

Grandstream Networks, Inc.

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**GWN772X - User Manual**



# GWN772X - User Manual

## INTRODUCTION

The GWN7721 Series consists of the GWN7721, GWN7721P, and GWN7721PE Layer 2 Lite managed multi-gigabit switches for scalable, secure, and intelligent small-to-medium business networks. The GWN7721 and GWN7721P provide eight 2.5 Gigabit Ethernet ports and two 10 Gigabit SFP+ ports. The GWN7721PE provides eight 2.5 Gigabit PoE/PoE+ Ethernet ports, one 10 Gigabit PoE/PoE+/PoE++ Ethernet port, and one 10 Gigabit SFP+ port. The series supports VLAN traffic segmentation, DSCP/802.1p QoS, bandwidth control, IGMP Snooping, and comprehensive security protection.

The GWN7721 Series is managed through the same local web user interface, GWN Manager, and Grandstream Device Management System (GDMS). Installation options depend on the model: the GWN7721 supports desktop or wall mounting, the GWN7721P supports desktop, wall, or rack mounting, and the GWN7721PE supports desktop or rack mounting.

## PRODUCT OVERVIEW

### Feature Highlights

- GWN7721

|         |                                                                                                                                                                                                                                                                                             |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GWN7721 | 8 x 2.5G Ethernet ports (non-PoE)<br>2 x 10G SFP+ uplink ports<br>Fanless design for quiet operation<br>LED indicators for link, activity, and device status<br>IGMP Snooping to optimize multicast traffic<br>Comprehensive protection features, including port security and MAC filtering |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

GWN7721 Features at a glance

- GWN7721P

|          |                                                                                                                                                                                                                                                                                                                        |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GWN7721P | 8 x 2.5G Ethernet ports with PoE/PoE+<br>2 x 10G SFP+ uplink ports<br>Up to 30 W per PoE port with a 130 W total PoE budget<br>LED indicators for link, activity, power, and PoE status<br>IGMP Snooping to optimize multicast traffic<br>Comprehensive protection features, including port security and MAC filtering |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

GWN7721P Features at a glance

- GWN7721PE

|           |                                                                                                                                                                                                                                                                                                                    |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GWN7721PE | 8 x 2.5G Ethernet ports with PoE/PoE+<br>1 x 10G Ethernet port with PoE/PoE+/PoE++<br>Up to 90 W 1 x 10G SFP+ uplink port<br>130 W total PoE budget and fanless design<br>LED indicators for link, activity, power, and PoE status<br>Comprehensive protection features, including port security and MAC filtering |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

GWN7721PE Features at a glance

### GWN7721 Series Technical Specifications

|                            | GWN7721 | GWN7721P | GWN7721PE |
|----------------------------|---------|----------|-----------|
| 2.5 Gigabit Ethernet ports | 8       | 8        | 8         |
| 10 Gigabit Ethernet ports  | -       | -        | 1         |
| 10 Gigabit SFP+ ports      | 2       | 2        | 1         |

|                                      |                                           |                                            |                                            |
|--------------------------------------|-------------------------------------------|--------------------------------------------|--------------------------------------------|
| <b>Maximum supported 10G modules</b> | SM-10G: 2; MM-10G: 2; RJ45-10G: 1         | SM-10G: 2; MM-10G: 2; RJ45-10G: 1          | SM-10G: 1; MM-10G: 1; RJ45-10G: 1          |
| <b>PoE standards</b>                 | -                                         | IEEE 802.3af/at                            | IEEE 802.3af/at/bt                         |
| <b>PoE ports</b>                     | -                                         | 8                                          | 9                                          |
| <b>Maximum output per PoE port</b>   | -                                         | 30 W                                       | 30 W (ports 1-8); 90 W (port 9)            |
| <b>Maximum total PoE output</b>      | -                                         | 130 W                                      | 130 W                                      |
| <b>Power supply</b>                  | 12 V DC / 1 A                             | 100-240 V AC, 50/60 Hz                     | 100-240 V AC, 50/60 Hz                     |
| <b>Total non-blocking throughput</b> | 40 Gbps                                   | 40 Gbps                                    | 40 Gbps                                    |
| <b>Switching capability</b>          | 80 Gbps                                   | 80 Gbps                                    | 80 Gbps                                    |
| <b>Packet buffer</b>                 | 8 Mb                                      | 8 Mb                                       | 8 Mb                                       |
| <b>MAC address capacity</b>          | 16K                                       | 16K                                        | 16K                                        |
| <b>Installation</b>                  | Desktop or wall mount                     | Desktop, wall mount, or rack mount         | Desktop or rack mount                      |
| <b>Unit dimensions (L x W x H)</b>   | 190 x 100 x 28 mm                         | 280 x 180 x 44 mm                          | 280 x 180 x 44 mm                          |
| <b>Package dimensions</b>            | 300 x 129.5 x 53 mm                       | 361 x 195.5 x 52 mm                        | 361 x 195.5 x 52 mm                        |
| <b>Unit weight</b>                   | 0.6 kg                                    | 1.58 kg                                    | 1.848 kg                                   |
| <b>Package weight</b>                | 0.767 kg                                  | 2.036 kg                                   | 2.088 kg                                   |
| <b>Data-transfer LEDs</b>            | 10 green LEDs                             | 10 green LEDs                              | 10 green LEDs                              |
| <b>PoE supply LEDs</b>               | -                                         | 8 yellow LEDs                              | 9 yellow LEDs                              |
| <b>Operating temperature</b>         | 0 degC to 45 degC                         | 0 degC to 45 degC                          | 0 degC to 45 degC                          |
| <b>Storage temperature</b>           | -20 degC to 60 degC                       | -20 degC to 60 degC                        | -20 degC to 60 degC                        |
| <b>Humidity</b>                      | 10%-90% RH, non-condensing                | 10%-90% RH, non-condensing                 | 10%-90% RH, non-condensing                 |
| <b>Surge protection</b>              | ?1 kV CM/DM (power); 1 kV (network ports) | ?6 kV CM/DM (power); ?2 kV (network ports) | ?6 kV CM/DM (power); ?2 kV (network ports) |
| <b>ESD</b>                           | ?12 kV contact discharge                  | ?12 kV contact discharge                   | ?12 kV contact discharge                   |
| <b>Compliance</b>                    | FCC, CE, RCM, IC                          | FCC, CE, RCM, IC                           | FCC, CE, RCM, IC                           |

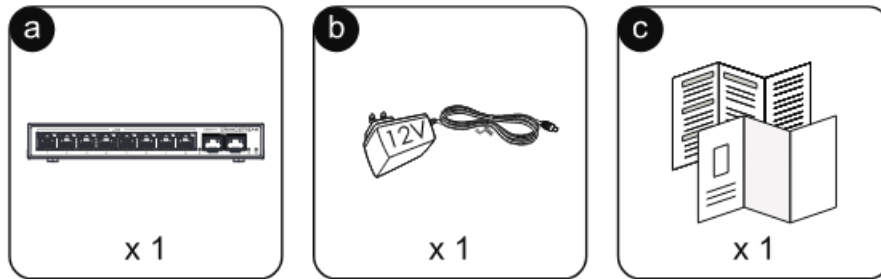
## INSTALLATION

Before deploying and configuring the GWN772x switch, the device needs to be properly powered up and connected to the network. This section describes detailed information on the installation, connection, and warranty policy of the GWN772x switch.

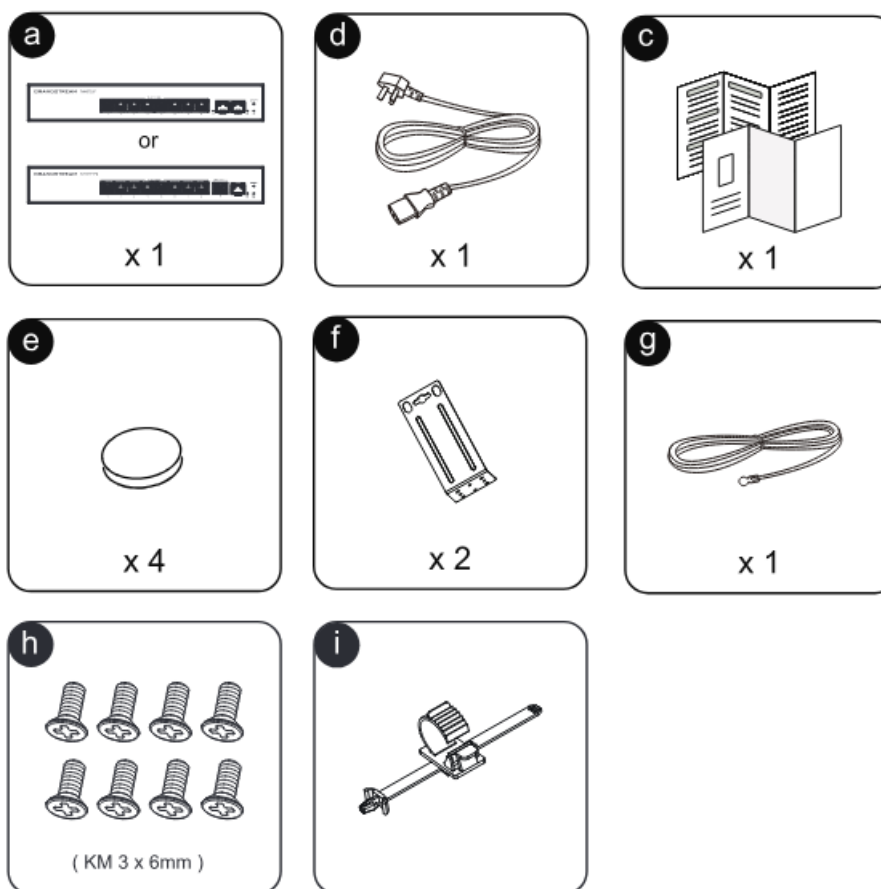
### Package Contents

#### - GWN7721 Series

## GWN7721

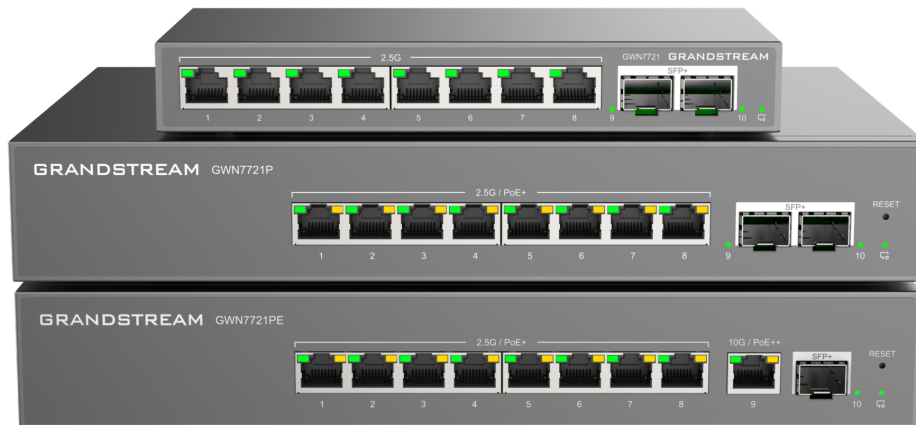


## GWN7721P/PE



## Port Description

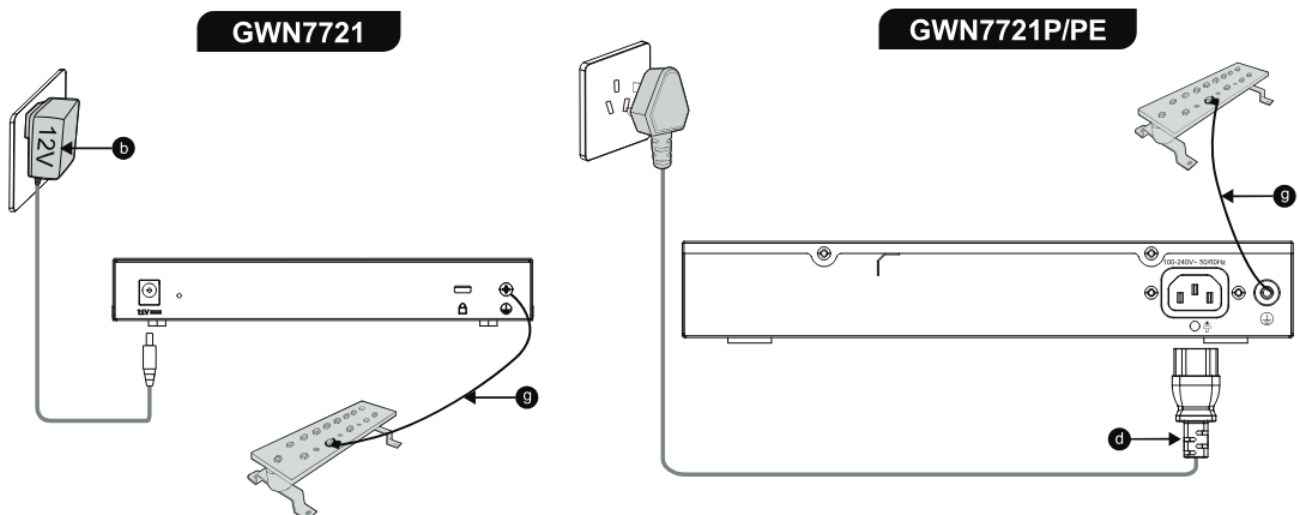
- GWN7721 Series



## Grounding and Accessing GWN772x

### Grounding the GWN7721 Series Switches

1. Remove the ground screw from the back of the switch, and connect one end of the ground cable to the wiring terminal of the switch.
2. Put the ground screw back into the screw hole, and tighten it with a screwdriver.
3. Connect the other end of the ground cable to the other device that has been grounded or directly to the terminal of the ground bar in the equipment room.



