

**Single PON port
AirLive GPON OLT-121-64
WEB USER MANUAL**



airlive®

V1.0

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Chapter 1 System Description

1.1 Overview

1.1.1 OLT Introduction

The Web management user manual is for the OLT listed in Table 1-1. After you have completed installation, connection and commissioning of the equipment, you can start on configuring various services and functions for the equipment.

Table 1-1 OLT interfaces

Products		Single PON port GPON OLT
Chassis	Desktop	1
1G/10G Uplink Port	QTY	3
	Copper	2*100/1000M auto-negotiation
	SFP(Independent)	1*SFP+ (SFP+ is compatible with 10GE)
GPON Port	QTY	1
	Fiber Type	SMF
Management Mode		Console, WEB, Telnet and CLI

1.1.2 OS Requirement

For OLT management, it supports or requires the following operation system.

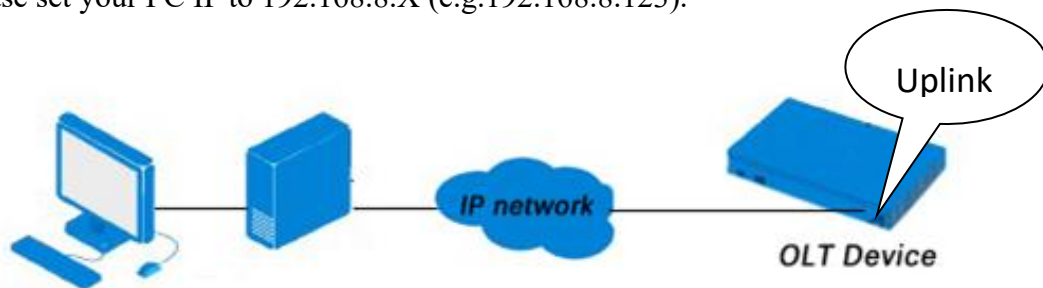
Table 1-2 Operation System requirement

CPU	Memory	DISK	Video Card	Operating System
Frequency above 2GHz	2GB Or above	10GB Disk space	65000 color resolving capability 1024*768 and above	Windows 10 Windows 11

1.2 Connection

Connect the OLT Uplink port to IP network. The OLT default management IP is 192.168.8.200.

Please set your PC IP to 192.168.8.X (e.g.192.168.8.123).



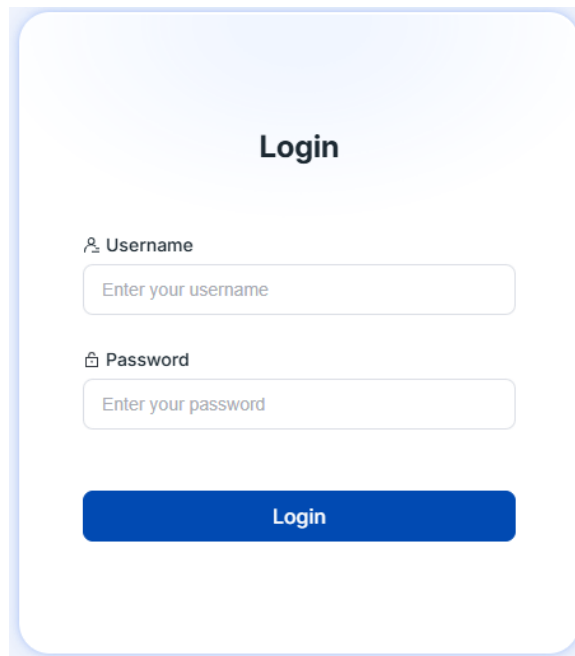
Chapter 2 Monitor

2.1 Login

Follow the steps to login:

1. Conform “1.2 Connection” to connect;
2. The device default IP address is 192.168.8.200;
3. Open your web browser, type the device IP in the address bar;
4. Entry of the username and password will be prompted. Enter the default login User Name and Password.

The default username and password is "admin/Xpon@Olt9417#".



The image shows a login interface with a light blue background. At the top center, the word "Login" is displayed in bold black text. Below it, there are two input fields. The first is labeled "Username" with a small icon of a person, and the second is labeled "Password" with a small icon of a key. Both fields contain the placeholder text "Enter your username" and "Enter your password" respectively. Below the input fields is a blue button with the text "Login" in white.

Figure 2.1-1: Login

2.2 Overview

The OLT ports connection status are shown on the top of the interface, port and ONU device statistics, protocol activation status, and performance monitoring data are shown below, and the right is the basic information of OLT.

Monitor → Overview

This part allows you to view the port status, such as the number of uplink ports, PON, and ONU, and monitor some performance, such as Temperature, CPU Usage, and Memory Usage. It also shows the OLT information such as system name, serial number, hardware version, firmware version, MAC address and system time. The system name can be modified in need.

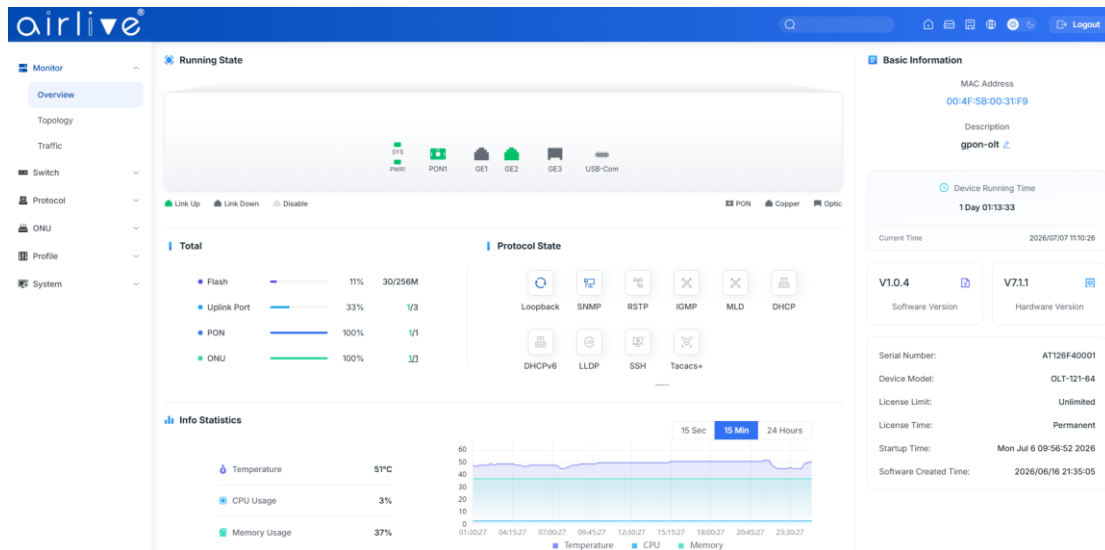


Figure 2.2-1: Overview

2.3 Traffic

The Traffic page can be used to configure traffic monitoring for OLT ports and ONU, allowing us to understand the receiving and sending of data by different ports or ONU devices over a period of time, and directly see the speed of traffic loading.

2.3.1 Port Traffic

Monitor → Traffic → Port Traffic

On this page, you can view the traffic information of all uplink ports. When Method selects Rate, you can view InOctetsRate and OutOctetsRate. When Method selects Total, you can view values such as InOctets, OutOctets, InPkts, and OutPkts. Of course, you can also view the situation of Hourly, Daily, and Monthly by modifying the Period. The operation is flexible and the page data is intuitive.

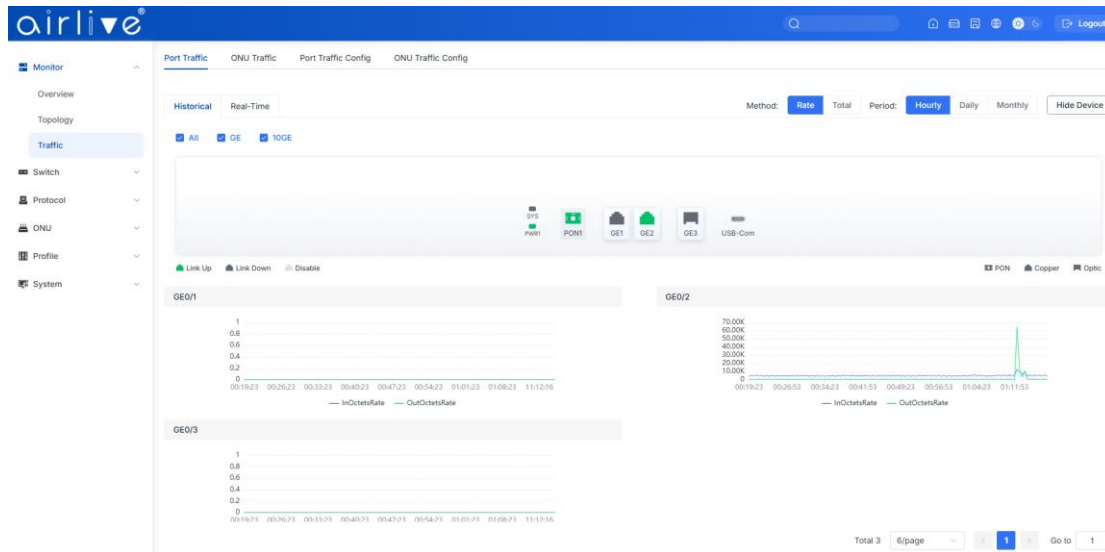


Figure 2.3-1: Port Traffic

2.3.2 ONU Traffic

Monitor → Traffic → ONU Traffic

The function is the same as the above page, but this page is for ONU devices under PON port. We can view the traffic data of each ONU.

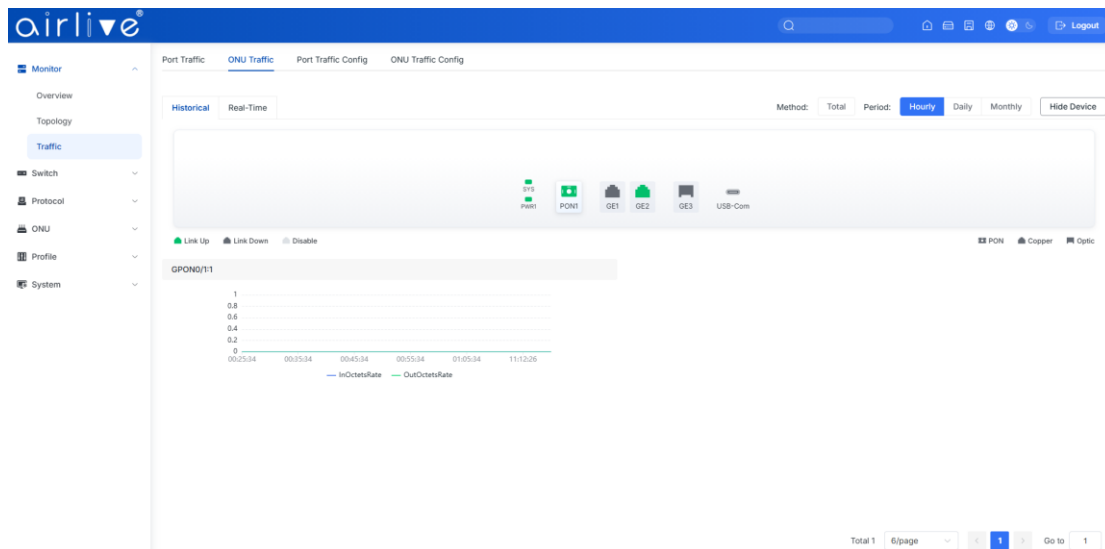


Figure 2.3-2: ONU Traffic

2.3.3 Port Traffic Config

Monitor → Traffic → Port Traffic Config

This page is used to turn on/off the traffic statistics function of OLT ports. When the status is turned on, it will monitor the traffic data of the port. When it is turned off, it will stop monitoring.

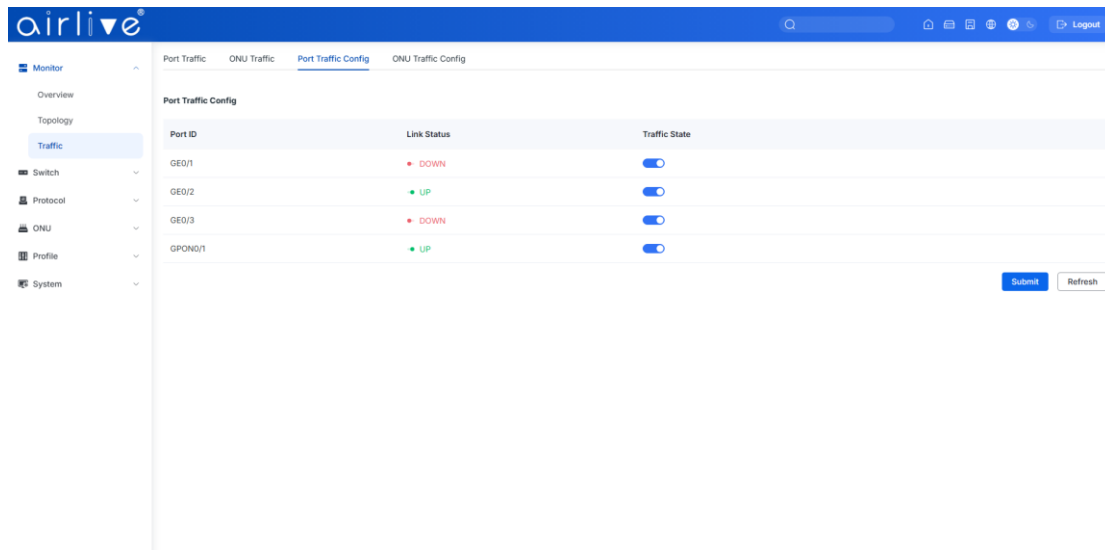


Figure 2.3-3: Port Traffic Config

2.3.4 ONU Traffic Config

Monitor → Traffic → ONU Traffic Config

This page is used to turn on/off the traffic statistics function of ONU. When the status is turned on, it will monitor the traffic data of the port. When it is turned off, it will stop monitoring.

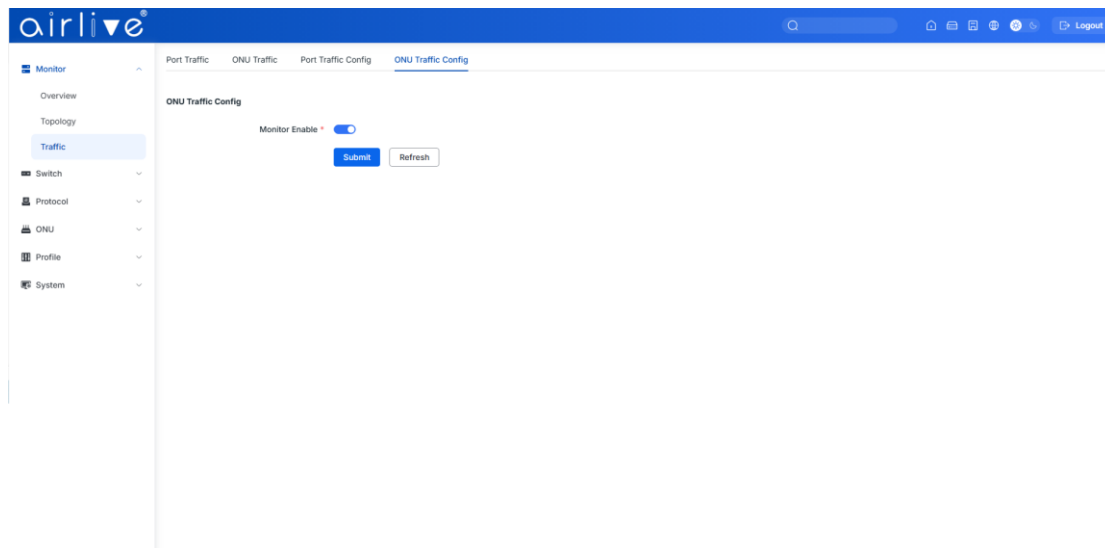


Figure 2.3-4: ONU Traffic Config

Chapter 3 Switch

3.1 VLAN

OLT equipment is fully compliant with the IEEE802.1Q VLAN standard and has the following main features:

- Support Port-based VLAN and IEEE802.1Q VLAN.
- Support maximum 512 VLANs concurrently (VLAN range: 1-4094).

All switch ports, including uplink ports and downlink ports, support VLAN partition. VLAN 1 is the system reserved VLAN, it includes all switch ports which are untag mode.

3.1.1 VLAN

Switch → **VLAN** → **VLAN**

On this user interface, you can create new VLAN.

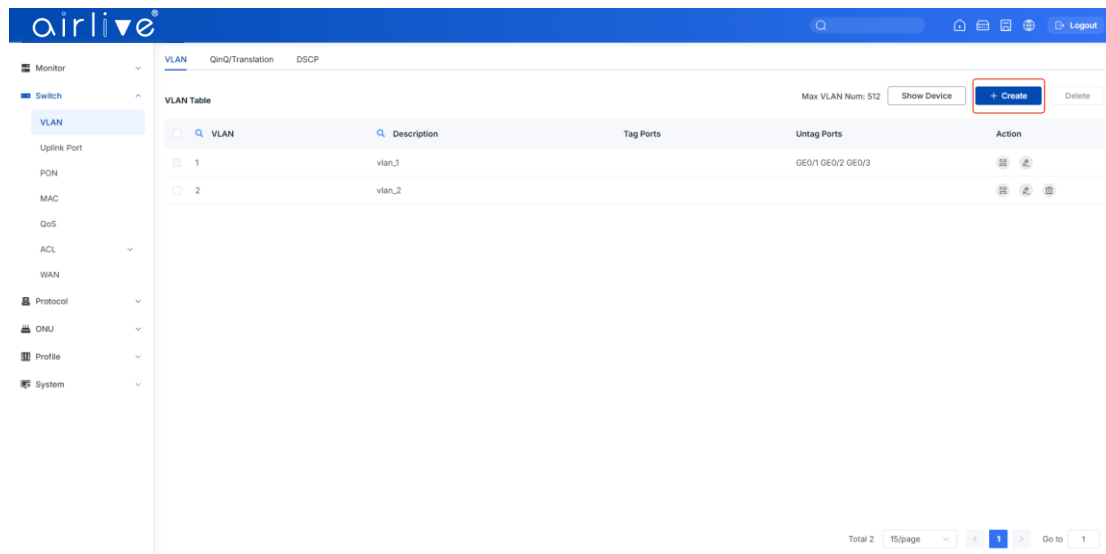


Figure 3.1-1: Create New VLAN

Assign the ports to the VLANs that have been created. You can choose tag or untag VLAN mode.

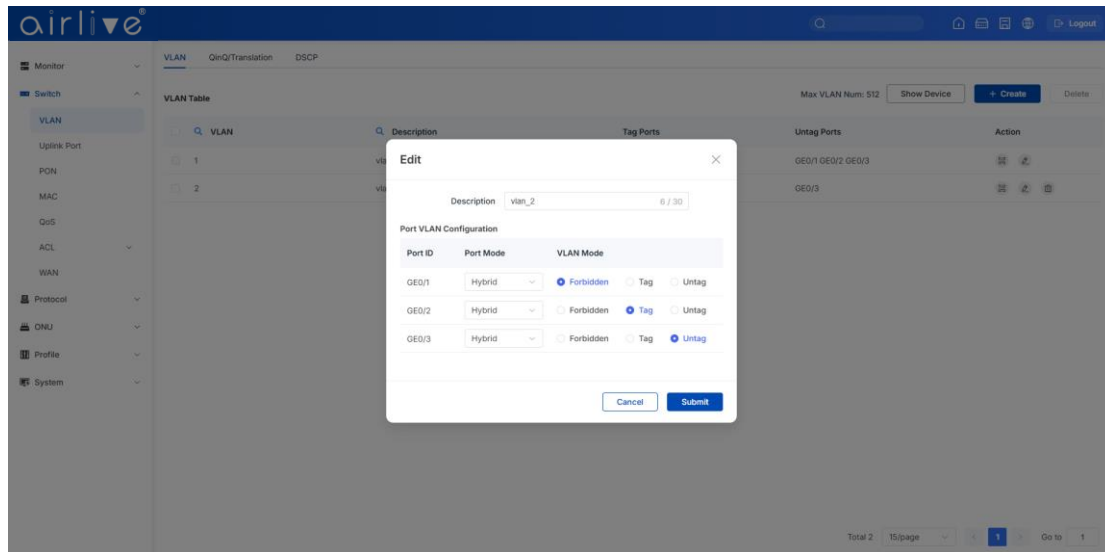


Figure 3.1-2: Add VLAN Port

3.1.2 QinQ/Translation

Switch → VLAN → QinQ/Translation

On this page, VLAN QinQ and VLAN translation can be configured. VLAN QinQ and translation are applied to the incoming direction of port traffic.

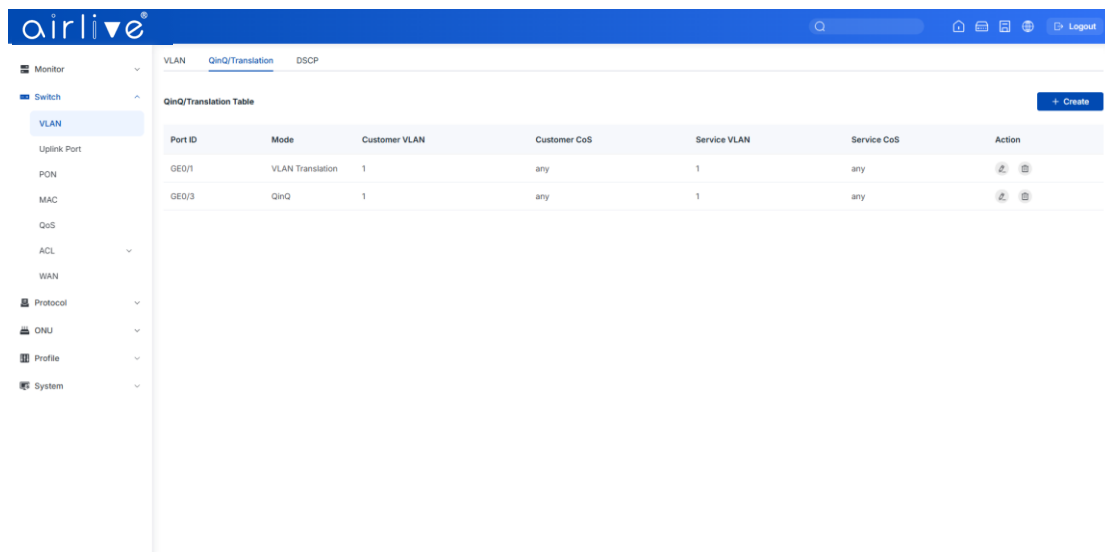


Figure 3.1-3: VLAN QinQ/Translation

3.1.3 DSCP

Switch → VLAN → DSCP

On this page, you can manually configure the DSCP value of IP packets, set the DSCP mapping to a new DSCP, and support the configuration of IP DSCP mapping VLAN priority.

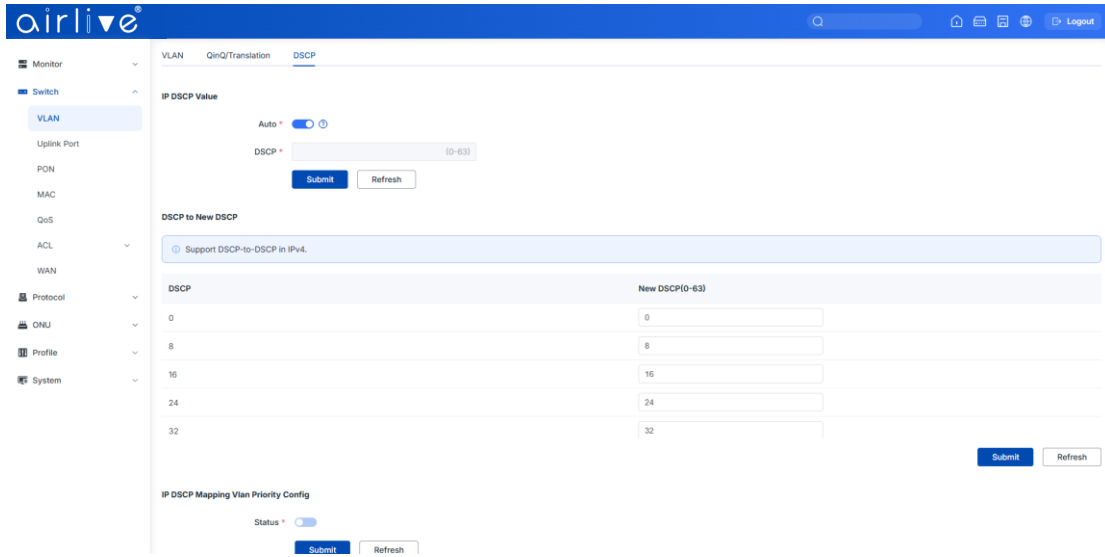


Figure 3.1-4: DSCP Configuration

3.2 Uplink Port

GE ports traffic statistics and basic configuration setting.

3.2.1 Traffic Statistics

Switch → Uplink Port → Traffic Statistics

This user interface displays traffic statistics of Uplink ports.

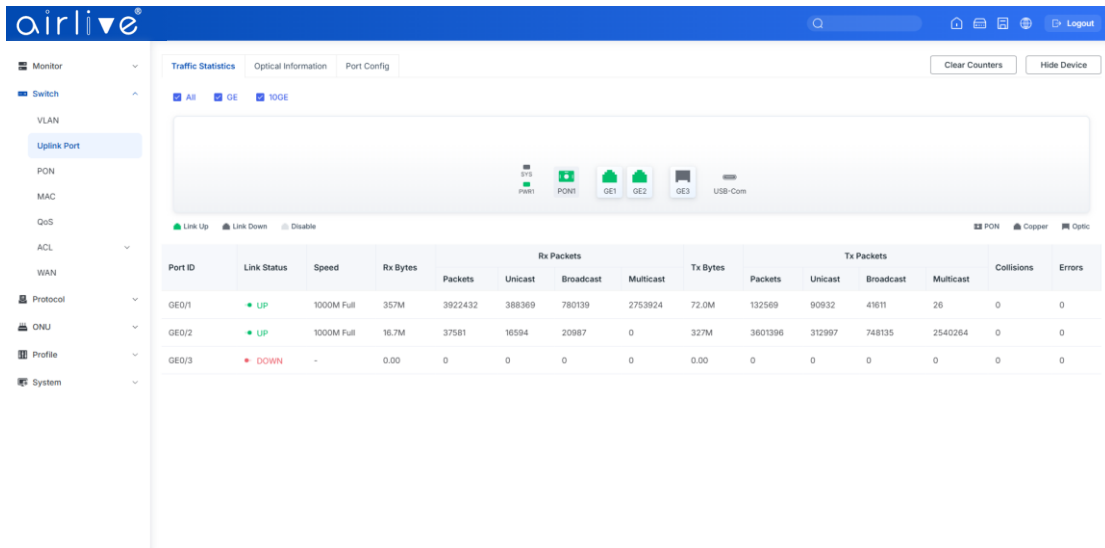


Figure 3.2-1: GE Traffic Statistics

3.2.2 Optical Information

Switch → Uplink Port → Optical Information

This page can be used to view the optical port temperature, voltage, current, transmitted and received optical power and other parameters.

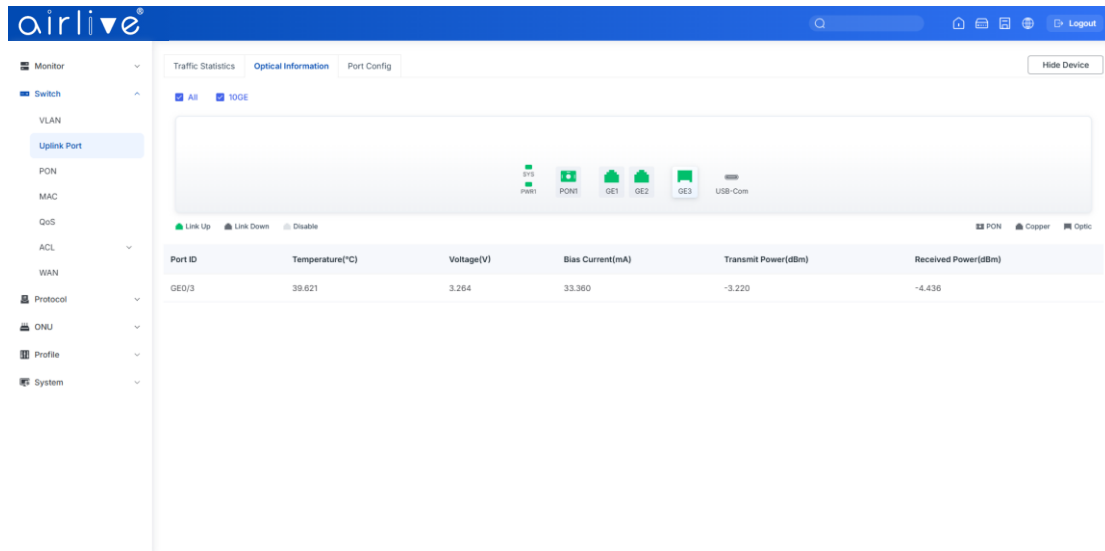


Figure 3.2-2: Optical Information

3.2.3 Port Config

Switch → Uplink Port → Port Config

This user interface is used to configure port related functions and characteristic parameters of Uplink port, such as port attributes, PVID, flow control, rate limit, storm suppression and so on.

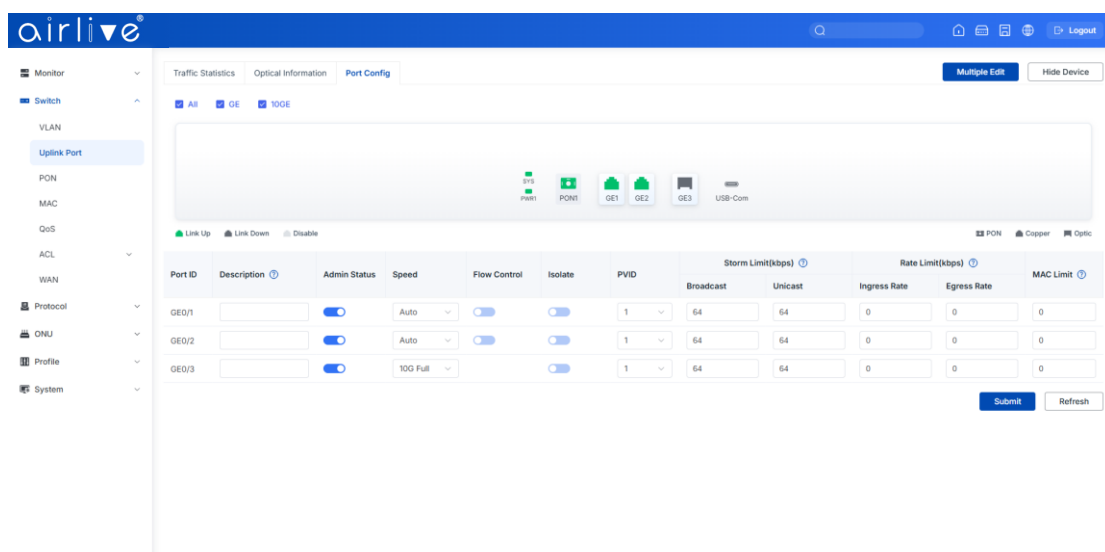


Figure 3.2-3: Port Config

Illustrations of each parameter:

Parameters	Illustration
Port ID	GE port has two types, RJ45 (GE1 and GE2) and SFP+ (GE3).
Description	Descriptions or remarks of port.
Admin Status	Active or inactive status of port. It is enabled by default.
Speed	Configuring Port Rate.
Isolate	Isolate the data of the port
Flow Control	Enable or disable flow control function of uplink port to control congestion. It is disabled by default.
PVID	Default VLAN ID of the port.
Broadcast	Broadcast storm suppression.
Unknown Unicast	Unknown unicast storm suppression.
Ingress Rate	Port ingress rate.
Egress Rate	Port egress rate.
MAC limit	Number of MAC address can be learnt in the port.

3.3 PON

PON ports traffic statistics and basic configuration setting.

3.3.1 Information & Config

3.3.1.1 Traffic Statistics

Switch → PON → Information & Config → Traffic Statistics

This user interface displays traffic statistics of PON ports.

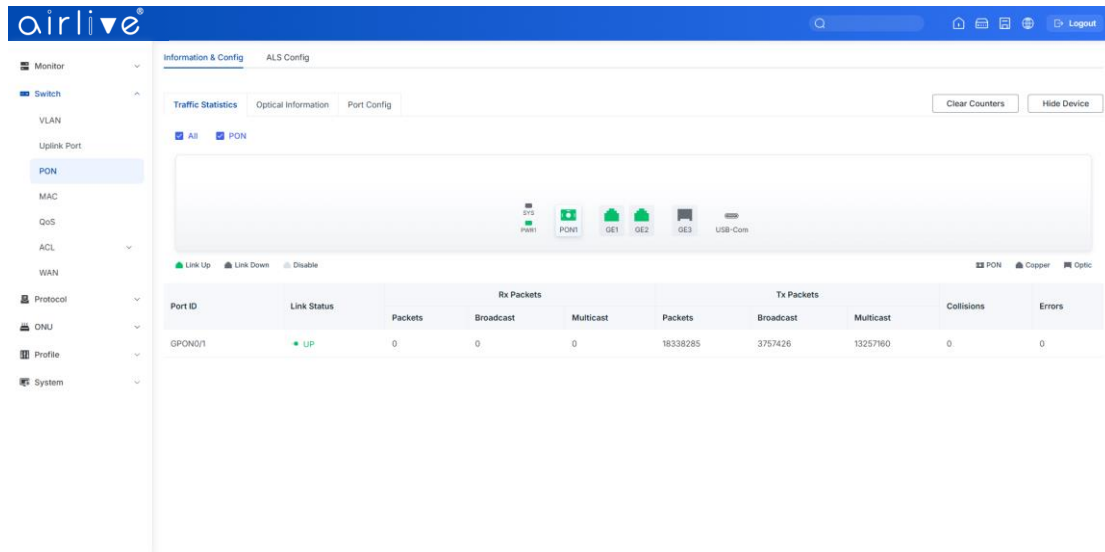


Figure 3.3-1: Traffic Statistics

3.3.1.2 Optical Information

Switch → PON → Information & Config → Optical Information

This user interface is used to display parameters of PON ports, such as PON module Temperature, Voltage, Bias Current, Transmit Power.

