN Type** as **TRUNK**, select the **PVID**, and enter the **VLAN** that are allowed to be accessed.



Edit Port VLAN ✕

Port Eth1

Port VLAN Type ○ ACCESS ● TRUNK

PVID 2

VLAN(e.g. 1 - 3, 5, 7, 9 - 15) 2-4 (1~4094)

□ All VLANs are allowed to be accessed.

ⓘ All ports in the aggregation group will be edited.

**Figure 5-11 Edit a Trunk Port VLAN**

**Note**

- All ports in the same aggregation group will be edited automatically at the same time.
- You can check **All VLANS are allowed to be accessed.** to assign the port to all the VLANs.

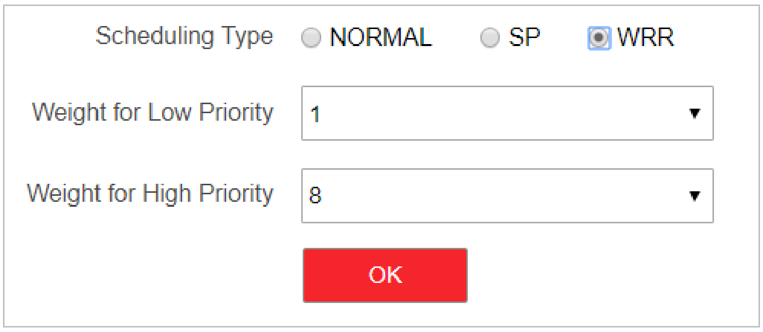
4. Click **OK**.
5. Click **OK** to save.

## 5.4 Configure QoS

Quality of Service (QoS) includes the transmission bandwidth, delay, packet loss rate and etc. Increasing network bandwidth, decreasing network delay, and reducing packet losses can improve QoS in network service. You can configure the scheduling mode and port priority of QoS.

**Steps**

1. Go to **Switch Configuration → Basic Configuration → QoS → Scheduling Mode** to select a scheduling type.



Scheduling Type ○ NORMAL ○ SP ● WRR

Weight for Low Priority: 1

Weight for High Priority: 8

**Figure 5-12 Scheduling Mode**

**NORMAL**

First In First Out (FIFO) mode. Transmit the message coming in first. QoS is not enabled.

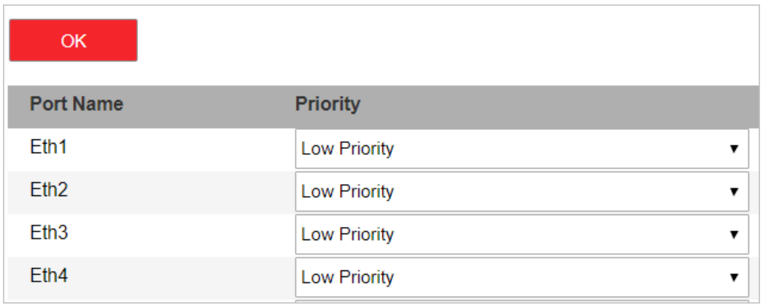
**SP**

Strict Priority mode. Transmit the message according to the actual priority configuration.

**WRR**

Weighted Round Robin mode. Transmit the message according to the respective weight for low priority and high priority.

2. Configure the port priority in **Port Priority**.



| Port Name | Priority |
|---|---|
| Eth1 | Low Priority |
| Eth2 | Low Priority |
| Eth3 | Low Priority |
| Eth4 | Low Priority |

**Figure 5-13 Port Priority**

3. Click **OK** to save.

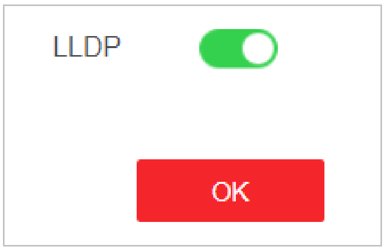
## 5.5 Configure LLDP

Link Layer Discovery Protocol (LLDP) is type of data link layer protocal defined by IEEE Std 802.1AB standard. Network devices can send ink layer discovery protocol data units (LLDPDU) to inform other devices of their status within the same LAN. It can help to recognize system topology and detect the improper configuration in a LAN.

Go to **Switch Configuration → L2 Configuration → LLDP Configuration** .

## Basic Settings

Enabling LLDP makes the device discoverable.