The GWN7721 Series complies with FCC/CE and applicable safety standards. Use only the power adapter or AC power cable supplied for the specific model. The manufacturer's warranty does not cover damage caused by unsupported power accessories.

If a GWN7721 Series switch was purchased from a reseller, please contact the company where the device

was purchased for replacement, repair or refund. If the device was purchased directly from Grandstream, contact our Technical Support Team for an RMA (Return Materials Authorization) number before the product is returned. Grandstream reserves the right to remedy the warranty policy without prior notification.

## GWN7721P/PE Deployment Cases

### 802.3af/at PoE+ Power and Data Transmission

On the GWN7721P, ports 1-8 support IEEE 802.3af/at PoE/PoE+ with up to 30 W per port. On the GWN7721PE, ports 1-8 support up to 30 W per port and port 9 is a 10 Gigabit Ethernet port supporting IEEE 802.3af/at/bt PoE/PoE+/PoE++ with up to 90 W. The GWN7721P provides two 10 Gigabit SFP+ ports, while the GWN7721PE provides one 10 Gigabit SFP+ port.

- Port 1: 2.5G Gaming PC
- Port 3: 802.3af/at PoE+ GRP VoIP Phone
- Port 5: 802.3af/at PoE Camera
- Port 6: 802.3af PoE IP Video Intercom System
- Port 8: Wireless 802.3af PoE WiFi 6/6E AP
- **GWN7721P ports 9-10:** 10 Gigabit SFP+ uplinks.
- **GWN7721PE port 9:** 10 Gigabit RJ45 PoE++ port (up to 90 W); **port 10:** 10 Gigabit SFP+ uplink.



*PoE and PoE+ Power and Data Transmission*

### PoE Watchdog

Use VLAN to isolate the IP Camera/Internet/IPTV traffic. Use link aggregation to increase upstream bandwidth.

**Anomaly Detection:** The PoE switch continuously monitors the network operation status of connected powered devices (such as cameras, APs, IP phones, etc.).

**Automatic Restart:** If a device fails to respond within the set time, PoE Watchdog will proactively cut off its power supply and reboot it to restore functionality.

**Reduced Manual Intervention:** Eliminates the need for manual power plugging/unplugging or on-site maintenance, enhancing network reliability



## GETTING STARTED

### Device LED Indicators

The front panel of the GWN772x has LED indicators for power and interface activities. The table below describes the LED indicators' status.

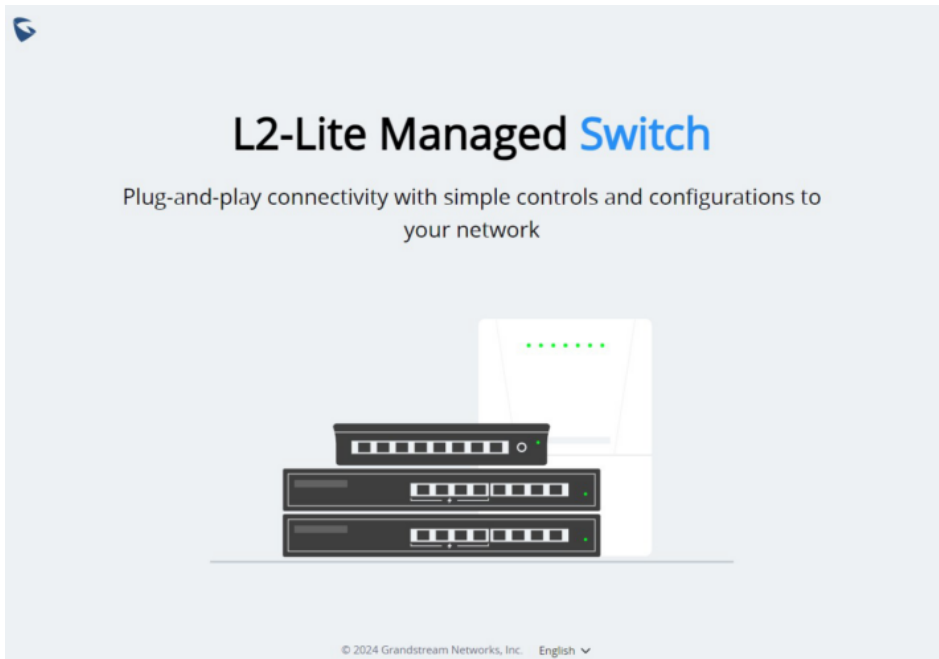
| LED indicator              | Status                          | Description                                                                 |
|----------------------------|---------------------------------|-----------------------------------------------------------------------------|
| System indicator           | Off / green / blue / red        | Power, upgrade, normal use, provisioning, failure, and factory-reset status |
| Port indicator             | Off / green on / green flashing | No link, active link, or data transfer                                      |
| PoE supply LED (GWN7721P)  | 8 yellow LEDs                   | PoE status for ports 1-8                                                    |
| PoE supply LED (GWN7721PE) | 9 yellow LEDs                   | PoE status for ports 1-9                                                    |

### Access and configure

If no DHCP server is available, the GWN772x default IP address is 192.168.0.254.

#### Log in using the Web UI

1. A PC uses a network cable to correctly connect any RJ45 port of the switch.
2. Set the Ethernet (or local connection) IP address of the PC to 192.168.0.x ("x" is any value between 1-253), and the subnet mask to 255.255.255.0, so that it is in the same network segment as the switch IP address. If DHCP is used, this step could be skipped.
3. Type the switch's management IP address `http://` in the browser, and enter the username and password to log in. (The default administrator username is "admin" and the default random password can be found on the sticker on the GWN772x switch.)



## Login to GWN7721P

Username

Please enter username

Password

Please enter password

Login

## Configure using GDMS Networking/GWN Manager

Type <https://www.gdms.cloud> ([https://<gwn\\_manager\\_IP>](https://<gwn_manager_IP>) for GWN Manager) in the browser, and enter the account and password to log in to the cloud platform. If you don't have an account, please register first or ask the administrator to assign one for you. To add a GWN switch to the GDMS Networking/GWN manager, refer to the online documentation: <https://documentation.grandstream.com>.

## WebUI Configuration

GWN772x WebUI includes 10 main sections to configure and manage the switch and check the connection status.

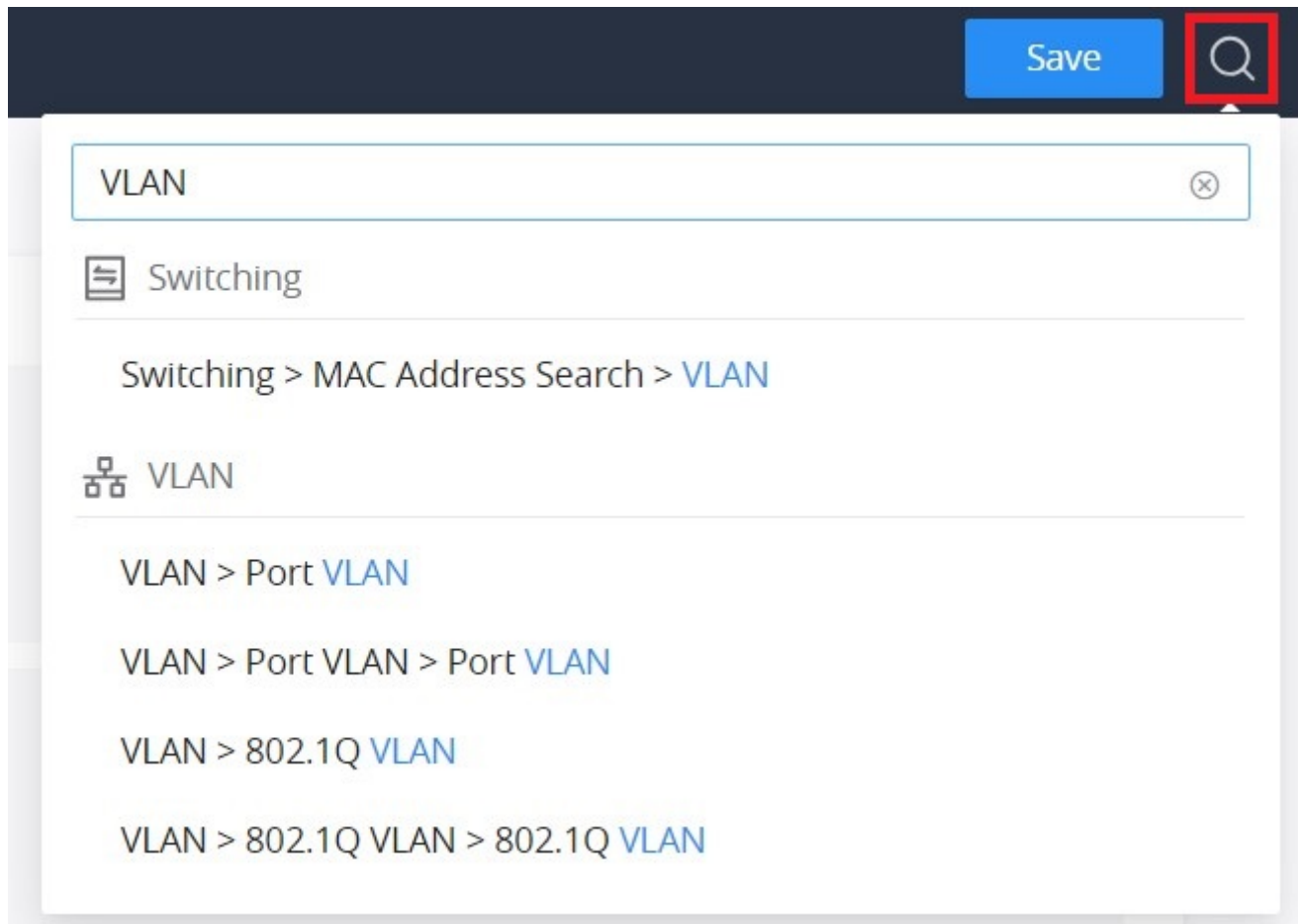
The image shows the WebUI configuration page for the GWN7721P switch. The top header bar is dark blue with the "GWN7721P" title, a "Save" button, a search icon, and a user profile icon labeled "admin". A left sidebar contains a menu with icons and labels for: Overview, System, Switching, VLAN, IGMP Snooping, QoS, Security, PoE, Monitoring, and Maintenance. The main content area is titled "Port Info". It features a legend at the top with color-coded boxes for 10Gbps (blue), 2.5Gbps (purple), 1000Mbps (green), 100Mbps/10Mbps (yellow), Disconnected (grey), ErrDisable (red), Shutdown (white), and PoE Power: UP (light blue). Below the legend is a row of port status icons; port 1 is highlighted in green (2.5G), while ports 2-8 are in purple (2.5G), and ports 9 and 10 are in grey (SFP+). A text prompt says "Click on the port above to view port information". Below this is a "Basic Info" section with a table of port details: Port Name (2.5GE1), Port Description (--), Port Status (Up), Speed (Auto (100Mbps)), Duplex Mode (Auto (Full)), Flow Control (Auto (ON)), and Jumbo Frame (9216 B). At the bottom is a "PoE Power Supply" section with an information icon.

WebUI configuration

## Search

GWN772x Switches have search functionality to help the user find the right configuration, settings, parameters, etc.

On the top of the page, there is a search icon; the user can click on it and then enter the keyword relevant to their search, and then they will get all the possible locations of that keyword.

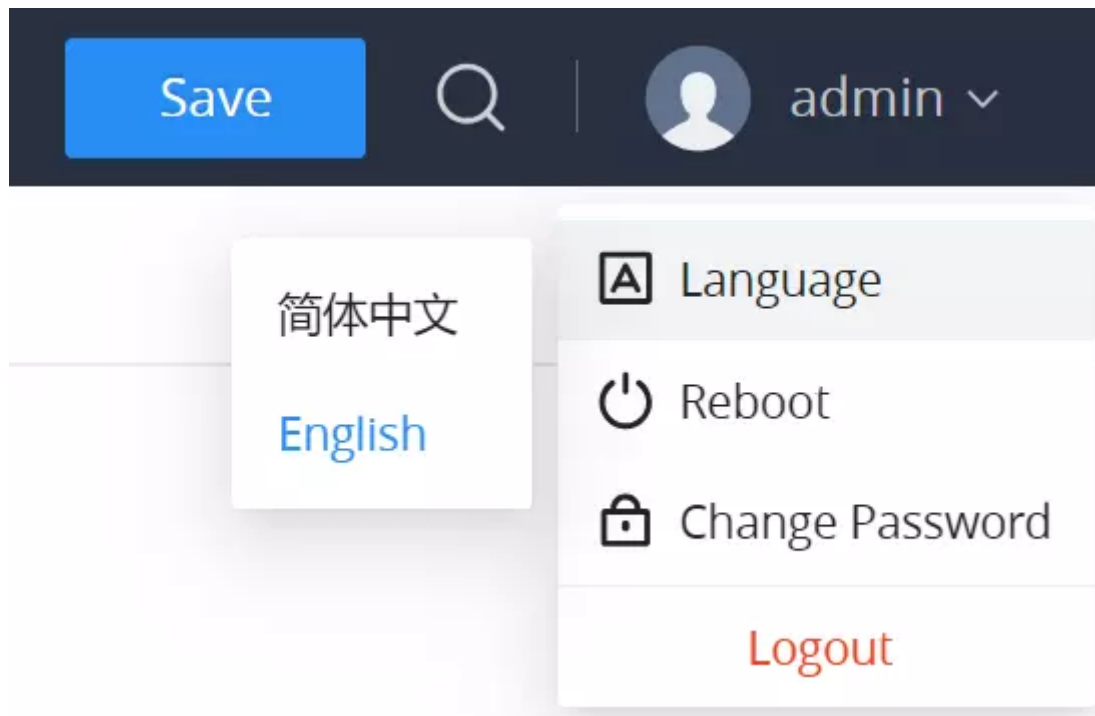


*Search*

## Language

To change the language on the GWN772x switch interface:

- Navigate to the top right corner of the interface where the username is displayed.
- Click on the drop-down menu next to the username.
- Select "Language" from the drop-down options.
- After selecting the language, the interface will switch to the chosen language.