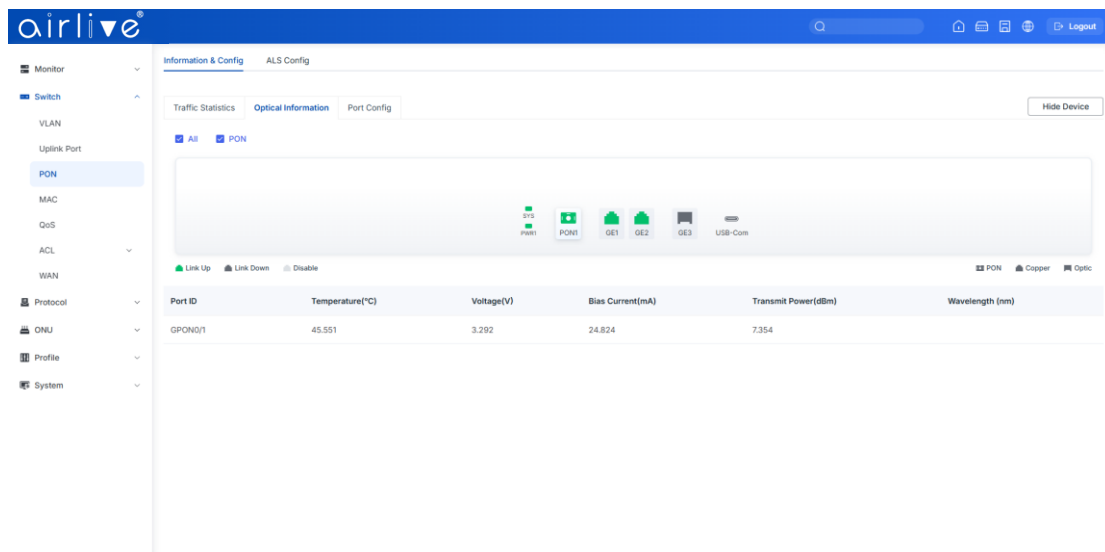


Figure 3.3-2: Optical Information

3.3.1.3 Port Config

Switch → PON → Information & Config → Port Config

This page is used to configure functions and characteristic parameters of the PON port, such as port attributes, storm suppression, and rate limiting.

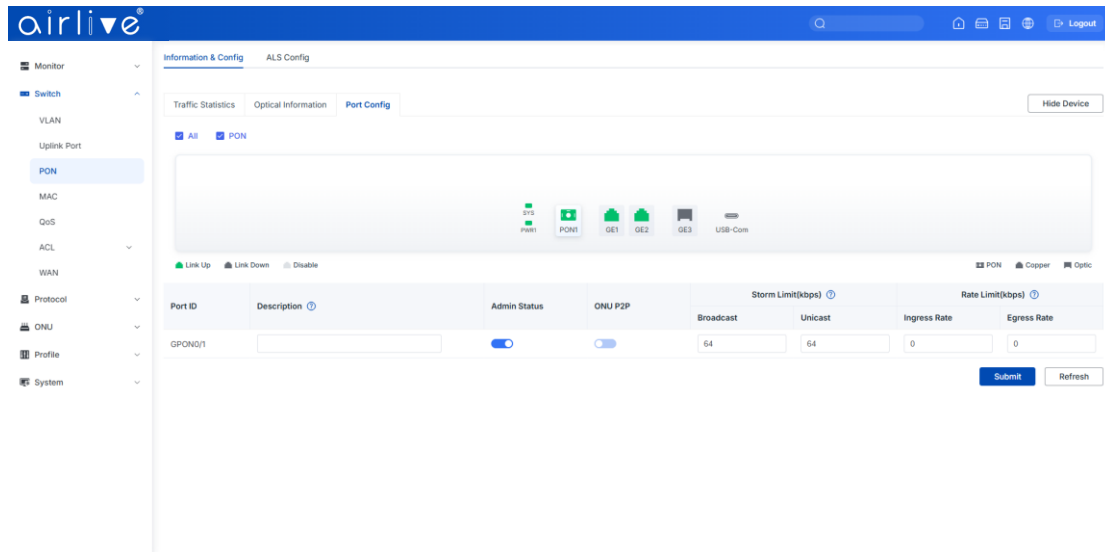


Figure 3.3-3: Port Config

3.3.2 ALS Config

Switch → PON → Information & Config → ALS Config

This page is used to configure port status. When the function is turned on and “PON LOS” is detected, the laser will be turned off. If the restart mode is “auto”, set the number of cycles to turn on the laser and the duration for how many seconds. If an ONU is found during the turning on of the laser, keep the laser on until the “PON LOS” signal is received again.

If it is in “manual” mode, after turning off the laser, it needs to be manually restarted using the “no shutdown” command.

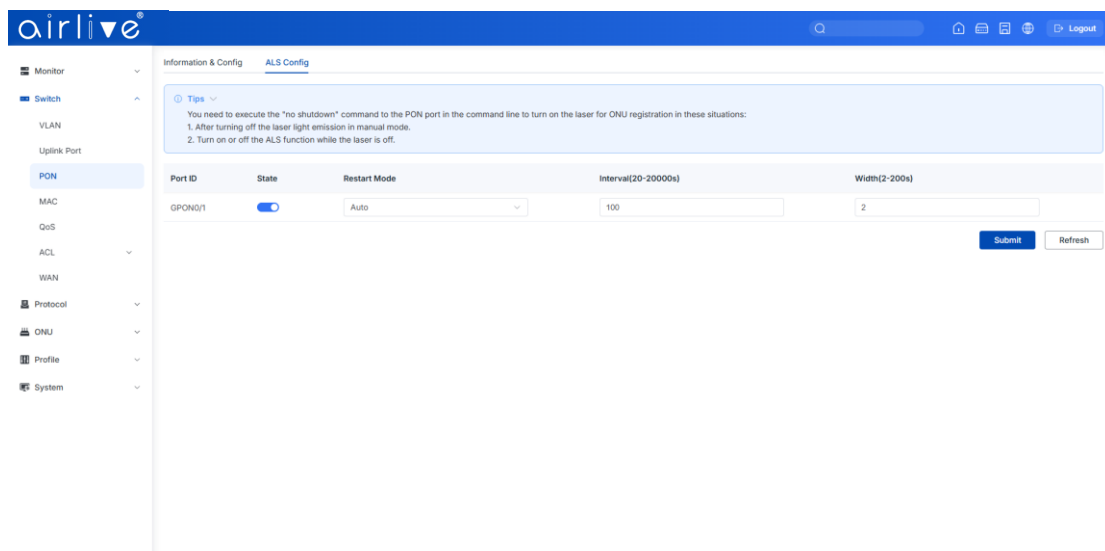


Figure 3.3-4: ALS Config

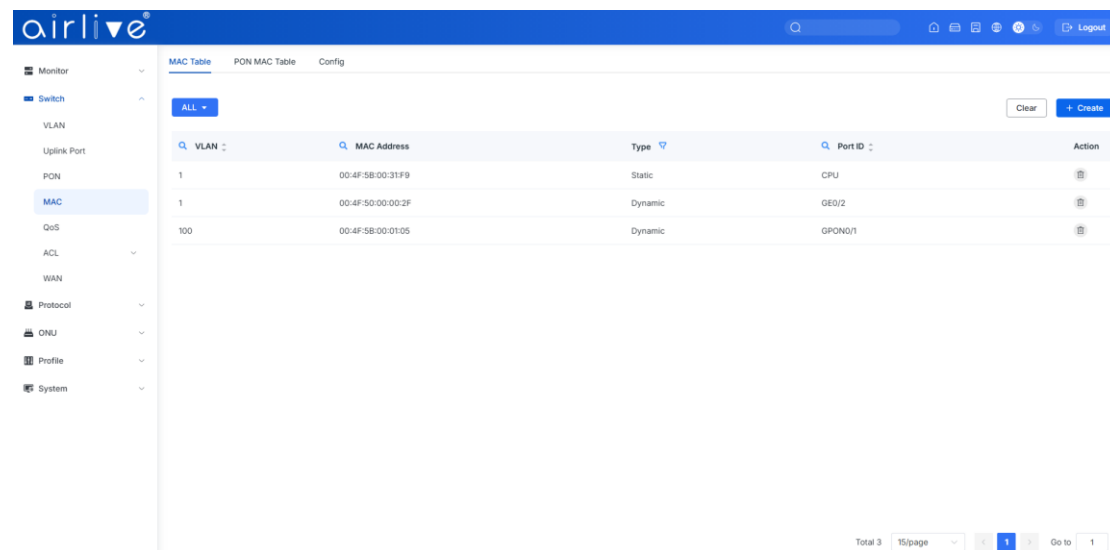
3.4 MAC

In this section, you can check MAC address table of OLT, set MAC aging time and add MAC address manually.

3.4.1 MAC Table

Switch → MAC → MAC Table

This table displays MAC addresses that OLT has learned at PON ports and GE ports. Also, user can add MAC address to the OLT manually.



VLAN	MAC Address	Type	Port ID	Action
1	00:4F:5B:00:31F9	Static	CPU	[Edit]
1	00:4F:50:00:002F	Dynamic	GE0/2	[Edit]
100	00:4F:5B:00:0105	Dynamic	GPON0/1	[Edit]

Figure 3.4-1: MAC Address Table

3.4.2 PON MAC Table

Switch → MAC → PON MAC Table

This table displays MAC addresses that OLT has learned at PON ports.

ID	VLAN	MAC	PON/ONU	Gempport ID
1	1	00-00-01:00:00:A1	1:4	1
2	1	00-00-01:00:00:A2	1:1	1

Figure 3.4-2: PON MAC Table

3.4.3 Config

Switch → MAC → Config

The default MAC aging time of OLT is 300s, user can change the value between 10~1000000s.

MAC Config

Automated Aging

Aging Time

Figure 3.4-3: MAC Config

3.5 QoS

Switch → QoS

When bandwidth is insufficient or there is congestion in the network, queue scheduling can ensure that high priority data traffic passes through the device first. Traffic will be mapped to the queue based on its priority and transmitted within the queue.

OLT supports a total of 8 queues. The queue scheduling modes include strict priority (SP), weighted loop (WRR), and mixed mode (SP-WRR).

Strict priority scheduling ensures the bandwidth occupied by high priority traffic. Traffic with lower priority will only pass through when there is remaining bandwidth.

The screenshot displays the QoS configuration interface. The 'QoS Config' section shows 'QoS Status' as 'On' and 'QoS Mode' as 'Strict Priority'. Below this is a table with the following data:

Queue ID	Queue Priority
Q1	1
Q2	2
Q3	3
Q4	4
Q5	5

The 'QoS Rule Table' section shows a table with the following data:

List ID	Queue ID	DSCP	Source MAC	Source IP	Source Port	Destination IP	Destination Port	Protocol	Action
2	2	N/A	00:10:94:00:00:0F	192.168.20.36/24	N/A	N/A	N/A	N/A	
1	8	0	N/A	N/A	N/A	N/A	N/A	N/A	

Figure 3.5-1: QoS Configuration

3.6 ACL

3.6.1 ACL IPv4

In order to filter packets, network devices need to set a series of rules to determine the content that needs to be filtered. These packets can only be filtered if they match the rules. Access control lists can achieve this function. The matching criteria for access control list rules can be source address, destination address, Ethernet type, VLAN, protocol port, etc. These access control list rules can also be used in other situations, such as the classification of flows in quality of service. Access control list rules can contain one or more sub rules with different matching conditions.

This device supports the following types of access control lists.

3.6.1.1 IP/MAC Filter

Switch → **ACL** → **ACL IPv4** → **IP/MAC Filter**

The filter is mainly based on IP/MAC addresses, including source IP address and destination IP address, source MAC address and destination MAC address.

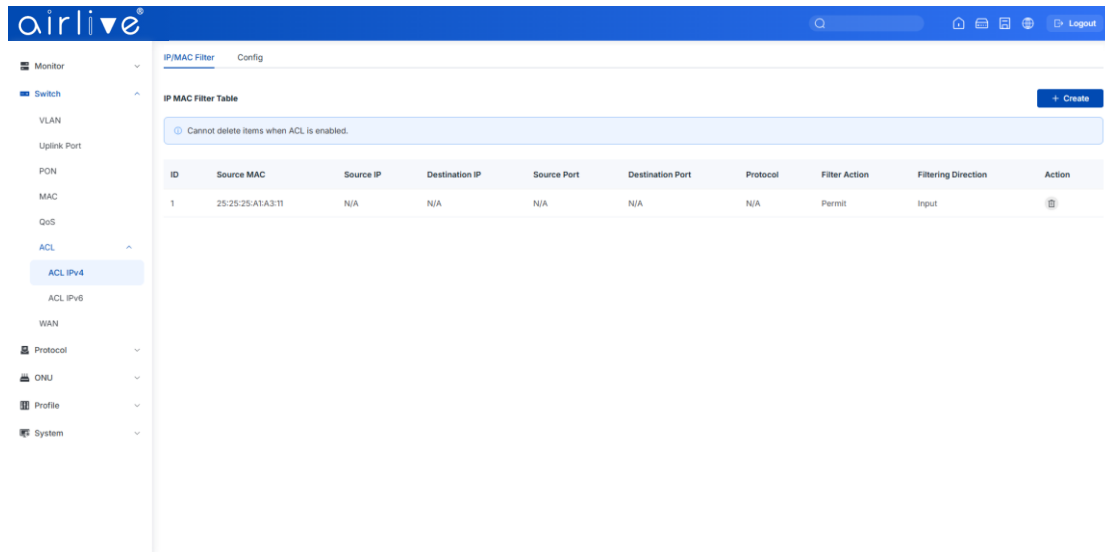


Figure 3.6-1: IP/MAC Filter

3.6.1.2 Config

Switch → **ACL** → **ACL IPv4** → **Config**

The main configuration controls the access list status and effective period.

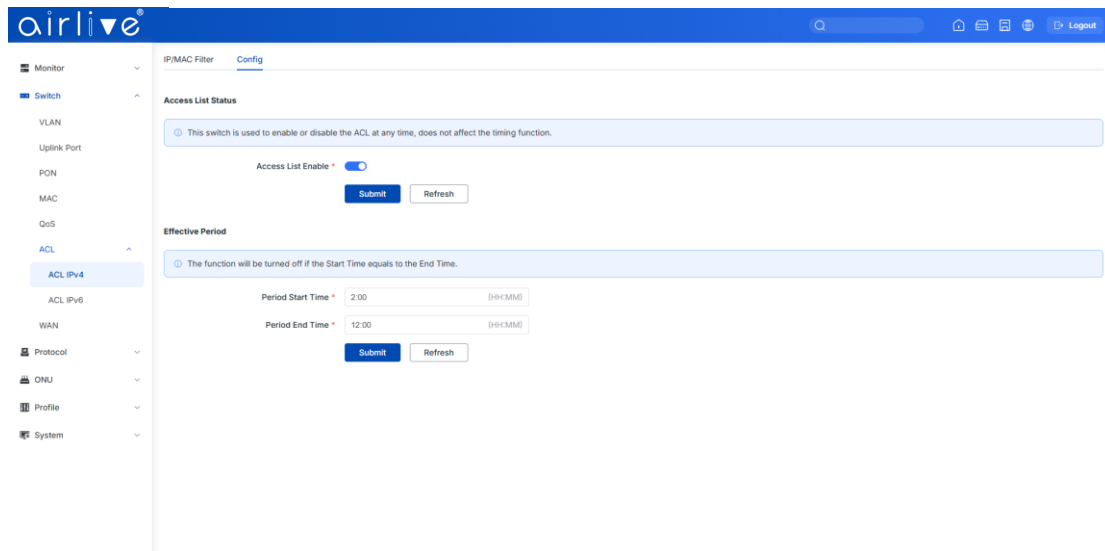


Figure 3.6-2: ACL IPv4 Config

3.6.2 ACL IPv6

This section is about the IPv6 security configuration of OLT. IPv6 access control lists can allow or deny data transmission or access through IPv6 packets.

3.6.2.1 IPv6/MAC Filter

Switch → **ACL** → **ACL IPv6** → **IPv6/MAC Filter**

The filter is mainly based on IPv6/MAC addresses, including source and destination IPv6 addresses, as well as source and destination MAC addresses.

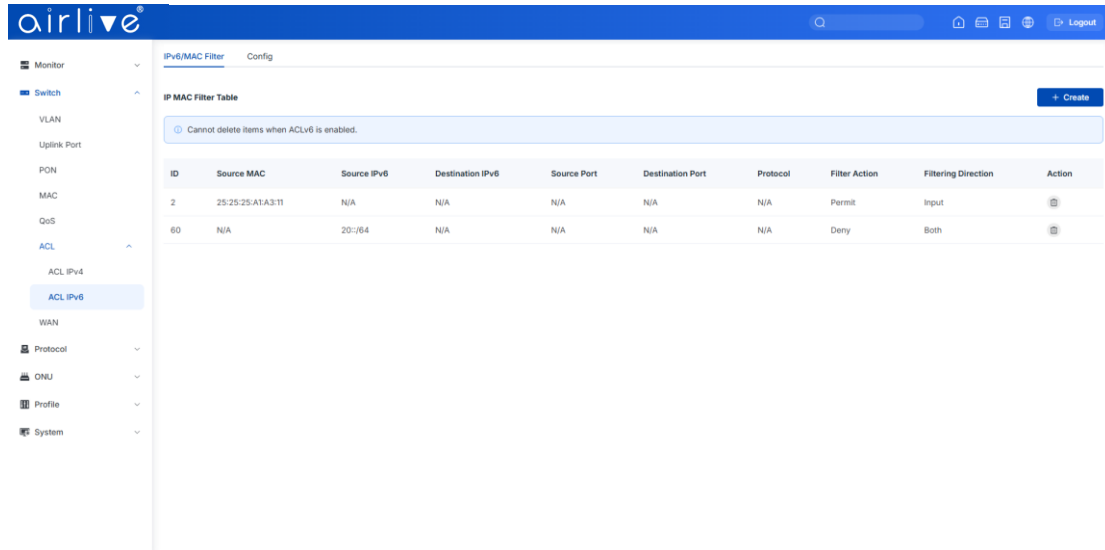


Figure 3.6-3: IPv6/MAC Filter

3.6.2.2 Config

Switch → **ACL** → **ACL IPv6** → **Config**

The main configuration controls the access list status and effective period.

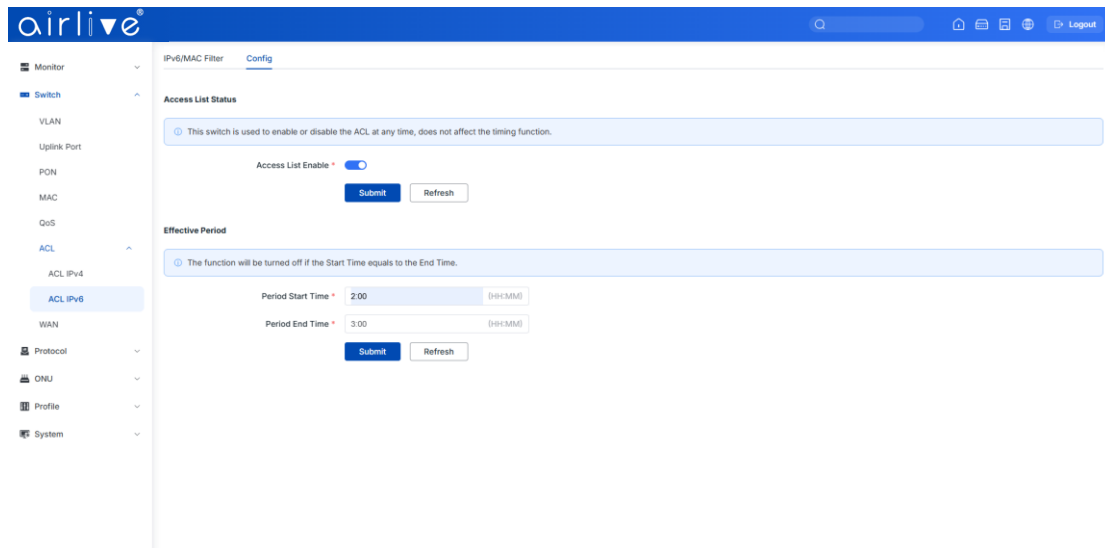


Figure 3.6-4: ACL IPv6 Configuration

3.7 WAN

This function is used to set the OLT working mode to three layers, which can be used as a router, with GE3 as the WAN side, PON, GE1, and GE2 as the LAN side. The OLT can perform DHCP, PPPOE, and static IP upstream for internet access.

3.7.1 WAN

Switch → WAN → WAN

This page is used to configure WAN and display WAN business status.

The screenshot displays the AirLive web management interface. The top navigation bar includes the AirLive logo, a search bar, and a 'Logout' button. The left sidebar contains a menu with categories like Monitor, Switch, VLAN, Uplink Port, PON, MAC, QoS, ACL, and WAN. The main content area is titled 'WAN Config' and includes several configuration options: 'WAN' (checked), 'Multicast Proxy' (checked), 'Mode' (Route selected), 'IP Version' (IPv4 selected), and 'Connect Mode' (Static selected). Below these are input fields for 'IP Address' (192.168.1.200/24), 'Gateway' (192.168.1.1), and 'VLAN ID' (1). A 'Submit' button and a 'Refresh' button are also present. Below the configuration section is a 'WAN Connect Table' with the following data:

Mode	IP Version	Config Information
route	ipv4	Connect Mode: DHCP, Vlanid: 1

Figure 3.7-1: WAN Status

3.7.2 LAN

Switch → WAN → LAN

This page is configured with LAN side IP address and DHCP server.

The screenshot displays the AirLive web interface for LAN configuration. The left sidebar shows a navigation menu with 'WAN' selected. The main content area is divided into three sections: 'LAN Config', 'DHCP Server Config', and 'DHCP Server Settings'. In 'LAN Config', the 'IP Address' field is empty with a placeholder 'A.B.C.D/Mask', and the 'VLAN ID' is set to '1'. In 'DHCP Server Config', the 'DHCP Server' toggle is turned on, and the 'VLAN ID' is set to '1'. The 'DHCP Server Settings' section includes fields for 'Start IP Address' (192.168.6.222), 'End IP Address' (192.168.6.254), 'Subnet Mask' (255.255.255.0), 'Gateway' (0.0.0.0), and three 'Static DNS' fields (all set to 0.0.0.0). 'Submit' and 'Refresh' buttons are present for each section.

Figure 3.7-2: LAN

3.7.3 NAT

Switch → **WAN** → **NAT**

This page is used to configure the routing NAT mode for DMZ hosts.

The screenshot displays the AirLive web interface for NAT configuration. The left sidebar shows a navigation menu with 'WAN' selected. The main content area is divided into two sections: 'NAT Config' and 'NAT -- DMZ Hosts'. In 'NAT Config', the 'NAT Type' is set to 'NAT4 (default)'. In 'NAT -- DMZ Hosts', the 'DMZ Host' toggle is turned on, and the 'DMZ Host IP Address' is set to '192.168.8.10'. 'Submit' and 'Refresh' buttons are present for each section.

Figure 3.7-3: NAT

Chapter 4 Protocol

4.1 Loopback

Loopback can detect loop ports and process loop ports.

4.1.1 Information

Protocol → Loopback → Information

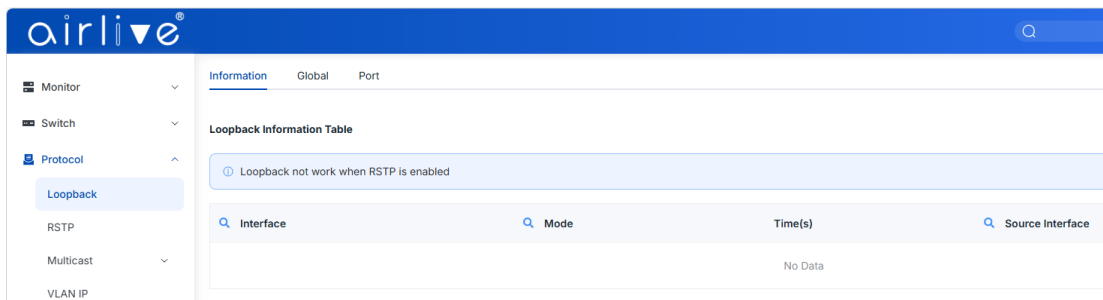


Figure 4.1-1: Loopback Information

4.1.2 Global

Protocol → Loopback → Global

This page is used to enable or disable loopback detect, set the loopback range, mode, and aging time, loopback packet sending mode and packet sending interval.

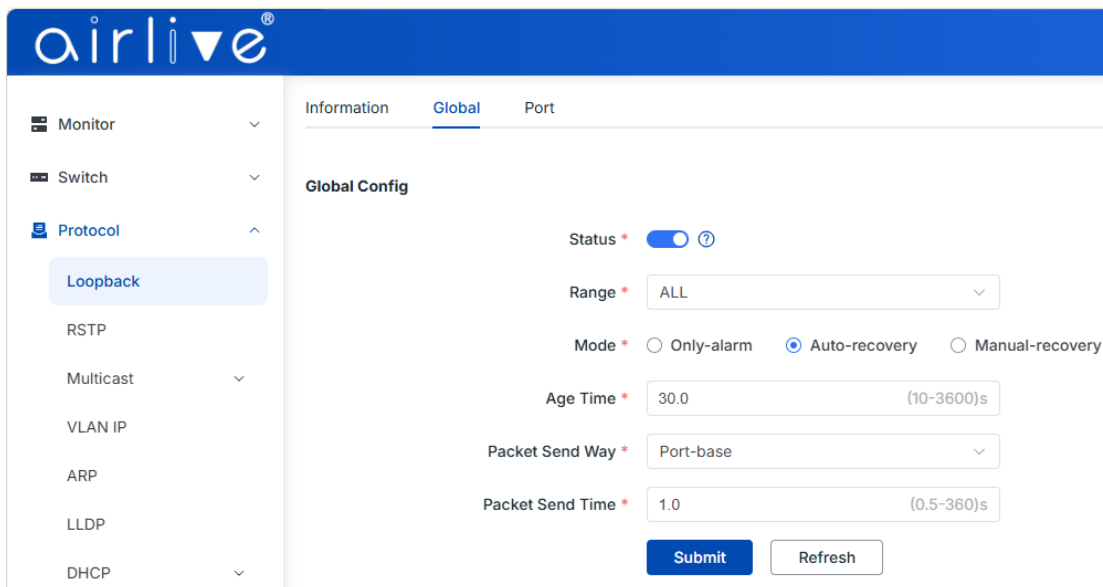


Figure 4.1-2: Loopback Global

4.1.3 Port

Protocol → Loopback → Port

Loopback port configuration is used to specify the port range of loopback function. Loopback will take effect on the port when it is checked.

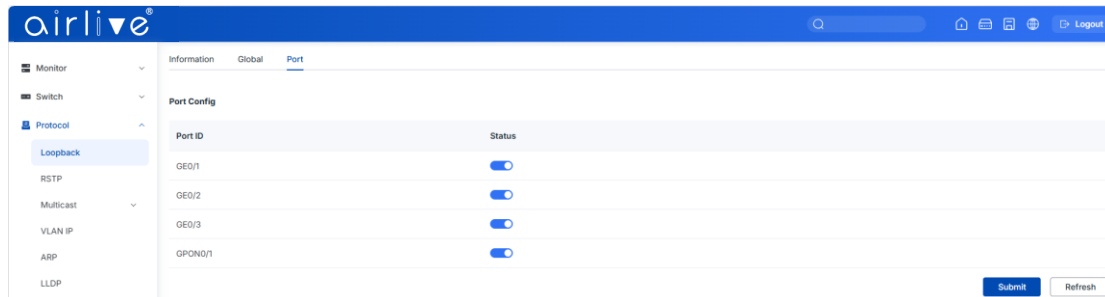


Figure 4.1-3: Loopback Port

4.2 RSTP

The spanning tree protocol is a second layer protocol that eliminates network loops by selectively blocking redundant network links. It also has the feature of link backup.

The Fast Spanning Tree Protocol (RSTP) is defined by the IEEE 802.1w standard, which has been improved on the basis of STP to achieve fast convergence of network topology. Its "speed" is reflected in the fact that when a port is selected as the root port and designated port, the delay for it to enter forwarding state will be greatly reduced, thereby shortening the time required for the network to ultimately reach topological stability.

4.2.1 Information

Protocol → RSTP → Information

The RSTP information mainly displays the spanning tree protocol parameters of the root bridge device.

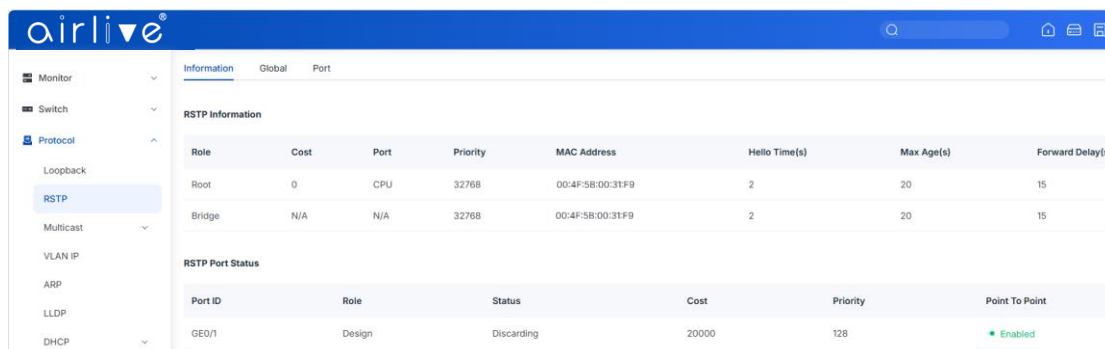


Figure 4.2-1: RSTP Information

4.2.2 Global

Protocol → RSTP → Global

This page is used to set the parameters of the device's spanning tree protocol, including spanning tree protocol switch, priority, hello time, maximum aging time, and forwarding delay.

The screenshot shows the 'RSTP Global Config' page in the AirLive web interface. The left sidebar has 'RSTP' selected under the 'Protocol' category. The main content area has tabs for 'Information', 'Global', and 'Port', with 'Global' active. A blue box contains the formula: $2 * (\text{HelloTime} + 1) \leq \text{MaxAge} \leq 2 * (\text{ForwardDelay} - 1)$. Below this, the 'RSTP Status' is a checked toggle. The 'Global Priority' is set to 32768. 'Hello Time' is 2 (s), 'Max Age' is 20 (s), and 'Forward Delay' is 15 (s). 'Submit' and 'Refresh' buttons are at the bottom.

Figure 4.2-2: RSTP Global

4.2.3 Port

Protocol → RSTP → Port

This page is used to set port fast spanning tree protocol parameters, including spanning tree protocol switches, priority, cost, edge ports, and point-to-point.

The screenshot shows the 'RSTP Port Config' page in the AirLive web interface. The left sidebar has 'RSTP' selected under the 'Protocol' category. The main content area has tabs for 'Information', 'Global', and 'Port', with 'Port' active. A blue box contains a 'Tips' link. Below this is a table with the following data:

Port ID	Status	Priority	Cost	Edge Port	Operating Edge	Point To Point
GE0/1	<input checked="" type="checkbox"/>	128	20000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
GE0/2	<input checked="" type="checkbox"/>	128	20000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
GE0/3	<input checked="" type="checkbox"/>	128	2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

'Submit' and 'Refresh' buttons are at the bottom right.

Figure 4.2-3: RSTP Port

4.3 Multicast

4.3.1 IGMP

4.3.1.1 Group Member

Protocol → Multicast → IGMP → Group Member

When there is a multicast group produced, the group will display in this table.

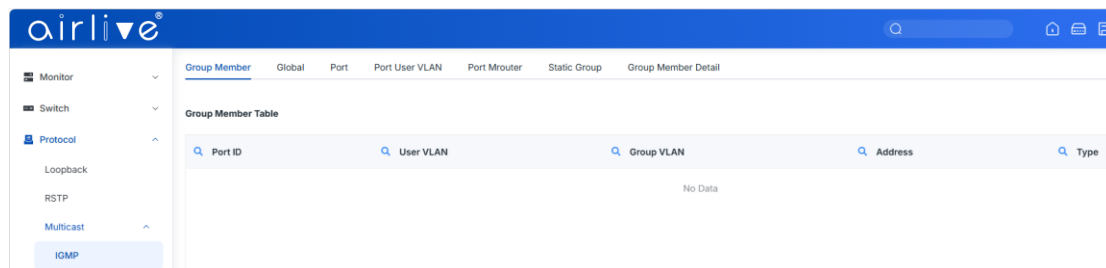


Figure 4.3-1: Group Member

4.3.1.2 Global

Protocol → Multicast → IGMP → Global

IGMP basic configuration mainly contains parameters of query packet and member timeout. When IGMP status is enabled, OLT works at IGMP snooping mode. IGMP snooping is the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to "listen in" on the IGMP conversation between hosts and routers. By listening to these conversations, the switch maintains a map of which devices need which IP multicast streams. Multicast may be filtered from the ports which do not need them and thus controls which ports receive specific multicast traffic. When IGMP status is disabled, OLT works at transparent mode.

airlive®

Group Member Global Port Port User VLAN Port Mrouter Static Group Group Member Detail

Global Config

IGMP Status *

Member Port Timeout * 260 s

Query Response Time * 10 s

Last Member Query Interval * 1 s

Last Member Query Count * 2

Last Member Query Response * 1 s

General Query Packet *

General Query Interval * 125 s

Query Source IP * 1.1.1.1

Submit Refresh

Figure 4.3-2: IGMP Global

4.3.1.3 Port

Protocol → Multicast → IGMP → Port

This configuration is used to set the maximum number of multicast groups, filter and fast leave mode.

airlive®

Group Member Global Port Port User VLAN Port Mrouter Static Group Group Member Detail

Port Config

Port ID	Fast Leave	Group Limit
GE0/1	<input checked="" type="checkbox"/>	256
GE0/2	<input checked="" type="checkbox"/>	256
GE0/3	<input checked="" type="checkbox"/>	256
GPON0/1	<input checked="" type="checkbox"/>	256

Submit Refresh

Figure 4.3-3: IGMP Port

4.3.1.4 Port User VLAN

Protocol → Multicast → IGMP → Port User VLAN

This configuration is used to configure IGMP VLAN for OLT. Generally, PON ports should be configured, and user VLAN and group VLAN are the same. If user VLAN and group VLAN are different, multicast VLAN will be translated.