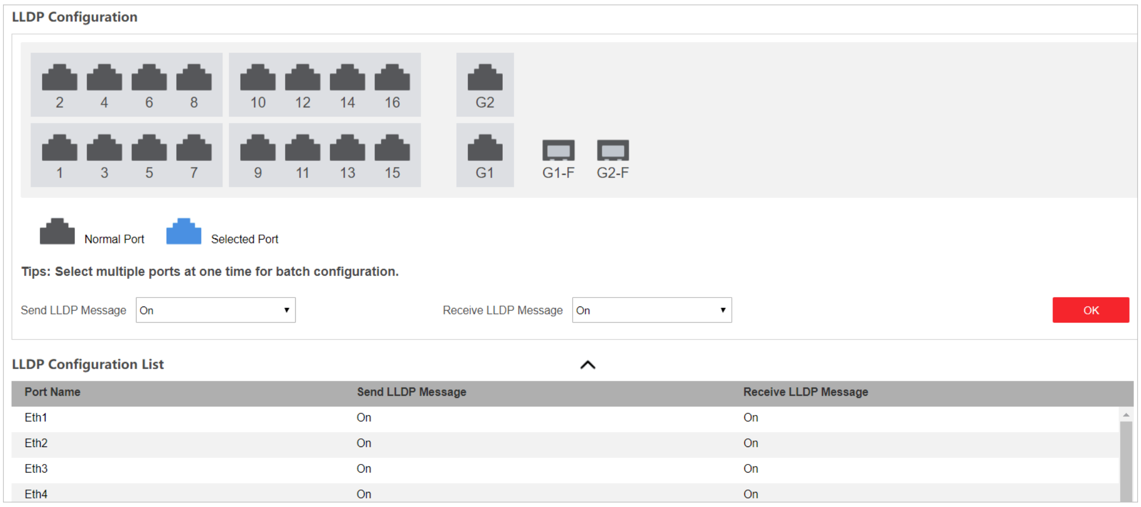
LLDP

**Figure 5-14 Basic Settings**

## LLDP Port Settings

Configure the port to send or receive LLDP messages.

- If **Send LLDP Message** is enabled, the port can be discovered by the peer device.
- If **Receive LLDP Message** is enabled, the port can discover the peer device.



LLDP Configuration

Tips: Select multiple ports at one time for batch configuration.

Send LLDP Message: On

Receive LLDP Message: On

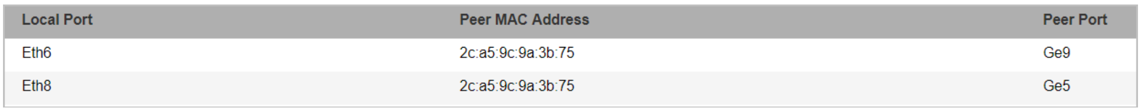
LLDP Configuration List

| Port Name | Send LLDP Message | Receive LLDP Message |
|---|---|---|
| Eth1 | On | On |
| Eth2 | On | On |
| Eth3 | On | On |
| Eth4 | On | On |

**Figure 5-15 LLDP Port Settings**

## Neighbor Information

Check local port, MAC address of peer device, and peer port.



| Local Port | Peer MAC Address | Peer Port |
|---|---|---|
| Eth6 | 2c:a5:9c:9a:3b:75 | Ge9 |
| Eth8 | 2c:a5:9c:9a:3b:75 | Ge5 |

**Figure 5-16 Neighbor Information**

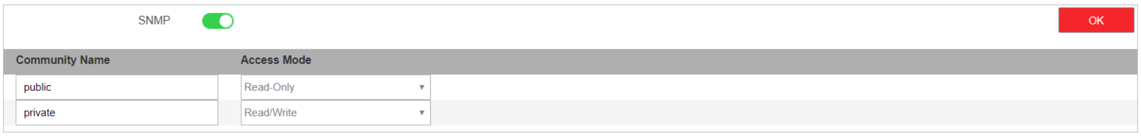
## 5.6 SNMP Configuration

Simple Network Management Protocol (SNMP) is a widely used application-layer communication protocol for monitoring network performance. SNMP network is composed of the Network Management System (NMS) and the Agent. NMS is the SNMP manager, and Agent sends Traps to NMS.