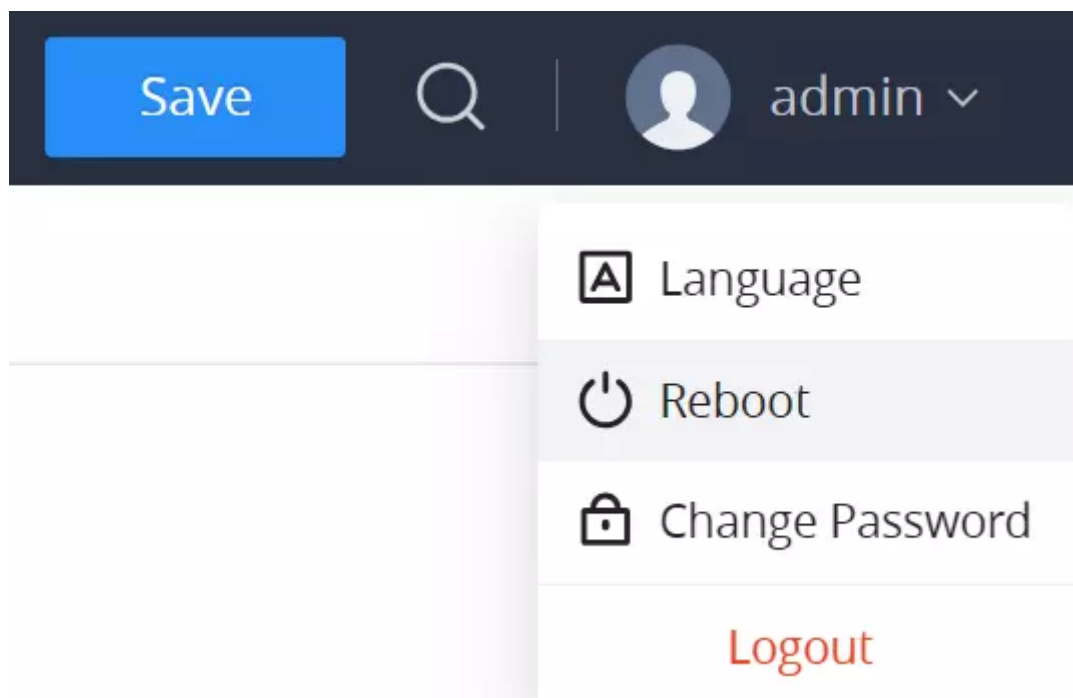


Language

## Reboot

To reboot the GWN772x switch:

- Navigate to the top right corner of the interface where the username is displayed.
- Click on the drop-down menu next to the username.
- Select "Reboot" from the drop-down options.
- Confirm the action to reboot the device.
- The device will automatically restart after a brief delay.

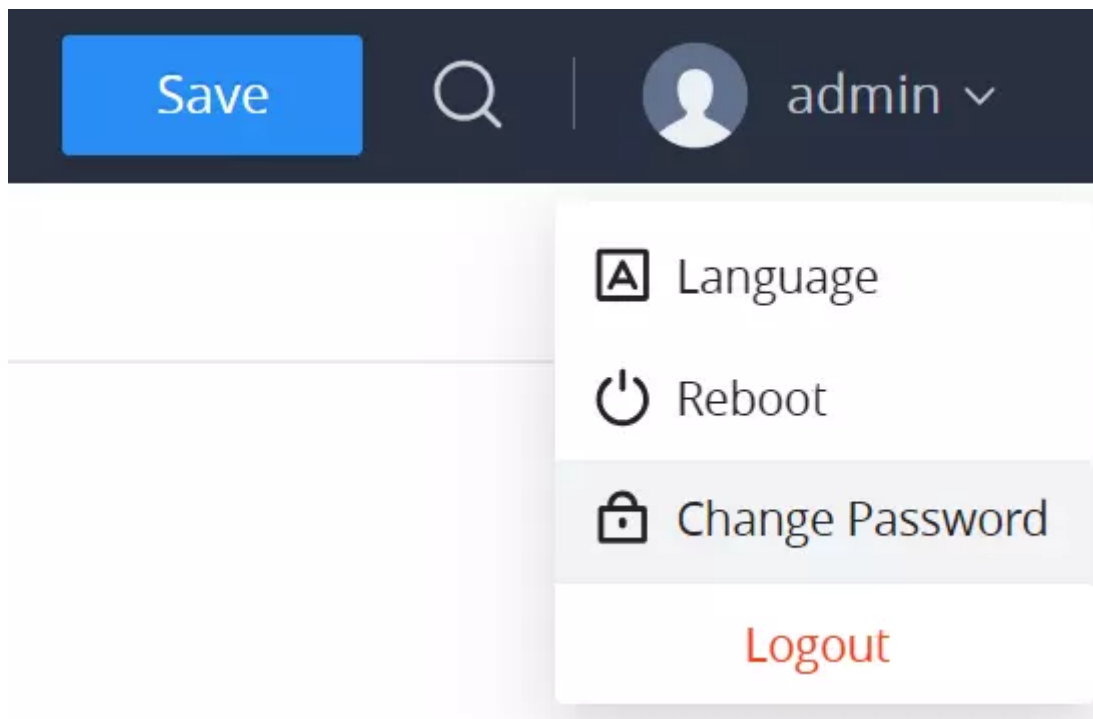


Reboot

## Change Password

To change the password on your GWN772x switch:

- Navigate to the top right corner of the interface where the username is displayed.
- Click on the drop-down menu next to the username.
- Select "Change Password" from the drop-down options.
- A "Change Password" dialog box will appear.
- Enter the current password in the **Current Password** field.
- In the **New Password** field, input a new password that meets the criteria: it must contain 8-32 characters and include at least two of the following: digits, letters, and special characters (e.g., admin,123).
- Enter the same password in the **Confirm New Password** field.
- Click "Complete" to apply the changes.



*Change password option*

# Change Password



## \* Current Password

## \* New Password

8-32 characters, must contain two of digits, letters and special characters

## \* Confirm New Password

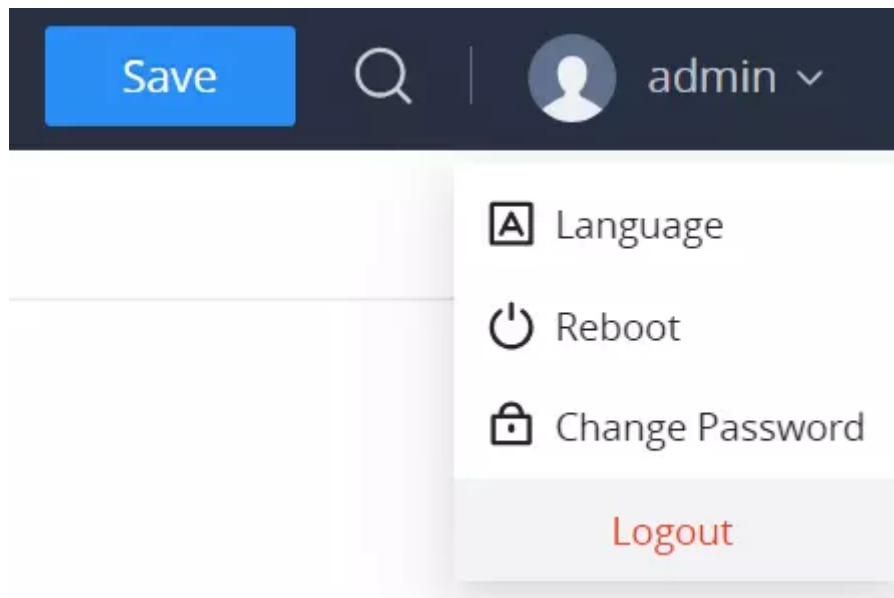
Complete

*Change password*

## Logout

To log out of the GWN772x switch:

- Navigate to the top right corner of the interface where the username is displayed.
- Click on the drop-down menu next to the username.
- Select "Logout" to safely log out of the current session.



*Logout*

## OVERVIEW

The overview is the first section that displays System information on the first page, "System Info", and Port status on the second page, "Port Info". This section provides the user with a general and global view of the GWN772x system and port status for easy monitoring.

### System Info

System Info is the first page after successfully logging into the GWN772x Web Interface. It provides an overall view of the GWN772x Switch information, like Device name, MAC Address, System Version, etc.

To name the device, please click on , then enter the desired name.

## System Info

### Basic Info

Device Name: GWN7721P



System Location: --

System Contact: --

MAC Address: [REDACTED]

System OID [REDACTED]

Management IPv4 Address: [REDACTED]

Subnet Mask: [REDACTED]

Gateway: [REDACTED]

Part Number: [REDACTED]

Serial Number: [REDACTED]

System Version: 1.0.1.27

Hardware Version: V1.1A

Boot Version: 1.0.23

System Uptime: 4 days, 23 hours, 50 minutes

### Power Supply



System Info

## Port Info

This page displays the status for each port on the GWN772x switches indicated by color code (green, red, grey, white, etc) and PoE symbol. Please refer to the figure below:

Port Info

10Gbps

2.5Gbps

1000Mbps

100Mbps/10Mbps

Disconnected

ErrDisable

Shutdown

PoE Power: UP

1

2.5G

2

2.5G

3

2.5G

4

2.5G

5

2.5G

6

2.5G

7

2.5G

8

2.5G

9

SFP

10

SFP

Click on the port above to view port information

Basic Info

Port Name:

2.5GE1

Port Description:

--

Port Status:

Up

Speed:

Auto (100Mbps)

Duplex Mode:

Auto (Full)

Flow Control:

Auto (ON)

Jumbo Frame:

9216 B

PoE Power Supply

Power Status:

Not powered

Power Supply Standard:

802.3af/at

Max Power Supply:

30 W

Current Power:

--

Power Supply Priority:

Low

Port Info page

The following table explains the color code and the symbols used:

|  |                                     |
|--|-------------------------------------|
|  | Grey: Linkdown                      |
|  | White: shutdown                     |
|  | Blue: 10 Gbps speed                 |
|  | Purple: 2.5 Gbps speed              |
|  | Green: 1000 Mbps speed              |
|  | Light green: 100 Mbps/10 Mbps speed |
|  | Red: ErrDisable                     |
|  | Symbol: PoE Power is enabled.       |

Ports Labels and Color Code

**Note:** A PoE symbol and color code combination is also possible. Ex: in this case, the port is using 1000 Mbps speed and also using PoE at the same time.

There are 3 main sections for each port:

- **Basic Info:** displays info about the port name, speed, status, etc.

**Note:** Click onto modify the port settings like Description, Speed, Duplex Mode, and Flow Control, or to enable or disable the port.

- **PoE Power Supply:** displays PoE Current Power and priority, Status, etc.

**Note:** Click on to change PoE settings.

# SYSTEM

## IP Settings

The **IP Settings** page controls the switch management interface. From this page, administrators can select the **Management VLAN**, obtain an address through **DHCP** or configure a **Static** IPv4 address, specify DNS servers, and set the **Maximum Transmission Unit (MTU)**.

### Management VLAN

The **Management VLAN** identifies the VLAN used to reach the switch's management interface. Ensure the administrator's device and the required switch ports can reach this VLAN before applying the change.

The Management VLAN applies to 802.1Q VLAN configurations. The default is VLAN 1. Changing this value can interrupt access to the web interface if the management path is not configured for the new VLAN.

IP Settings

Management VLAN ⓘ

•MTU

IPv4 Address Settings

IPv4 Address mode

Automatically get DNS

•DNS1

DNS2

VLAN 1

VLAN 1

VLAN 20

Range: 576-1500

☒ DHCP

☐ Static

192.168.90.1

Cancel

OK

IP Settings Management VLAN DHCP and MTU

### IPv4 Address Settings

Select **DHCP** to obtain the IPv4 address and DNS information automatically, or select **Static** to enter the IPv4 address, subnet mask, gateway, and DNS servers manually.

### Maximum Transmission Unit (MTU)

The **MTU** specifies the maximum IP packet size, in bytes, used by the switch management interface. The supported range is **576-1500 bytes**, and the default value is **1500 bytes**. Use a smaller value only when required by the network path.