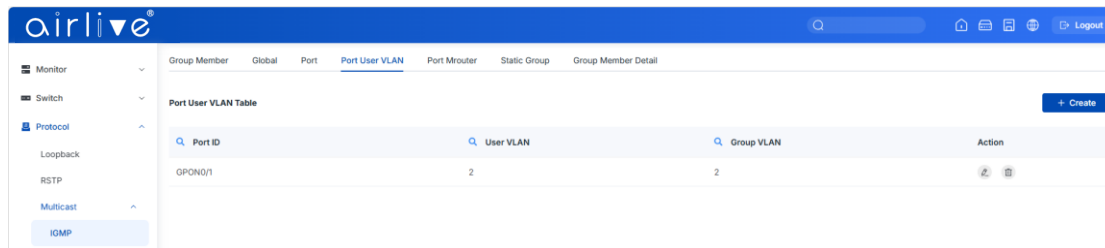


Figure 4.3-4: IGMP Port User VLAN

4.3.1.5 Port Mrouter

Protocol → Multicast → IGMP → Port Mrouter

Multicast router port is used to transmit IGMP signal messages. Generally, OLT uplink ports should be set as multicast router ports.

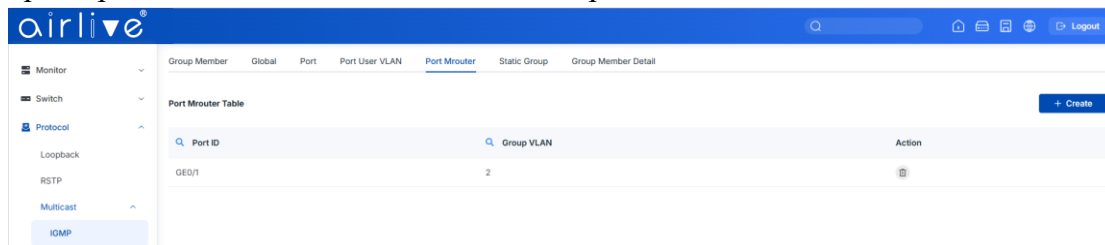


Figure 4.3-5: IGMP Port Mrouter

4.3.1.6 Static Group

Protocol → Multicast → IGMP → Static Group

This configuration is used to bind multicast IP address and VLAN ID.

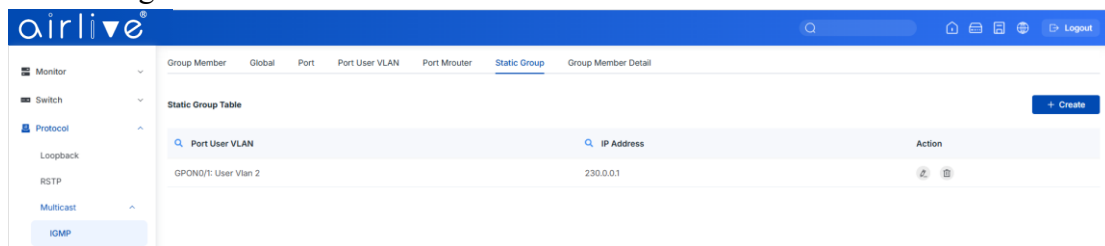


Figure 4.3-6: IGMP Static Group

4.3.1.7 Group Member Detail

Protocol → Multicast → IGMP → Group Member Detail

This page allows you to view more detailed information about the group members, specifically showing the group VLAN ID, multicast group address and client MAC address corresponding to the ONU under which the PON port is located.

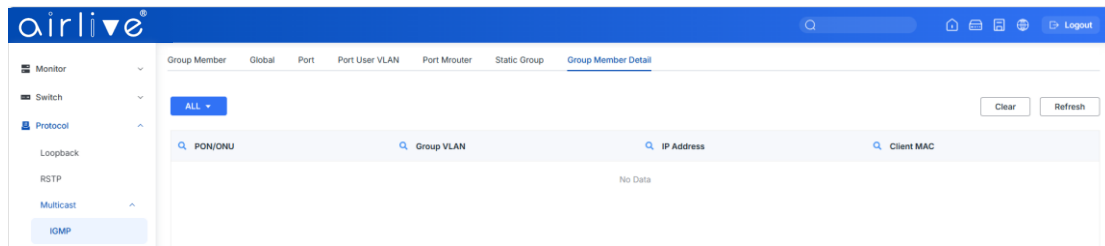


Figure 4.3-7: IGMP Group Member Detail

4.3.2 MLD

4.3.2.1 Group Member

Protocol → Multicast → MLD → Group Member

When a MLD group is generated, it will be displayed in this table.

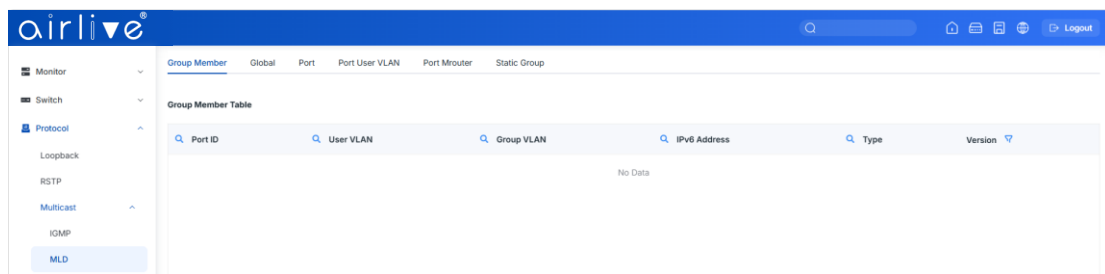


Figure 4.3-8: Group Member

4.3.2.2 Global

Protocol → Multicast → MLD → Global

The basic configuration of MLD mainly includes query packet parameters and member timeout parameters. When MLD mode is enabled, OLT operates in MLD listening mode. MLD monitoring is the process of monitoring Internet group management protocol (MLD) network traffic. This feature allows network switches to "listen" to MLD conversations between hosts and routers. By monitoring these conversations, the switch maintains a mapping of which devices require which IP MLD streams. MLD can enter line filtering from ports that do not require them, thereby controlling which ports receive specific MLD traffic. When MLD status is disabled, OLT operates in transparent mode.

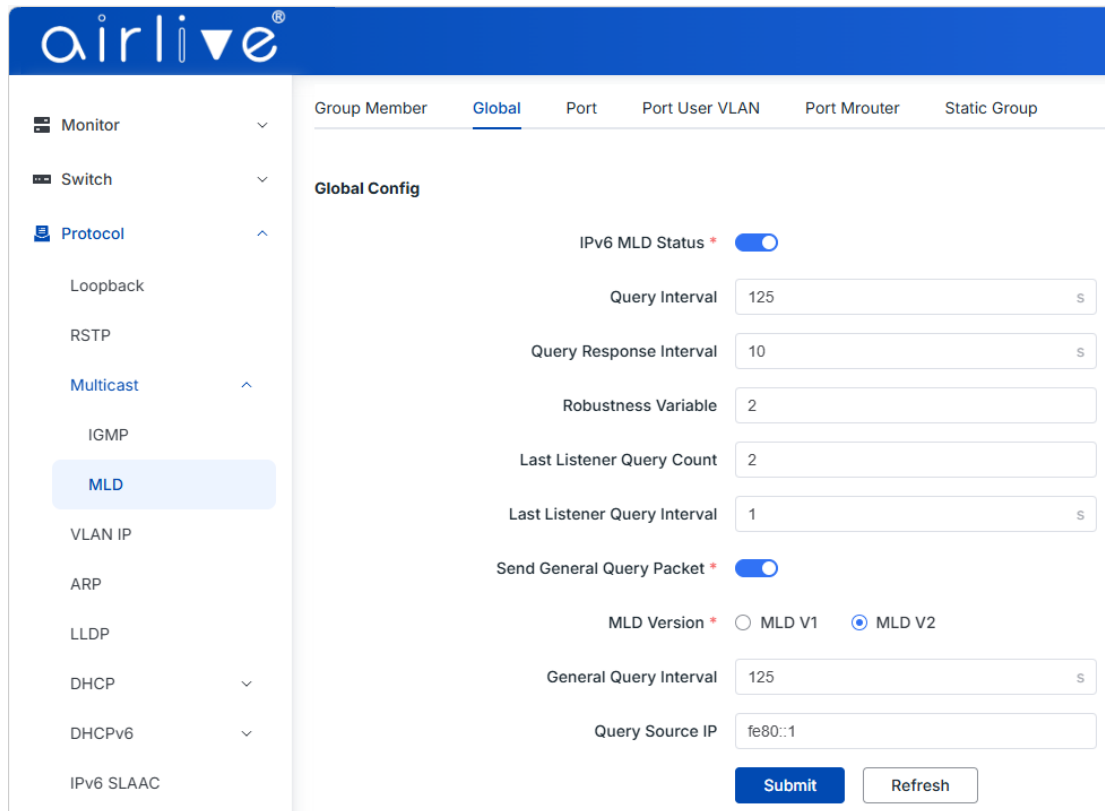


Figure 4.3-9: Global

4.3.2.3 Port

Protocol → Multicast → MLD → Port

This configuration is used to set the group limit, filtering, and fast departure mode for MLD ports.

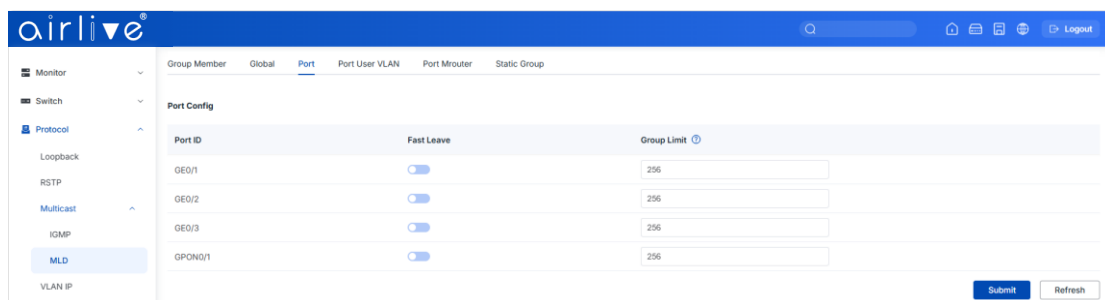


Figure 4.3-10: Port

4.3.2.4 Port User VLAN

Protocol → Multicast → MLD → Port User VLAN

This configuration is used to configure MLD VLAN for OLT. Generally, PON ports should be configured, with the same user VLAN and group VLAN. If they are different, the MLD data VLAN will be converted and forwarded.

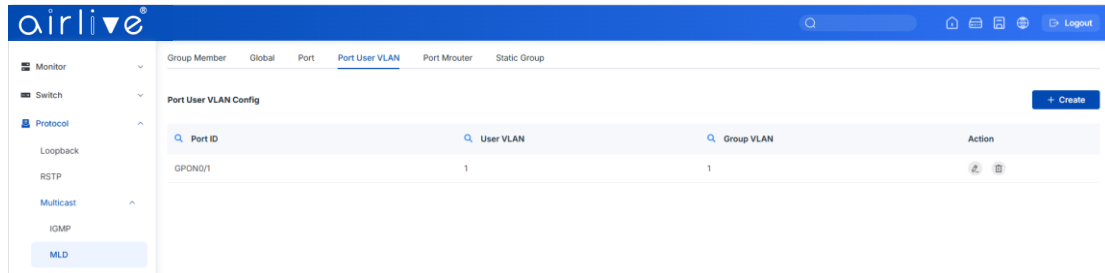


Figure 4.3-11: Port User VLAN

4.3.2.5 Port Mrouter

Protocol → Multicast → MLD → Port Mrouter

The MLD router port is used to transmit MLD signal messages. Usually, the line port on the OLT should be set as a MLD router port.

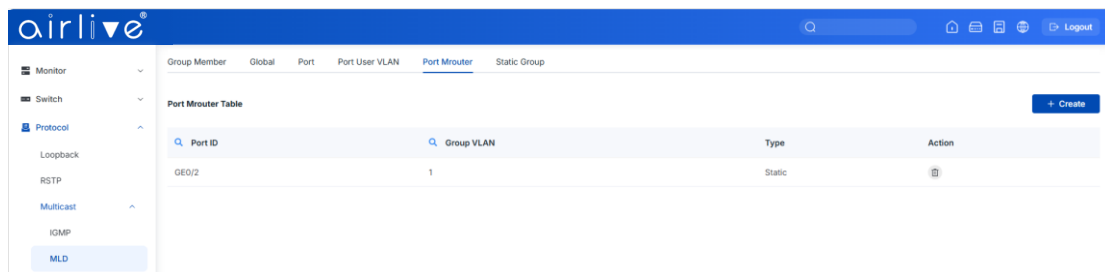


Figure 4.3-12: Port Mrouter

4.3.2.6 Static Group

Protocol → Multicast → MLD → Static Group

This configuration is used to bind MLD IPv6 addresses and VLAN ID.

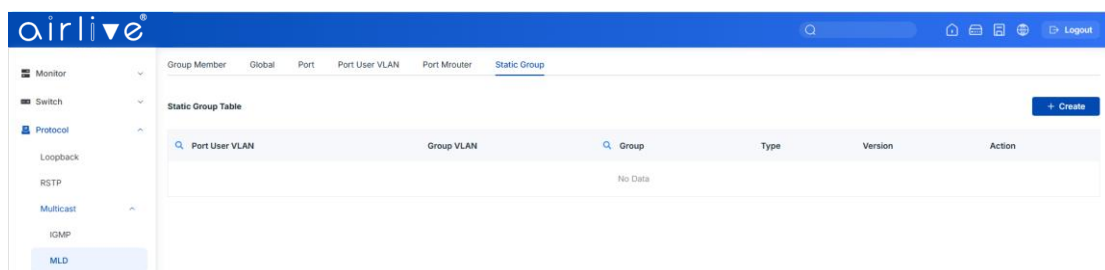


Figure 4.3-13: Static Group

4.4 VLAN IP

4.4.1 VLAN IP

Protocol → VLAN IP → VLAN IP

This configuration is used to configure IP address for VLAN. When the VLAN is added to a port, you can access OLT by the IP address from the port.

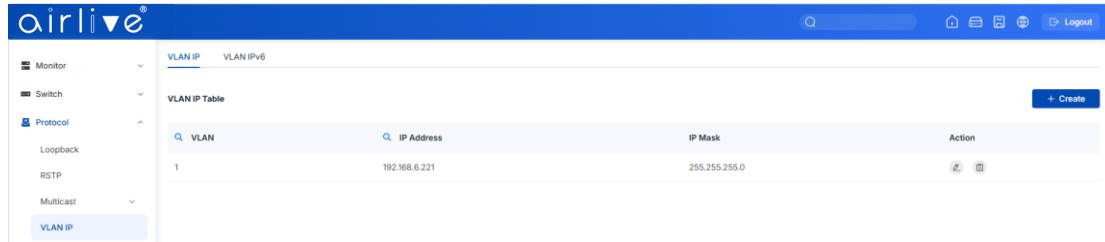


Figure 4.4-1: VLAN IP

4.4.2 VLAN IPv6

Protocol → VLAN IP → VLAN IPv6

Configure IPv6 addresses for the created VLAN.

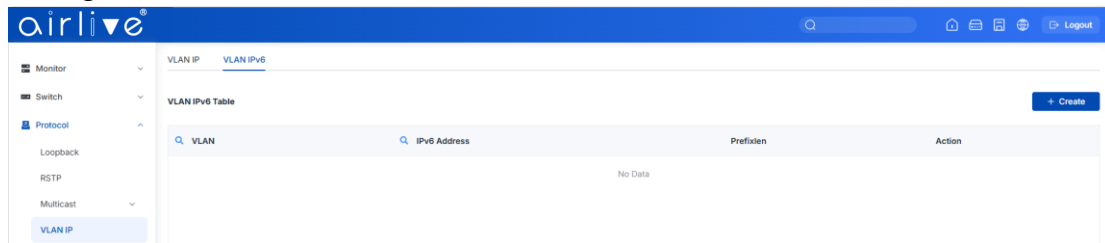


Figure 4.4-2: VLAN IPv6

4.5 ARP Table

Mainly displays OLT ARP table and ARP restriction function.

4.5.1 ARP Table

Protocol → ARP → ARP Table

This page displays the OLT ARP table and allows manual addition of MAC.

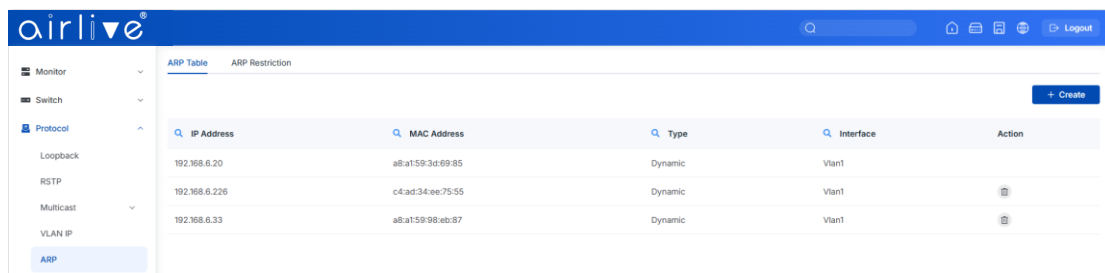


Figure 4.5-1: ARP Table

4.5.2 ARP Restriction

Protocol → ARP → ARP Restriction

This page mainly configures the ARP learning rate and ARP restriction rules.

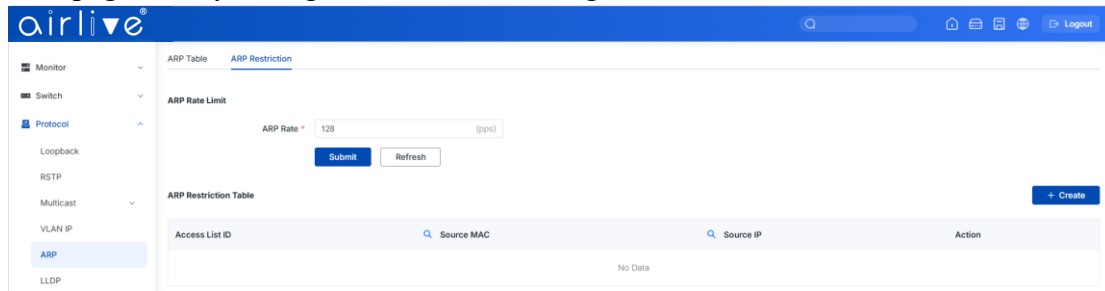


Figure 4.5-2: ARP Restriction

4.6 LLDP

LLDP (Link Layer Discovery Protocol) is a link layer protocol, mainly used for neighbor discovery and information exchange between network devices.

4.6.1 Information

Protocol → LLDP → LLDP Information

This page displays LLDP neighbor information, as well as the ID and description of the port of the neighboring device and other basic information.

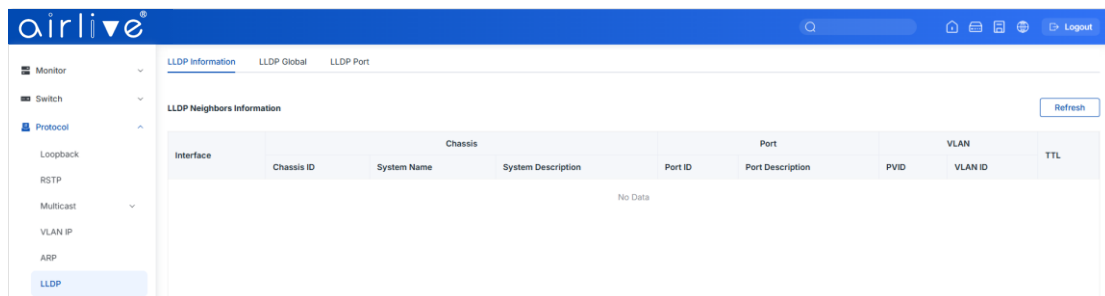


Figure 4.6-1: LLDP Information

4.6.2 Global

Protocol → LLDP → LLDP Global

This page is used to enable and disable the LLDP protocol and can set the message sending cycle and the multiple of the message holding time.

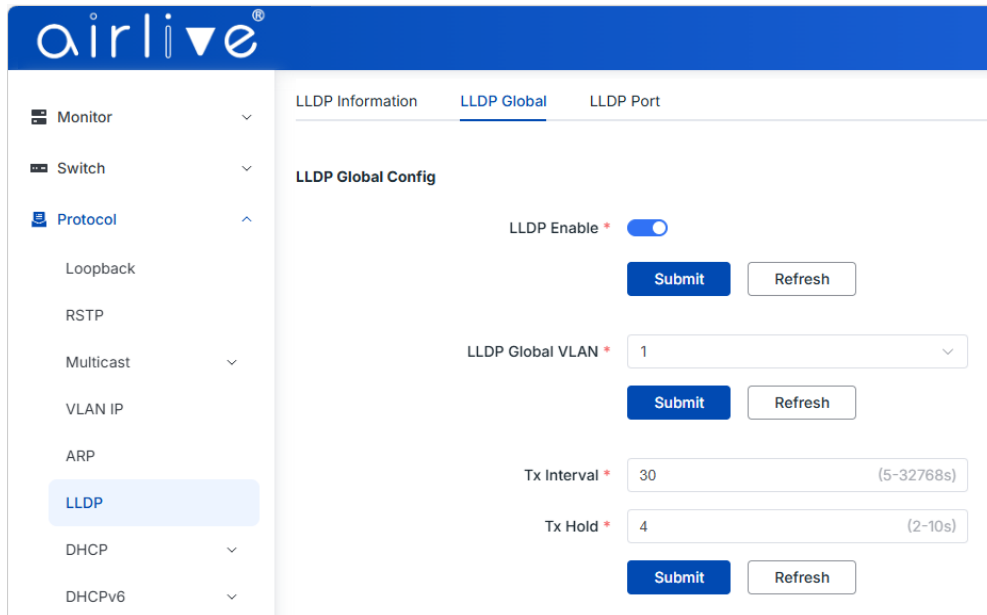


Figure 4.6-2: LLDP Global

4.6.3 Port

Protocol → LLDP → LLDP Port

This page is used to configure the status of the device port receiving LLDP protocol messages.

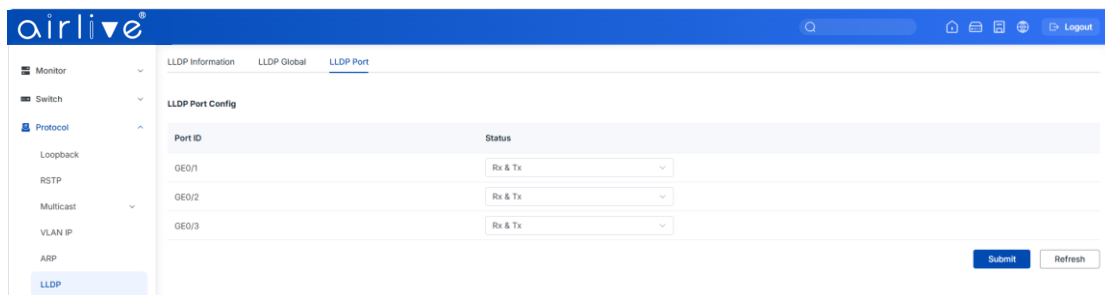


Figure 4.6-3: LLDP Port

4.7 DHCP

OLT can support the following DHCP functions.

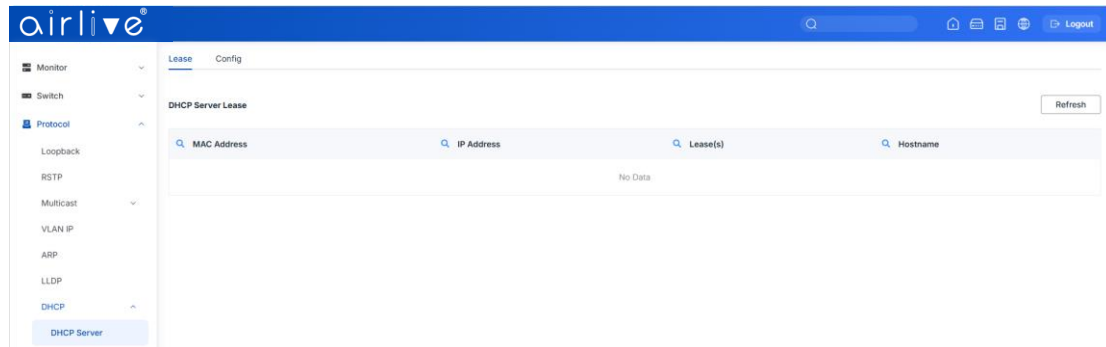
- DHCP Server
- DHCP Relay
- DHCP Snooping

4.7.1 DHCP Server

4.7.1.1 Lease

Protocol → DHCP → DHCP Server → Lease

This table displays the MAC addresses, host names and IP addresses, and Lease terms assigned to them.



The screenshot shows the AirLive web interface. On the left is a navigation menu with categories: Monitor, Switch, Protocol, Loopback, RSTP, Multicast, VLAN IP, ARP, LLDP, and DHCP. The DHCP section is expanded, showing 'DHCP Server'. The main content area has tabs for 'Lease' and 'Config'. The 'Lease' tab is active, displaying a table titled 'DHCP Server Lease'. The table has columns for 'MAC Address', 'IP Address', 'Lease(s)', and 'Hostname'. The table is currently empty, showing 'No Data'. A 'Refresh' button is located in the top right corner of the table area.

Figure 4.7-1: Lease

4.7.1.2 Config

Protocol → DHCP → DHCP Server → Config

Sometimes devices require dynamic IP addresses, but there are no special DHCP servers in the network. These configurations can solve this problem. OLT will be a DHCP server in the network and allocate IP addresses to other devices.

Before enabling the DHCP server, you must configure an IP address for the VLAN.

Figure 4.7-2: DHCP Server Config

4.7.2 DHCP Snooping

DHCP Snooping is a security feature of DHCP that ensures that clients obtain IP addresses from legitimate servers and record the correspondence between DHCP client IP and MAC.

4.7.2.1 Bind List

Protocol → DHCP → DHCP Snooping → Bind List

This page is used to display the correspondence information between DHCP client IP and MAC detected by DHCP.

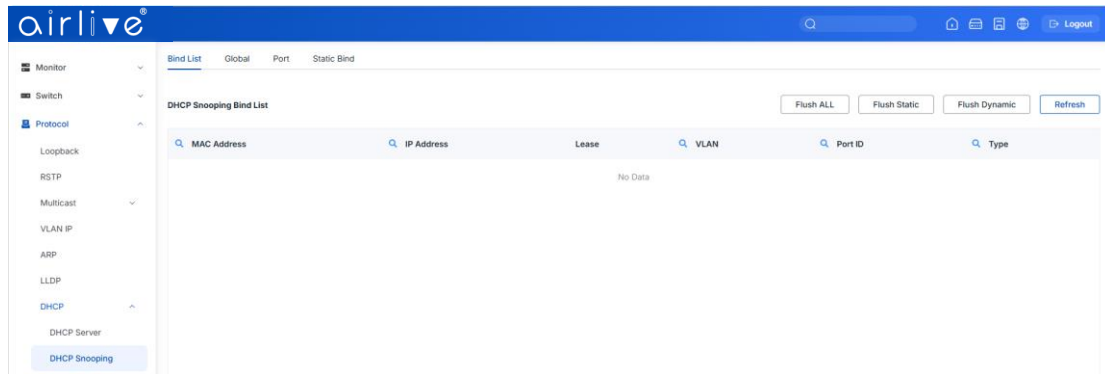


Figure 4.7-3: Bind List

4.7.2.2 Global

Protocol → DHCP → DHCP Snooping → Global

The global configuration of DHCP Snooping mainly includes Option 82 global settings, listening VLAN configuration, and VLAN based Option 82 template (format template) binding.

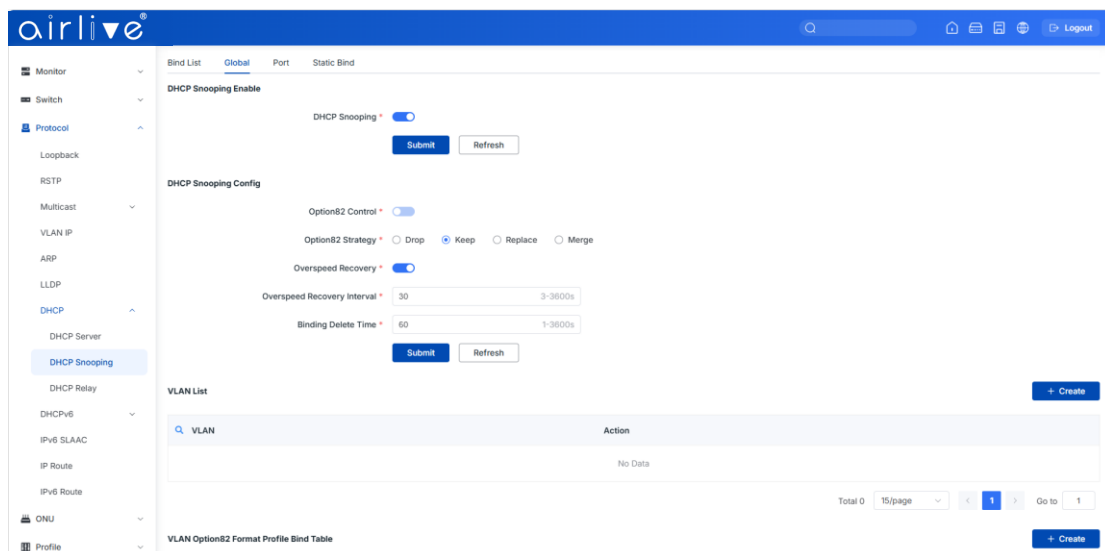


Figure 4.7-4: DHCP Snooping Global

4.7.2.3 Port

Protocol → DHCP → DHCP Snooping → Port

This interface is used to configure DHCP Snooping parameters for ports that include port types, Option 82 parameters, and rate limits.

All ports default to untrusted ports. Option 82 parameters, “Option 82 Circuit ID” and “Option 82 Remote ID”, are valid for untrusted ports. “Restricted speed” refers to the maximum speed at which a port can receive DHCP packets.

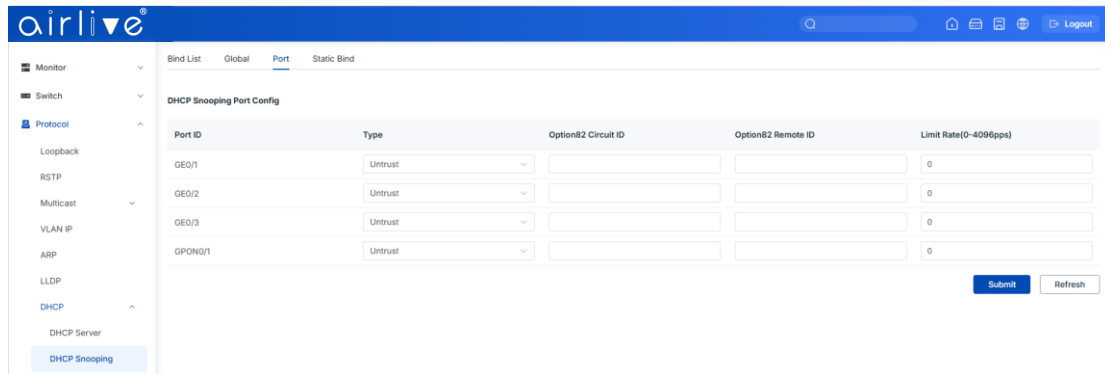


Figure 4.7-5: DHCP Snooping Port

4.7.2.4 Static Bind

OLT Configuration → DHCP → DHCP Snooping → Static Bind

When a host needs a fixed IP address allocated by a DHCP server from a specific port, DHCP listening for static binding is very useful.

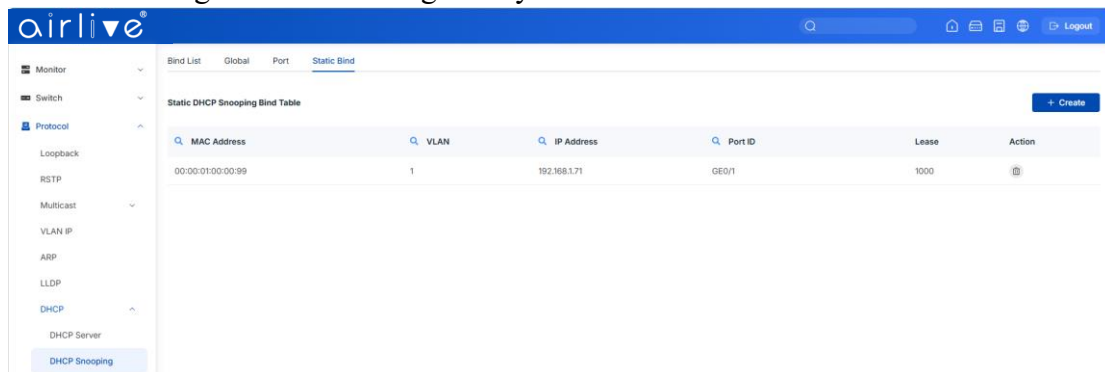


Figure 4.7-6: Static Bind

4.7.3 DHCP Relay

Due to the DHCP process using broadcast to generate request messages, servers and clients usually need to be in the same network segment. DHCP relay can solve the problem that DHCP servers and clients do not exist in the same network.

4.7.3.1 Relay Server

Protocol → DHCP → DHCP Relay → Relay Server

This page is used to configure the IP and working VLAN of DHCP relay servers.