### 5.6.1 Configure SNMP Proxy

**Steps**

1. Go to **Switch Configuration → L2 Configuration → SNMP Configuration → SNMP Proxy Settings** .



| Community Name | Access Mode |
|---|---|
| public | Read-Only |
| private | Read/Write |

**Figure 5-17 Proxy Settings**

2. Enable **SNMP**.
3. Define the **Community Name**.

   **Community Name**

   The community name is an authentication mechanism, similar to a password. It is used to limit the data transmission between NMS and Agent.

   - **Read-Only Community Name**: The Community name accessible to NMS with read permission. The default is **public**.
   - **Read/Write Community Name**: The Community name accessible to NMS with read and write permission. The default is **private**.
4. Click **OK** to save.

### 5.6.2 SNMP Trap Settings

**Steps**

1. Enable **Trap** on the **SNMP Trap Settings** page.
2. Click **Add** to add a trap.

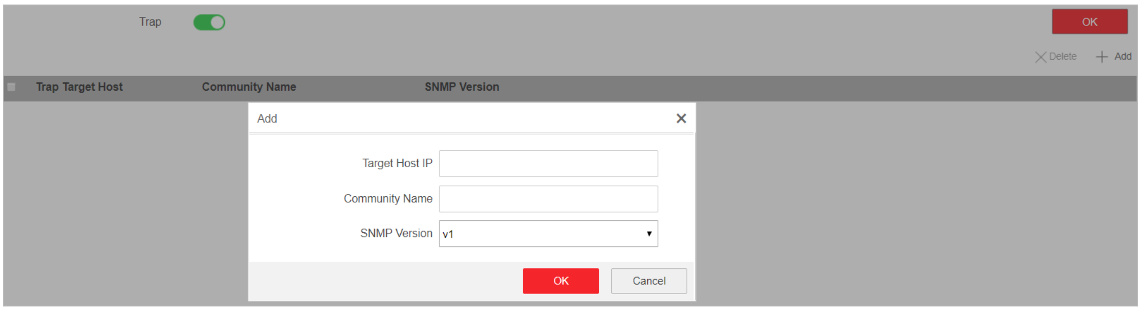


**Figure 5-18 Trap Settings**

3. Click **OK**.
4. Click **OK** to save.
5. **Optional:** You can check the trap and click **Delete** to delete a trap.

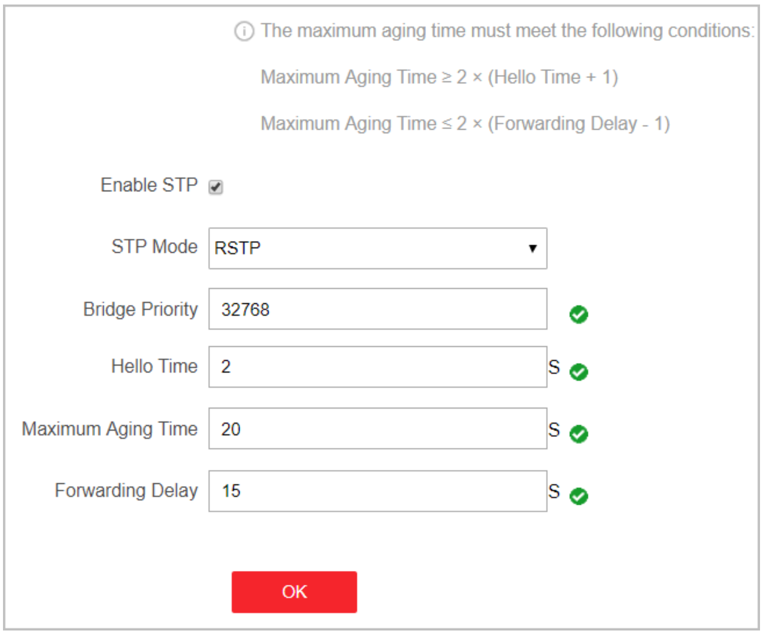
## 5.7 STP Configuration

Spanning-Tree Protocol (STP) is a Layer 2 link management protocol that provides path redundancy and prevents loops in the network. The STP uses a spanning-tree algorithm to select one switch as the root of a spanning tree. STP determines the topology by transmitting Bridge Protocol Data Unit (BPDU) packets between devices. Spanning-tree operation creates a stable network.