## IP Settings

Management VLAN  VLAN 1

\*MTU 1500 Range: 576-1500

**IPv4 Address Settings**

IPv4 Address mode ☐ DHCP ☒ Static

\*IPv4 Address 172.16.142.28

\*Subnet Mask 255.255.255.0

\*Gateway 172.16.142.1

\*DNS1 192.168.90.1

DNS2

Cancel OK

IP Settings Static IPv4 DNS and MTU

| Field Name            | Description                                                                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management VLAN       | Selects the VLAN used to access the management interface. Only ports in this VLAN can access the web UI. Note: Management VLAN is only valid for 802.1Q VLAN, default VLAN1, that is, only ports under VLAN1 can access the Web page. |
| MTU                   | Sets the Maximum Transmission Unit for the management interface. Range: 576 - 1500 (Default: 1500).                                                                                                                                   |
| IPv4 Address Mode     | Choose between automatic (DHCP) or manual (Static) IP configuration.                                                                                                                                                                  |
| Automatically Get DNS | Enables automatic DNS retrieval from the DHCP server when set to DHCP mode. When disabled you can manually configure DNS1 and DNS2.                                                                                                   |
| DNS1                  | Primary DNS server address. Note: This field is available in both DHCP and Static modes when the Automatically Get DNS option is disabled.                                                                                            |
| DNS2                  | Secondary DNS server address (optional). Note: This field is available in both DHCP and Static modes when the Automatically Get DNS option is disabled.                                                                               |
| IPv4 Address          | Manually enter the desired static IP address for the switch. Note: This field is only available when Static mode is selected.                                                                                                         |
| Subnet Mask           | Defines the subnet mask determining the network portion of the IP address. Note: This field is only available when Static mode is selected.                                                                                           |
| Gateway               | Defines the gateway used for external communications. Note: This field is only available when Static mode is selected.                                                                                                                |

IP Settings

## Management Platform

The **Management Platform** allows users to configure how the GWN772x switch connects to a management platform. The switch supports multiple management platforms, including GDMS Networking and GWN Manager. The management platform selection can either be automatic or manually specified by the user.

### Steps to Configure the Management Platform

1. **Navigate to:** System ? Management Platform.
2. **Enable DHCP Option 43:** If needed, toggle on "Allow DHCP Option 43 to Override."
3. **Select Connection Management Platform:**
  - Choose **Auto** for automatic platform selection.
  - Select **GDMS Networking** or **L2/L3 Manager**, based on your setup.
4. **Specify Server Address and Port** (if applicable):
  - If a specific platform is selected (e.g., L3 Manager), input the server address and port number.
5. **Save** your configuration.

#### Management Platform

Allow DHCP Option 43 to Override Manager Server Address ☐

Connented Management Platform

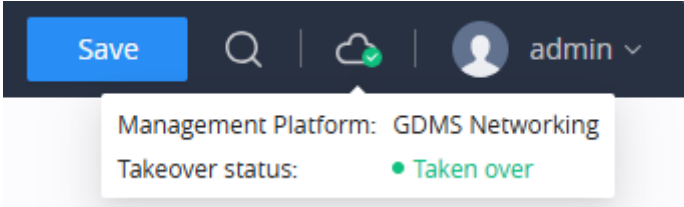
- Auto
- GDMS Networking
- L2 Manager
- L3 Manager

For more details, refer to this table:

| Field                            | Description                                                                                         | Notes                                                                                                                                                                    |
|----------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow DHCP Option 43 to Override | Enable or disable the DHCP Option 43 override.                                                      | If enabled, the server address assigned by DHCP Option 43 will be preferred.                                                                                             |
| Connection Management Platform   | Select the management platform type. Options include: Auto, GDMS Networking, L2 Manager, L3 Manager | Only one platform can be connected at a time, as well as discovered and taken over by one platform. By default, it is automatic, and the priority is to GDMS Networking. |
| Server Address                   | Specify the server address of the selected management platform.                                     | Only available when a manual platform (L3 Manager) is selected. Enter the IP address of the server.                                                                      |
| Server Port                      | Specify the server port of the selected management platform.                                        | Only available when a manual platform (L3 Manager ) is selected. Enter the server port number (Range: 1-65535).                                                          |

#### Management platform

When the switch is successfully connected to a platform (either GDMS Networking or GWN Manager), a corresponding **Cloud Icon** with a green check mark will appear at the top of the Web UI. This icon signifies that the switch is now integrated with the management platform, and some configurations from the platform may now be applied to the switch, as shown below:



Management platform icon

# SWITCHING

The switching section covers Ports and LAG (Link Aggregation Group) configurations.

## Port Settings

On this page, you can configure the basic parameters for GWN772x Switch ports, like disabling or enabling the port, adding a Description, specifying the speed, Duplex mode, and Flow Control.

To configure a port, please navigate to **Switching -> Port Settings**.

Port Settings

Jumbo Frame (B)

9216

Cancel

Ok

Port

Edit

Refresh

All Ports

| <input type="checkbox"/> | Port   | Description | Status  | Link Status | Speed          | Duplex      | Flow Control | Operation |
|--------------------------|--------|-------------|---------|-------------|----------------|-------------|--------------|-----------|
| <input type="checkbox"/> | 2.5GE1 | --          | Enabled | Up          | Auto (100Mbps) | Auto (Full) | Auto (ON)    |           |
| <input type="checkbox"/> | 2.5GE2 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE3 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE4 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE5 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE6 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE7 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | 2.5GE8 | --          | Enabled | Down        | Auto           | Auto        | Auto         |           |
| <input type="checkbox"/> | SFP+9  | --          | Enabled | Down        | Auto Detect    | Full        | Enabled      |           |

Port Settings

To configure a port, click on the "Edit" icon under the operation column.

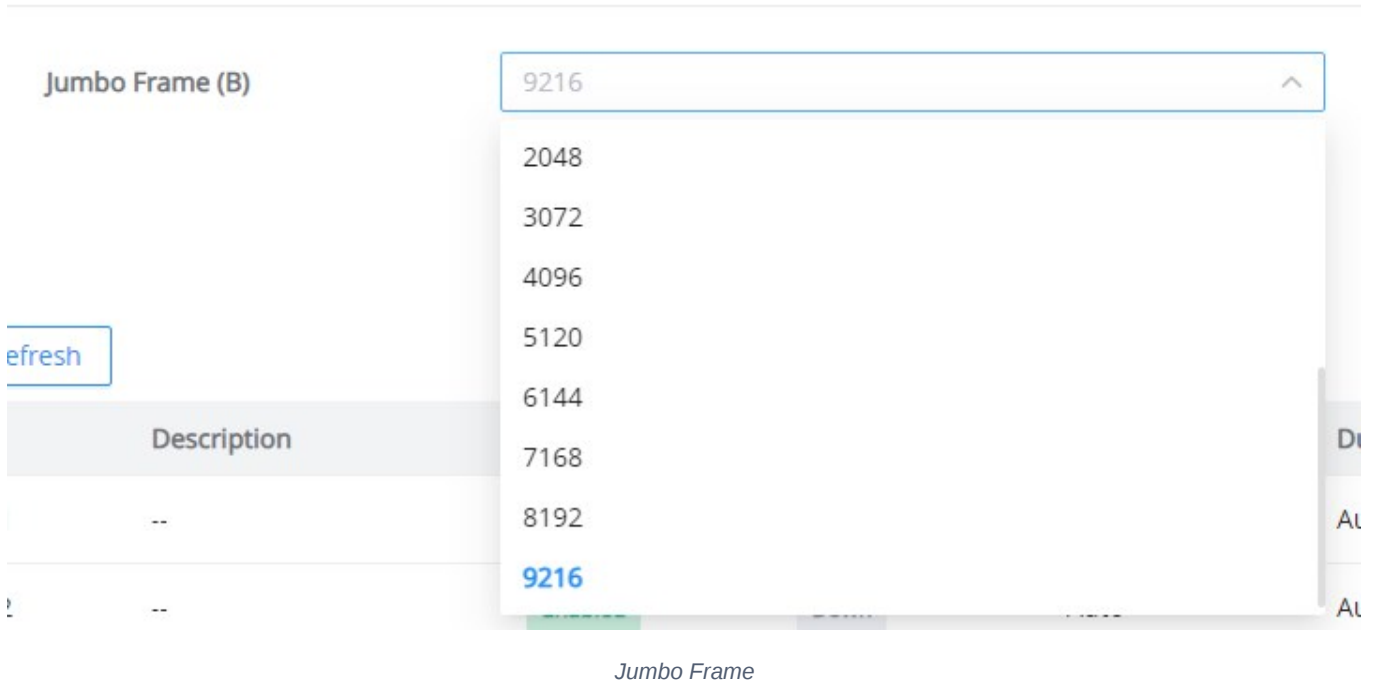
|                                                                         |                                                                                                                                                             |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port                                                                    | 2.5GE1                                                                                                                                                      |
| Description                                                             | <input type="text"/> 0-32 characters                                                                                                                        |
| Port Enable                                                             | <input checked="" type="checkbox"/>                                                                                                                         |
| Auto                                                                    | <input checked="" type="checkbox"/>                                                                                                                         |
| Speed                                                                   | 2.5Gbps                                                                                                                                                     |
| Duplex Mode                                                             | <input checked="" type="radio"/> Full <input type="radio"/> Half                                                                                            |
| Flow Control                                                            | <input type="radio"/> Disabled <input checked="" type="radio"/> Enabled<br>Flow control function will not take effect when the duplex mode is set to "Half" |
| <input type="button" value="Cancel"/> <input type="button" value="Ok"/> |                                                                                                                                                             |

*Port Settings Edit port*

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port         | The selected Port to be configured.                                                                                                                                                                                                                                                                                                                                                                                              |
| Description  | It is used to configure the information description of this interface , which can be a description of usage, etc., with a maximum of 32 characters, and the characters limited to input are numbers 0-9 , letters az / AZ and special characters.                                                                                                                                                                                |
| Port Enable  | Set whether to enable the interface. it is enabled by default.                                                                                                                                                                                                                                                                                                                                                                   |
| Auto         | toggle ON or OFF Auto Detect, if it's ON the speed, Duplex Mode and Flow Control will be selected automatically, and if it's OFF the user can select speed, Duplex Mode and Flow Control manually.                                                                                                                                                                                                                               |
| Speed        | Set the rate of the interface:Ethernet port: the options are {10Mbps, 100Mbps, 1000Mbps, 2.5Gbps}, The default is 2.5Gbps.SFP+ ports: the options are {1000Mbps, 2.5Gbps, and 10Gbps}, the default is 10Gbps.                                                                                                                                                                                                                    |
| Duplex Mode  | Set the duplex mode of the interface. The options are {full-duplex, half-duplex}.The default is Duplex.Duplex: the interface send and receive data packets.Half-duplex: interface can only send/ receive packets.                                                                                                                                                                                                                |
| Flow Control | Set the flow control on the interface, the options are {Disabled, Enabled}. The default is Enabled.After enabling it, if the local device is congested, it will send a message to the peer device to notify the peer device to temporarily stop sending packets, after receiving the message, the peer device will temporarily stop sending packets to the local and vice versa. Thus, the occurrence of packet loss is avoided. |

*Port Settings - Edit port***Jumbo Frame**

The maximum Transmission Payload or MTU is typically 1500 bytes. In case the user requires even a bigger MTU length for a specific scenario, there is an option on the GWN772x Switch to enable Jumbo Frame; the maximum Ethernet frame size ranges from 1518 to 9216 bytes. The default value is 9216 bytes.



## LAG

LAG means Link Aggregation Group, which groups some physical ports to make a single high-bandwidth data path. Thus, it can implement traffic load sharing among the member ports in a group to enhance the connection reliability.

To configure LAG, please navigate to **Switching -> LAG**.

GWN772x switches support up to 5 link aggregation groups, as shown in the figure below:

To edit/configure a LAG, click on the **"Edit"** icon under the operation column.

LAG

| LAG  | Description | Status | Link Status | Speed | Flow Control | Active Member | Inactive Member | Operation                                                                                                                                                                   |
|------|-------------|--------|-------------|-------|--------------|---------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LAG1 | --          | --     | --          | --    | --           | --            | --              |   |
| LAG2 | --          | --     | --          | --    | --           | --            | --              |   |
| LAG3 | --          | --     | --          | --    | --           | --            | --              |   |
| LAG4 | --          | --     | --          | --    | --           | --            | --              |   |
| LAG5 | --          | --     | --          | --    | --           | --            | --              |   |

LAG groups

Member Port ⓘ

Click on port to select/unselect

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP+

10 SFP+

Description

0-32 characters

Port Enable

☒

Speed

2.5Gbps

▼

Flow Control

☐ Disabled

☒ Enabled

Cancel

Ok

Edit LAG

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Member Port  | Click on ports to be part of this LAG group.                                                                                                                                                                                                                                                                                                                                                                                       |
| Description  | It is used to configure the information description for this LAG , which can be a description of usage, etc., with a maximum of 32 characters, and the characters limited to input are numbers 0-9 , letters az / AZ and special characters.                                                                                                                                                                                       |
| Port Enable  | Set whether to enable the interface. it is enabled by default.                                                                                                                                                                                                                                                                                                                                                                     |
| Speed        | Set the rate of the interface, the options are {10Mbps, 100Mbps, 1000Mbps, 2.5Gbps} for ethernet ports and {1000Mbps, 2.5Gbps, and 10Gbps} for SFP+ ports.The default is 2.5Gbps for Ethernet ports, and 10Gbps for SFP+ ports.                                                                                                                                                                                                    |
| Flow Control | Set the flow control on the interface, the options are { Disabled, Enabled}. The default is Enabled. After enabling it, if the local device is congested, it will send a message to the peer device to notify the peer device to temporarily stop sending packets, after receiving the message, the peer device will temporarily stop sending packets to the local and vice versa. Thus, the occurrence of packet loss is avoided. |

Edit LAG

## MAC Address Search

The MAC address table records the correspondence between the MAC addresses of other devices learned by the switch and the interfaces, as well as information such as the VLANs to which the interfaces belong. When forwarding a packet, the device queries the MAC address table according to the destination MAC address of the packet. If the MAC address table contains an entry corresponding to the destination MAC address of the packet, it directly forwards the packet through the outbound interface in the entry. If the MAC address table does not contain an entry corresponding to the destination MAC address of the packet, the device will use broadcast mode to forward the packet on all interfaces in the VLAN to which it belongs, except the receiving interface.