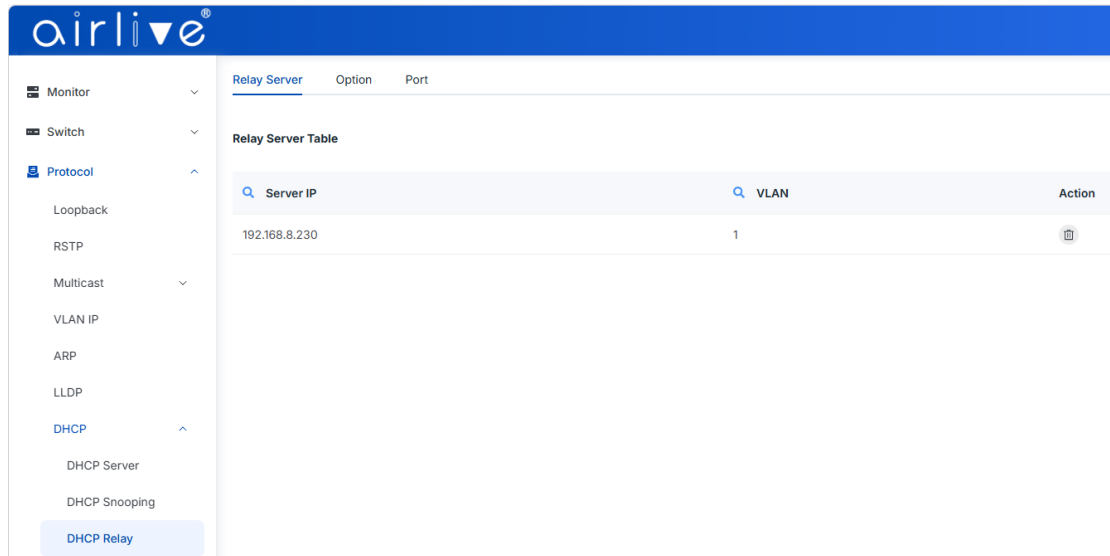


Figure 4.7-7: DHCP Relay Server

4.7.3.2 Option

Protocol → DHCP → DHCP Relay → Option

This page is used to configure the Option 82 function of DHCP relay. After receiving the DHCP request message, the DHCP relay will process the message according to whether it contains Option 82 and the processing strategy and padding mode configured by the user, and forward the processed message to the DHCP server.

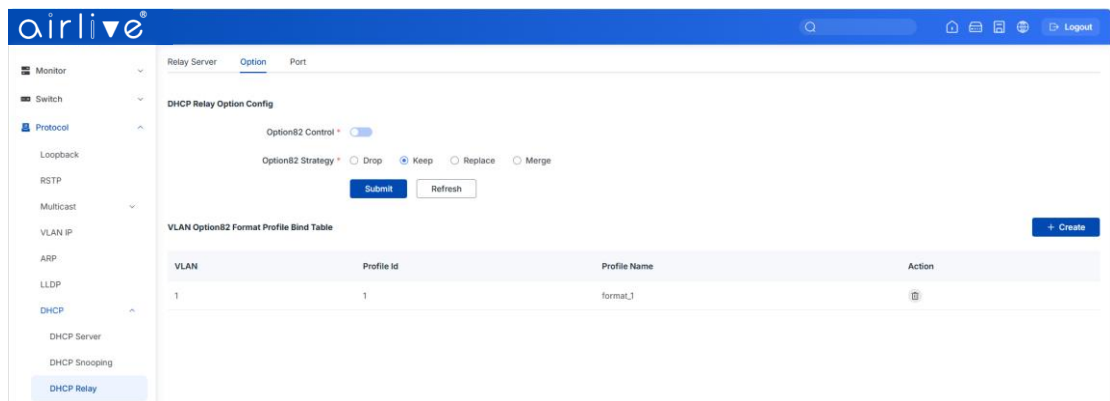


Figure 4.7-8: DHCP Relay Option

4.7.3.3 Port

Protocol → DHCP → DHCP Relay → Port

This page is used to configure the Option 82 line ID and remote ID of the port.

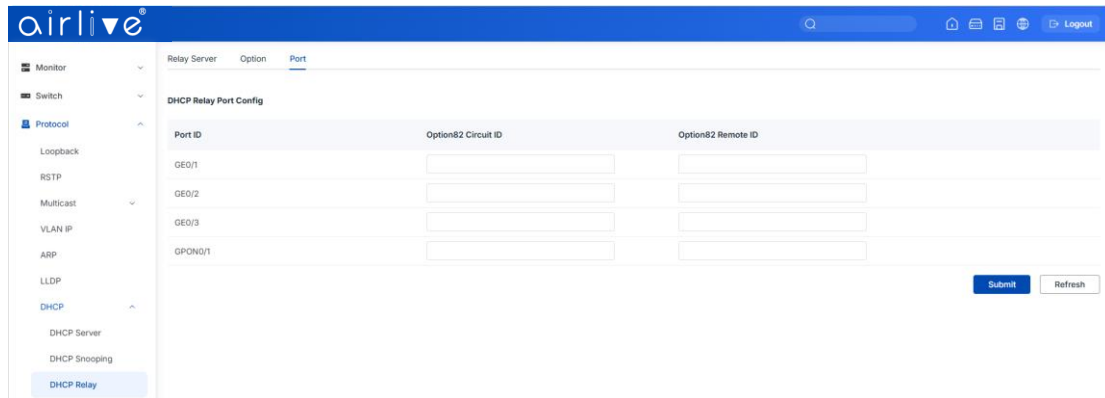


Figure 4.7-9: DHCP Relay Port

4.8 DHCPv6

DHCPv6 is a network protocol used to configure IPv6 addresses, IPv6 prefixes, DNS, domains, and other network parameters for hosts running on IPv6 networks.

4.8.1 DHCPv6 Server

4.8.1.1 Bind List

Protocol → DHCPv6 → DHCPv6 Server → Bind List

The DHCPv6 binding information displays the IPv6 address assigned to the host.

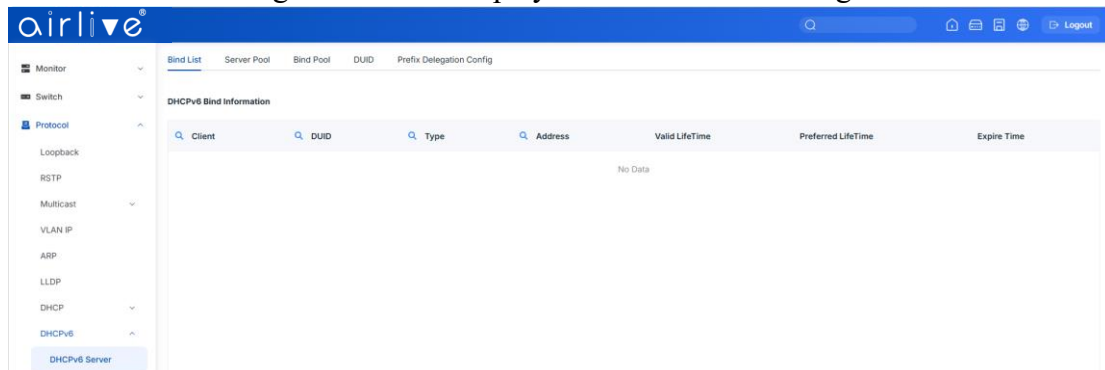


Figure 4.8-1: DHCPv6 Bind List

4.8.1.2 Server Pool

Protocol → DHCPv6 → DHCPv6 Server → Server Pool

DHCPv6 address pool specifies the range of IPv6 addresses. Here, you can also provide the effective time, preferred time, DNS, and domain for DHCPv6 clients.

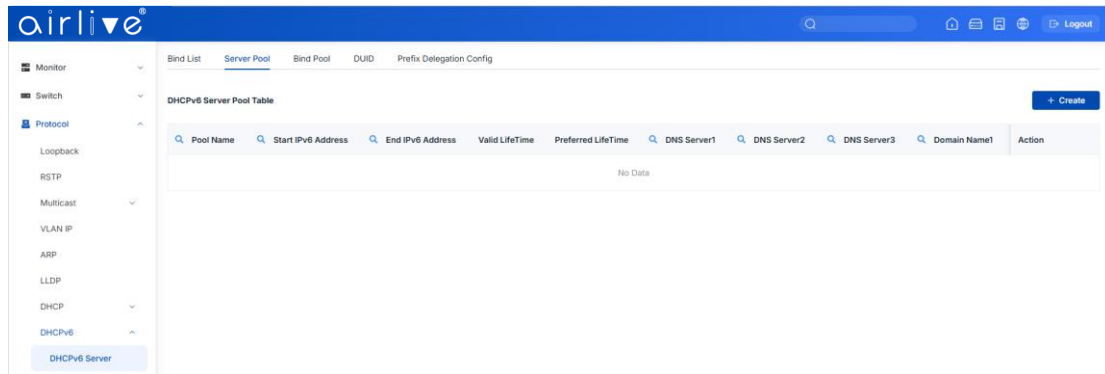


Figure 4.8-2: Server Pool

4.8.1.3 Bind Pool

Protocol → DHCPv6 → DHCPv6 Server → Bind Pool

Select VLAN, fill in the DHCPv6 pool name, enable the DHCPv6 service, and then add the VLAN to the table. Before enabling the DHCPv6 service, it is necessary to complete the configuration of VLAN IPv6 address and server address pool information.

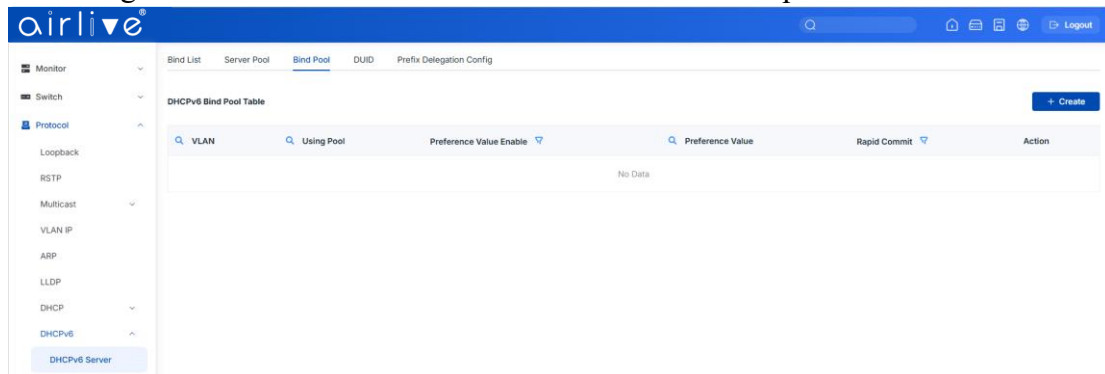


Figure 4.8-3: DHCPv6 Bind Pool

4.8.1.4 DUID

Protocol → DHCPv6 → DHCPv6 Server → DUID

This page is used to configure the DHCPv6 DUID (DHCP Unique Identifier) parameters, which can set the DUID type and view the generated DUID information of the device.

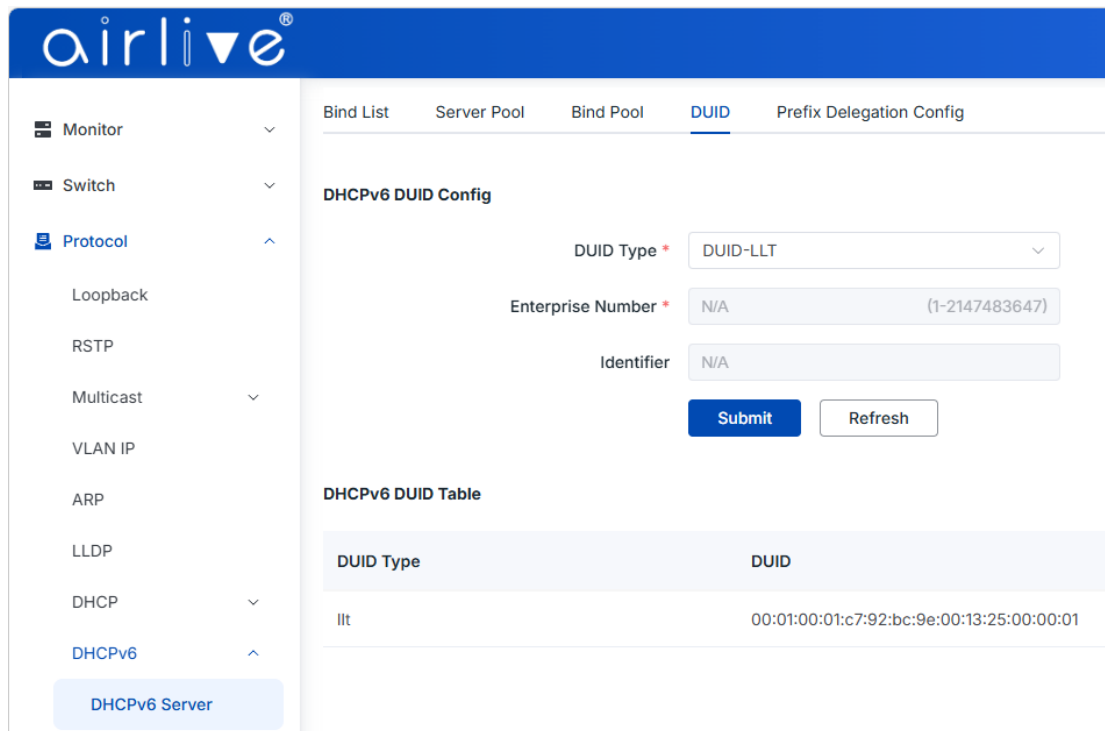


Figure 4.8-4: DUID

4.8.1.5 Prefix Delegation Config

Protocol→DHCPv6→DHCPv6 Server→Prefix Delegation Config

This page supports configuring DHCPv6 prefix proxy, which can configure the prefix information, address prefix validity time, and preferred time allocated by the DHCPv6 service.

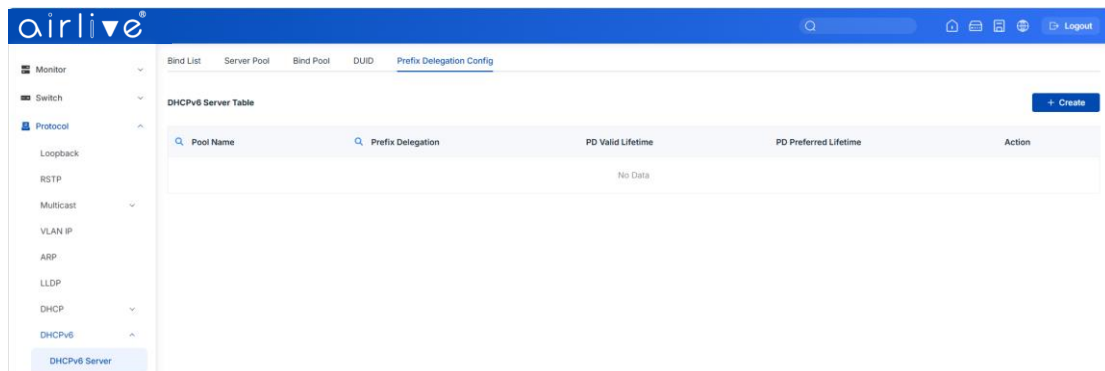


Figure 4.8-5: Prefix Delegation Config

4.8.2 DHCPv6 Relay

4.8.2.1 Relay Server

Protocol → DHCPv6 → DHCPv6 Relay → Relay Server

This page configures the DHCPv6 relay to forward client requests to a specified server, enabling dynamic IPv6 address/prefix assignment.

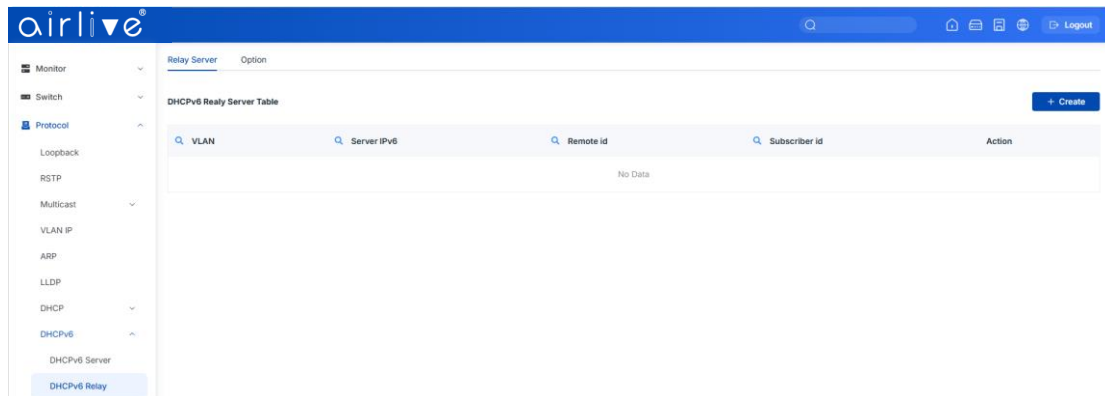


Figure 4.8-6: DHCPv6 Relay Server

4.8.2.2 Option**Protocol → DHCPv6 → DHCPv6 Relay → Option**

This page supports enable or disable Option 37 and Option 38 functions.

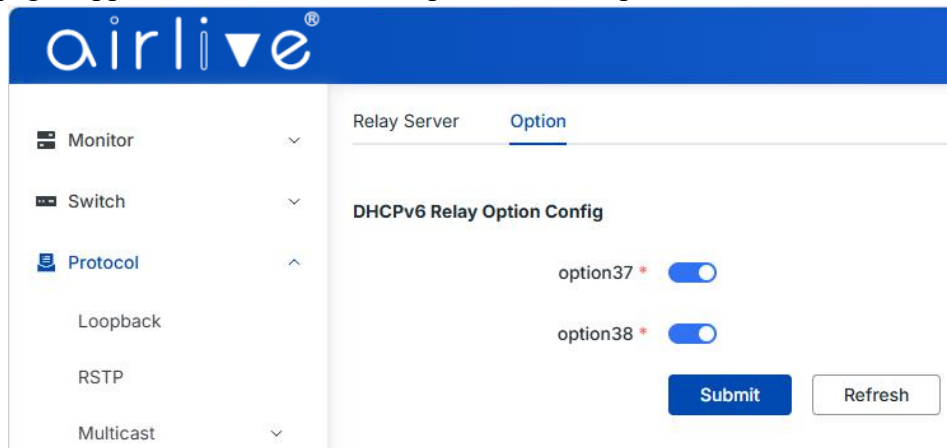


Figure 4.8-7: DHCPv6 Relay Option

4.9 IPv6 SLAAC

IPv6 networks use the ICMPv6 routing discovery protocol. When an IPv6 host connects to the network for the first time, it automatically configures based on the information obtained from route discovery/prefix discovery. Route discovery/prefix discovery refers to the ability of a host to discover local routers and obtain configuration parameters such as neighbor information and current network prefix from RA packets when connected to an IPv6 network.

4.9.1 IPv6 SLAAC

Protocol → IPv6 SLAAC → IPv6 SLAAC

When an IPv6 host uses stateless address configuration (stateless address auto configuration), the OLT will send it an RA packet. This page is used to configure the parameters of RA message.

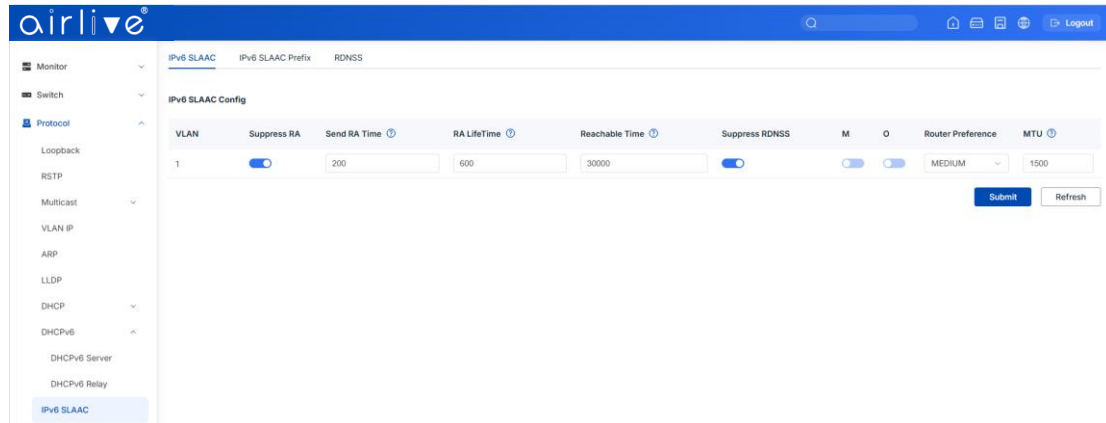


Figure 4.9-1: IPv6 SLAAC

4.9.2 IPv6 SLAAC Prefix

Protocol → IPv6 SLAAC → IPv6 SLAAC Prefix

When IPv6 hosts use stateless address auto configuration, OLT can provide IPv6 prefix. The host will generate an IPv6 address with a prefix.

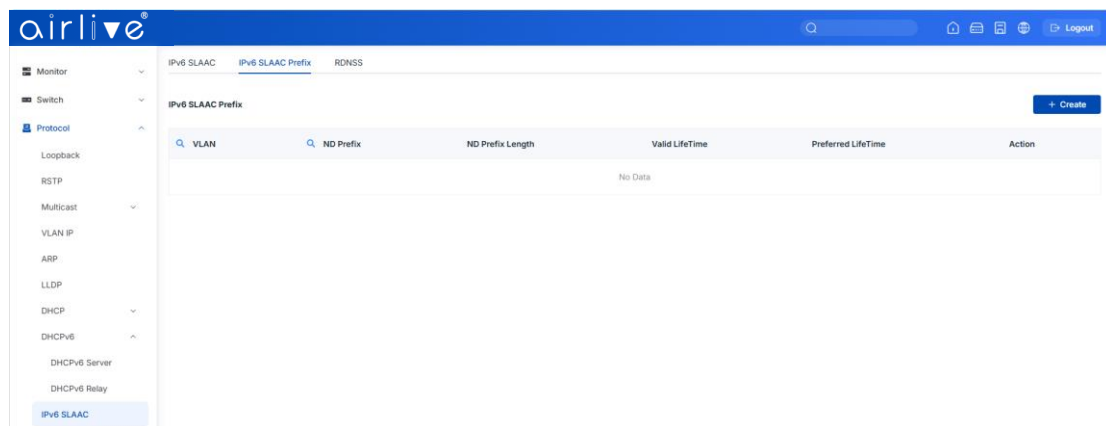


Figure 4.9-2: IPv6 SLAAC Prefix

4.9.3 RDNSS

Protocol → IPv6 SLAAC → RDNSS

Recursive DNS Server (RDNSS) is a DNS server in the IPv6 network protocol. This interface supports configuring RA messages to carry recursive DNS server information.

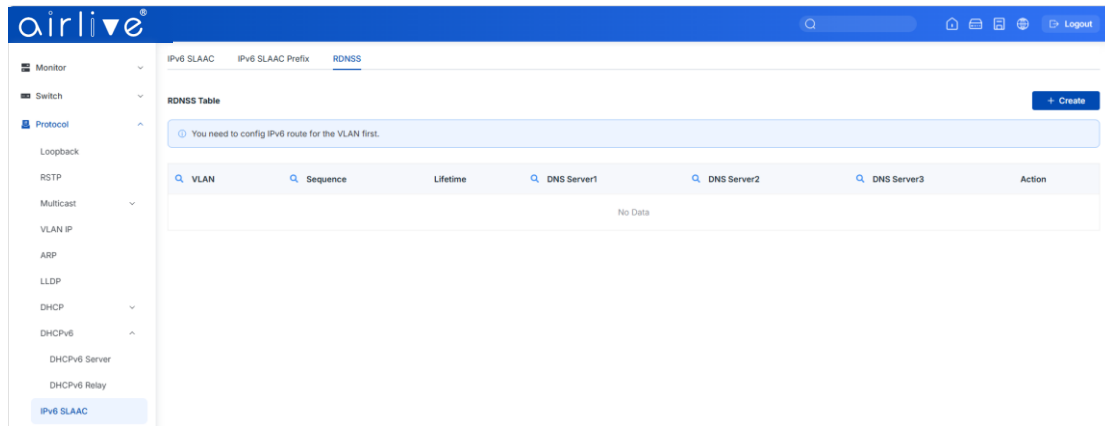


Figure 4.9-3: RDNSS

4.10 IP Route

4.10.1 Static Route

Protocol → IP Route → Static Route

Static routing is a form of routing where routers use manually configured routing items. In many cases, static routing is manually configured by network administrators. Unlike dynamic routing, static routing is fixed and will not change even if the network environment is changed or reconfigured.

After configuring the VLAN IP address, adding static routing can enable communication between networks on different network segments.

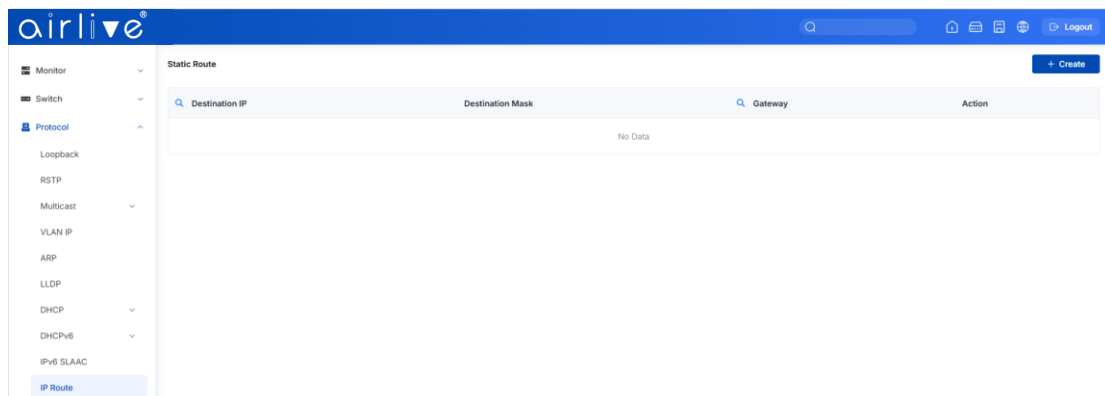


Figure 4.10-1: Static Route

4.11 IPv6 Route

4.11.1 IPv6 Static Route

Protocol → IPv6 Route → IPv6 Static Route Table

This page is used to manually add IPv6 static routing. Even if the network topology has changed, static routing will not alter the configuration.

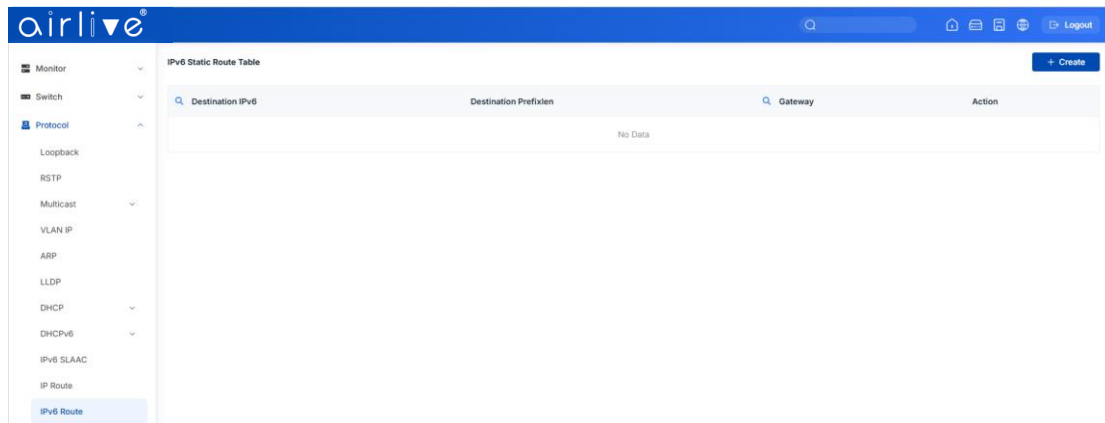


Figure 4.11-1: IPv6 Static Route

Chapter 5 ONU

This chapter is about the ONU management by OLT.

5.1 ONU List

5.1.1 ONU List

5.1.1.1 ONU List

ONU → ONU List → ONU List → ONU List

All registered ONUs will be displayed in this interface. You can check ONU using profile, Registration mode and do some operations on every ONU.

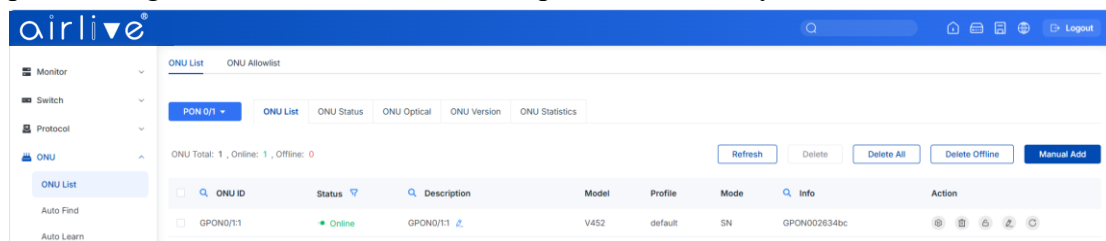


Figure 5.1-1: ONU List

5.1.1.1.1 Configuration

ONU → ONU List → ONU List → ONU List → Configuration

Configure ONU parameter information which you selected.

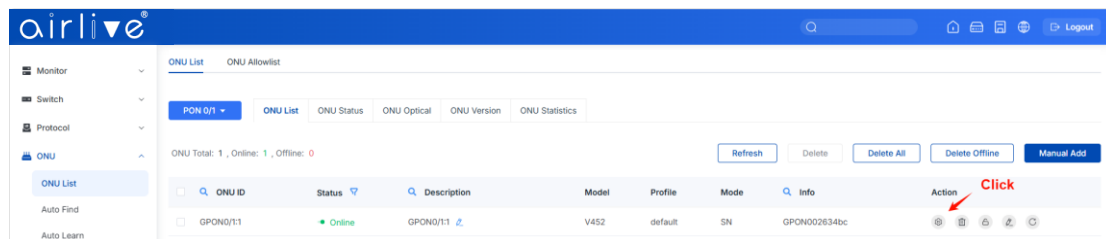


Figure 5.1-2: Configure ONU

5.1.1.1.1.1 Overview

ONU → ONU List → ONU List → ONU List → Configuration → Overview

This ONU Overview page presents the network topology, real-time optical metrics, and key device details of the connected ONU.

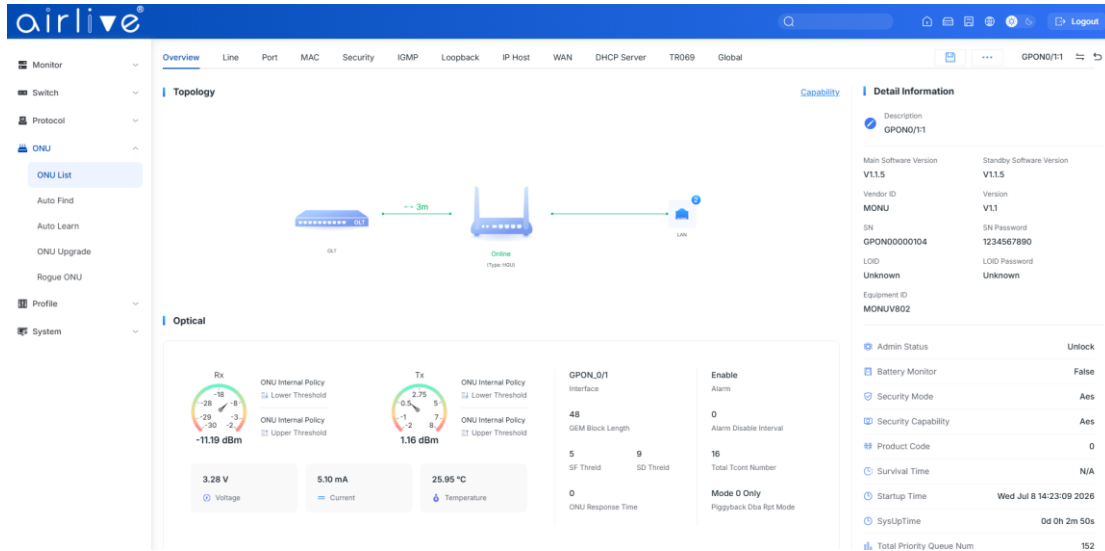


Figure 5.1-3: Overview

5.1.1.1.2 Line

5.1.1.1.2.1 Tcont

ONU → ONU List → ONU List → ONU List → Configuration → Line → Tcont

Create Tcont ID and bind DBA profile. Tcont name is optional.

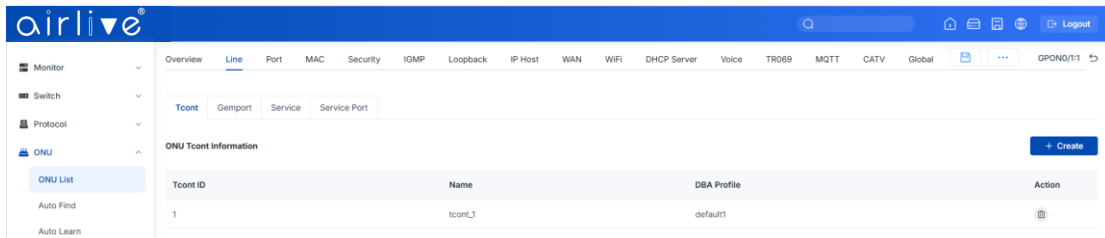


Figure 5.1-4: Create Tcont

5.1.1.1.2.2 Gempport

ONU → ONU List → ONU List → ONU List → Configuration → Line → Gempport

Create Gempport ID and bind Tcont ID.