### 5.7.1 Global Configuration

**Steps**

1. Go to **Switch Configuration → L2 Configuration → STP Configuration → Global Configuration** .
2. Check **Enable STP**.



ⓘ The maximum aging time must meet the following conditions:

Maximum Aging Time ≥ 2 × (Hello Time + 1)

Maximum Aging Time ≤ 2 × (Forwarding Delay - 1)

Enable STP ☑

STP Mode: RSTP

Bridge Priority: 32768 ✓

Hello Time: 2 S ✓

Maximum Aging Time: 20 S ✓

Forwarding Delay: 15 S ✓

**Figure 5-19 Global Configuration**

**3.** Configure the parameters.

**Table 5-1 Parameters of STP**

| Parameter | Description |
|---|---|
| STP Mode | • **STP**: Spanning-tree protocol.<br>• **RSTP**: Rapid spanning-tree protocol. RSTP provides faster spanning tree convergence after a topology change. |
| Bridge Priority | The lower the number is, the higher the priority is. The range is from 0 to 61,440 seconds, in increments of 4096; the default is 32,768. Valid values are 0, 4096, 12288, 16384 ... and 61440.<br>A switch with higher bridge priority is more likely to become a root bridge. |
| Hello Time | The time between each BPDU that is sent on a port, which is used for port link diagnosis. The range is from 1 to 10 seconds. The default is 2 seconds. |
| Maximum Aging Time | The maximum length of time that passes before a bridge port saves its configuration BPDU information. The range is from 6 to 40 seconds. The default is 20 seconds. |

| Parameter | Description |
|---|---|
| | **Note**<br>The maximum aging time must meet the following conditions:<br>• Maximum Aging Time ≥ (Hello Time + 1)<br>• Maximum Aging Time ≤ (Forwarding Delay - 1) |
| Forwarding Delay | The time interval that is spent in the listening and learning state when the topology changes. The range is from 4 to 30 seconds. The default is 15 seconds. |

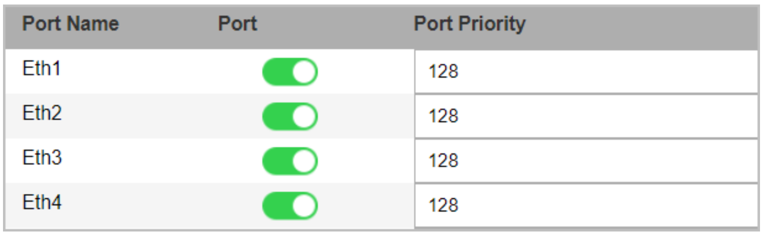
4. Click **Save**.

### 5.7.2 Configure STP Port

If a loop occurs, you can set port priority, so that the spanning tree can select the port with the highest priority to forward data.

**Steps**

1. The port is enabled by default on the **STP Port Configuration** page.



| Port Name | Port | Port Priority |
|---|---|---|
| Eth1 | ● | 128 |
| Eth2 | ● | 128 |
| Eth3 | ● | 128 |
| Eth4 | ● | 128 |

**Figure 5-20 Port Priority**

2. Configure the **Port Priority**.

   **Port Priority**

   - The lower the number is, the higher the priority is, the more probably the port becomes the root port.
   - The range is from 0 to 240, in increments of 16; the default is 128. Valid values are 0, 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, and 240.

**Note**

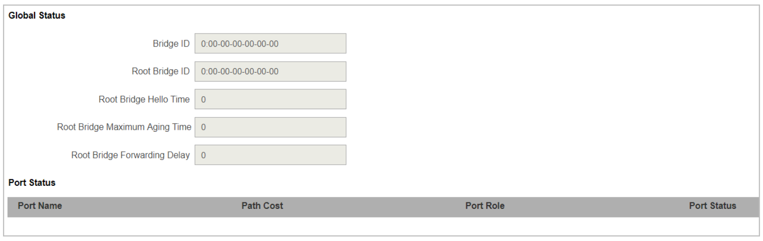
If the priority of the port is the same, spanning tree uses the port ID to select a port as the root port.

3. Click **Save**.

### 5.7.3 STP Status View

You can check the global status of STP settings and the status of each port.

Go to **Switch Configuration → L2 Configuration → STP Configuration → STP Status** .