On this page, the user can search using the MAC address and the VLAN. If the device's MAC address is found, it will be displayed on the Search Result section.

## MAC Address Search

\*MAC Address

c0 : 74 : ad : ff : ff : ff

VLAN

1

Range: 1-4094

Reset

Search

### Search Result

MAC Address

VLAN

Port



No Data

MAC Address Search

The GWN772x supports pasting a MAC address that is separated by hyphens ('-') into the MAC field. For example, you can enter the MAC address in this format: 00-0B-82-8C-4D-F8. The system will recognize and process it accordingly, eliminating the need to manually remove or replace the hyphens.

## Spanning Tree

The Spanning Tree Protocol (STP) prevents network loops by creating a loop-free topology in Ethernet networks. It allows redundant paths without causing broadcast storms or multiple frame copies.

### Global Settings - Spanning Tree

The **Global Settings** tab in the Spanning Tree section lets administrators configure general Spanning Tree settings and view real-time status.

To access Spanning Tree Global Settings:

1. Navigate to **Switching -> Spanning Tree -> Global Settings**.
2. Enable Spanning Tree by toggling the switch to **ON**.
3. Configure the following fields:

## Spanning Tree

### Global Settings

### Port Settings

|                         |                                                                              |
|-------------------------|------------------------------------------------------------------------------|
| Spanning Tree           | <input checked="" type="checkbox"/>                                          |
| Mode                    | <div>STP</div>                                                               |
| Path Cost               | <div><input checked="" type="radio"/> Short <input type="radio"/> Long</div> |
| *Bridge Priority        | <div>32768</div> <div>Range 0-61440, must be a multiple of 4096</div>        |
| *Hello Time (s)         | <div>2</div> <div>Range: 1-10</div>                                          |
| *Max Aging Time (s)     | <div>20</div> <div>Range: 6-40</div>                                         |
| *Forward Delay Time (s) | <div>15</div> <div>Range: 4-30</div>                                         |
| <div>CancelOk</div>     |                                                                              |

### Spanning Tree Global Settings

| Field Name             | Description                                                                                                                                                     | Range                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Mode                   | Choose between STP (Spanning Tree Protocol) and RSTP (Rapid Spanning Tree Protocol). Note: RSTP is faster in convergence and more efficient in modern networks. | -                                         |
| Path Cost              | Select either Short or Long path cost calculation. Note: Short uses the IEEE 802.1D standard while Long supports larger path costs for higher-speed links.      | -                                         |
| Bridge Priority        | The lower the value the higher the chance of this switch becoming the root bridge. Note: Adjust this based on network topology.                                 | Range 0-61440, must be a multiple of 4096 |
| Hello Time (s)         | Defines the time interval between BPDU transmissions by the root bridge.                                                                                        | 1 - 10 seconds                            |
| Max Aging Time (s)     | Sets how long the switch will keep BPDU information before discarding it.                                                                                       | 6 - 40 seconds                            |
| Forward Delay Time (s) | Determines how long a port spends in Listening and Learning states before transitioning to Forwarding.                                                          | 4 - 30 seconds                            |

### Spanning Tree - Global Settings

This section displays the current status of the spanning tree topology. You can refresh the information by clicking the **Refresh** icon.

| Status                  |                         |  |
|-------------------------|-------------------------|--|
| Bridge ID:              | 32768-EC:74:D7:0D:52:B9 |  |
| Root Bridge ID:         | 32768-C0:74:AD:BA:24:FC |  |
| Root Port:              | GE8                     |  |
| Root Path Cost:         | 4                       |  |
| Topology Change Count:  | 1                       |  |
| Latest Topology Change: | 46 minutes 48 seconds   |  |

### Spanning Tree Real Time Status Information

| Field Name             | Description                                                       |
|------------------------|-------------------------------------------------------------------|
| Bridge ID              | The unique identifier for the current bridge (switch).            |
| Root Bridge ID         | The identifier for the root bridge in the spanning tree topology. |
| Root Port              | The port used to reach the root bridge.                           |
| Root Path Cost         | The cost of the path to the root bridge from this switch.         |
| Topology Change Count  | The number of times the network topology has changed.             |
| Latest Topology Change | The time since the last topology change.                          |

### Spanning Tree - Real-Time Status Information

## Port Settings - Spanning Tree

The **Port Settings** tab allows configuration of Spanning Tree on a per-port basis, enabling administrators to control port behavior, priority, path cost, and monitor port status.

### Spanning Tree

Global Settings **Port Settings**

Edit

| <input type="checkbox"/> | Port          | Status  | Priority | Path Cost | Edge Port | Point-to-Point | Port Status | Operation |
|--------------------------|---------------|---------|----------|-----------|-----------|----------------|-------------|-----------|
| <input type="checkbox"/> | 2.5GE1        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE2 (LAG1) | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE3 (LAG1) | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE4        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE5        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE6        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE7        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | 2.5GE8        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | SFP+9         | Enabled | 128      | 0         | Disabled  | Auto           |             |           |
| <input type="checkbox"/> | SFP+10        | Enabled | 128      | 0         | Disabled  | Auto           |             |           |

### Spanning Tree Port Settings

To configure Spanning Tree on specific ports:

1. Navigate to **Switching -> Spanning Tree -> Port Settings**.
2. Select the port you wish to configure and click **Edit**.
3. Configure the following fields:

|                                 |                                                                                                    |                                       |
|---------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------|
| Port                            | 2.5GE1                                                                                             |                                       |
| Spanning Tree ⓘ                 | <input checked="" type="checkbox"/>                                                                |                                       |
| *Priority                       | 128                                                                                                | Range 0-240, must be a multiple of 16 |
| *Path Cost ⓘ                    | 0                                                                                                  | Range: 0-65535                        |
| Edge Port                       | <input checked="" type="radio"/> Disabled <input type="radio"/> Enabled <input type="radio"/> Auto |                                       |
| Point-to-Point                  | <input type="radio"/> Disabled <input type="radio"/> Enabled <input checked="" type="radio"/> Auto |                                       |
| <div>Cancel</div> <div>Ok</div> |                                                                                                    |                                       |

|                             |          |
|-----------------------------|----------|
| Port Status:                | --       |
| Designated Bridge ID:       | --       |
| Designated Port ID:         | --       |
| Path Cost:                  | 0        |
| Operational Edge:           | Disabled |
| Operational Point-to-Point: | Disabled |

### Spanning Tree Port Settings

| Field Name     | Description                                                                                                                                                                                      | Range                     |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Port           | The specific port being configured for Spanning Tree Protocol.                                                                                                                                   | -                         |
| Spanning Tree  | Enables or disables Spanning Tree for the selected port. Note: If the port is self-looping, the port will be automatically shut down, and the port needs to be manually enabled again.           | -                         |
| Priority       | Assigns priority to the port. Lower values make this port more likely to become the root port in case of a tie.                                                                                  | 0 - 240 (multiples of 16) |
| Path Cost      | Defines the cost of using this port to reach the root bridge. Lower costs indicate more desirable paths. The default value is 0 meaning the switch automatically calculates based on link speed. | Range: 0-65535            |
| Edge Port      | Enable if the port is connected to an end device and is not expected to receive BPDUs. Auto will detect if the port should behave as an edge port.                                               | -                         |
| Point-to-Point | Specifies whether the port operates as a point-to-point link. Auto allows detection of the link type.                                                                                            | -                         |

### Spanning Tree - Port Settings

## Port Status

This section provides real-time information about the selected port's spanning tree status.

|                             |                         |
|-----------------------------|-------------------------|
| Port Status:                | Forwarding              |
| Designated Bridge ID:       | 32768-C0:74:AD:BA:24:FC |
| Designated Port ID:         | 128-4                   |
| Path Cost:                  | 4                       |
| Operational Edge:           | Disabled                |
| Operational Point-to-Point: | Disabled                |

*Spanning Tree Port Status*

| Field Name                 | Description                                                         |
|----------------------------|---------------------------------------------------------------------|
| Port Status                | Indicates whether the port is currently active                      |
| Designated Bridge ID       | The bridge ID of the designated bridge for the port.                |
| Designated Port ID         | The ID of the port designated for this spanning tree configuration. |
| Path Cost (Status)         | Displays the actual path cost currently being used by the port.     |
| Operational Edge           | Shows whether the port is operating as an edge port.                |
| Operational Point-to-Point | Displays whether the port is operating as a point-to-point link.    |

*Spanning Tree - Port Status*

## VLAN

A virtual local area network, virtual LAN or VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the same broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical local area network (LAN), but it allows for end stations to be grouped even if they are not located on the same network switch. VLAN membership can be configured through software instead of physically relocating devices or connections.

### Port VLAN

On this page, the user can select which VLANs (a preset from 1 to 8) can be allowed on GWN772x ports. This is a simplified way to manage VLANs from 1 to 8. To have more flexibility and control, please enable 802.1Q VLAN, and the Port VLAN will be disabled automatically.

First, enable Port VLAN as shown below:

When Port VLAN is enabled, 802.1Q VLAN will be automatically disabled, and the configured information will be lost.

Port VLAN

Port VLAN ⓘ

Cancel

Ok

VLAN

| VLAN | Port                            | Operation |
|------|---------------------------------|-----------|
| 1    | 2.5GE1 - 2.5GE8, SFP+9 - SFP+10 |           |
| 2    | --                              |           |
| 3    | --                              |           |
| 4    | --                              |           |
| 5    | --                              |           |
| 6    | --                              |           |
| 7    | --                              |           |
| 8    | --                              |           |
| 9    | --                              |           |
| 10   | --                              |           |

Port VLAN

Click the "Edit" icon under the Operation column to edit a VLAN, then select which ports this VLAN will be allowed on.

Port VLAN > Edit VLAN

VLAN

2

Physical port

Click on port to select/unselect

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP+

10 SFP+

Cancel

Ok

Port VLAN Edit VLAN

802.1Q VLAN

For more flexibility and control over VLAN configuration, the user can enable 802.1Q VLAN, and in this case, the user is not only restricted to VLANs from 1 to 8.

Click on the "Add" button to add a VLAN, as shown below:

When 802.1Q VLAN is enabled, Port VLAN will be automatically disabled and the configured information will be lost.

802.1Q VLAN

802.1Q VLAN ☒

Cancel Ok

VLAN

Add Delete All

| VLAN | Description | Tagged Port             | Untagged Port                   | Operation |
|------|-------------|-------------------------|---------------------------------|-----------|
| 1    | default     | --                      | 2.5GE1 - 2.5GE8, SFP+9 - SFP+10 |           |
| 2    | Voice       | 2.5GE2 - 2.5GE3, 2.5GE5 | --                              |           |

Total 2 < 1 > 10 / page

8021Q VLAN

When clicking **Delete All**, a confirmation dialog appears. **VLAN 1 and the Management VLAN cannot be deleted.** Only other user-created VLANs will be removed.

Confirm to delete all VLANs?

VLAN 1 and management VLAN cannot be deleted

Cancel Delete

Delete All confirmation VLAN 1 and the Management VLAN are preserved

On this screen, the user can configure the VLAN:

- **VLAN:** specify the VLAN ID (Range 2-4094).
- **Description:** Enter a description for the VLAN.
- **Member Type:** a shortcut to untag/tag or remove all members.
- **Physical port:** select the tagged/untagged ports accordingly.

\*VLAN

20

Range: 2-4094

Description

Guest

0-10 characters

Member Type

Please select

▼

\*Physical port

Click Port to switch the member type

① Tagged

⓪ Untagged

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP+

10 SFP+

Cancel

Ok

8021Q VLAN addedit VLAN

802.1Q PVID Settings

If the **802.1Q VLAN** is enabled, the user can select the PVID (Port VLAN ID) or native VLAN when there is more than one VLAN on a port. Click on the **"Edit"** icon under operation to modify the PVID on a specific port.