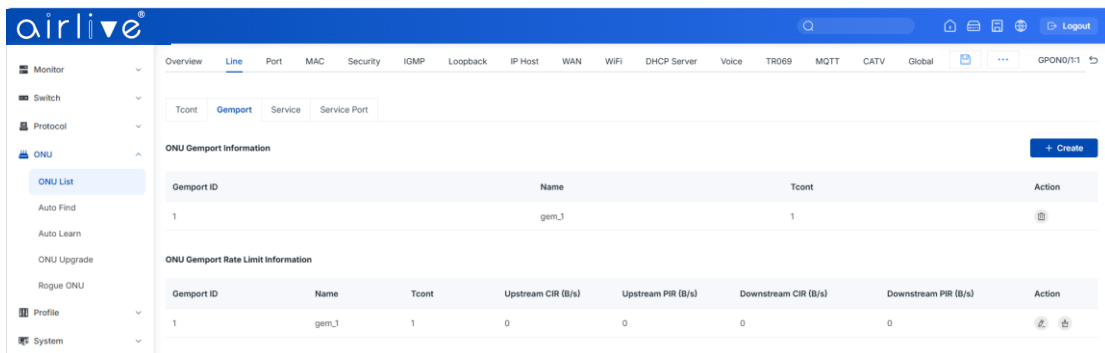


Figure 5.1-5: Create gempport

5.1.1.1.2.3 Service

ONU → ONU List → ONU List → ONU List → Configuration → Line → Service

Create a service, set the VLAN and VLAN mode and bind one Gemport ID.

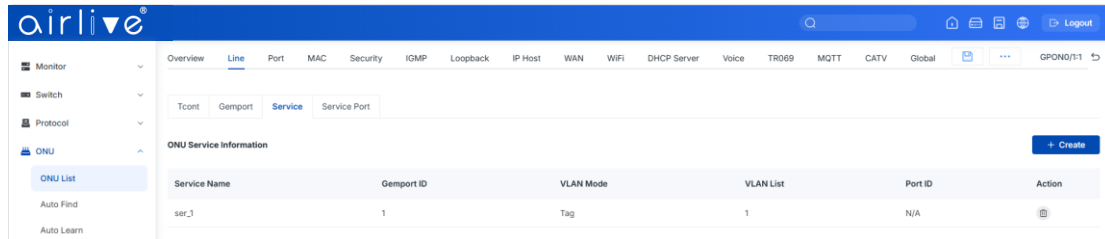


Figure 5.1-6: Create service

5.1.1.1.2.4 Service Port

ONU → ONU List → ONU List → ONU List → Configuration → Line → Service Port

Create a service port, set the user VLAN and translate VLAN and bind one Gemport ID. If don't need VLAN translation, just set translate VLAN the same as user VLAN.

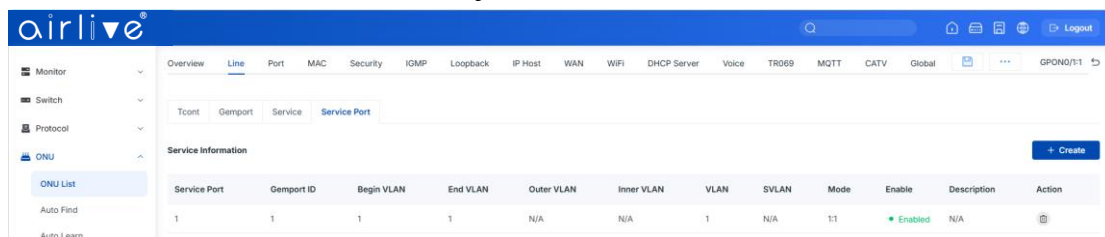


Figure 5.1-7: Create service port

5.1.1.1.3 Port

5.1.1.1.3.1 Port Basic

ONU → ONU List → ONU List → ONU List → Configuration → Port → Port Basic

Set the basic configuration and speed limit of the ONU LAN port.

Please note that you can select the LAN port to configure on the ONU Port.

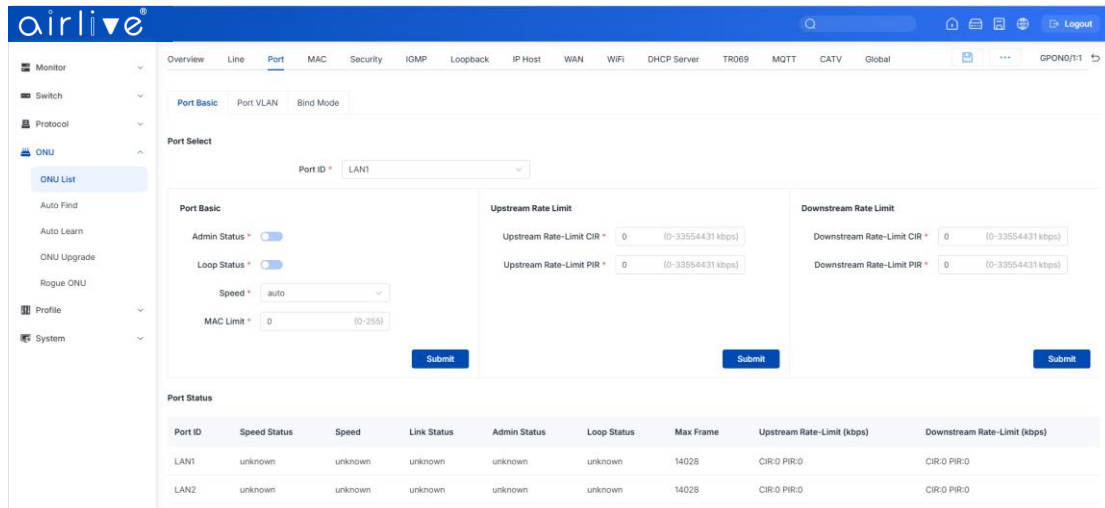


Figure 5.1-8: ONU Port Basic

5.1.1.1.3.2 PortVlan

ONU → ONU List → ONU List → ONU List → Configuration → Port → PortVlan

Set the VLAN mode of the ONU's port. For HGU, need to configure veip 1 transparent; for SFU, configure Ethernet port directly.

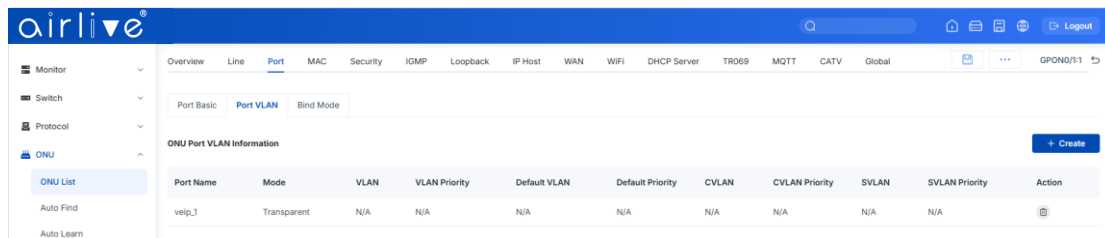


Figure 5.1-9: Configure port VLAN mode

5.1.1.1.3.3 Bind Mode

ONU → ONU List → ONU List → ONU List → Configuration → Port → Bind Mode

ONU LAN bind mode is configured by private OMCI between OLT and ONU. When the connected ONU supports this function, the option "Bind Mode" can be shown on this page.

Figure 5.1-10: LAN Bind Mode Configuration

5.1.1.1.1.4 MAC

5.1.1.1.1.4.1 MAC

ONU → ONU List → ONU List → ONU List → Configuration → MAC → MAC

Configure the MAC counts limit based on ONU or Gemport, and 0 means there is no limit.

This interface can also display the learned MAC addresses of each LAN port of the ONU.

Figure 5.1-11: MAC Limit

5.1.1.1.1.4.2 MAC Table

ONU → ONU List → ONU List → ONU List → Configuration → MAC → MAC Table

This page configures ONU MAC address limits (PON/LAN) and aging time, and displays the learned MAC address table.

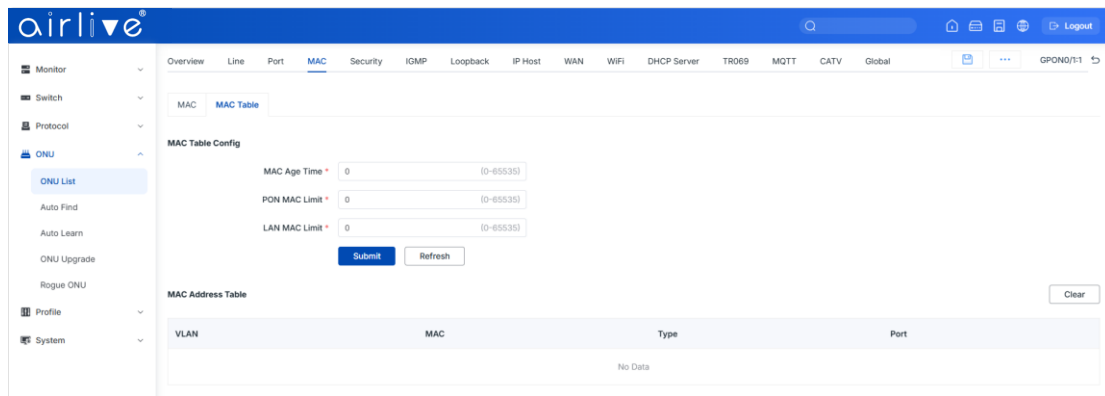


Figure 5.1-12: MAC Table

5.1.1.1.5 Security

ONU → ONU List → ONU List → ONU List → Configuration → Security

ONU Security is configured by private OMCI between OLT and ONU.

It supports you to modify ONU passwords, firewall level, and device access rules.

Please note that if you need to enable the device's access protocol, you need to first modify the firewall level to low or disabled.

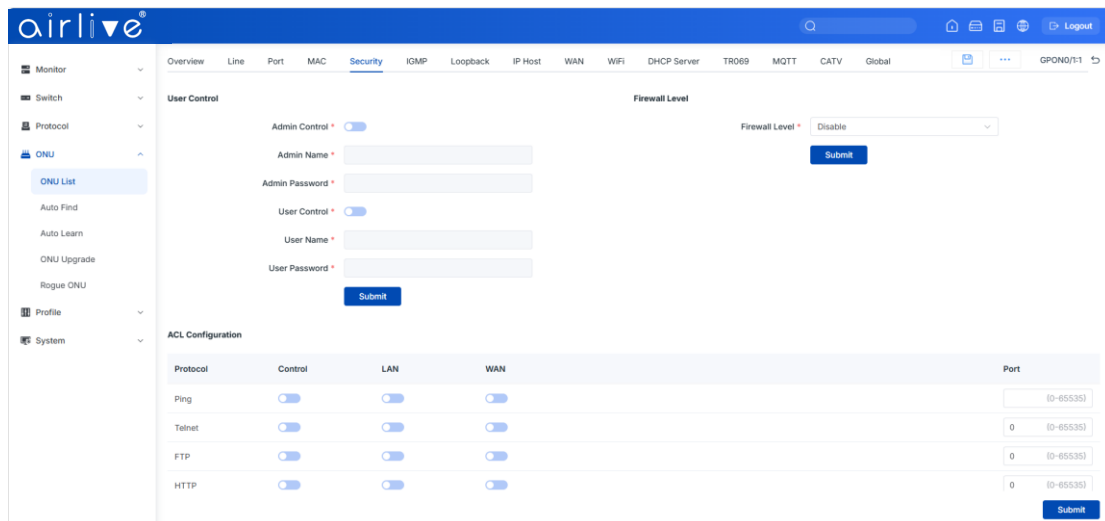


Figure 5.1-13: Security Configuration

5.1.1.1.6 IGMP

5.1.1.1.6.1 IGMP

ONU → ONU List → ONU List → ONU List → Configuration → IGMP → IGMP

IGMP can support the configuration of ONU private IGMP-related configurations. Support configuration for limiting the number of IGMP groups, bandwidth, and bind IGMP profile.

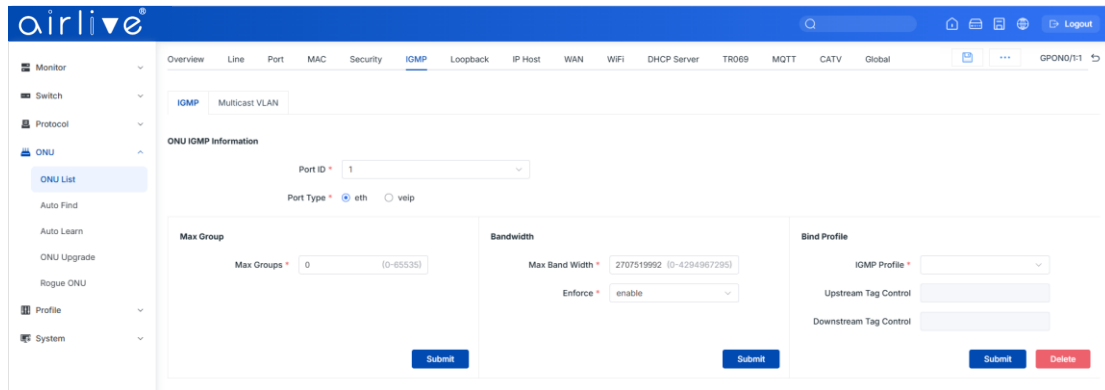


Figure 5.1-14: IGMP

5.1.1.1.6.2 Multicast VLAN

ONU → ONU List → ONU List → ONU List → Configuration → IGMP → Multicast VLAN

Set the Multicast VLAN of ONU and the Multicast VLAN mode of ONU's port.

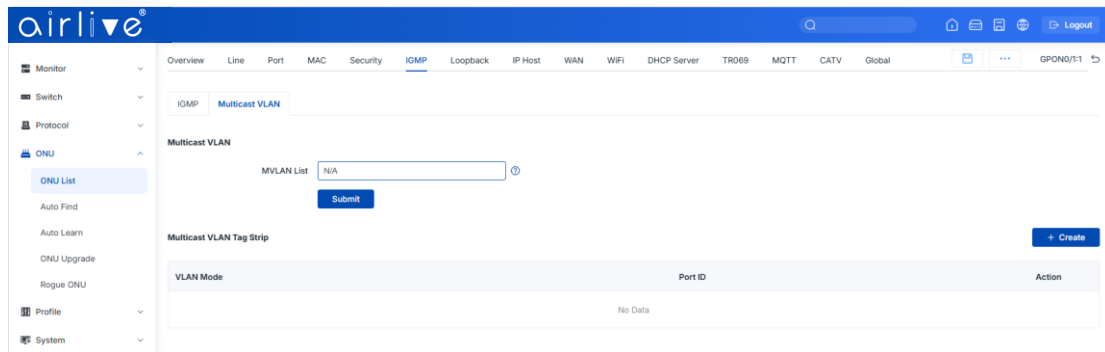


Figure 5.1-15: Configure multicast VLAN

5.1.1.1.7 Loopback

ONU → ONU List → ONU List → ONU List → Configuration → Loopback

ONU Loopback Detection is configured by private OMCI between OLT and ONU. It supports configuring the loop detection status and parameters of the ONU.

Figure 5.1-16: Loopback Configuration

5.1.1.1.8 IP Host

ONU → ONU List → ONU List → ONU List → Configuration → IP Host
 Create IP host for ONU wan connection. It is used for ONU management.

Figure 5.1-17: Configure IP host

5.1.1.1.9 WAN

ONU → ONU List → ONU List → ONU List → Configuration → WAN
 ONU WAN connection is configured by private OMCI between OLT and ONU. When the connected ONU supports this function, the option "WAN" can be shown on this page.

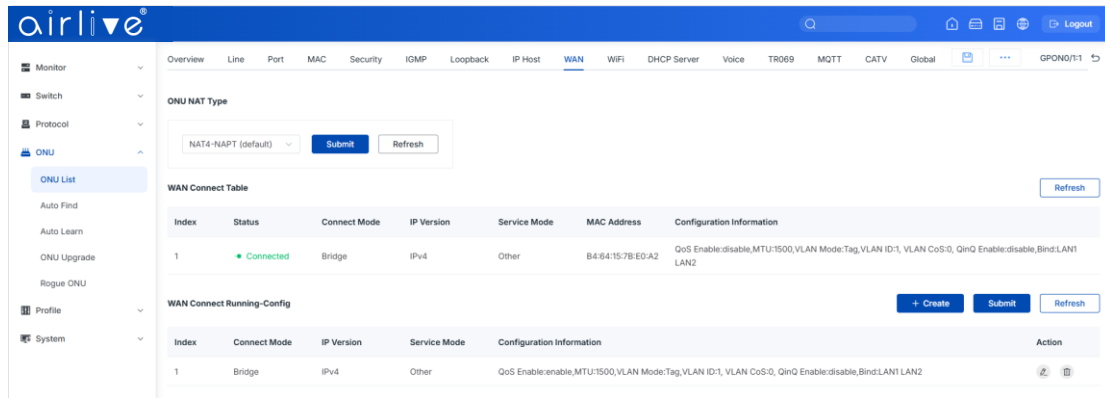


Figure 5.1-18: Configure WAN

5.1.1.1.10 WIFI

ONU → ONU List → ONU List → ONU List → Configuration → WIFI

ONU WIFI is configured by private OMCI between OLT and ONU. When the connected ONU supports this function, the option "WIFI" can be shown on this page.

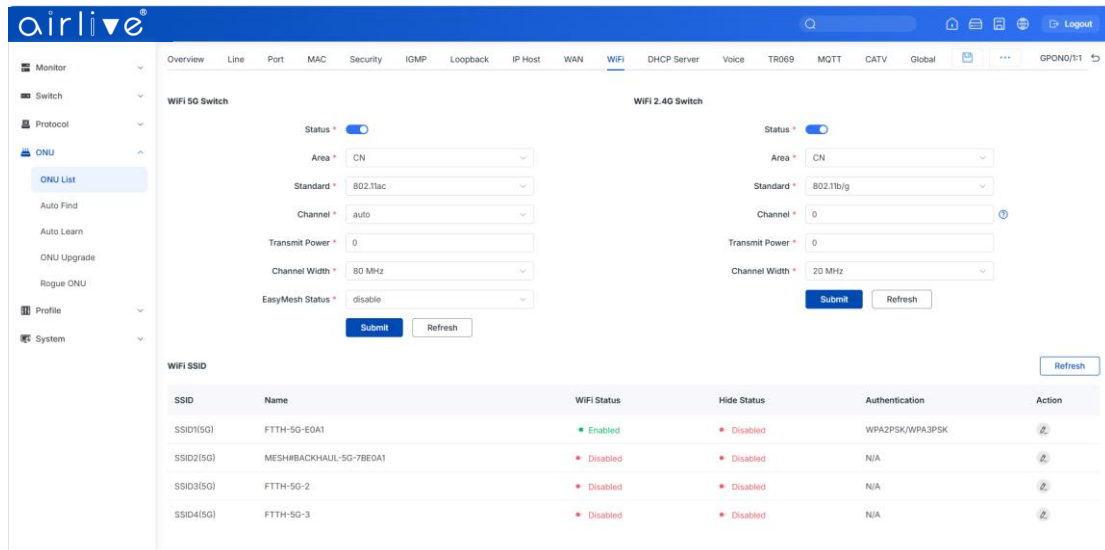


Figure 5.1-19: WIFI Configuration

5.1.1.1.11 DHCP Server

ONU → ONU List → ONU List → ONU List → Configuration → DHCP Server

ONU LAN and DHCP server are configured by private OMCI between OLT and ONU. When the connected ONU supports this function, the option "DHCP Server" can be shown on this page.

The screenshot shows the AirLive web interface for configuring a DHCP IPv4 Server. The navigation menu on the left includes Monitor, Switch, Protocol, ONU (with sub-items like ONU List, Auto Find, Auto Learn, ONU Upgrade, Rogue ONU), Profile, and System. The main configuration area has tabs for Overview, Line, Port, MAC, Security, IGMP, Loopback, IP Host, WAN, WiFi, and DHCP Server. Under the DHCP Server tab, there are two sub-tabs: IPv4 and IPv6. The IPv4 sub-tab is active, showing the following configuration options:

- LAN IP Address * (text input): 0.0.0.0
- LAN Subnet Mask * (text input): 0.0.0.0
- DHCP Server * (dropdown): Enable
- Lease Time * (text input): 86400 (range: 0-4294967295)
- Start IP Address * (text input):
- End IP Address * (text input):
- Pool Type * (dropdown): PC
- DNS Mode * (dropdown): Static
- Primary DNS * (text input):
- Secondary DNS * (text input):
- Gateway * (text input):

At the bottom of the configuration area, there are two buttons: Submit and Refresh.

Figure 5.1-20: ONU DHCP IPv4 Server

The screenshot shows the AirLive web interface for configuring a DHCP IPv6 Server. The navigation menu on the left is the same as in Figure 5.1-20. The main configuration area has the same tabs, but the DHCP Server sub-tab is now IPv6. The IPv6 sub-tab is active, showing the following configuration options:

- LAN IPv6 Address * (text input):
- Prefix Mode * (radio buttons): Auto, Static, WAN Delegated (selected)
- Interface * (dropdown):
- DHCP Server IPv6 * (dropdown): Disable
- RA * (checkbox): checked
- Manage * (checkbox): checked
- Other * (checkbox): checked
- Max Interval * (text input): 600 (range: 1-1800)s
- Min Interval * (text input): 200 (range: 1-1800)s

At the bottom of the configuration area, there are two buttons: Submit and Refresh.

Figure 5.1-21: ONU DHCP IPv6 Server

5.1.1.1.12 Voice

5.1.1.1.12.1 VoIP

ONU → ONU List → ONU List → ONU List → Configuration → Voice →

VoIP

This page shows WAN information of VOIP service, including IP address and VLAN. You can also operate VOIP module on this page. When the connected ONU supports VOIP, the option "VoIP" can be shown on this page.

Figure 5.1-22: Voice Wan Information

5.1.1.1.12.2 POTS

ONU → ONU List → ONU List → ONU List → Configuration → Voice → POTS

ONU VoIP POTS account, password and other VOIP parameters of POTS can be configured on this page; the length of User account and User password and User name can't be more than 32 characters.

When the connected ONU supports VOIP, the option "POTS" can be shown on this page.

Figure 5.1-23: POTS Configuration

5.1.1.1.12.3 SIP

ONU → ONU List → ONU List → ONU List → Configuration → Voice → SIP

ONU VoIP SIP parameter can be configured on this page, including SIP server, proxy server, digit map and so on. When the connected ONU supports VOIP, the option "SIP"

can be shown on this page.

The screenshot displays the 'SIP Parameter Configuration' page in the AirLive web interface. The left sidebar shows navigation options like Monitor, Switch, Protocol, and ONU. The main content area is titled 'SIP Parameter Configuration' and includes the following fields:

- Manage Port: 5060 (range: 1-65535)
- Proxy Server URL/Port: 0.0.0.0 (range: 7/64)
- Backup Proxy Server URL/Port: 0.0.0.0 (range: 7/64)
- Register Server URL/Port: 0.0.0.0 (range: 7/64)
- Backup Register Server URL/Port: 0.0.0.0 (range: 7/64)
- Out Bound Server URL/Port: 0.0.0.0 (range: 7/64)
- Register Interval: 1800 (range: 1-10000000)
- Heartbeat Switch: Disable, Active, Passive
- Heartbeat Cycle: 0 (range: 1-65535)
- Heartbeat Count: 0 (range: 1-65535)

Below the SIP parameters is the 'SIP Digit Map Configuration' section with a field for 'SIP Digit Map Block'.

Figure 5.1-24: SIP Parameter

5.1.1.1.13 TR069

ONU → ONU List → ONU List → ONU List → Configuration → TR069

ONU TR069 is configured by private OMCI between OLT and ONU.

It supports configuring TR069 management parameters and STUN server configurations.

The screenshot displays the 'TR069 Configuration' page in the AirLive web interface. The left sidebar shows navigation options like Monitor, Switch, Protocol, and ONU. The main content area is titled 'TR069 Manage' and 'TR069 Stun' and includes the following fields:

- TR069 Manage Status:
- ACS Server Address: [Text Field]
- ACS Server Username: [Text Field]
- ACS Server Password: [Text Field]
- Certificate:
- Inform:
- Inform Interval Time: [Text Field] (range: 0-4294967295)
- Reverse Connection Username: [Text Field]
- Reverse Connection Password: [Text Field]
- ID: [Text Field]

The 'TR069 Stun' section includes:

- TR069 STUN Status:
- Stun Server Address: [Text Field]
- Stun Server Port: [Text Field] (range: 1-65535)
- Stun Server Username: [Text Field]
- Stun Server Password: [Text Field]

Figure 5.1-25: TR069 Configuration

5.1.1.1.14 MQTT

ONU → ONU List → ONU List → ONU List → Configuration → MQTT

MQTT page support configure ONU's MQTT configuration.

The screenshot displays the MQTT Configuration page in the AirLive web interface. The left sidebar shows the 'ONU' menu with 'ONU List' selected. The main content area is titled 'MQTT Configuration' and contains the following elements:

- Connect Status:** A dropdown menu showing 'Disconnected'.
- Enable Status:** A toggle switch that is currently turned on.
- Address:** An empty text input field.
- User Name:** An empty text input field.
- Password:** An empty text input field.
- ID:** An empty text input field.
- Buttons:** 'Submit' and 'Refresh' buttons at the bottom.

Figure 5.1-26: MQTT Configuration

5.1.1.1.15 CATV

ONU → ONU List → ONU List → ONU List → Configuration → CATV

This page configures ONU CATV service by setting admin state and power enable status.

The screenshot displays the CATV Configuration page in the AirLive web interface. The left sidebar shows the 'ONU' menu with 'ONU List' selected. The main content area is titled 'CATV' and contains the following elements:

- Admin State Unlock:** A toggle switch that is currently turned on.
- Power Enable:** A toggle switch that is currently turned on.
- Buttons:** 'Submit' and 'Refresh' buttons at the bottom.

Figure 5.1-27: CATV Configuration

5.1.1.1.16 Global

ONU → ONU List → ONU List → ONU List → Configuration → Global

Misc includes other features of ONUs configured by private OMCI, such as CATV control, and so on.

The screenshot displays the Global Configuration page in the AirLive web interface. The left sidebar shows the 'ONU' menu with 'ONU List' selected. The main content area is titled 'Global' and contains the following sections:

- Misc Control Operation:** Four toggle switches for 'CATV Enable', 'IGMP Enable', 'STP Enable', and 'Port Isolate', all of which are currently turned on.
- Speed Limit Config:** Two text input fields for 'Upstream Limit' (value: 0) and 'Downstream Limit' (value: 0). Below these are 'Submit' and 'Refresh' buttons.
- ONU UPnP:** A 'UPnP Status' toggle switch (turned on) and a 'WAN Index' dropdown menu (set to 'Select'). Below these are 'Submit' and 'Refresh' buttons.

Figure 5.1-28: Global Configuration

5.1.1.1.2 Activate/Deactivate

ONU → ONU List → ONU List → ONU List → Deactivate (Activate)

Deactivate the ONU which you selected, the ONU will be disabled and the registration failed. Activate selected ONU, this ONU will register successfully.

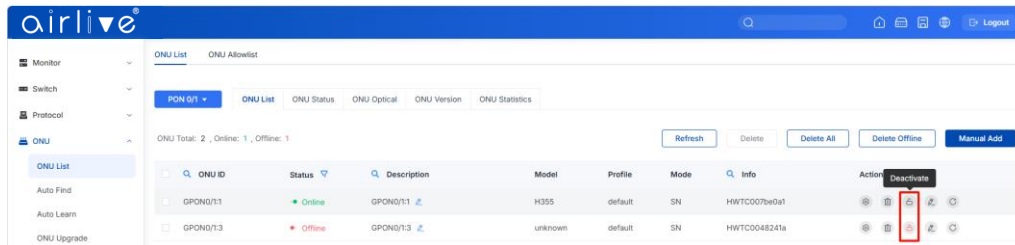


Figure 5.1-29: Deactivate/Activate ONU

5.1.1.1.3 Delete

ONU → ONU List → ONU List → ONU List → Delete

Delete the ONU which you selected, the ONU will be deleted and the registration failed. All the configurations related this ONU will be deleted as well.

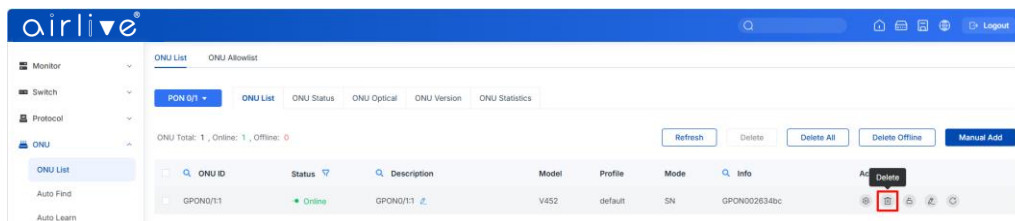


Figure 5.1-30: Delete ONU

5.1.1.1.4 Modify

ONU → ONU List → ONU List → ONU List → Modify

This is used to modify ONU Profile.

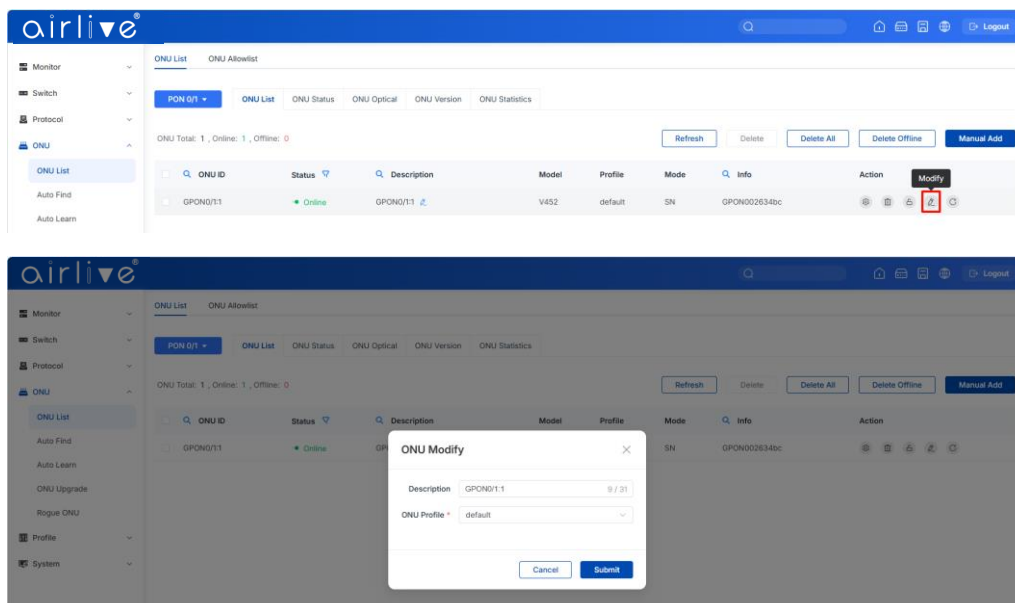


Figure 5.1-31: Modify ONU Profile

5.1.1.1.5 Reboot

ONU → ONU List → ONU List → ONU List → Reboot

Reboot ONU which you selected.

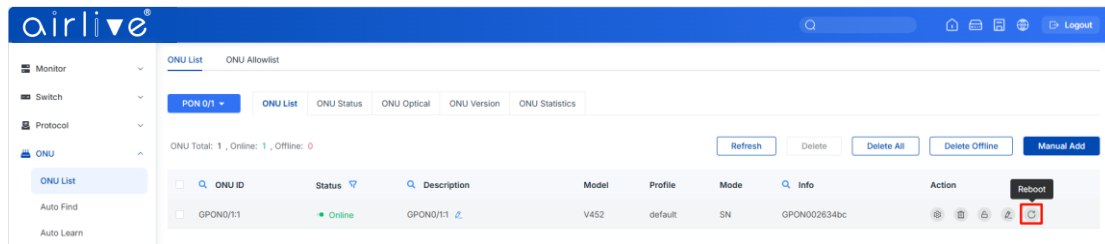


Figure 5.1-32: Reboot ONU

5.1.1.1.6 Manual Add

ONU → ONU List → ONU List → ONU List → Manual Add

You can manually add ONU to a selected PON port. ONU will appear in the ONU list after you added.

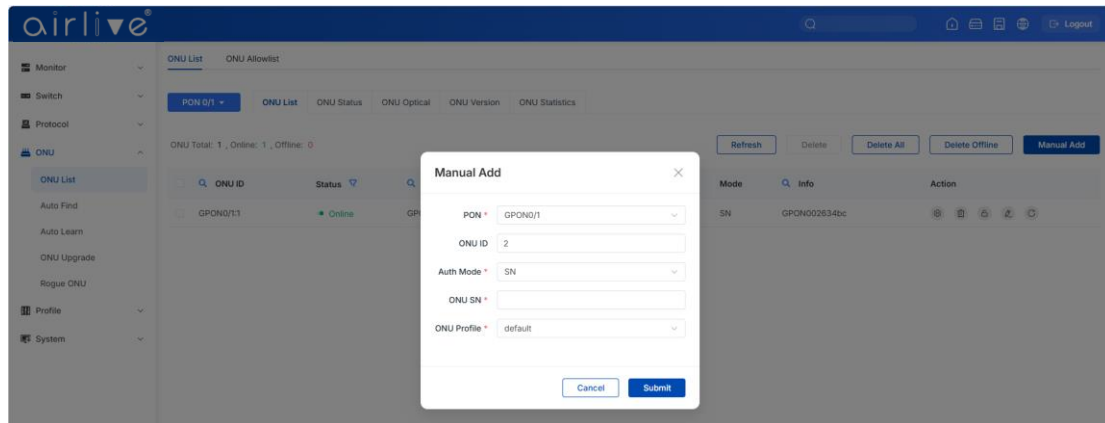
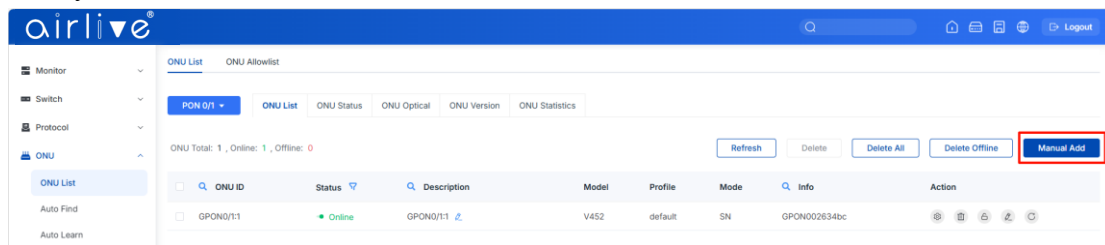


Figure 5.1-33: Add ONU Manually

5.1.1.2 ONU Status

ONU → ONU List → ONU List → ONU Status

This page shows the ONU information of the activity. User can check "Last Register Time", "Last Deregister Reason" and "Active Time" of each ONU.