**Global Status**

| | |
|---|---|
| Bridge ID | 0:00-00-00-00-00-00 |
| Root Bridge ID | 0:00-00-00-00-00-00 |
| Root Bridge Hello Time | 0 |
| Root Bridge Maximum Aging Time | 0 |
| Root Bridge Forwarding Delay | 0 |

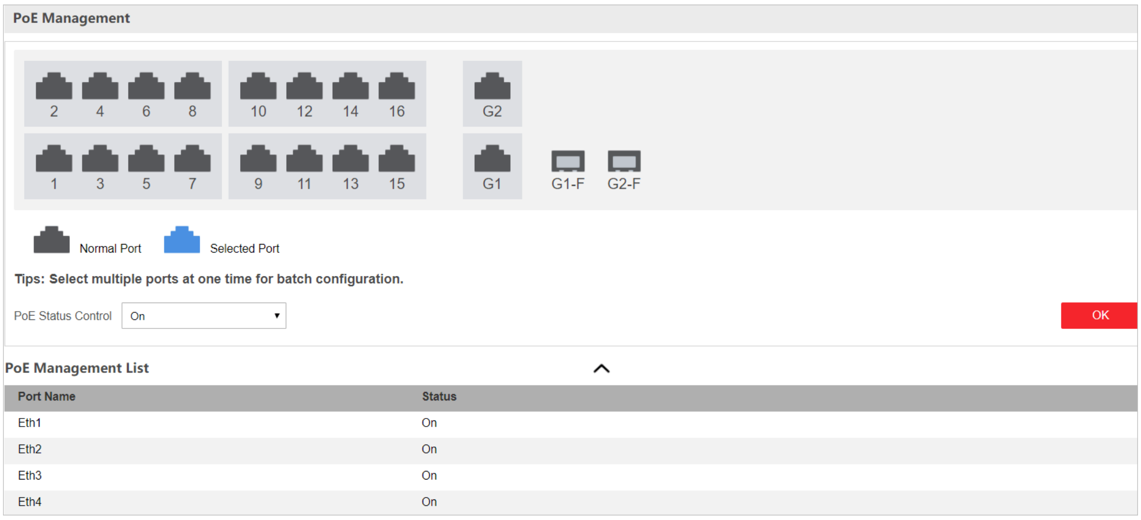
**Port Status**

| Port Name | Path Cost | Port Role | Port Status |
|---|---|---|---|

Figure 5-21 STP Status

## 5.8 PoE Management

Go to **Switch Configuration → Basic Configuration → PoE Management** .



**PoE Management**

Tips: Select multiple ports at one time for batch configuration.

PoE Status Control: On

**PoE Management List**

| Port Name | Status |
|---|---|
| Eth1 | On |
| Eth2 | On |
| Eth3 | On |
| Eth4 | On |

Figure 5-22 PoE Management

## PoE Settings

You can enable PoE to supply power for the powered devices (PDs).

**Note**

Enabling or disabling PoE has no influences on data transmission of the port.

### PoE Watchdog

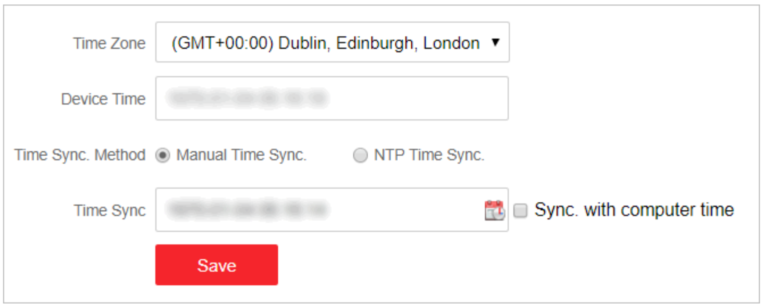
You can enable PoE watchdog to auto-detect and restart cameras that do not respond.

# Chapter 6 System Management

## 6.1 Synchronize the Time

**Steps**

1. Go to **System Management → System Settings → Time Settings** .



Time Zone (GMT+00:00) Dublin, Edinburgh, London ▾

Device Time [redacted]

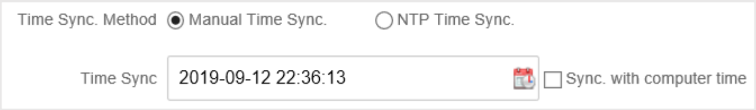
Time Sync. Method ● Manual Time Sync. ○ NTP Time Sync.