802.1Q PVID Settings

5/10

| Port                            | PVID | VLAN Transparent | Operation |
|---------------------------------|------|------------------|-----------|
| <input type="checkbox"/> 2.5GE1 | 1    | Enabled          |           |
| <input type="checkbox"/> 2.5GE2 | 1    | Enabled          |           |
| <input type="checkbox"/> 2.5GE3 | 1    | Disabled         |           |
| <input type="checkbox"/> 2.5GE4 | 1    | Disabled         |           |
| <input type="checkbox"/> 2.5GE5 | 1    | Disabled         |           |
| <input type="checkbox"/> 2.5GE6 | 1    | Disabled         |           |
| <input type="checkbox"/> 2.5GE7 | 1    | Disabled         |           |
| <input type="checkbox"/> 2.5GE8 | 1    | Disabled         |           |
| <input type="checkbox"/> 10GE9  | 1    | Disabled         |           |
| <input type="checkbox"/> SFP+10 | 1    | Disabled         |           |

8021Q PVID Settings VLAN Transparent status by port

When editing a port, the following options are available:

- **PVID (Port VLAN ID):** Assigns the default VLAN ID for untagged traffic entering the port. All untagged packets received on this port will be associated with the configured PVID.
- **VLAN Transparent:** When enabled, the port bypasses the local 802.1Q VLAN table and directly forwards all VLAN-tagged packets without modification. This allows the port to act as a VLAN-agnostic pass-through, useful when the switch should not enforce VLAN isolation (e.g., when passing VLANs between two VLAN-aware devices).

8021Q PVID Settings

Edit Port

×

Port

2.5GE1

PVID

1

▼

VLAN Transparent ⓘ

☒

Cancel

OK

8021Q PVID Settings VLAN Transparent

## IGMP SNOOPING

The GWN772x switches support IGMP snooping, which is an IPv4 Layer 2 multicast protocol that optimizes the handling of multicast traffic in a network by intelligently forwarding traffic only to the ports where interested hosts are located, based on the monitoring of IGMP messages.

On the **Global Settings tab**, the users can enable the IGMP Snooping feature by toggling ON the feature, and for an Unknown Multicast Packet will be either dropped or flooded as shown below:

## IGMP Snooping

Global Settings

Dynamic Router Port

IGMP Snooping



Unknown Multicast Packet

Flood

Report Suppression

Drop

Flood

Fast Leave



Cancel

Ok

### Multicast Address

Refresh

VLAN

Multicast Address

Member Port



No Data

IGMP Snooping Global Settings

IGMP snooping dynamically identifies router ports by monitoring IGMP General Query messages and optimizes the forwarding of multicast traffic to those ports for efficient use of network bandwidth.

The **Dynamic Router Port** tab displays all the discovered dynamic router ports. The users can click on the "**Refresh**" button to refresh the list.

## IGMP Snooping

Global Settings

Dynamic Router Port

Refresh

VLAN

Dynamic Router Port



No Data

IGMP Snooping Dynamic Router Port

## QOS

The popularity of the network and the diversification of services have led to a surge in Internet traffic, resulting in network congestion, increased forwarding delay, and even packet loss in severe cases, resulting in reduced service quality or even unavailability. Therefore, to carry out these real-time services on the

network, it is necessary to solve the problem of network congestion. The best way is to increase the bandwidth of the network, but considering the cost of operation and maintenance, this is not realistic. The most effective solution is to apply "Guaranteed" policies to govern network traffic. QoS technology is developed under this background. QoS is quality of service, and its purpose is to provide end-to-end service quality assurance for various business needs. QoS is a tool for effectively utilizing network resources. It allows different traffic flows to compete for network resources unequally. Voice, video, and important data applications can be prioritized in network equipment.

## QoS Basic Settings

On this page, the user can edit the port priority for each port. The supported modes are:

- Port-Based
- 802.1P-Based
- DSCP-Based

Please navigate to **QoS -> QoS Basic Settings** page:

QoS Mode

☒ Port-Based

☐ 802.1P-Based

☐ DSCP-Based

Cancel

Ok

Port Priority

Edit

| <input type="checkbox"/> Port          | Priority | Operation |
|----------------------------------------|----------|-----------|
| <input type="checkbox"/> 2.5GE1        | 0        |           |
| <input type="checkbox"/> 2.5GE2 (LAG1) | 0        |           |
| <input type="checkbox"/> 2.5GE3 (LAG1) | 0        |           |
| <input type="checkbox"/> 2.5GE4        | 0        |           |
| <input type="checkbox"/> 2.5GE5        | 0        |           |
| <input type="checkbox"/> 2.5GE6        | 0        |           |
| <input type="checkbox"/> 2.5GE7        | 0        |           |
| <input type="checkbox"/> 2.5GE8        | 0        |           |
| <input type="checkbox"/> SFP+9         | 0        |           |

QoS Basic Settings

Select one or multiple ports, then click on the "Edit" button to modify the ports' priority. The priority range is from 0 to 7; a larger value indicates a higher priority, and value 0 is the default value.

Edit×

Port

2.5GE1

\*Priority

Range 0-7. A larger value indicates a higher priority

0

Cancel

OK

*QoS Basic Settings Edit Port Priority*

## Priority Mapping

Priority mapping is used to realize the conversion between the QoS priority carried in the packet and the internal priority of the device ( also known as the local priority, which is the priority used by the device to differentiate the service level of the packet ) so that the device provides the Differentiated QoS service quality. Users can use different QoS priority fields in different networks according to network planning.

### - 802.1p Mapping

On this tab, the user can map between 802.1p and CoS (Class of Service) where 0 is the lowest priority and 7 is the highest priority for 802.1p, and by default, CoS is set to be the same (it's recommended to keep it by default only if necessary or a specific network requires it).

Priority Mapping

802.1p Mapping    DSCP Mapping

Reset

| 802.1p | CoS |
|--------|-----|
| 0      | 0   |
| 1      | 1   |
| 2      | 2   |
| 3      | 3   |
| 4      | 4   |
| 5      | 5   |
| 6      | 6   |
| 7      | 7   |

Cancel

Ok

Priority Mapping 8021p Mapping

- DSCP Mapping

On this tab, the user can map between CoS and DSCP (Differentiated Services Code Point); in this case, 802.1p and CoS mapping must be configured first. (It's recommended to keep the default settings to keep the consistency between all switches, only if it's necessary or the network requires it.)

Priority Mapping

802.1p Mapping    DSCP Mapping

Reset

| DSCP   | CoS | DSCP     | CoS | DSCP     | CoS | DSCP     | CoS | DSCP     | CoS | DSCP    | CoS | DSCP    | CoS | DSCP    | CoS |
|--------|-----|----------|-----|----------|-----|----------|-----|----------|-----|---------|-----|---------|-----|---------|-----|
| 0[CS0] | 0   | 8[CS1]   | 1   | 16[CS2]  | 2   | 24[CS3]  | 3   | 32[CS4]  | 4   | 40[CS5] | 5   | 48[CS6] | 6   | 56[CS7] | 7   |
| 1      | 0   | 9        | 1   | 17       | 2   | 25       | 3   | 33       | 4   | 41      | 5   | 49      | 6   | 57      | 7   |
| 2      | 0   | 10[AF11] | 1   | 18[AF21] | 2   | 26[AF31] | 3   | 34[AF41] | 4   | 42      | 5   | 50      | 6   | 58      | 7   |
| 3      | 0   | 11       | 1   | 19       | 2   | 27       | 3   | 35       | 4   | 43      | 5   | 51      | 6   | 59      | 7   |
| 4      | 0   | 12[AF12] | 1   | 20[AF22] | 2   | 28[AF32] | 3   | 36[AF42] | 4   | 44      | 5   | 52      | 6   | 60      | 7   |
| 5      | 0   | 13       | 1   | 21       | 2   | 29       | 3   | 37       | 4   | 45      | 5   | 53      | 6   | 61      | 7   |
| 6      | 0   | 14[AF13] | 1   | 22[AF23] | 2   | 30[AF33] | 3   | 38[AF43] | 4   | 46[EF]  | 5   | 54      | 6   | 62      | 7   |
| 7      | 0   | 15       | 1   | 23       | 2   | 31       | 3   | 39       | 4   | 47      | 5   | 55      | 6   | 63      | 7   |

Cancel

Ok

Priority Mapping DSCP Mapping

Mapping can be configured based on the specific needs and requirements of the network, and it's important to ensure consistency across all network devices for effective Quality of Service (QoS) management.

## Queue Scheduling

When congestion occurs in the network, the device will determine the processing order of forwarding packets according to the specified scheduling policy, so that high-priority packets are preferentially scheduled.

**Queue scheduling algorithm:** queue scheduling according to the switch interface.

- **Strict priority (SP) scheduling:** The flow with the highest priority is served first, and the flow with the second highest priority is served until there is no flow at that priority. Each interface of the switch supports 8 queues ( queues 0-7 ), queue 7 is the highest priority queue, and queue 0 is the lowest priority queue.  
**Disadvantage:** When congestion occurs, if there are packets in the high-priority queue for a long time, the packets in the low-priority queue cannot be scheduled, and data cannot be transmitted.
- **Weighted Fair Queuing (WFQ) scheduling:** Based on ensuring fairness (bandwidth, delay) as much as possible, priority considerations are added, so that high-priority packets have more opportunities for priority scheduling than low-priority packets. WFQ can automatically classify flows by their "session" information (protocol type, source and destination IP addresses, source and destination TCP or UDP ports, priority bits in the ToS field, etc.) Place each flow evenly into different queues, thus balancing the latency of the individual flows as a whole. When dequeuing, WFQ allocates the bandwidth that each flow should occupy at the egress according to the flow priority (Precedence). The smaller the priority value is, the less bandwidth is obtained; otherwise, the more bandwidth is obtained.

Select one or multiple ports, then click on the "Edit" button to modify the ports' **Queuing Algorithm**. The default algorithm is set to Strict Priority (SP).

Queue Scheduling

Edit

| <input type="checkbox"/> | Port          | Queuing Algorithm    | Weight |    |    |    |    |    |    |    | Operation |
|--------------------------|---------------|----------------------|--------|----|----|----|----|----|----|----|-----------|
|                          |               |                      | 0      | 1  | 2  | 3  | 4  | 5  | 6  | 7  |           |
| <input type="checkbox"/> | 2.5GE1        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE2 (LAG1) | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE3 (LAG1) | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE4        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE5        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE6        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE7        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | 2.5GE8        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | SFP+9         | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |
| <input type="checkbox"/> | SFP+10        | Strict Priority (SP) | --     | -- | -- | -- | -- | -- | -- | -- |           |

Queue Scheduling

If **Weighted Fair Queuing (WFQ)** is selected, the Weight option can be configured accordingly; the higher the Weight, the higher the traffic priority.

- **Weighted Fair Queuing (WFQ):** Schedule according to WFQ. The weight of each queue is set in bytes.

|                                                                                                                                                               |                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Port                                                                                                                                                          | 2.5GE1                                                                                                   |
| Queuing Algorithm                                                                                                                                             | Strict Priority (SP)  |
|  Scheduled based on strict priority. The weight of each queue cannot be set. |                                                                                                          |

| Queue ID | Weight |
|----------|--------|
| 0        | --     |
| 1        | --     |
| 2        | --     |
| 3        | --     |
| 4        | --     |
| 5        | --     |

Cancel

Ok

*Queue Scheduling Edit*

## Rate Limit

The interface rate limit can limit the total rate of all packets sent or received on an interface. The interface rate limit also uses the token bucket to control the flow. If an interface rate limit is configured on an interface of the device, all packets sent through this interface must first be processed through the token bucket of the interface rate limiter. If there are enough tokens in the token bucket, the packet can be sent; otherwise, the packet will be discarded or cached.

To configure Rate Limit, please navigate to **QoS -> Rate Limit**, then select one or multiple ports, click on the **"Edit"** button to edit the port(s).

## Rate Limit

Edit

| <input type="checkbox"/> | Port          | Ingress  | Ingress CIR (Kbps) | Egress   | Egress CIR (Kbps) | Operation |
|--------------------------|---------------|----------|--------------------|----------|-------------------|-----------|
| <input type="checkbox"/> | 2.5GE1        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE2 (LAG1) | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE3 (LAG1) | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE4        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE5        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE6        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE7        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | 2.5GE8        | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | SFP+9         | Disabled | --                 | Disabled | --                |           |
| <input type="checkbox"/> | SFP+10        | Disabled | --                 | Disabled | --                |           |

Rate Limit page

Enable the **Ingress** (incoming traffic to the switch) and then set the rate limit (in Kbps), and then enable **Egress** (**outgoing traffic**) and set the rate limit (in Kbps).

CIR is the average rate at which traffic can pass. If Ingress is enabled, the smaller value between them takes effect.

### Rate Limit > Edit

Port

2.5GE1

Ingress

☒

\*Ingress CIR (Kbps) ⓘ

Range 512-2500000, must be a multiple of 32

Egress

☒

\*Egress CIR (Kbps)

Range 1600-2500000, must be a multiple of 32

Cancel

Ok

Rate Limit Edit port

## Security

### DHCP Snooping

DHCP Snooping is a security feature that protects against rogue DHCP servers. It allows network administrators to specify trusted and untrusted ports, ensuring that only legitimate DHCP servers can provide IP addresses. Untrusted ports will drop DHCP server responses from unauthorized servers, while trusted

ports will allow traffic from legitimate DHCP servers.

To enable DHCP Snooping:

1. **Log in to the Web UI** of your GWN772x switch.
2. **Navigate to:**

- **Security -> DHCP Snooping**

3. **Enable DHCP Snooping** globally by toggling the switch at the top of the page.

Once enabled, DHCP Snooping will monitor and filter DHCP traffic on all interfaces.

## DHCP Snooping

---

DHCP Snooping



Cancel

Ok

*Enable DHCP Snooping*

## DHCP Snooping Port Settings

Configure the trusted/untrusted status of each port and whether DHCP Option 82 is enabled, to help with tracking and security.