ONU ID	Admin State	OMCC State	Phase State	Description	Last Register Time	Last Deregister Time	Last Deregister Reason	Alive Time
GPON0/1/1	enable	enable	working	N/A	1970-01-01 00:00:51	N/A	N/A	2 08:57:54

Figure 5.1-34: ONU Status

5.1.1.3 ONU Optical

ONU → ONU List → ONU List → ONU Optical

This page displays ONU Rx and Tx power. A batch of ONU optical power information can be shown in a list. Clearly to check the register power when register issue happens.

ONU ID	Description	Rx Power(dBm)	Tx Power(dBm)
GPON0/1/1	N/A	-16.50	2.05

Figure 5.1-35: ONU Optical Info

5.1.1.4 ONU Version

ONU → ONU List → ONU List → ONU Version

This page displays the main and standby software versions of the ONU. You can display the version information of a batch of ONUs in the list.

ONU ID	Description	Main Software Version	Standby Software Version	Version
GPON0/1/1	N/A	V2.1.00	V2.1.00	V1.3

Figure 5.1-36: ONU Version Info

5.1.1.5 ONU Statistics

ONU → ONU List → ONU List → ONU Statistics

This page displays the number of incoming and outgoing packets for batch ONUs.

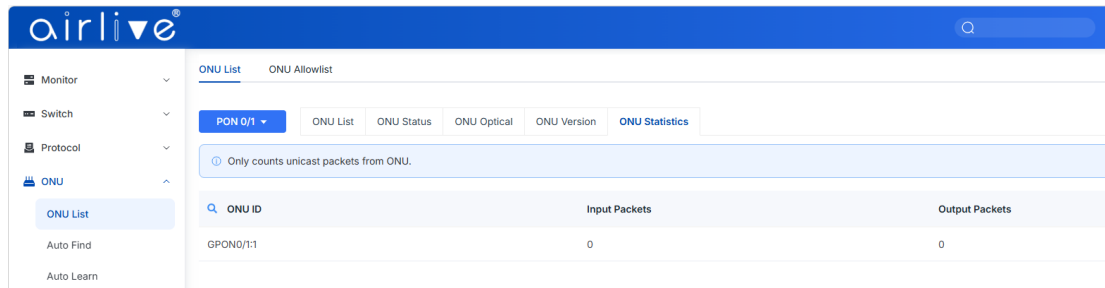


Figure 5.1-37: ONU Statistics Info

5.1.2 ONU Allowlist

ONU → ONU List → ONU Allowlist

You can set up an Allowlist on this page.

Allowlist can restrict ONU registration based on SN. It allows ONUs within one or more segments to register, while other ONUs cannot register and go online.

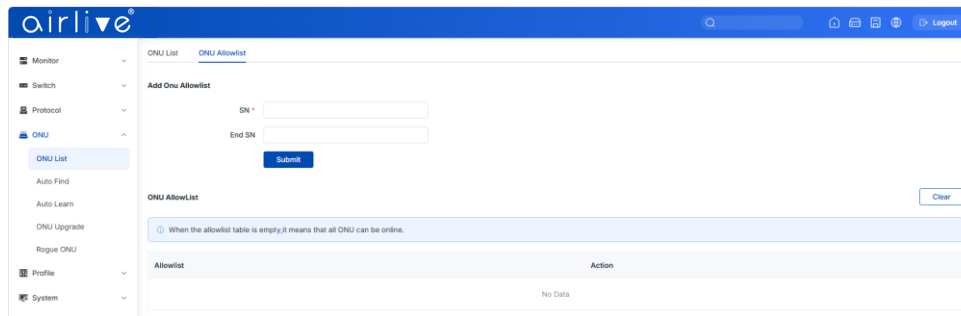


Figure 5.1-38: ONU Allowlist

5.2 Auto Find

This chapter is about the configuration and management of automatic discovery ONUs.

5.2.1 Automatic Discovery

ONU → Auto Find → Automatic Discovery

All ONUs which are authenticated failed or not authenticated will be displayed in this interface. You can check the serial number of ONUs. Then click Modify to Authenticate ONU.

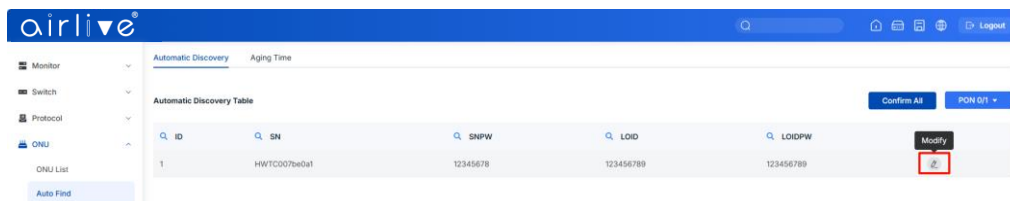


Figure 5.2-1: Automatic Discovery

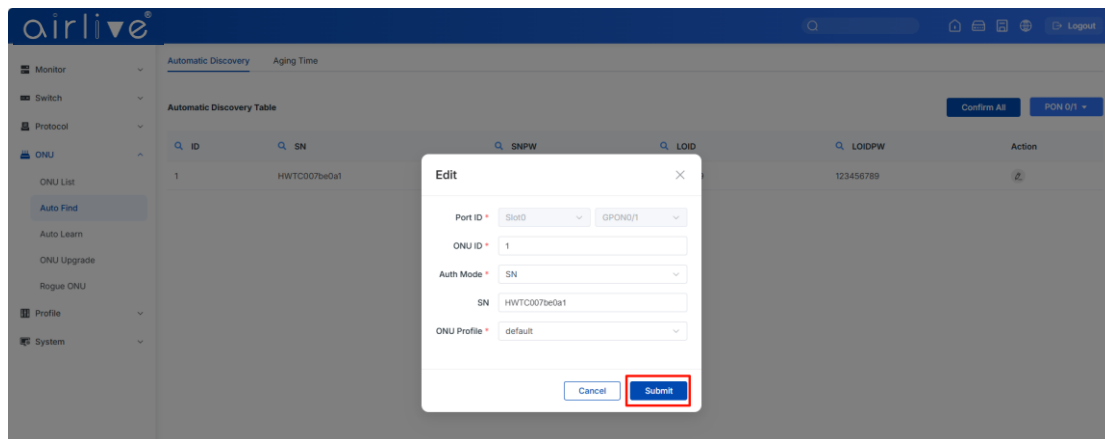


Figure 5.2-2: Add ONU

5.2.2 Aging Time

ONU → Auto Find → Aging Time

It allows you to configure the retention time of automatically discovered ONU information. The default configuration is 5 minutes.

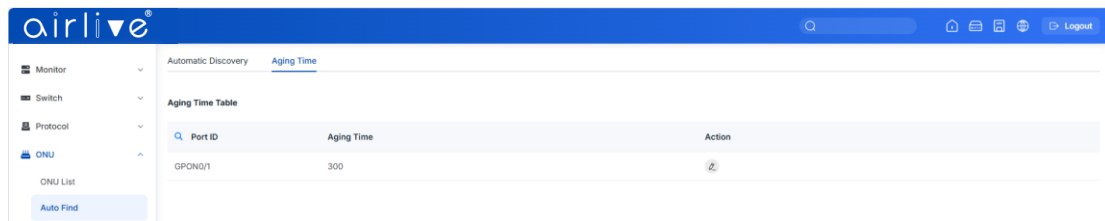


Figure 5.2-3: Aging Time

5.3 Auto Learn

5.3.1 Auto Learn

ONU → Auto Learn → Auto Learn

ONU can automatically authenticate after enabling PON port automatic learning. At the same time, OLT supports automatic binding templates based on PON ports. There are also plug and play enabled switches on this interface.

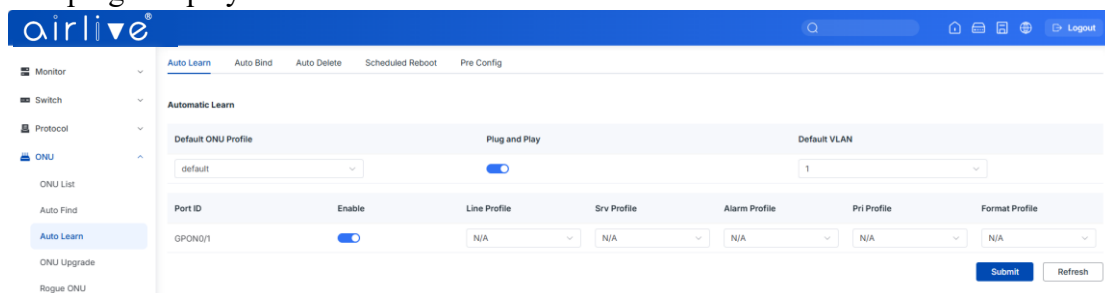


Figure 5.3-1:ONU AutoLearn

5.3.2 Auto Bind

ONU → Auto Learn → Auto Bind

Input the Equipment ID and bind the profile you need.

Note: you must create a profile first.

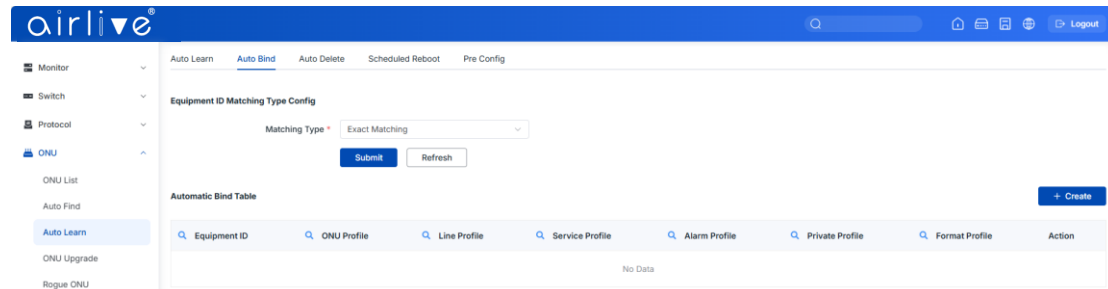


Figure 5.3-2: ONU AutoBind

5.3.3 Auto Delete

ONU → Auto Learn → Auto Delete

It supports periodic checking and deleting offline ONUs and this feature is disabled by default.

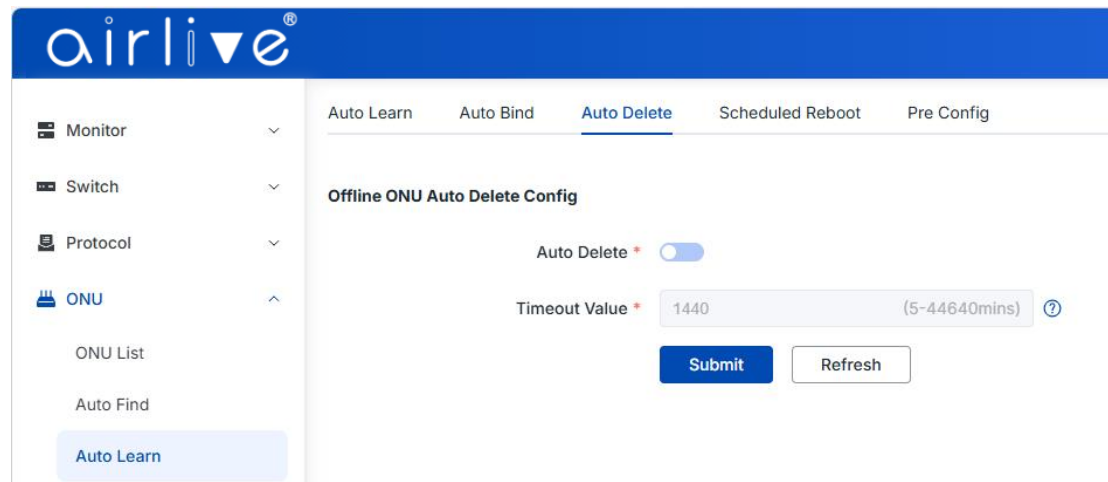


Figure 5.3-3: ONU AutoDelete

5.3.4 Scheduled Reboot

ONU → Auto Learn → Scheduled Reboot

Configure ONU to automatically restart based on time.

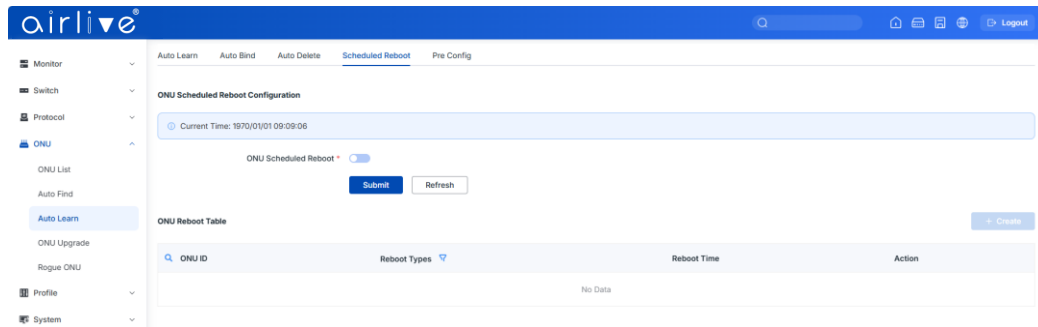


Figure 5.3-4: ONU Scheduled Reboot

5.3.5 Pre Config

ONU → Auto Learn → Pre Config

Manually add a Pre-registration configuration to the ONU list in PON, and when the ONU is registered with that ID, it will automatically bind the configuration settings.

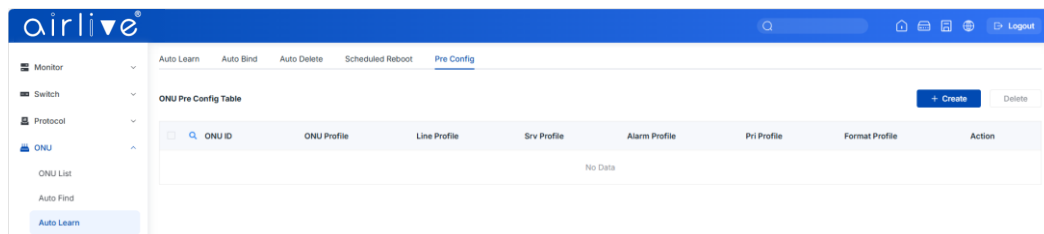


Figure 5.3-5: ONU Pre-Configure

5.4 ONU Upgrade

ONU firmware can be upgraded by OLT. OLT supports manual upgrade and automatic upgrade.

5.4.1 Upload Image

ONU → ONU Upgrade → Upload Image

Upload ONU firmware image which you need, the image will upload to OLT's RAM.

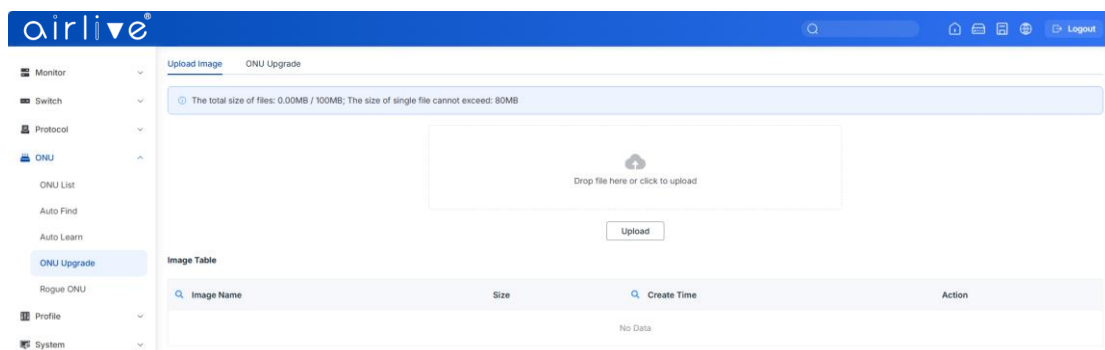


Figure 5.4-1: Upload Image

5.4.2 ONU Upgrade

5.4.2.1 Manual Upgrade

ONU → ONU Upgrade → ONU Upgrade → Create → Manual Upgrade

This is the ONU Upgrade page, which displays the list of ONU firmware upgrade tasks. You can click Create to initiate a new upgrade task, choosing between Manual Upgrade (step-by-step configuration) or Auto Upgrade (automatic batch upgrade).

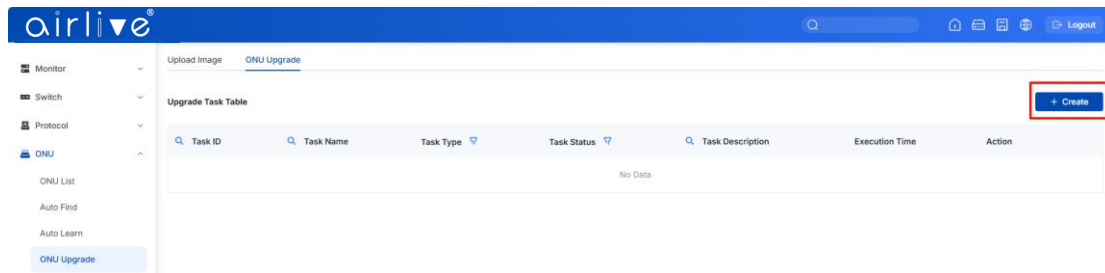


Figure 5.4-2: Create Upgrade Task

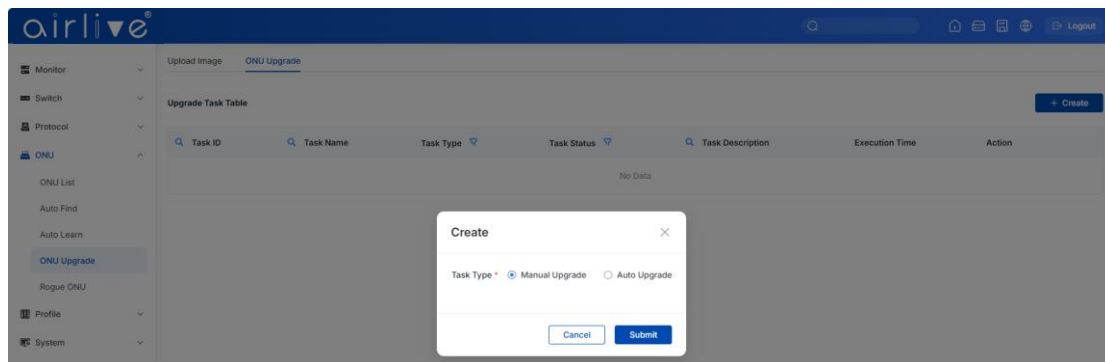


Figure 5.4-3: Select Task Type

You can configure task details (ID, name, description), select upgrade mode, and choose target firmware on Basic Info interface. We usually use the mix mode to upgrade onu

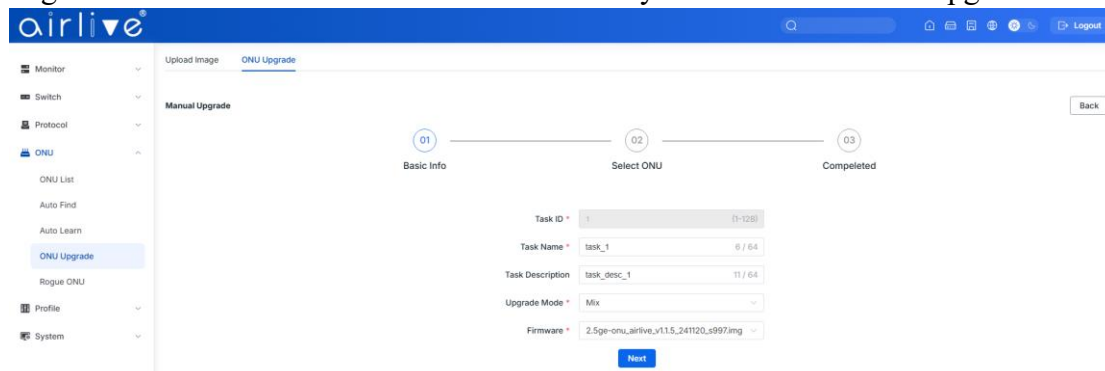


Figure 5.4-4: Manual Upgrade Basic Info

You can upgrade the same ONU model under one PON port each time.

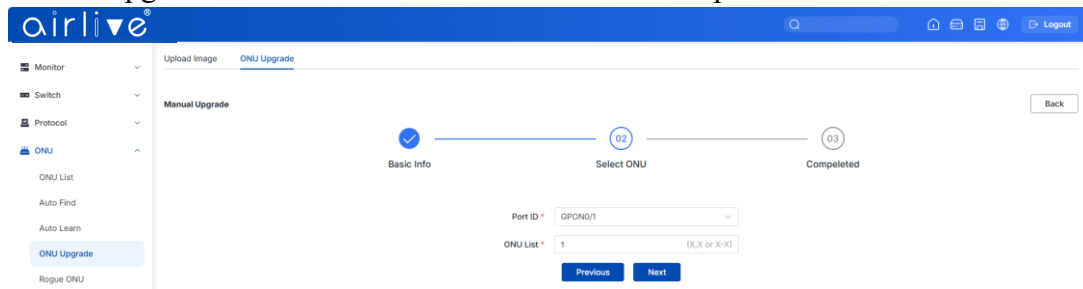


Figure 5.4-5: Select ONU

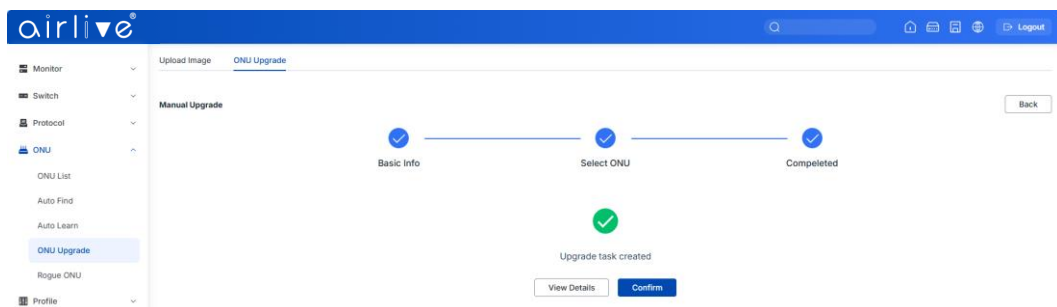


Figure 5.4-6: Upgrade task created

You can click the Detail button to check the ONU upgrade detail.

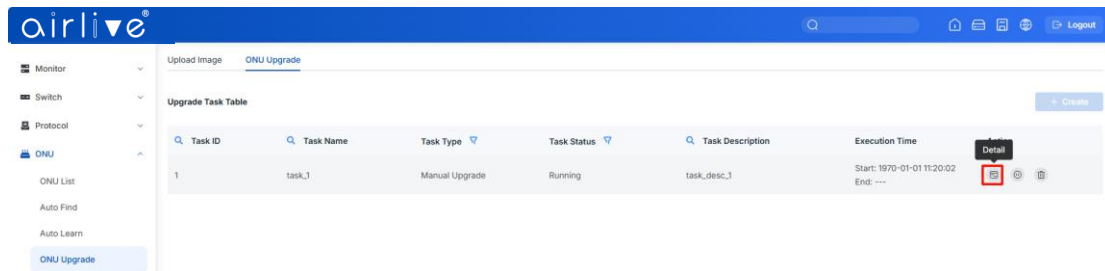


Figure 5.4-7: Check upgrade detail

The upgrading status will be shown on this page.

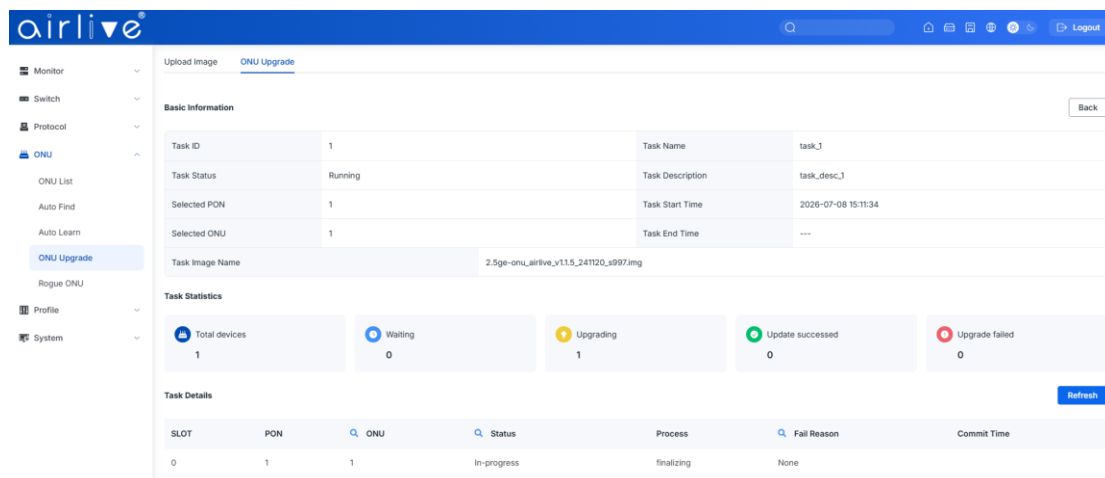


Figure 5.4-8: Upgrade Status

You can click the Stop button to halt an ongoing upgrade task,

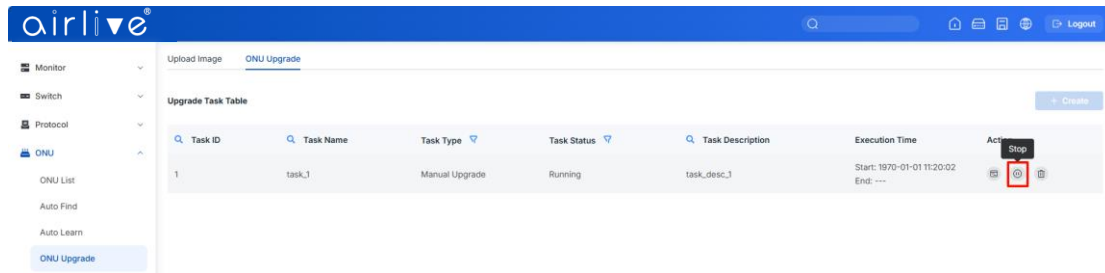


Figure 5.4-9: Stop Upgrade Task

You can click the Delete button to remove an upgrade task.

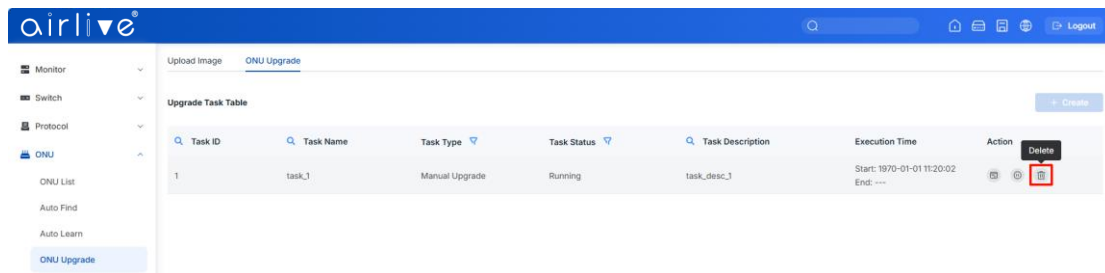


Figure 5.4-10: Delete Upgrade Task

5.4.2.2 Auto Upgrade

ONU → ONU Upgrade → ONU Upgrade → Create → Auto Upgrade

After uploaded the ONU firmware image, configured automatic upgrade conditions, once the ONU which has the same equipment ID and different software version comes online, they will be upgraded automatically.

Each type of ONU has its own equipment ID, which you can check in ONU detail info. Note: please upload the ONU firmware in advance on the upload image interface.

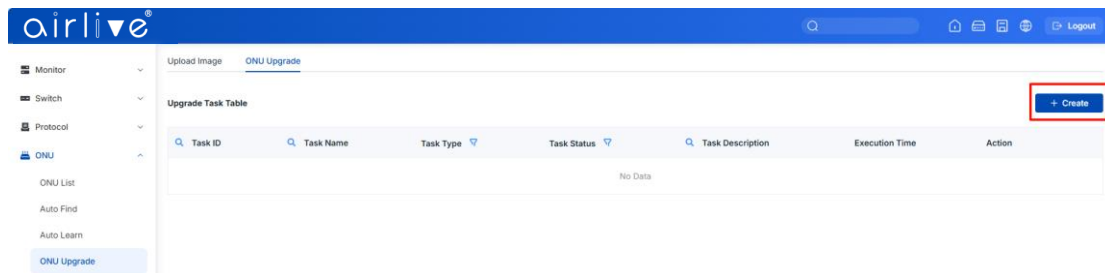


Figure 5.4-11: Create Upgrade Task

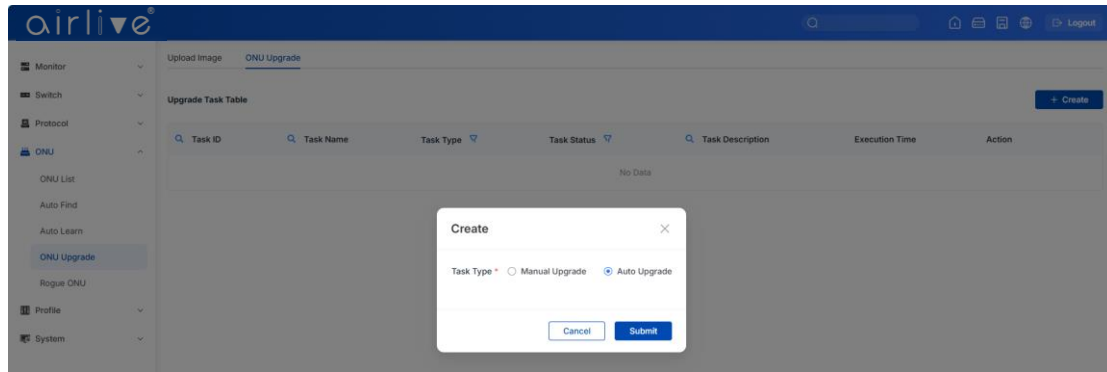


Figure 5.4-12: Select Task Type

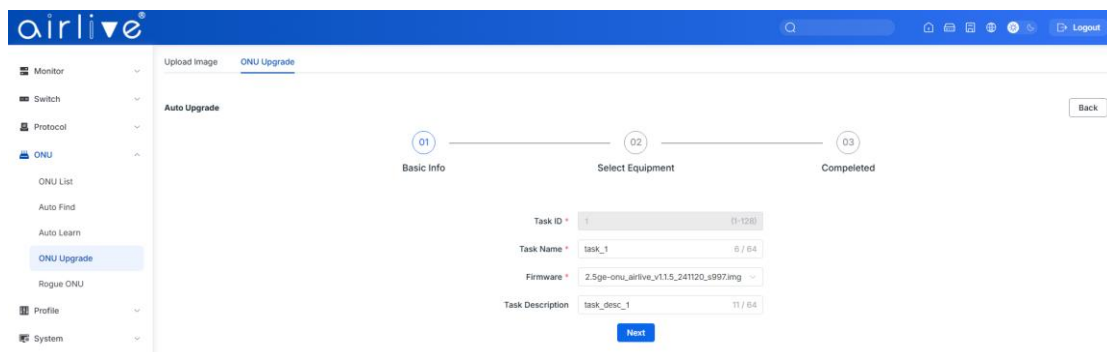


Figure 5.4-13: Auto Upgrade Basic Info

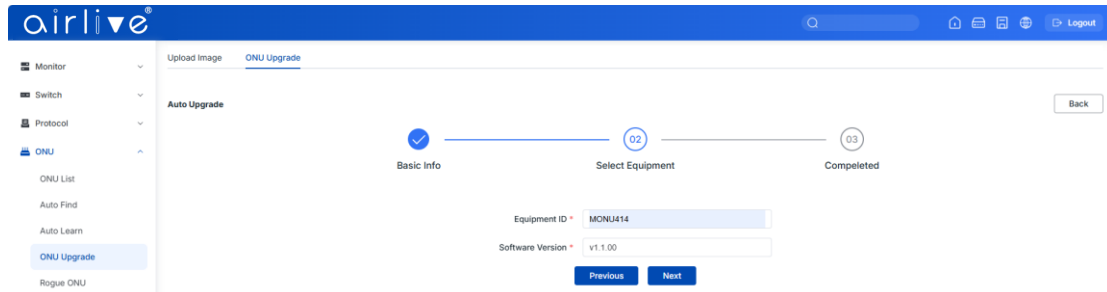


Figure 5.4-14: Select Equipment

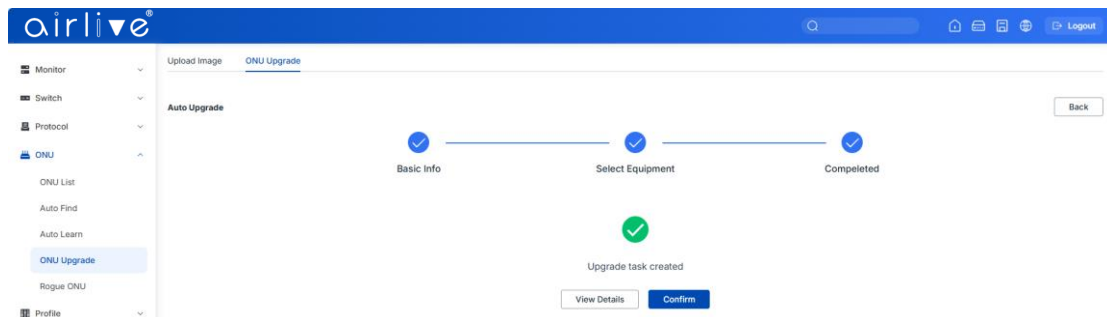


Figure 5.4-15: Upgrade task created

You can click the Detail button to check the ONU upgrade detail.