Time Sync [redacted] 📅 □ Sync. with computer time

Save

**Figure 6-1 Time Settings**

2. Select **Time Zone**.
3. Select **Time Sync. Method**.
4. Set time synchronization mode.
   - **Manual Time Sync.**: Click 📅 or check **Sync. with computer time** to synchronize the device time.

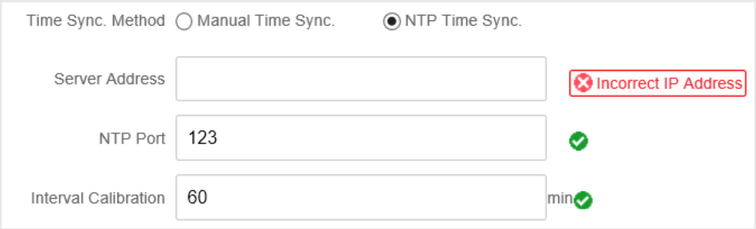


Time Sync. Method ● Manual Time Sync. ○ NTP Time Sync.

Time Sync 2019-09-12 22:36:13 📅 □ Sync. with computer time

**Figure 6-2 Manual Sync**

   - **NTP Time Sync.**: Enter the NTP **Server Address**, and set the time sync. interval.



Time Sync. Method ○ Manual Time Sync. ● NTP Time Sync.

Server Address ☒ Incorrect IP Address

NTP Port 123 ✓

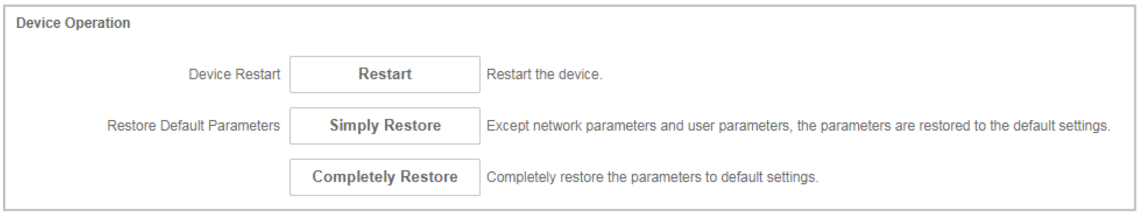
Interval Calibration 60 min ✓

**Figure 6-3 NTP Sync**

5. Click **Save**.

## 6.2 Device Operation

When the device malfunctions or fails to work properly, you can go to **System Management → System Maintenance → Device Operation** to restart or restore the device.



Device Operation

Device Restart **Restart** Restart the device.

Restore Default Parameters **Simply Restore** Except network parameters and user parameters, the parameters are restored to the default settings.

**Completely Restore** Completely restore the parameters to default settings.

**Figure 6-4 Device Operation**

**Note**

Enter the login page automatically after you restart or restore the switch.

### Restart

Click **Restart** to remotely restart the switch.

### Restore

- **Simply Restore**: Except network configuration and user parameters, all of the other parameters are restored to the default settings.
- **Completely Restore**: Completely restore the parameters to default settings.

**Caution**

Parameters cannot be recovered after the device is restored to default settings.

## 6.3 Configure File Export

You can export the configuration file for local backup.

**Steps**

1. Go to **System Management → System Maintenance → Export & Import** .
2. Click **Export**.
3. Set a password for the exported configuration file.

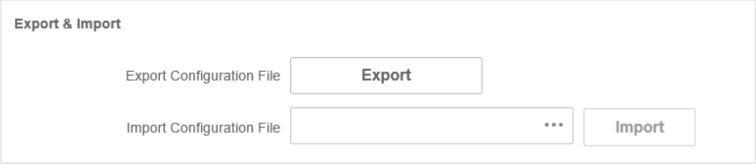


Figure 6-5 Export Configuration file

**Note**

Password is required when importing the configuration files.

4. Click **OK**.

## 6.4 Configure File Import

You can import the configuration file to configure the system easily.