**Port-Specific Settings:** You can configure DHCP Snooping on individual ports.

- Click **Edit** next to the port you want to configure.
- The following fields can be adjusted:

DHCP Snooping

DHCP Snooping

Cancel

Ok

Port

Edit

| <input type="checkbox"/> | Port          | Trust Mode   | Option 82 | Option 82 Mode | Circuit ID | Remote ID | Operation |
|--------------------------|---------------|--------------|-----------|----------------|------------|-----------|-----------|
| <input type="checkbox"/> | 2.5GE1        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE2 (LAG1) | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE3 (LAG1) | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE4        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE5        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE6        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE7        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | 2.5GE8        | Untrust Port | Disabled  | --             | --         | --        |           |
| <input type="checkbox"/> | SFP+9         | Untrust Port | Disabled  | --             | --         | --        |           |

DHCP Snooping Port Settings

DHCP Snooping > Edit

Port

2.5GE1 - 2.5GE8

Trust Mode

Untrust Port

Option 82

Option 82 Mode

Keep

Circuit ID

Default

Custom

Remote ID

Default

Custom

Cancel

Ok

DHCP Snooping Edit port

| Field      | Description                                         | Note                                                                                                               |
|------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Port       | The interface where DHCP Snooping is configured.    | Available for all ports.                                                                                           |
| Trust Mode | Specifies whether the port is trusted or untrusted. | Note: Trusted ports accept DHCP packets from legitimate DHCP servers and untrusted ports drop DHCP server packets. |
| Option 82  | Enables DHCP Option 82                              | which is used to add additional information (Relay Agent Information) in DHCP requests.                            |

|                |                                                                                                           |                                             |
|----------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Option 82 Mode | Determines how the relay information should be handled.                                                   | Options are: Keep, Drop and Replace.        |
| Circuit ID     | The circuit ID that identifies the connection. Can be set to 'Default' or 'Custom'.                       | Only available when 'Option 82' is enabled. |
| Remote ID      | The remote ID that provides information about the remote connection. Can be set to 'Default' or 'Custom'. | Only available when 'Option 82' is enabled. |

DHCP Snooping Edit port

## POE

The following configuration section applies to the GWN7721P and GWN7721PE models.

Power Over Ethernet (PoE) refers to supplying power over an Ethernet network, also known as a local area network-based power supply system, PoL, or Active Ethernet.

Usually, the terminal devices of the access point need to use a DC power supply, but due to insufficient wiring, these devices need unified power management. At this time, the switch interface provides the power supply function, which can solve the above problems and realize the precise control of the port PoE power supply.

### Power Supply Info

This page displays the Power Supply Info like the number of PoE, Total, Remaining PoE Power, etc, and even the Supply Voltage.

#### Power Supply Info

|                        |         |
|------------------------|---------|
| Refresh                |         |
| Global                 |         |
| PoE Port Number:       | 8       |
| Total PSE Power:       | 130 W   |
| PSE Power Consumption: | 0 W     |
| PSE Remaining Power:   | 130 W   |
| PSE Supply Voltage:    | 52.76 V |

Power Supply Info

### Power Supply Setting

On this page, the user can configure on each port that supports PoE: The max power supply, the power supply priority, and the power supply mode. For example, GWN7721P ports 1-8 support PoE/PoE+. On the GWN7721PE, ports 1-8 support PoE/PoE+, while port 9 additionally supports PoE++ with up to 90 W output.

Please configure the appropriate power according to the power supply selected. When the configured power exceeds the actual power, it may cause the device to restart repeatedly!

To reset the PSE, click on the "PSE Reset" button as shown below:

Power Supply Settings

Refresh

PSE Reset

| Port   | Power Status | Power Supply Standard | Power Supply Mode | Power Supply Priority | Max Power Supply(W) | Peak Power | Operation                                                                           |
|--------|--------------|-----------------------|-------------------|-----------------------|---------------------|------------|-------------------------------------------------------------------------------------|
| 2.5GE1 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE2 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE3 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE4 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE5 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE6 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE7 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |
| 2.5GE8 | Not powered  | 802.3af/at            | Auto              | Low                   | 30                  | 0          |  |

Port PoE Settings prompt

When resetting the Power Sourcing Equipment (PSE) on the GWN7721P or GWN7721PE switch, a confirmation dialog appears, warning that this action will power off and restart all connected Powered Devices (PDs). The user must acknowledge the risk by selecting the checkbox and clicking "OK" to proceed.

# Confirm to reset PSE?

It will cause the PD device to power off and restart.

☒

 I am aware of the risks.

Cancel

Ok

PSE Reset

To edit the PoE parameters on the supported port, click on the "Edit icon" under the operation column, then select from the drop-down lists the power supply standard, power supply mode, and power supply priority.

|                        |            |
|------------------------|------------|
| Port                   | 2.5GE1     |
| Power Supply Standard  | 802.3af/at |
| Power Supply Mode      | Auto       |
| Power Supply Priority  | Low        |
| <div>Cancel Save</div> |            |

*Power Supply Setting Edit port*

When multiple Powered Devices (PDs) are connected and the PoE power budget is limited, the GWN772X prioritizes power supply based on the power-on time of the connected devices.

If multiple ports have the same configured PoE priority, the device that was **powered on earlier** will have **higher priority** to retain power.

**Example:** If two PDs are connected to Port 3 and Port 7 with equal priority settings, and the available PoE budget becomes insufficient to power both, the **device that was connected or powered on first** will continue receiving power, while the latter one may be disconnected.

PoE port priority can be manually configured through the web interface. The time-based priority behavior only applies when multiple ports share the same configured priority level.

## PoE Watchdog

The PoE Watchdog feature is designed to monitor the connectivity of Powered Devices (PD) on PoE-enabled ports. The switch periodically sends packets to a configured IP address to check the PD's availability. If the PD does not respond, the switch will disable and re-enable the PoE on that port, effectively rebooting the device. This feature is useful for ensuring the continuous operation of critical devices like IP cameras, access points, or VoIP phones.

## PoE Watchdog

| Port   | Description | Enable   | IP Address | Send Packet Interval (s) | Enable Delay Time (s) | Retries | Disable Time (s) | Operation                                                                           |
|--------|-------------|----------|------------|--------------------------|-----------------------|---------|------------------|-------------------------------------------------------------------------------------|
| 2.5GE1 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE2 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE3 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE4 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE5 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE6 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE7 | --          | Disabled | --         | --                       | --                    | --      | --               |  |
| 2.5GE8 | --          | Disabled | --         | --                       | --                    | --      | --               |  |

PoE Watchdog

### Steps to Configure PoE Watchdog

1. Navigate to **PoE -> PoE Watchdog** from the web interface.
2. Click on the edit icon next to the port you want to configure.
3. In the edit page, configure the following fields:
  - **Port:** Select the port to monitor.
  - **Description:** (Optional) Describe the port.
  - **Enable:** Toggle to enable or disable PoE Watchdog for this port.
  - **IP Address:** Enter the IP address of the device to ping.
  - **Send Packet Interval (s):** Set the interval between ping packets.
  - **Enable Delay Time (s):** Set the delay time before enabling the PoE watchdog.
  - **Retries:** Configure the number of ping retries before considering the device unreachable.
  - **Disable Time (s):** Set the time to disable PoE before re-enabling it.

The values for "Send Packet Interval," "Enable Delay Time," and "Retries" need to be calculated based on the Powered Device (PD) boot time to ensure successful monitoring and reboot.

ⓘ PoE port needs to consider the PD device boot time to ensure that the device has been booted and can work normally. That is: (Enable Delay Time + Send Packet Interval\*Retries) ≥ PD boot time

|                                                                                      |                                     |                 |
|--------------------------------------------------------------------------------------|-------------------------------------|-----------------|
| Port                                                                                 | <input type="text" value="2.5GE1"/> |                 |
| Description                                                                          | <input type="text"/>                | 0-32 characters |
| Enable                                                                               | <input checked="" type="checkbox"/> |                 |
| *IP Address                                                                          | <input type="text"/>                | IPv4 format     |
| *Send Packet Interval (s)                                                            | <input type="text" value="30"/>     | Range: 30-3600  |
| *Enable Delay Time (s)                                                               | <input type="text" value="60"/>     | Range: 60-3600  |
| *Retries                                                                             | <input type="text" value="2"/>      | Range: 1-10     |
| *Disable Time (s)                                                                    | <input type="text" value="5"/>      | Range: 5-30     |
| <div><input type="button" value="Cancel"/> <input type="button" value="Save"/></div> |                                     |                 |

PoE Watchdog Edit port

## MONITORING

### Port Statistics

For monitoring or even sometimes troubleshooting, the Flow Statistics displays in real time the flow of data with different units like Octets, Packets, Transmission Rate, and OutErrPackets.

To refresh the statistics, click on the "Refresh" button, and to clear all the statistics, click on the "**Clear All**" button.

To clear the data for a specific port, click on the "**clear icon**" under the operation column.

Port Statistics

Refresh

Clear All

| Port          | InPackets | InErrPackets | OutPackets | OutErrPackets | Operation                                                                                                                                                               |
|---------------|-----------|--------------|------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.5GE1        | 18562100  | 0            | 111420     | 0             |   |
| 2.5GE2 (LAG1) | --        | --           | --         | --            |   |
| 2.5GE3 (LAG1) | --        | --           | --         | --            |   |
| 2.5GE4        | --        | --           | --         | --            |   |
| 2.5GE5        | --        | --           | --         | --            |   |
| 2.5GE6        | --        | --           | --         | --            |   |
| 2.5GE7        | --        | --           | --         | --            |   |
| 2.5GE8        | --        | --           | --         | --            |   |
| SFP+9         | --        | --           | --         | --            |   |
| SFP+10        | --        | --           | --         | --            |   |

Port Statistics

For more details, click on the **"Exclamation mark icon"** under the operation column next to each port.

2.5GE1

Refresh

Clear data

|                     |         |
|---------------------|---------|
| RxUnicastPkts       | 4748962 |
| RxBroadcastPkts     | 4190334 |
| RxMulticastPkts     | 9623594 |
| RxFCSErrPkts        | 0       |
| RxUnderSizeGoodPkts | 243413  |
| RxOversizeGoodPkts  | 0       |
| RxUnderSizeErrPkts  | 0       |
| RxOversizeErrPkts   | 0       |
| RxFiltredPkts       | 1544    |
| Rx64BytePkts        | 3465518 |
| Rx127BytePkts       | 9487311 |
| Rx255BytePkts       | 3919375 |
| Rx512BytePkts       | 875708  |

Port Statistics port details

Port Mirror

Mirroring refers to copying the packets from the specified source to the destination port. The specified source is called the mirroring source, the destination port is called the observing port, and the copied packet is

called the mirroring packet.

Mirroring can make a copy of the original packet without affecting the normal processing of the original packet by the device, and send it to the monitoring device through the observation port to determine whether the service running on the network is normal.

GWN772x switch supports up to 4 groups. To configure/edit a group, click on the "Edit icon" under the operation column.

Port Mirror

| Group | Ingress Mirroring Port | Egress Mirroring Port | Monitor Port | Operation                                                                                                                                                               |
|-------|------------------------|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | --                     | --                    | --           |   |
| 2     | --                     | --                    | --           |   |
| 3     | --                     | --                    | --           |   |
| 4     | --                     | --                    | --           |   |

Port Mirror

To start mirroring a port, first, select the **Ingress** (incoming traffic to the switch) **Mirroring port**, then select the **Egress** (outgoing traffic) **Mirroring port**, and then select from the drop-down list the **Monitor port** (Monitor port cannot be the same as the Mirroring port), please refer to the figure below:

Port Mirror > Edit

Group

1

Ingress Mirroring Port

Click on port to select/unselect

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP~

10 SFP~

Egress Mirroring Port

Click on port to select/unselect

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP~

10 SFP~

Cancel

Ok

Port Mirror Edit Group

Cable Test

The Cable Test can detect whether the cable connected to the switch is faulty and the location of the fault. Using this function can assist in the daily engineering installation diagnosis.

Please navigate to **Maintenance -> Cable Test**.

Please ensure the Ethernet port is down when doing the Cable Test. Otherwise, it cannot be detected

Cable Test

ⓘ Please ensure the Ethernet port is down when do copper test. Otherwise, it cannot be detected.

UP No UP

1 2.5G

2 2.5G

3 2.5G

4 2.5G

5 2.5G

6 2.5G

7 2.5G

8 2.5G

9 SFP+

10 SFP+

Click the port in figure above to do the copper test

Result

Port Name:2.5GE2

Cable Status:Open

Cable Length:1m

ⓘ When fault, the length is from the port to the fault location; when normal, the length is the actual of the cable; when no cable is connected,the default value is 0 m. The diagnostic results may have an error of ±3 meters. If a large error value occurs occasionally, please try multiple times.

Cable Test

## Loopback Detection

The **Loopback Detection** feature helps prevent self-looping on a port, which can disrupt the normal operation of the network. When loopback detection is enabled on a port, if a loop is detected, the port will automatically shut down or take appropriate measures.

Please note that if Spanning Tree Protocol (STP) is enabled on a port, the loop detection function for that port will not work properly.

### Configuration:

1. **Navigate to Monitoring -> Loopback Detection** on the GWN772x switch's web UI.
2. Toggle **Loopback Detection** on or off.
3. Click **OK** to save the settings.