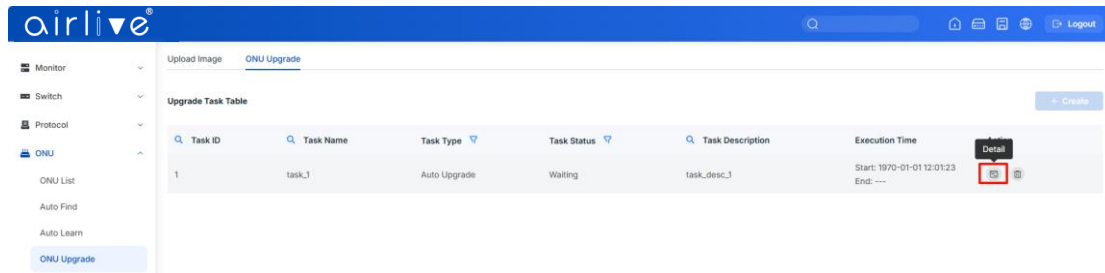


Figure 5.4-16: Check upgrade detail

The upgrading status will be shown on this page.

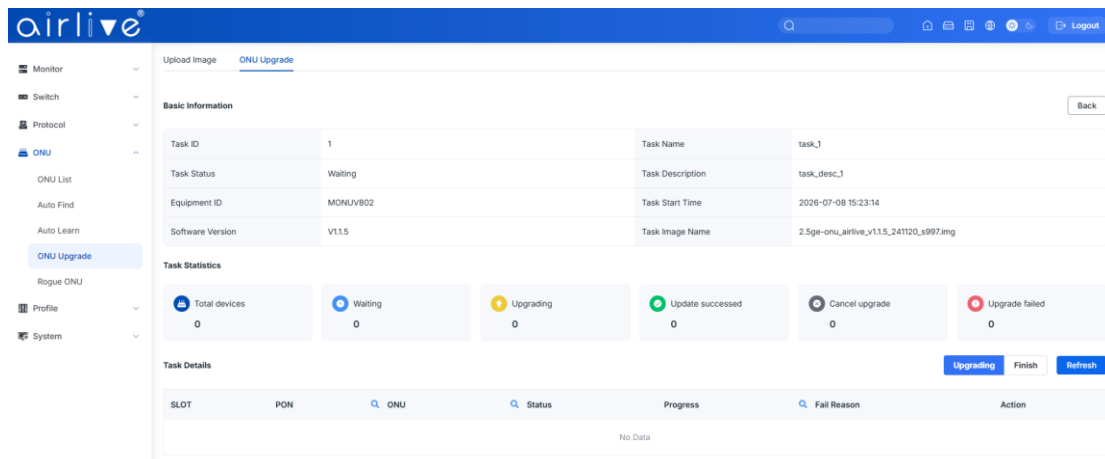


Figure 5.4-17: Upgrade Status

You can click the Delete button to remove an upgrade task.

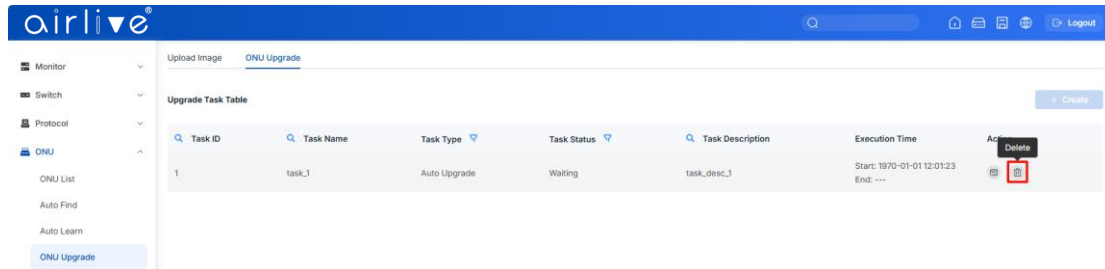


Figure 5.4-18: Delete Upgrade Task

5.5 Rogue ONU

5.5.1 Rogue ONU List

ONU → Rogue ONU → Rogue ONU List

After enabled rogue ONU detection, if there is a rogue ONU trying to register, it will appear in the list.

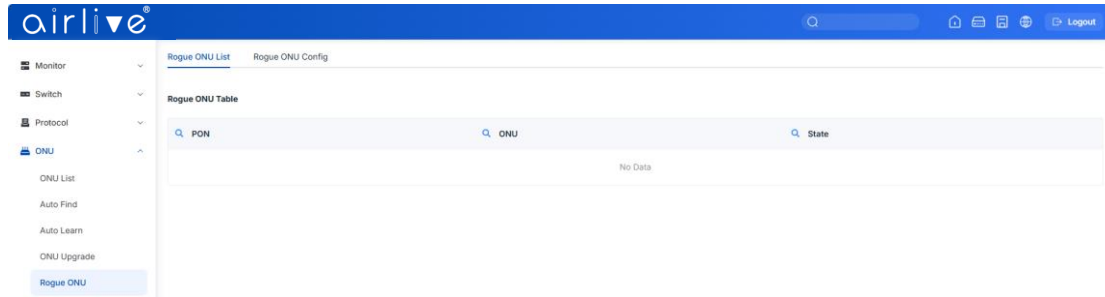


Figure 5.5-1: Rogue ONU List

5.5.2 Rogue ONU Config

ONU → Rogue ONU → Rogue ONU Config

This page is the Rogue ONU Config interface, used to configure rogue ONU detection settings for each PON port. You can enable/disable detection and set auto shutdown mode (Manual/Auto) to protect the PON network from interference.

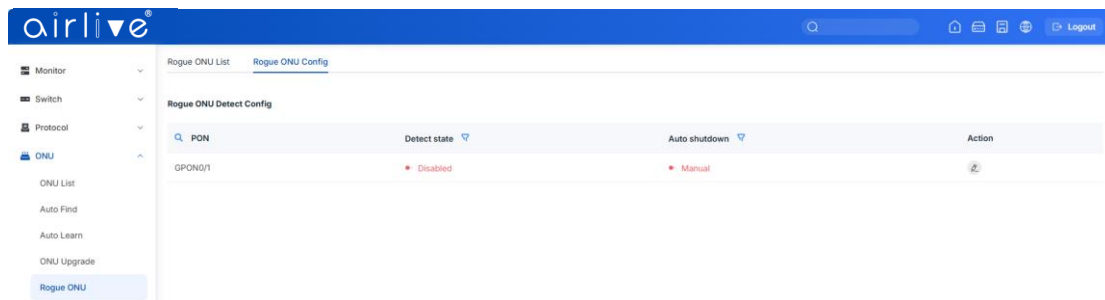


Figure 5.5-2: Rogue ONU Config

Chapter 6 Profile

This chapter is about the ONU profile configuration. It is designed for batch ONU management by OLT.

6.1 Profile

This project is used to configure all templates related to the ONU.

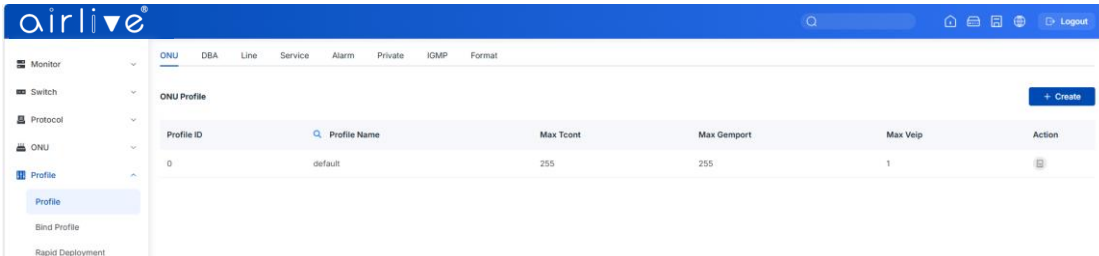
6.1.1 ONU

The ONU profile is used for ONU authorization, and each type of ONU must specify only one ONU profile when authorization. The ONU profile specifies the capability of this ONU.

6.1.1.1 ONU Profile

Profile → ONU → ONU Profile

The table displays ONU profile list. You can also do some operations, such as deleting and checking details info.



Profile ID	Profile Name	Max Tcont	Max Gempport	Max Veip	Action
0	default	255	255	1	[Icon]

Figure 6.1-1: ONU Profile

6.1.1.2 Create

Profile → ONU → Create

Create a new ONU profile what you need. Generally, ONU has two different types. SFU type (only using bridge mode):

Usually, only need to set correct eth port and POTS port number of ONU, others can be kept default.

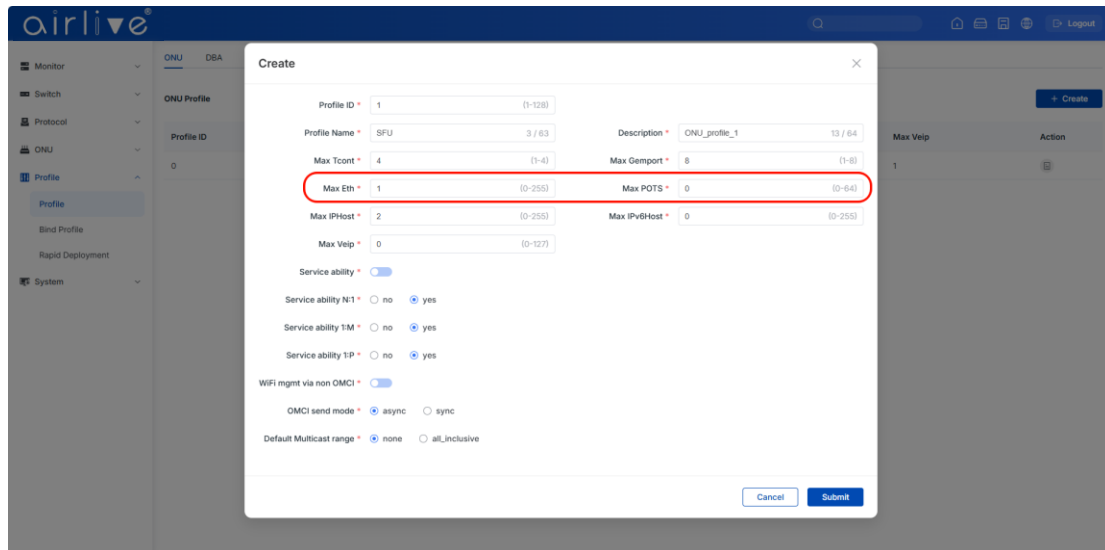


Figure 6.1-2: Add SFU profile

HGU type (with the routing wan connection mode):

For HGU type, need to set correct eth port and POTS port number, and set Veip to be 1, keep others default.

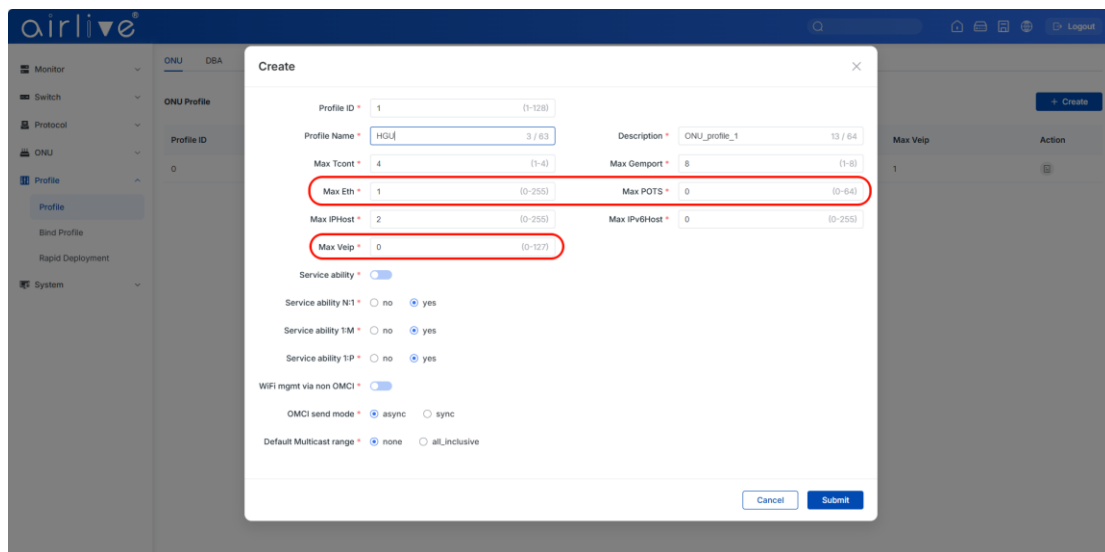


Figure 6.1-3: Add HGU profile

6.1.2 DBA

DBA is a bandwidth allocation strategy that changes uplink bandwidth assigned to each T-CONT in real time according to the instant service status of each ONU. There are five BW types supported and make sure that fixed <= assured <= max.

6.1.2.1 DBA Profiles

Profile → DBA → DBA Profiles

The table displays DBA profile list. You can also do some operations, such as delete and modify.

Profile ID	Profile Name	Profile Type	Fixed (Kbps)	Assured (Kbps)	Maximum (Kbps)	Action
0	default	Type_1	10000			
128	default1	Type_3		1024	1024000	

Figure 6.1-4: DBA profile

6.1.2.2 Create

Profile → DBA → Create

There are five types of DBA profile. Generally, we use type 3.

BW Type	Delay Sensitive	Applicable T-CONT Types				
		Type 1	Type 2	Type 3	Type 4	Type 5
Fixed	Yes	√				√
Assured	No		√	√		√
Maximum	No			√	√	√

Profile ID: 1 (1-128)

Profile Name: dba_1 (5 / 63)

Profile Type: Type_1

Fixed: 128-068928 Kbps

Buttons: Cancel, Submit

Figure 6.1-5: Add Profile

6.1.3 Line

Line profile is used to configure the all side services of ONU such as T-cont, Gem-port, Service-port, and so on.

6.1.3.1 Line Profile

Profile → Line → Line Profile

The table displays Line Profile list. You can also do some operations, such as delete and modify.

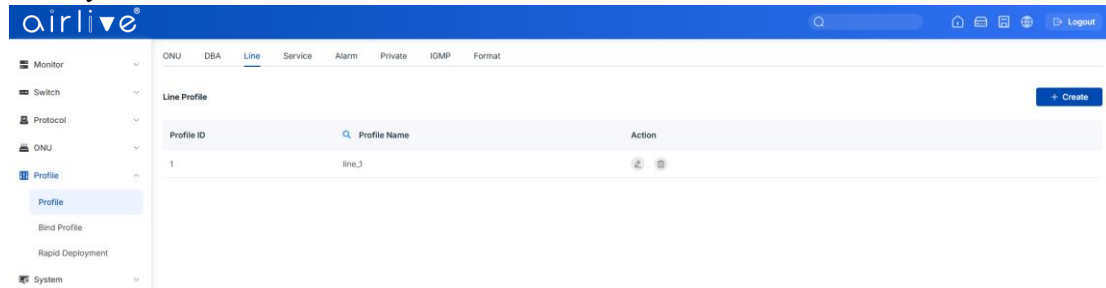


Figure 6.1-6: Line Profile

6.1.3.2 Create

Profile → Line → Create

Create a new Line Profile, set the Profile name.

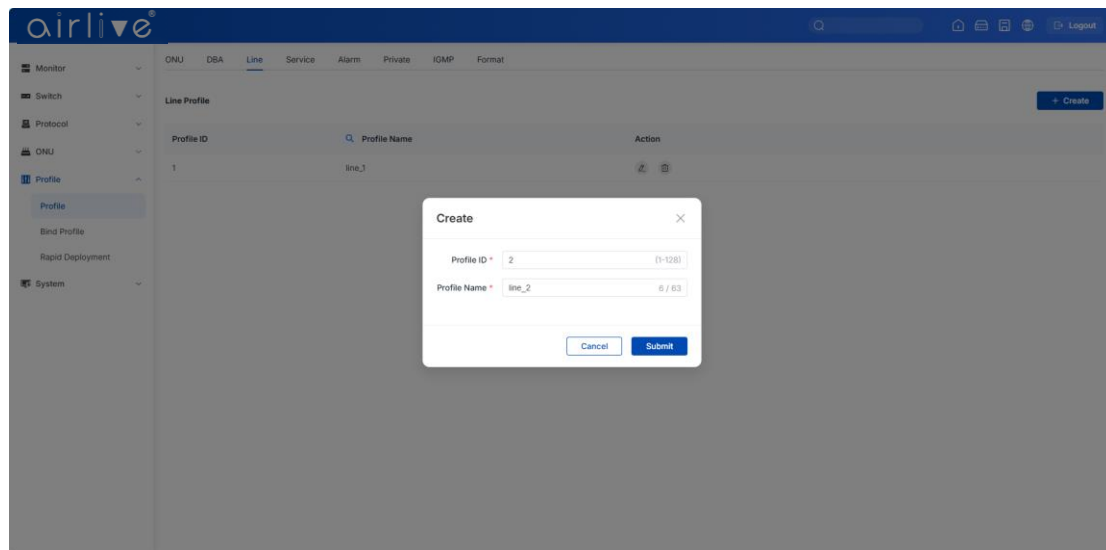


Figure 6.1-7: Add Line Profile

6.1.3.3 Modify

Profile → Line → Line Profile → Modify

In the interface of line profile list, click Modify to edit the profile.

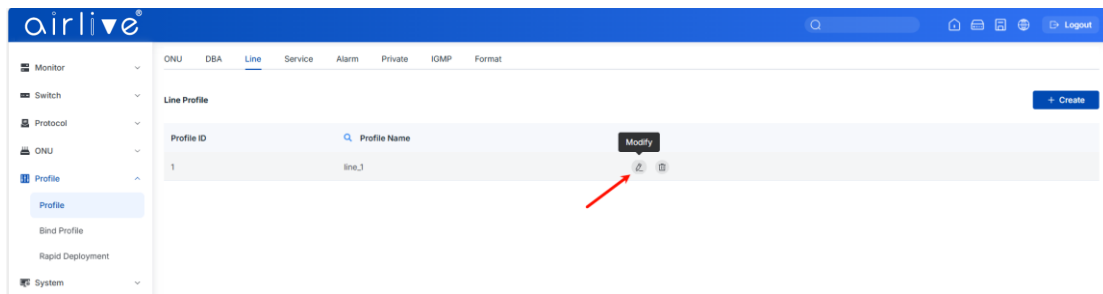


Figure 6.1-8: Modify Line Profile

6.1.3.3.1 Tcont

Profile → Line → Line Profile → Modify → Tcont

Add Tcont ID and bind DBA profile.

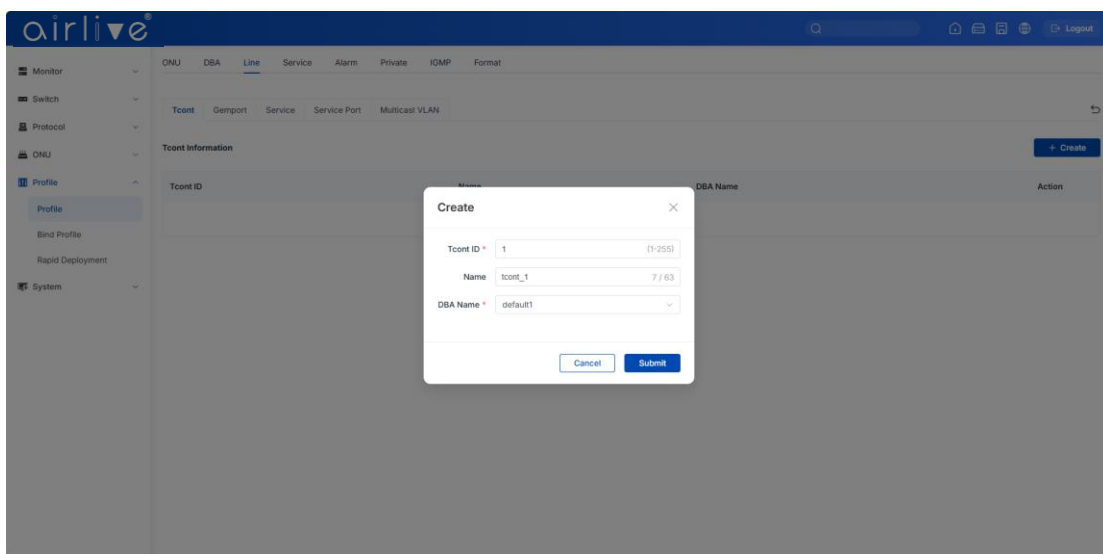


Figure 6.1-9: Add Tcont

6.1.3.3.2 Gemport

Profile → Line → Line Profile → Modify → Gemport

Add Gemport ID and bind Tcont ID.

You can also limit the forwarding speed according to the Gemport ID.

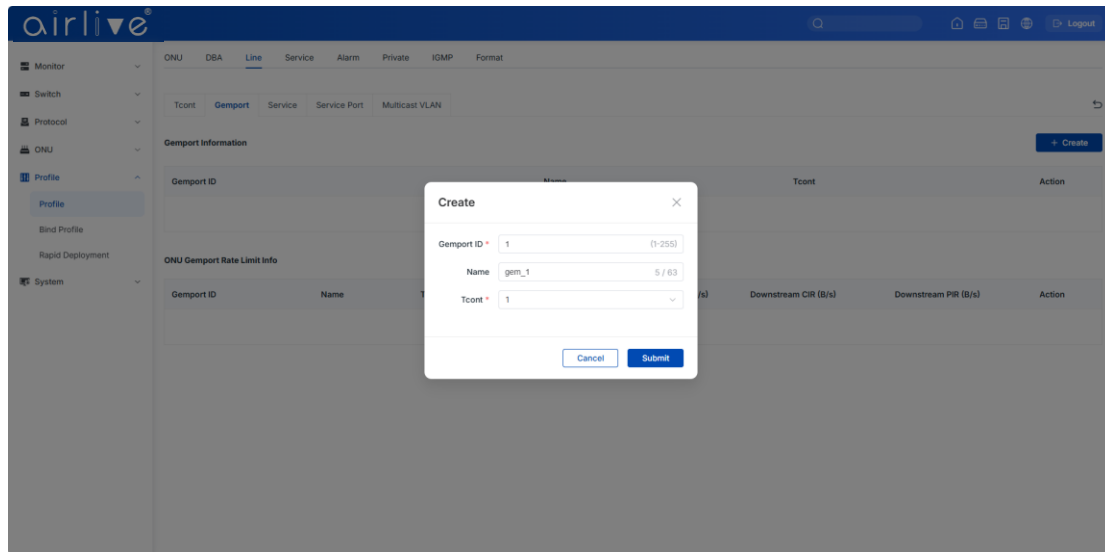


Figure 6.1-10: Add Gemport

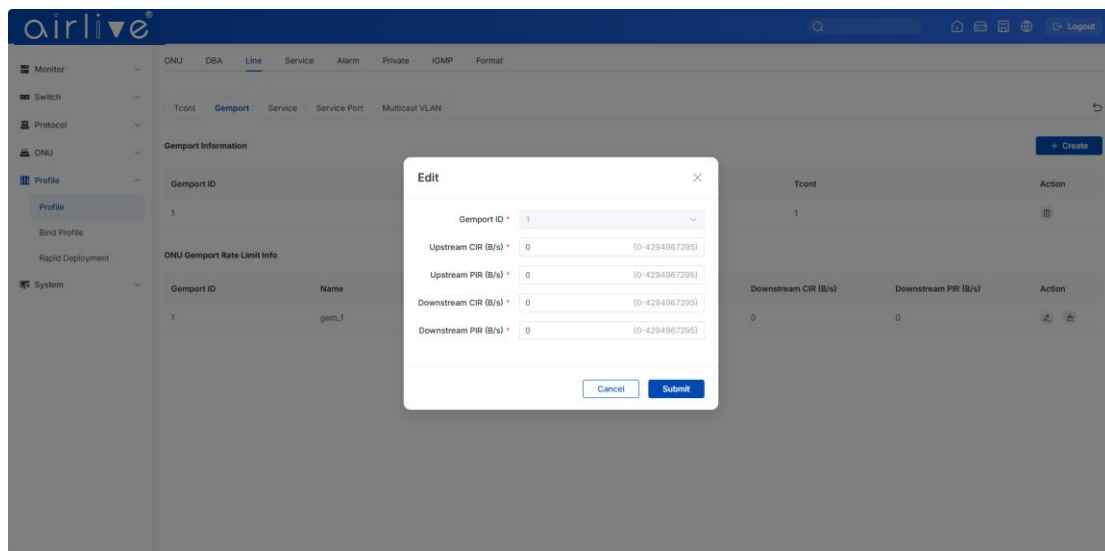


Figure 6.1-11: ONU Gemport Rate Limit Configuration

6.1.3.3.3 Service

Profile → Line → Line Profile → Modify → Service

Add Service, set the VLAN mode and VLAN ID and bind one Gemport ID.

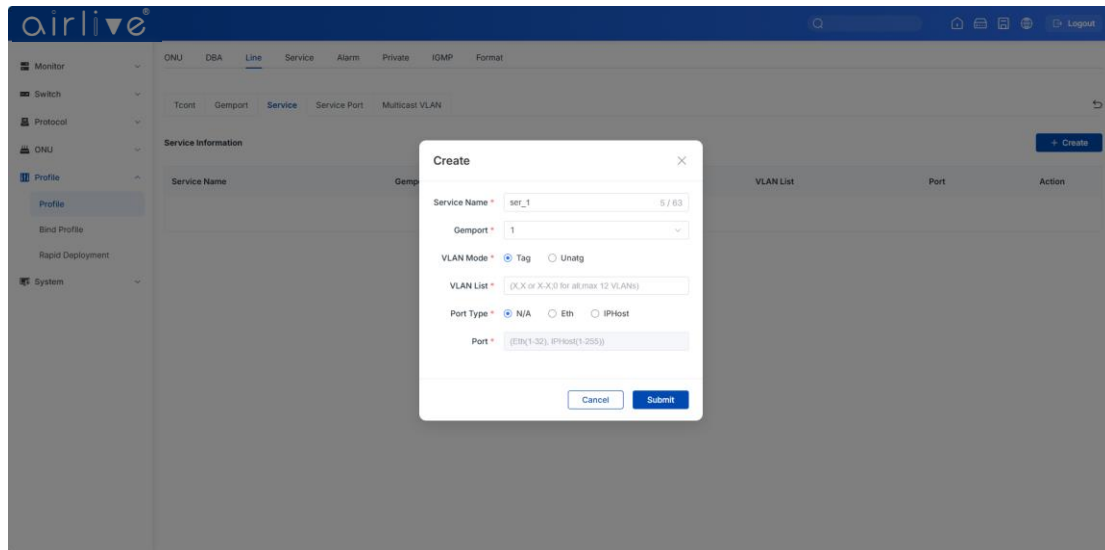


Figure 6.1-12: Add Service

6.1.3.3.4 Service Port

Profile → Line → Line Profile → Modify → Service Port

Create a Service Port, set the user VLAN and translate VLAN and bind one Gemport ID. If don't need VLAN translation, just set translate VLAN the same as User VLAN.

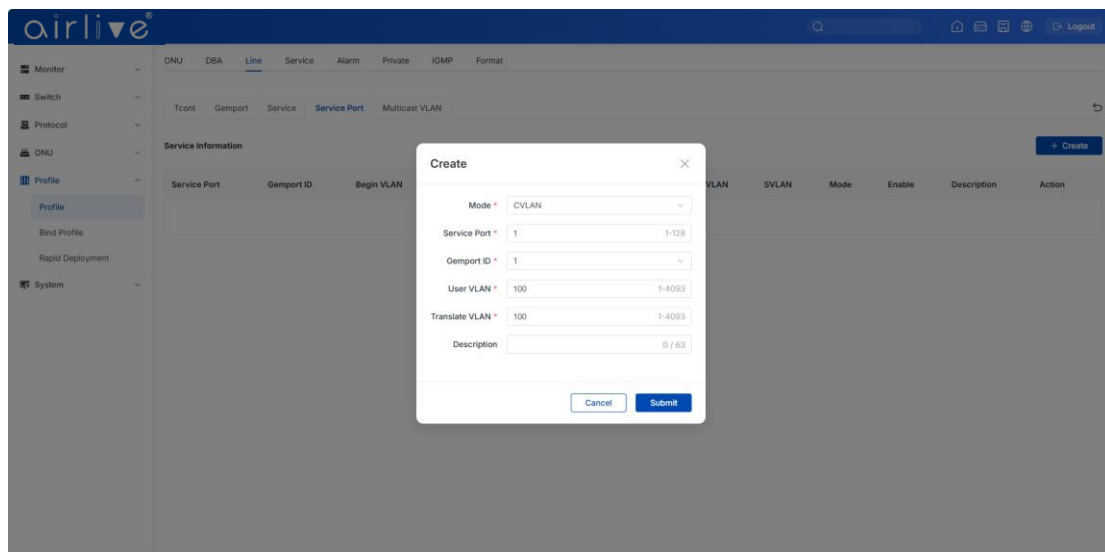


Figure 6.1-13: Add Service Port

6.1.3.3.5 Multicast VLAN

Profile Configuration → Line Profile → Line Profile → Modify → Multicast VLAN

Set the Multicast VLAN of ONU.

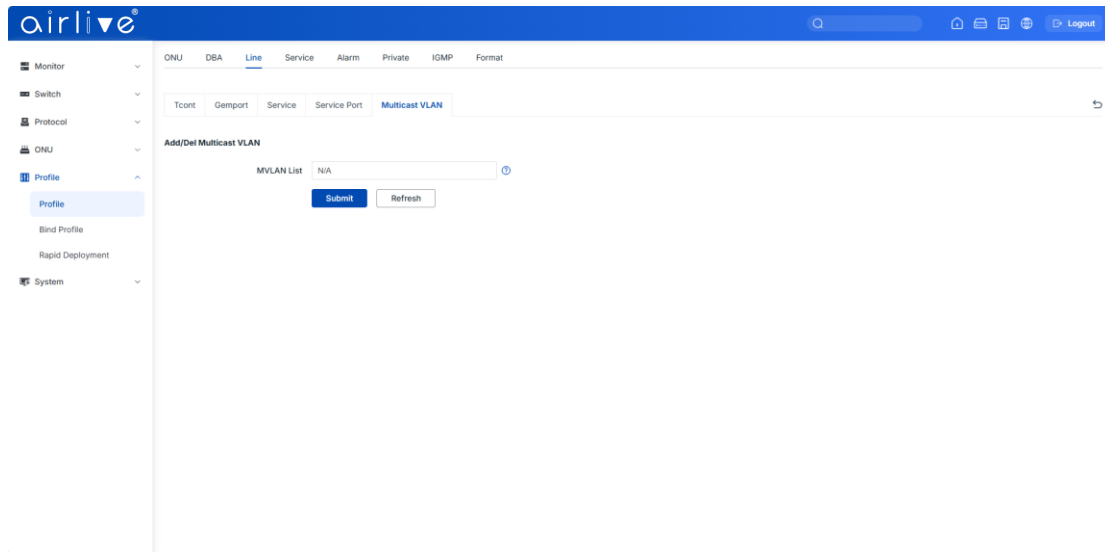


Figure 6.1-14: Configure Multicast VLAN

6.1.4 Service

The Service configuration file is used to configure the UNI side and multicast of the ONU.

6.1.4.1 Service Profile

Profile → Service → Service Profile

The table displays Service Profile list. You can also do some operations, such as delete and modify.

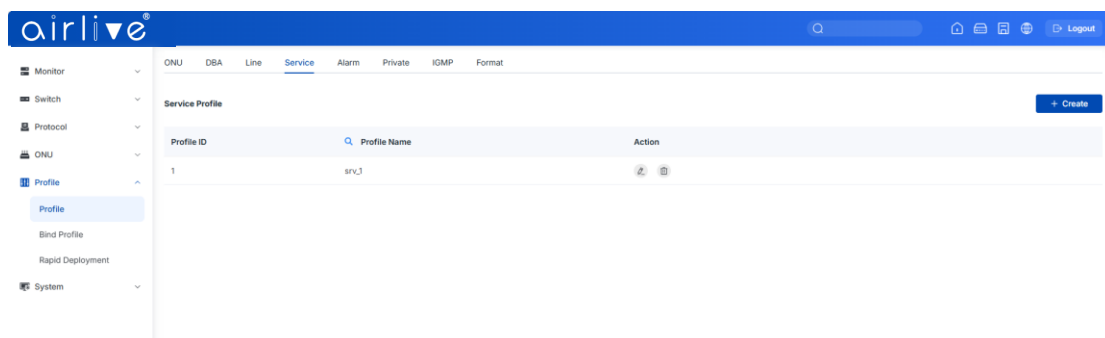


Figure 6.1-15: Service Profile

6.1.4.2 Create

Profile → Service → Create

Add a new Service Profile, set the profile name.

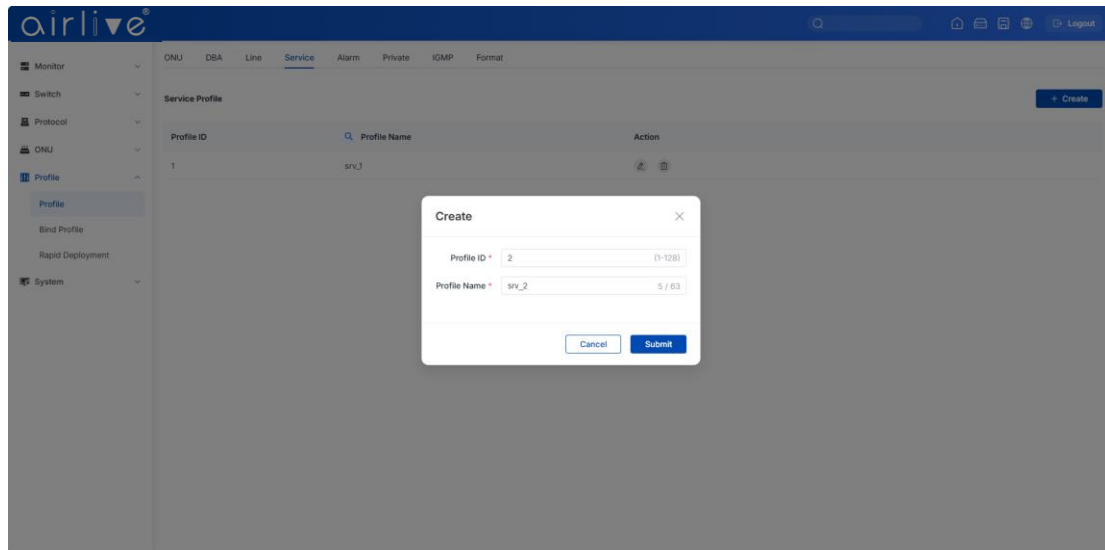


Figure 6.1-16: Add Service profile

6.1.4.3 Display or Modify Line Profile Info

Profile → **Service** → **Service Profile** → **Modify**

In the interface of Service Profile list, click Details&Modify to edit the profile.