**Steps**

1. Go to **System Management → System Maintenance → Export & Import** .

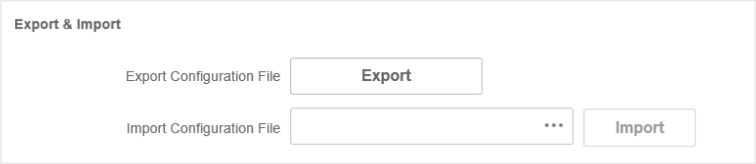


Figure 6-6 Export Configuration file

2. Click ··· to select the configuration file.
3. Click **Import**.

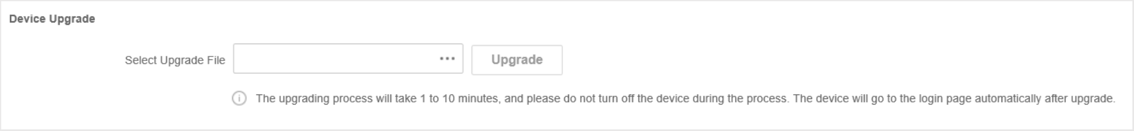
   The device will restart automatically to enter the login page when the configuration file is imported.

## 6.5 Upgrade the Device

You can upload the upgrade file to upgrade your switch.

**Steps**

1. Go to **System Management → System Maintenance → Device Upgrade** .



ⓘ The upgrading process will take 1 to 10 minutes, and please do not turn off the device during the process. The device will go to the login page automatically after upgrade.

Figure 6-7 Upgrade

2. Click ··· to select an upgrade patch.

3. Click **Upgrade**.

**Note**

If upgrading failed or the device cannot function, please contact our technical support engineers.

**Result**

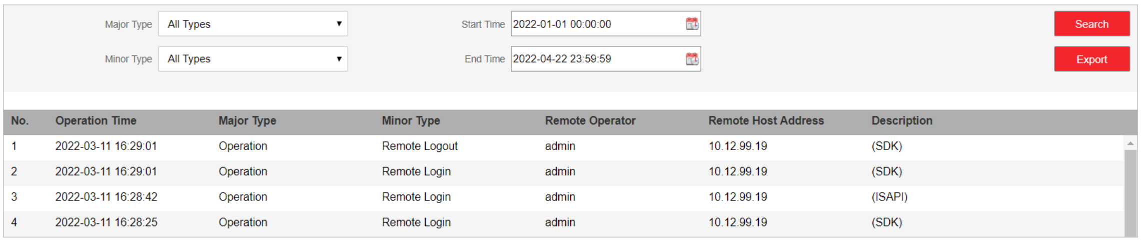
The device will restart automatically to enter the login page when upgrade finished.

## 6.6 Manage Logs

System operation logs can be searched and exported for backup.

**Steps**

1. Go to **System Management → Log Management** .



Major Type: All Types
Minor Type: All Types
Start Time: 2022-01-01 00:00:00
End Time: 2022-04-22 23:59:59

| No. | Operation Time | Major Type | Minor Type | Remote Operator | Remote Host Address | Description |
|---|---|---|---|---|---|---|
| 1 | 2022-03-11 16:29:01 | Operation | Remote Logout | admin | 10.12.99.19 | (SDK) |
| 2 | 2022-03-11 16:29:01 | Operation | Remote Login | admin | 10.12.99.19 | (SDK) |
| 3 | 2022-03-11 16:28:42 | Operation | Remote Login | admin | 10.12.99.19 | (ISAPI) |
| 4 | 2022-03-11 16:28:25 | Operation | Remote Login | admin | 10.12.99.19 | (SDK) |

**Figure 6-8 Log Management**

2. Set search conditions, including **Major Type**, **Minor Type**, **Start Time** and **End Time**.
3. Click **Search**.

**Note**

A maximum of 1024 search results can be displayed. Please narrow down the search scope if there are too many search results.

4. **Optional:** Click **Export** to export all the search results.

**Note**

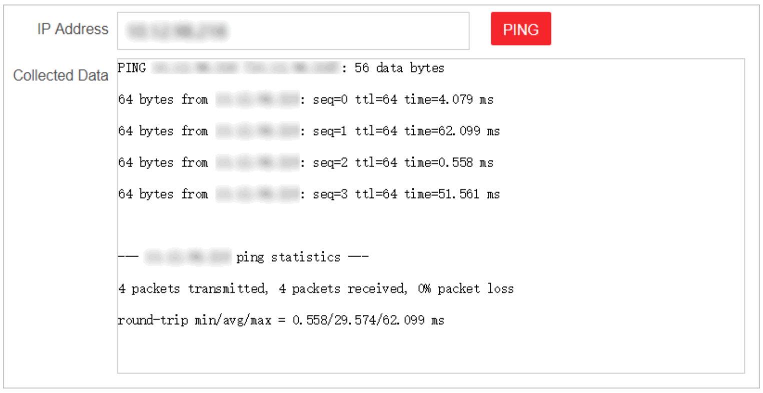
Logs can be exported in Excel. A prompt window will pop up when the logs are exported successfully.