Loopback Detection

Loopback Detection ⓘ

Cancel

Ok

Port

Refresh

| Port          | Loopback Detection | Port Status | Operation |
|---------------|--------------------|-------------|-----------|
| 2.5GE1        | Disabled           | Ok          |           |
| 2.5GE2 (LAG1) | Disabled           | Ok          |           |
| 2.5GE3 (LAG1) | Disabled           | Ok          |           |
| 2.5GE4        | Disabled           | Ok          |           |
| 2.5GE5        | Disabled           | Ok          |           |
| 2.5GE6        | Disabled           | Ok          |           |
| 2.5GE7        | Disabled           | Ok          |           |
| 2.5GE8        | Disabled           | Ok          |           |
| SFP+9         | Disabled           | Ok          |           |

Loopback Detection

| Field              | Description                                                                                                                                     |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Port               | The physical port on which the loopback detection settings will be applied.                                                                     |
| Loopback Detection | Whether loopback detection is enabled or disabled for the specific port.                                                                        |
| Port Status        | The current operational status of the port. It shows whether the port is functioning normally ('OK') or if there is a fault or loop ('Error').  |
| Operation          | The available actions for the port. For ports that have been disabled due to loop detection the 'Restore' option will appear to re-enable them. |

Loopback Detection

MAINTENANCE

Upgrade

GWN772x Switches support manual upload firmware upgrade via a BIN file that can be downloaded from the Grandstream Firmware page: <https://www.grandstream.com/support/firmware>

Upgrade Via Network is also supported by specifying the Firmware Server Path (For example, [firmware.grandstream.com](https://firmware.grandstream.com)).

① Current version: 1.0.0.20

### Upgrade via Manual Upload

Upload Firmware File to Update

Select file to upload



Supported file formats: bin

### Upgrade via Network

Allow DHCP Option 43/160/66 to Override Server ①

☒ On

☐ Off

☐ Prefer, fallback when failed

Firmware Upgrade Protocol ①

HTTP



Firmware Server Path ①

192.168.120.249/gwn771x/release



0-128 characters

HTTP Username

basic

0-32 characters

HTTP Password

\*\*\*\*\*



0-32 characters

Cancel

Save

Check for Updates

Upgrade

## Backup & Restore

On this page, the user can back up the configuration, restore from a previously saved configuration file, or factory reset the GWN772x.

- **Backup:** The current switch configuration can be exported and saved to your computer. In the future, if you need to restore this configuration, you can simply import the backup file.
- **Restore:** The switch configuration can be restored based on the imported configuration file. If the device fails to be restored, hold down the Pinhole button on the back of the switch for five seconds to restore the switch to factory settings.
- **Factory Reset:** After factory restoration, all configurations of the switch will be restored to factory defaults. Please use it with caution! You are recommended to back up the current configuration before factory restoration.

Backup

The current switch configuration can be exported and saved to your computer. In the future, if you need to restore this configuration, you can simply import the backup file.

Export

Restore

The switch configuration can be restored based on the imported configuration file. If the device fails to be restored, hold down the Pinhole button on the back of the switch for five seconds to restore the switch to factory settings.

Import

Factory Reset

After factory restoration, all configurations of the switch will be restored to factory defaults. Please use with caution! You are recommended to back up the current configuration before factory restoration.

Factory Reset

Backup Restore

Ping

The user on this page can enter the IP Address or Hostname and then click "Start", the results of the ping command will be shown below.

Ping

\*IP Address/Hostname

192.168.125.190

\*Packet Count

4

Range: 1-65535

Start

| Results                     |                 |
|-----------------------------|-----------------|
| Host Address:               | 192.168.125.190 |
| Number of Packets sent:     | 4               |
| Number of Packets Received: | 4               |
| Packet Lost:                | 0 %             |
| Minimum Round Trip Time:    | 4 ms            |
| Maximum Round Trip Time:    | 5 ms            |
| Average Round Trip Time:    | 4 ms            |
| Status:                     | Ping succeed    |

Ping

SNMP

The Simple Network Management Protocol (SNMP) feature allows network administrators to monitor and manage devices within the network. The SNMP feature can be configured to send notifications and traps to

an SNMP manager, helping to ensure efficient network operations.

Global Settings - SNMP

The **Global Settings** tab in the SNMP section allows administrators to configure community strings for SNMPv2 operations.

To access SNMP Global Settings:

- 1. Navigate to **Maintenance -> SNMP -> Global Settings**.
- 2. Enable SNMP by toggling the switch to **ON**.

SNMP

Global Settings

Notification Management

Trap Event

SNMPv2

\*Read Community

public

1-32 characters

\*Write Community

private

1-32 characters

\*Trap Community

public

1-32 characters

Cancel

Ok

SNMP Global settings

| Field Name      | Description                                                         | Character Limit/Range |
|-----------------|---------------------------------------------------------------------|-----------------------|
| Read Community  | Defines the community string for read-only access.                  | 1-32 characters       |
| Write Community | Defines the community string for read-write access.                 | 1-32 characters       |
| Trap Community  | Defines the community string for sending SNMP traps to the manager. | 1-32 characters       |

SNMP Global Settings Field Descriptions

Notification Management

The **Notification Management** tab allows the configuration of the SNMP trap server and port.

To configure the trap server:

- 1. Navigate to **Maintenance -> SNMP -> Notification Management**.
- 2. Set the following fields:
  - **Server Address:** Specify the IP address of the SNMP trap server.
  - **UDP Port:** Enter the port used for SNMP trap communication (default is 162).

## SNMP

Global Settings

Notification Management

Trap Event

\*Server Address

192.168.80.20

1-32 characters

\*UDP Port

162

Range: 1-65535

Cancel

Ok

*SNMP Notification Management*

### Trap Event

The **Trap Event** tab allows administrators to select the specific events for which SNMP traps should be sent to the SNMP manager.

To configure SNMP traps:

1. Navigate to **Maintenance -> SNMP -> Trap Event**.
2. Enable the desired trap events by toggling their switches. The available events are:
  - **Authentication Failed**
  - **Port Up/Down**
  - **Cold Start**
  - **Warm Start**
  - **STP Bridge**
  - **Port ErrDisable**
  - **PoE Power Supply**
  - **VLAN Creation**
  - **VLAN Deletion**
  - **Configuration File Distribution**

## SNMP

Global Settings

Notification Management

Trap Event

Authentication failed



Port Up/Down



Cold Start



Warm Start



STP Bridge



Port ErrDisable



PoE Power Supply



VLAN Creation



VLAN Deletion



Configuration file distribution



Cancel

Ok

*SNMP Trap Event*

## LLDP

The Link Layer Discovery Protocol (LLDP) allows the switch to advertise its identity, capabilities, and status to neighboring devices in the network. LLDP helps administrators efficiently monitor and manage network devices by providing detailed information about devices connected to the network.

### Global Settings

To access LLDP Global Settings:

1. Navigate to **Maintenance -> LLDP -> Global Settings**.
2. Enable LLDP by toggling the switch to **ON**.

## LLDP

Global Settings

Neighbor Info

LLDP



\*TLV Advertise Interval (s)

30

Range: 5-32767

\*TTL Multiplier

4

Range: 2-10

\*Initialization Delay Time (s)

2

Range: 1-10

\*LLDPDU Transmit Delay Time (s)

2

Range: 1-8191

Cancel

Ok

LLDP Global settings Enabled

When LLDP is disabled, the system provides two handling options:

- **Filter:** Stops LLDP packets at the device, using LLDP only for local neighbor information.
- **Bridge:** Forwards LLDP packets to other devices, enabling broader network discovery.

Select the desired LLDP handling method, then click **OK**.

## LLDP

Global Settings

Neighbor Info

LLDP



LLDP Handling



Filter



Bridge

Cancel

Ok

LLDP Global settings Disabled

| Field Name                 | Description                                                                                         | Range     |
|----------------------------|-----------------------------------------------------------------------------------------------------|-----------|
| If LLDP is disabled        |                                                                                                     |           |
| Filter                     | stops LLDP packets at the device, using LLDP only for local neighbor information.                   | -         |
| Bridge                     | forwards LLDP packets to other devices, enabling broader network discovery.                         | -         |
| If LLDP is enabled         |                                                                                                     |           |
| TLV Advertise Interval (s) | Defines the interval (in seconds) at which LLDP advertisements are sent to neighboring devices.     | 5 - 32767 |
| TTL Multiplier             | Specifies the Time-to-Live (TTL) multiplier for LLDP data units, determining their expiration time. | 2 - 10    |

|                                |                                                                         |          |
|--------------------------------|-------------------------------------------------------------------------|----------|
| Initialization Delay Time (s)  | Configures the delay time before LLDP starts after being enabled.       | 1 - 10   |
| LLDPDU Transmit Delay Time (s) | Determines the delay between transmissions of LLDP Data Units (LLDPDU). | 1 - 8191 |

#### LLDP Global Settings Field Descriptions

## Port Settings

The **Port Settings** section allows the configuration of LLDP operation on a per-port basis. Users can specify how LLDP should behave on each port and select elements to include in the advertisements.

To configure LLDP per port:

1. Under the **Global Settings** tab, scroll down to **Port Settings**.
2. Click **Edit** next to the desired port to modify its LLDP configuration.

#### Port Settings

Edit

| <input checked="" type="checkbox"/> | Port          | Working Mode | TLV                                                                                                     | Operation                                                                             |
|-------------------------------------|---------------|--------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | 2.5GE1        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |    |
| <input checked="" type="checkbox"/> | 2.5GE2 (LAG1) | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |    |
| <input checked="" type="checkbox"/> | 2.5GE3 (LAG1) | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |    |
| <input checked="" type="checkbox"/> | 2.5GE4        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |    |
| <input checked="" type="checkbox"/> | 2.5GE5        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |
| <input checked="" type="checkbox"/> | 2.5GE6        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |
| <input checked="" type="checkbox"/> | 2.5GE7        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |
| <input checked="" type="checkbox"/> | 2.5GE8        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |
| <input checked="" type="checkbox"/> | SFP+9         | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |
| <input checked="" type="checkbox"/> | SFP+10        | Tx&Rx        | <a href="#">Basic TLV (5)</a> , <a href="#">IEEE 802.1 TLV (2)</a> , <a href="#">IEEE 802.3 TLV (2)</a> |  |

#### LLDP Port Settings

Port

GE1

Working Mode

Tx&amp;Rx

TLV

Basic TLV

- ☒ Port Description TLV
- ☒ System Name TLV
- ☒ System Description TLV
- ☒ System Capabilities TLV
- ☒ Management Address TLV
- ☐ PoE-PSE TLV

IEEE 802.1TLV

- ☒ Port VLAN ID TLV
- ☐ VLAN Name TLV

IEEE 802.3TLV

- ☒ MAC/PHY Configuration/Status TLV
- ☒ Link Aggregation TLV
- ☒ Maximum Frame Size TLV
- ☐ Power via MDI TLV

Cancel

Ok

LLDP Edit port

| Field Name   | Description                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------|
| Port         | Specifies the port being configured.                                                                             |
| Working Mode | Select whether the port should Transmit (Tx) Receive (Rx) Transmit and Receive (Tx&Rx) Disable LLDP on that port |
| TLV          | Select which Type-Length-Value (TLV) elements to advertise.                                                      |

LLDP Port Settings Field Descriptions

## Neighbor Info

The **Neighbor Info** tab provides detailed information about the devices connected to the switch via LLDP. This includes the identity, chassis ID, and port information for each neighboring device.

To access Neighbor Info:

1. Navigate to **Maintenance -> LLDP -> Neighbor Info**.
2. The page will display the following information for each neighboring device:
  - **Local Port**: The local port connected to the neighbor.
  - **Chassis ID**: The chassis ID of the neighboring device.
  - **Neighbor Port ID**: The port on the neighboring device that is connected to the switch.
  - **Device Name**: The name of the neighboring device.
  - **System Description**: A description of the neighboring device.
  - **Survival Time (TTL)**: The remaining time before the neighbor's LLDP data expires.
3. Click **Refresh** to update the information, or **Delete** to remove neighbor entries.

[Refresh](#) [Delete](#)

| <input type="checkbox"/> | Local Port | Chassis ID Subtype | Chassis ID        | Neighbor Port ID Subtype | Neighbor Port ID | Device Name | System Description | Survival Time TTL (s) | Operation |
|--------------------------|------------|--------------------|-------------------|--------------------------|------------------|-------------|--------------------|-----------------------|-----------|
| <input type="checkbox"/> | 2.5GE1     | MacAddr            | c0:74:ad:ba:24:89 | Local                    | eth1/0/4         | NW-SF-11.60 | GWN7803P           | 97                    |           |

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*LLDP Neighbor Info*

## CHANGE LOG

This section documents significant changes to the GWN7721 Series user manual. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

### Firmware Version 1.0.7.128

Product names: GWN7721, GWN7721P, GWN7721PE

- Added support for new model GWN7721PE.

### Firmware Version 1.0.7.105

Product name: GWN7721, GWN7721P

- Added VLAN transparent transmission function for 802.1Q VLAN. [[802.1Q PVID Settings](#)]
- Added prompt to notify that VLAN 1 and the Management VLAN cannot be deleted when clicking "Delete All". [[802.1Q VLAN](#)]
- Updated LLDP to display Link Aggregation information under the IEEE 802.3 TLV section. [[LLDP](#)]

### Firmware Version 1.0.1.33

Product name: GWN7721, GWN7721P

- This is the initial release.
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