## 6.7 Diagnose the Network

With network diagnostics, troubleshooting engineers can locate network faults quickly.

**Steps**

1. Go to **System Management → System Tools → Network Diagnostics** .



IP Address [redacted] PING

Collected Data

```
PING [redacted]: 56 data bytes
64 bytes from [redacted]: seq=0 ttl=64 time=4.079 ms
64 bytes from [redacted]: seq=1 ttl=64 time=62.099 ms
64 bytes from [redacted]: seq=2 ttl=64 time=0.558 ms
64 bytes from [redacted]: seq=3 ttl=64 time=51.561 ms

--- [redacted] ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.558/29.574/62.099 ms
```

**Figure 6-9 Network Diagnostics**

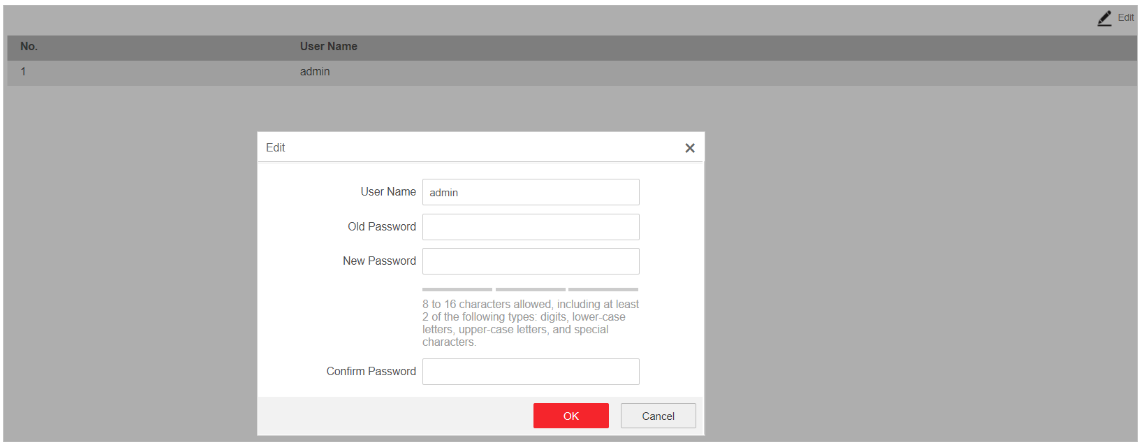
2. Enter the IP address of the server, and click **PING**.

## 6.8 Manage Users

Regularly change the password to improve the security of the device.

**Steps**

1. Go to **System Management → User Management** .
2. Click **Edit**.



Edit

| No. | User Name |
|---|---|
| 1 | admin |

Edit

User Name: admin

Old Password:

New Password:

8 to 16 characters allowed, including at least 2 of the following types: digits, lower-case letters, upper-case letters, and special characters.

Confirm Password:

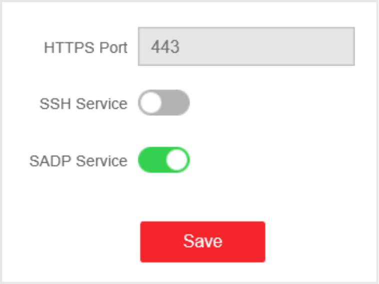
OK Cancel

**Figure 6-10 User Management**

3. Enter the old password.
4. Enter a new password and confirm it.
5. Click **OK**.

## 6.9 Security Management

## SSH



HTTPS Port 443

SSH Service

SADP Service

**Figure 6-11 Security Management**

The device supports SSH security service. SSH can prevent the information leakage in the remote management of the device. SSH is disabled by default.

**Note**

The user name of SSH is ***root***, and the password is the device login password.

## SADP

After enabling SADP, you can activate the device, change the password and the network information, and etc. SADP is enabled by default.

See Far, Go Further