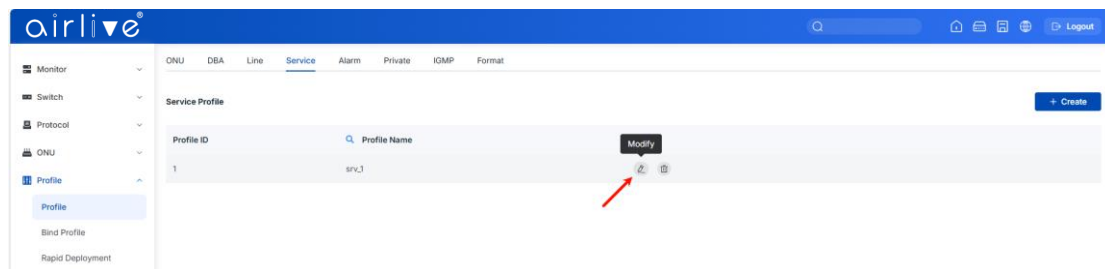


Figure 6.1-17: Modify service profile

6.1.4.3.1 Port VLAN

Profile → **Service** → **Service Profile** → **Modify** → **Port VLAN**

Set the VLAN mode of the ONU's port. For HGU, need to configure veip 1 transparent; for SFU, configure Ethernet port directly.

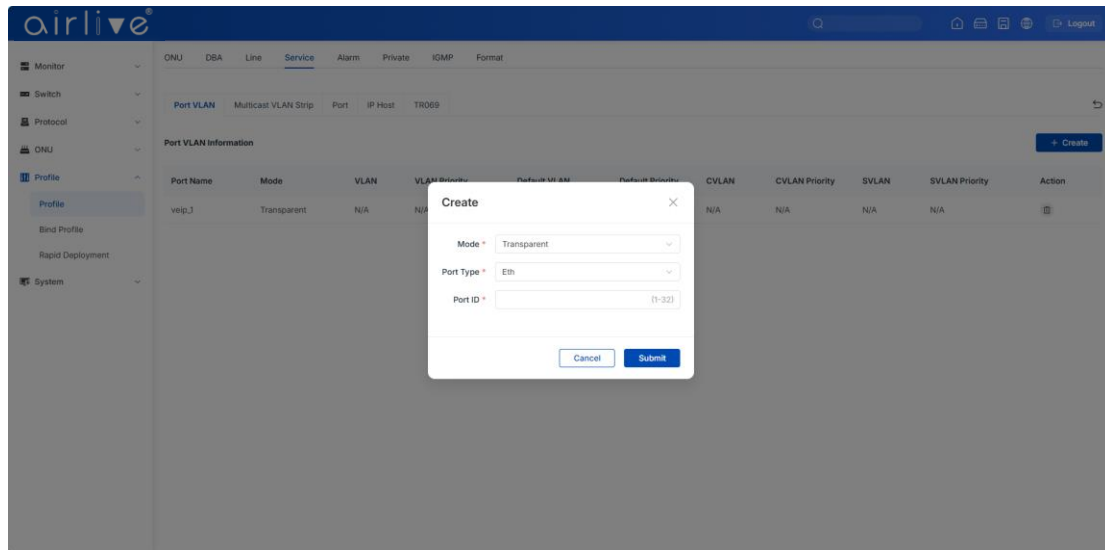


Figure 6.1-18: Port VLAN mode

6.1.4.3.2 Multicast VLAN Strip

Profile Configuration → Service Profile → Service Profile → Modify → Multicast VLAN Strip

Set the Multicast VLAN mode of ONU's port.

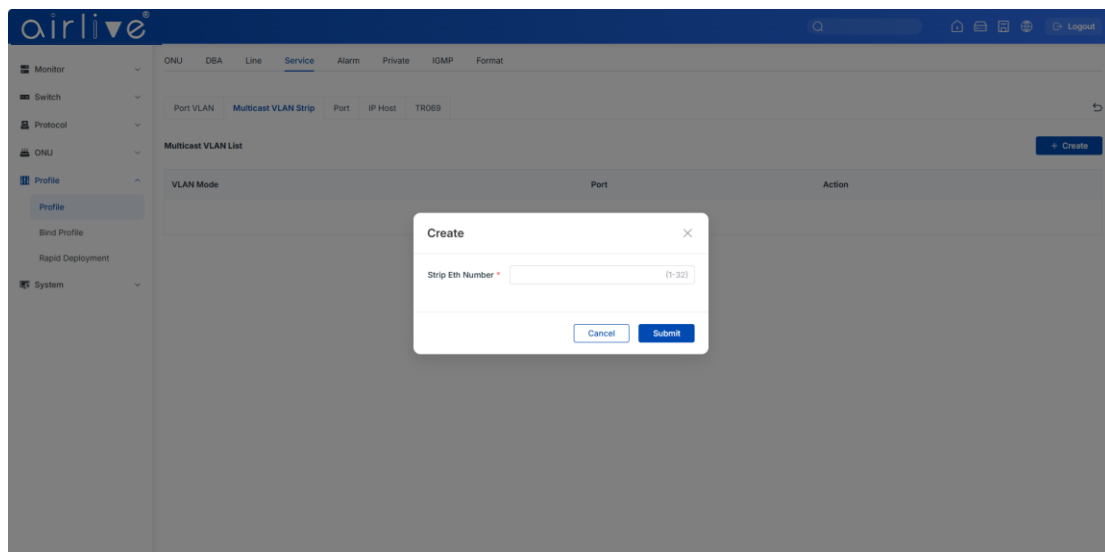


Figure 6.1-19: Port Multicast VLAN Mode

6.1.4.3.3 Port

Profile → Service → Service Profile → Modify → Port

Set the rate negotiation mode of the ONU LAN interface. You can also choose whether to enable ports or not, and even limit the rates of different LAN ports.

Port Basic Configuration

Admin Status

Loopback

Port Speed

Submit

Upstream Rate Limit Config

Upstream Rate-Limit CIR (0-33554431 kbps)

Upstream Rate-Limit PIR (0-33554431 kbps)

Submit

Downstream Rate Limit Config

Downstream Rate-Limit CIR (0-33554431 kbps)

Downstream Rate-Limit PIR (0-33554431 kbps)

Submit

Port Status

Interface	Admin Status	Loopback	Port Speed	Upstream Rate-Limit (kbps)	Downstream Rate-Limit (kbps)	Action
No Data						

Figure 6.1-20: Port Basic Configuration

6.1.4.3.4 IPhost Config

Profile Configuration → Service Profile → Service Profile → Modify → IPhost Config

Add IPhost for ONU wan connection. IPhost is used for ONU management.

IP Host VLAN Config

VLAN (0-4094)

Priority (0-100)

Submit Refresh

IP Host Configuration Info

+ Create

IP Host ID	Description	IP Mode	IP Address	Mask	Gateway	DNS1	DNS2	VLAN	Priority	Action
No Data										

Figure 6.1-21: IPhost Config

6.1.4.3.5 TR069

Profile → Service → Service Profile → Modify → TR069

Configure the public TR069 management configuration based on the service profile.

TR069 Manage Configuration

Veiip ID

State lock unlock

ACS Server Address (0/375)

ACS Server Username (0/50)

ACS Server Password (0/25)

Tag

VLAN ID (1-4094)

Priority (0-7)

Submit Refresh

Figure 6.1-22: TR069

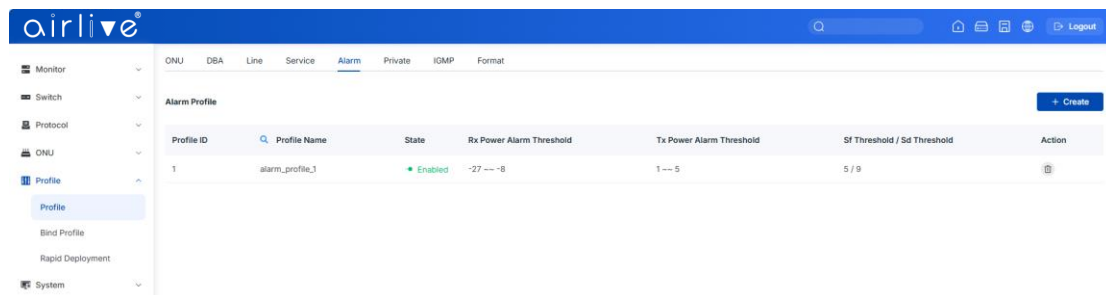
6.1.5 Alarm

Alarm Profile is used to configure the parameters of ONU alarm.

6.1.5.1 Alarm Profile

Profile → **Alarm** → **Alarm Profile**

The table displays alarm Profile List.



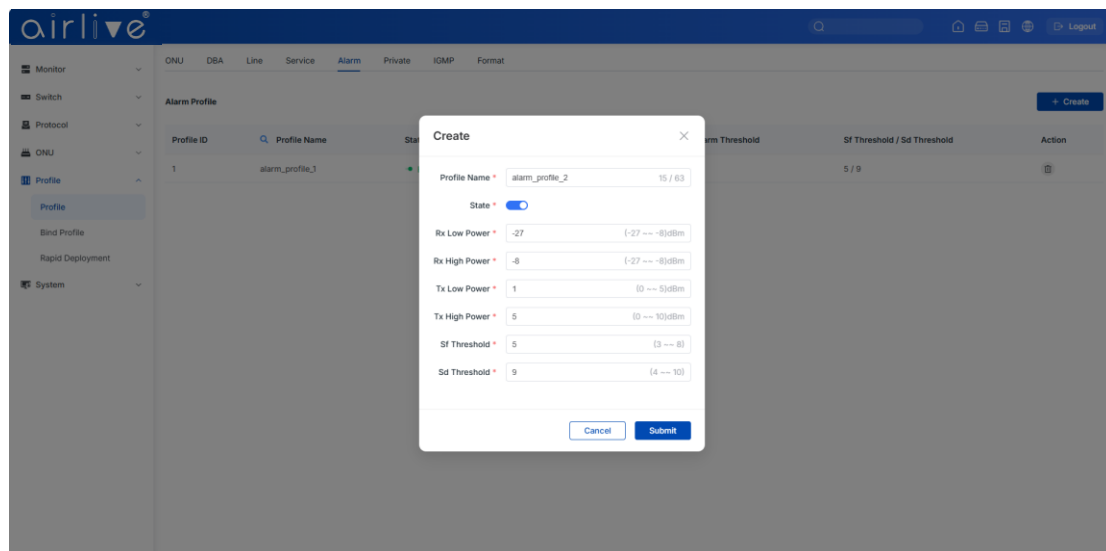
Profile ID	Profile Name	State	Rx Power Alarm Threshold	Tx Power Alarm Threshold	Sf Threshold / Sd Threshold	Action
1	alarm_profile_1	Enabled	-27 --- -8	1 --- 5	5 / 9	

Figure 6.1-23: Alarm Profile List

6.1.5.2 Create

Profile → **Alarm** → **Create**

Add new Alarm Profile, set the threshold of alarm generation.



Create

Profile Name * 15 / 63

State *

Rx Low Power * (-27 --- -8)dBm

Rx High Power * (-27 --- -8)dBm

Tx Low Power * (0 --- 5)dBm

Tx High Power * (0 --- 10)dBm

Sf Threshold * (3 --- 8)

Sd Threshold * (4 --- 10)

Figure 6.1-24: Add Alarm Profile

6.1.6 Private

Private Profile is the profile which the parameters are configured by private OMCI,

including WAN, SIP, WIFI, CATV, DHCP Server, and so on.

6.1.6.1 Private Profile

Profile → Private → Private Profile

The table displays Private Profile list. You can also do some operations, such as delete and modify.

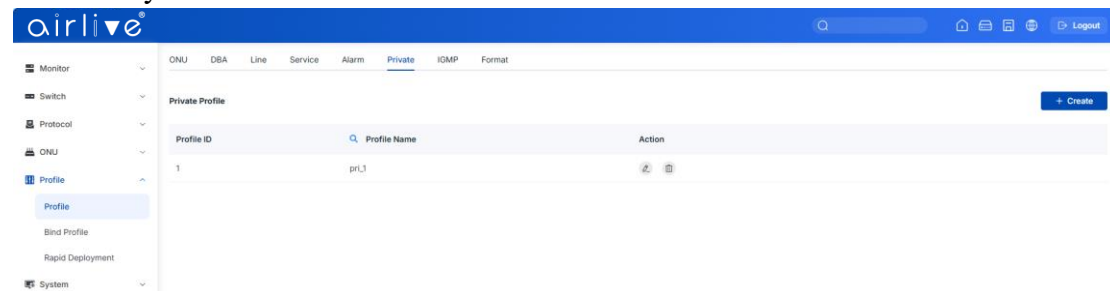


Figure 6.1-25: Private Profile

6.1.6.2 Create

Profile → Private → Create

Add a Private Profile, set the profile name.

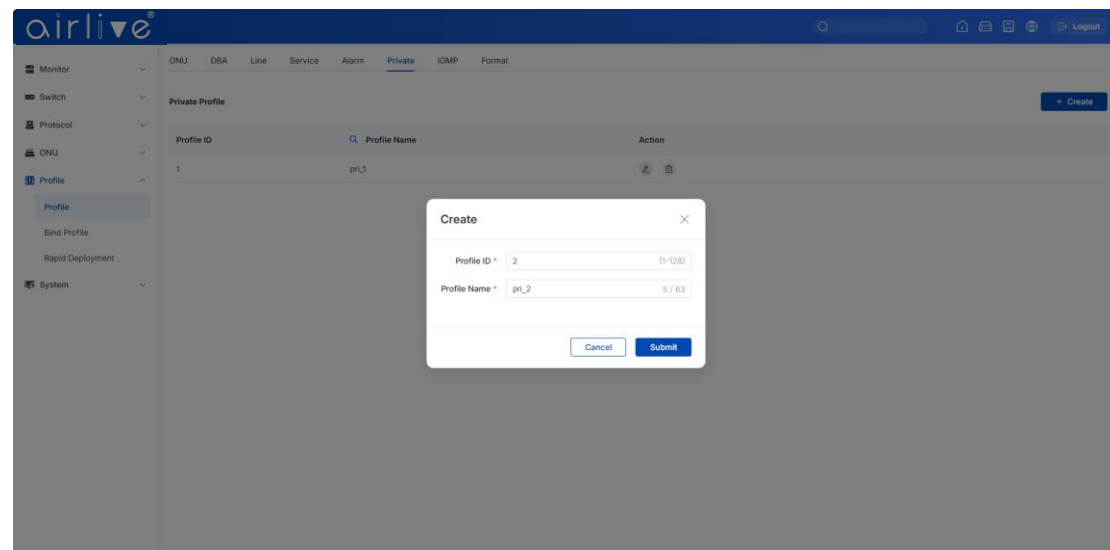


Figure 6.1-26: Add Private Profile

6.1.6.3 Modify

Profile → Private → Private Profile → Modify

In the interface of Private Profile list, click Modify to edit the profile.

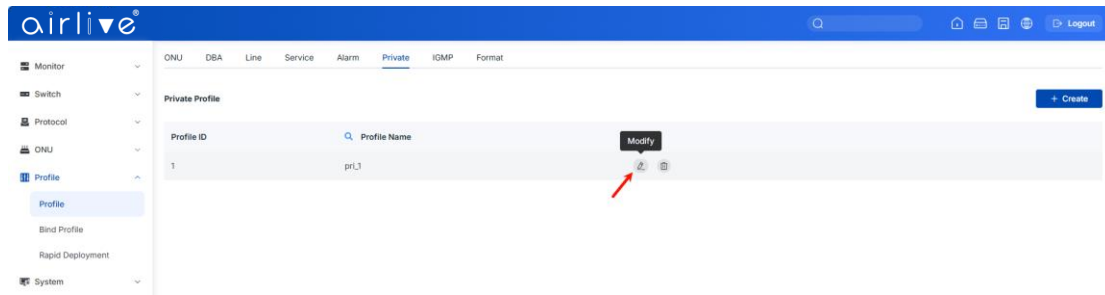


Figure 6.1-27: Modify Private Profile

6.1.6.3.1 Global

Profile → Private → Private Profile → Modify → Global

Global configurations, including CATV switches, speed limits, NAT Type, UPnP Status, and so on.

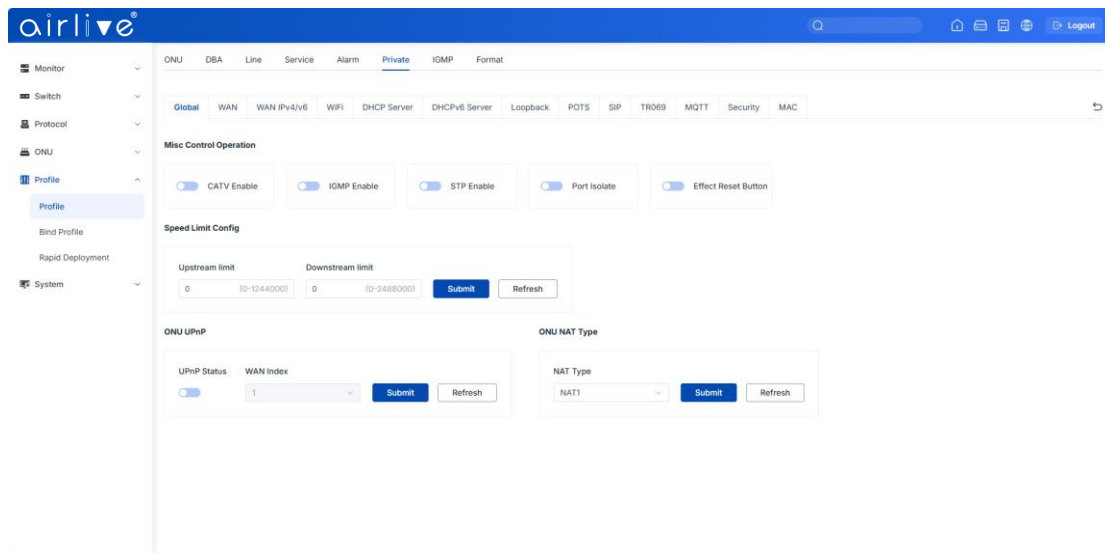


Figure 6.1-28: Misc Configuration

6.1.6.3.2 WAN

Profile → Private → Private Profile → Modify → WAN

Add IPv4 single-stack WAN connection for Private Profile.

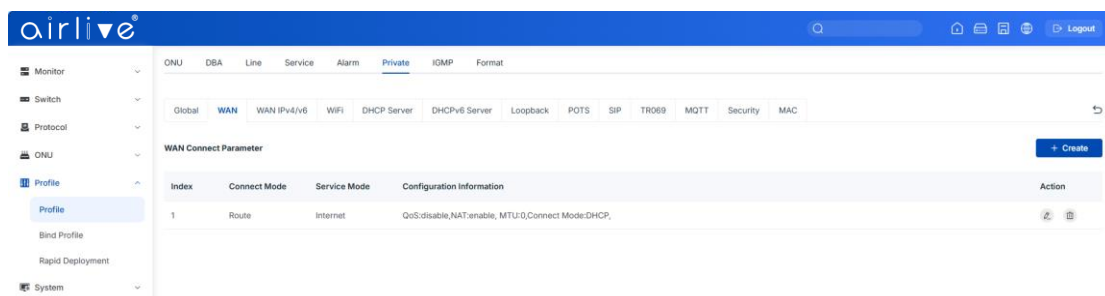


Figure 6.1-29: WAN

6.1.6.3.3 WAN IPv4/v6

Profile → Private → Private Profile → Modify → WAN IPv4/v6

Add IPv4/IPv6 dual-stack WAN connections for Private Profile.

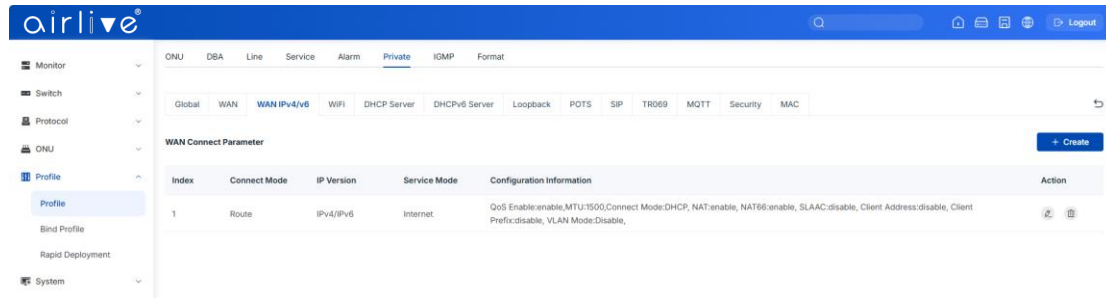


Figure 6.1-30: WAN IPv4/v6

6.1.6.3.4 WIFI

Profile → Private → Private Profile → Modify → WIFI

Configure WIFI parameters for Private Profile.

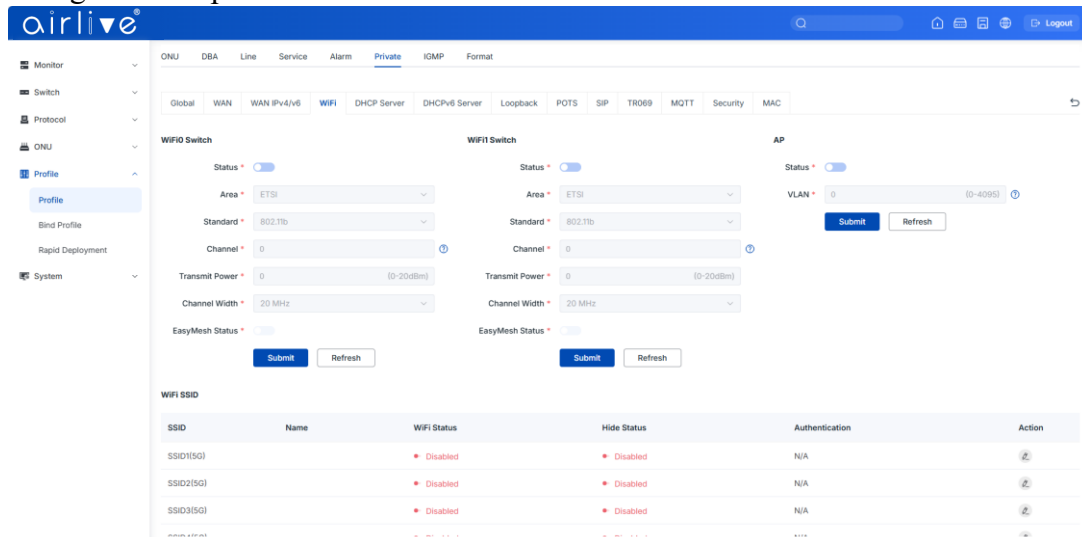


Figure 6.1-31: WIFI

6.1.6.3.5 DHCP Server

Profile → Private → Private Profile → Modify → DHCP Server

Configure IPv4 DHCP server parameters for Private Profile.

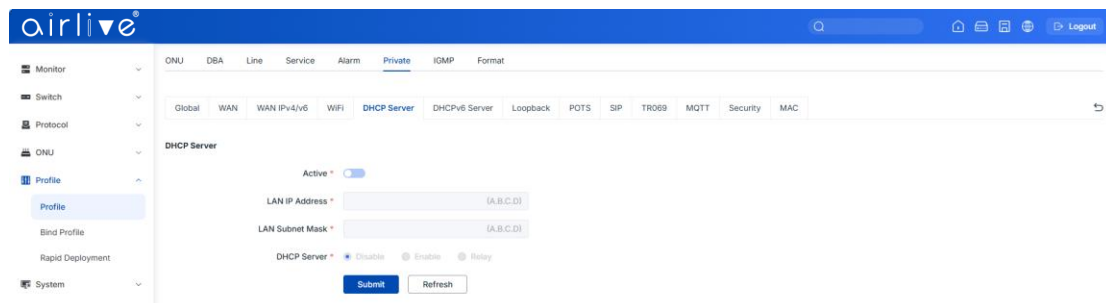


Figure 6.1-32: DHCP Server

6.1.6.3.6 DHCPv6 Server

Profile → Private → Private Profile → Modify → DHCPv6 Server

Configure IPv6 DHCP server parameters for Private Profile.

Figure 6.1-33: DHCP Server

6.1.6.3.7 Loopback

Profile → Private → Private Profile → Modify → Loopback

Configure Loopback Detection parameters for Private Profile.

Figure 6.1-34: Loopback

6.1.6.3.8 POTS

Profile → Private → Private Profile → Modify → POTS

Configure POTS parameters for Private Profile.

Figure 6.1-35: POTS

6.1.6.3.9 SIP

Profile → Private → Private Profile → Modify → SIP

Configure SIP parameters for Private Profile.

Figure 6.1-36: SIP

6.1.6.3.10 TR069

Profile → Private → Private Profile → Modify → TR069

Configure TR069 parameters for Private Profile.

Figure 6.1-37: TR069

6.1.6.3.11 MQTT

Profile → Private → Private Profile → Modify → MQTT

Configure MQTT parameters for Private Profile.

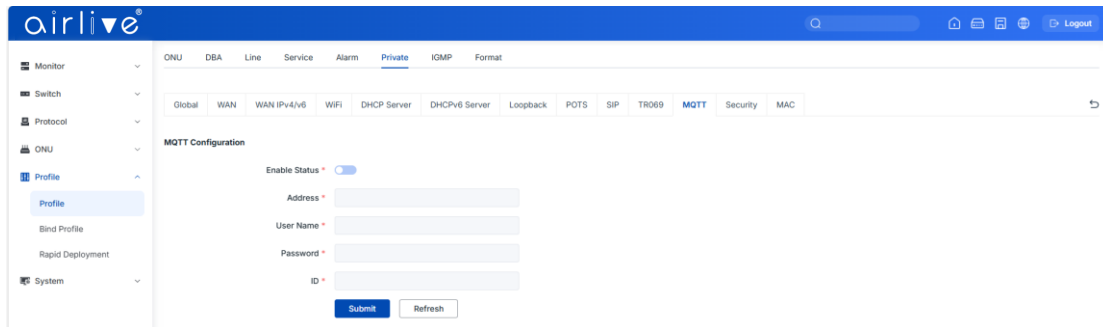


Figure 6.1-38: MQTT

6.1.6.3.12 Security

Profile → Private → Private Profile → Modify → Security

Configure security parameters for Private Profile.

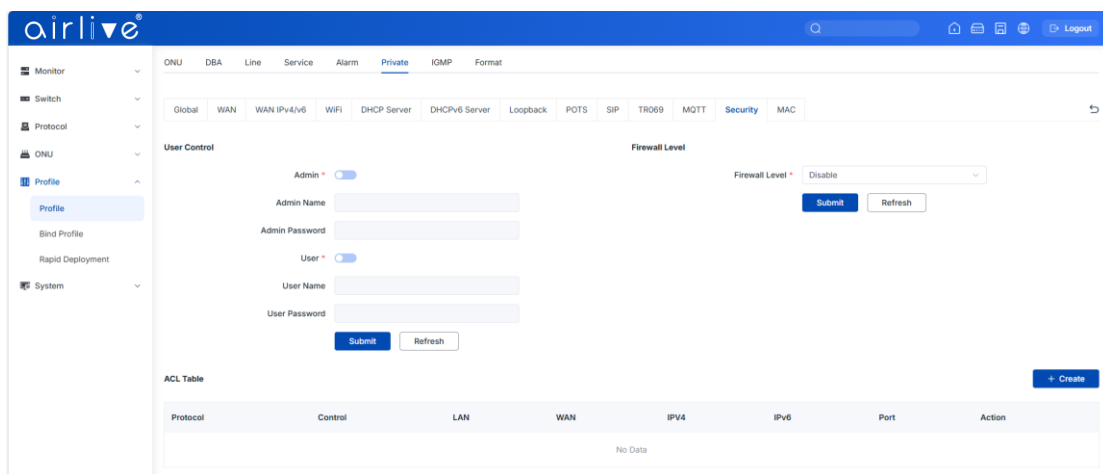


Figure 6.1-39: Security

6.1.6.3.13 MAC

Profile → Private → Private Profile → Modify → MAC

MAC configurations, including Mac age time, pon mac limit, lan mac limit, and so on.

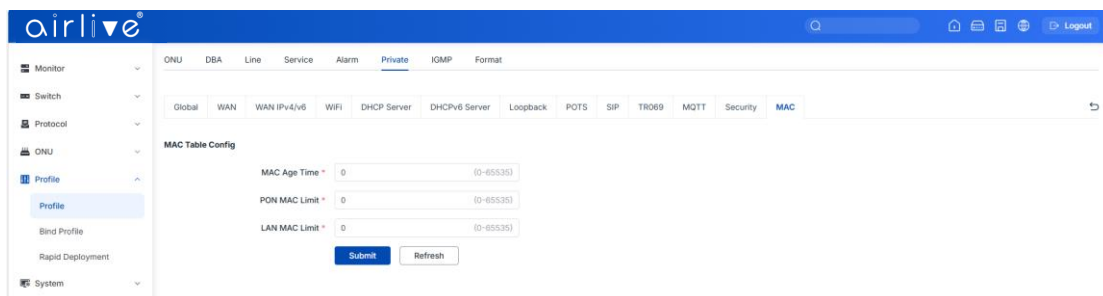


Figure 6.1-40: MAC

6.1.7 IGMP Profile

6.1.7.1 IGMP Profile

Profile → IGMP → IGMP Profile

The table displays IGMP profile list. You can also do some operations, such as delete and modify.

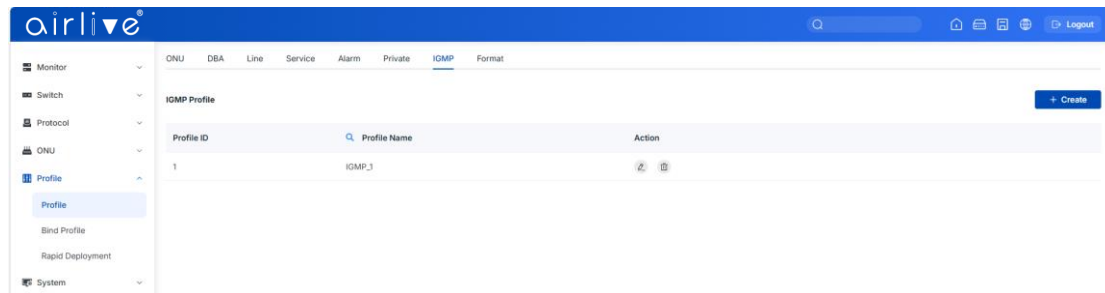


Figure 6.1-41: IGMP Profile list

6.1.7.2 Create

Profile → IGMP → Add profile

Add new IGMP profile, set the profile name.

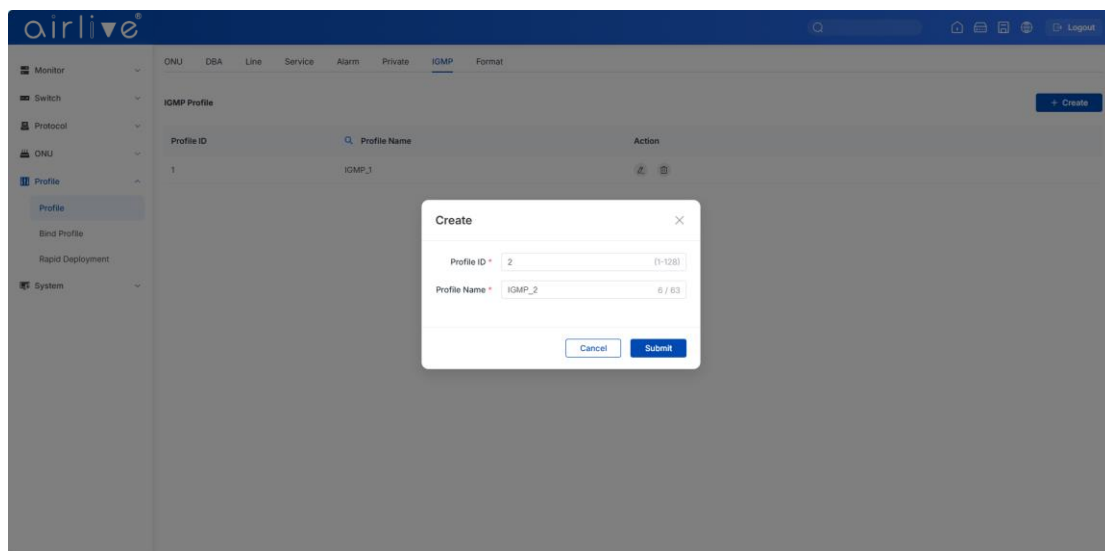


Figure 6.1-42: Add Profile

6.1.7.3 Modify

Profile → IGMP → IGMP Profile → Modify

In the interface of IGMP profile list, click Modify to edit the profile.

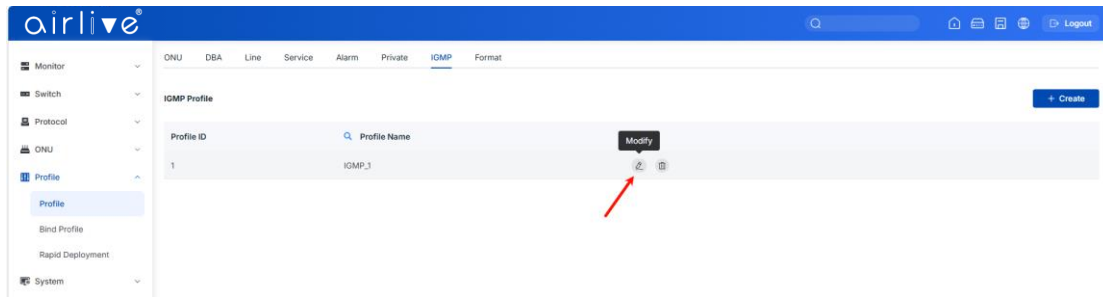


Figure 6.1-43: Modify IGMP profile

Set IGMP/MLD protocol parameters as required.

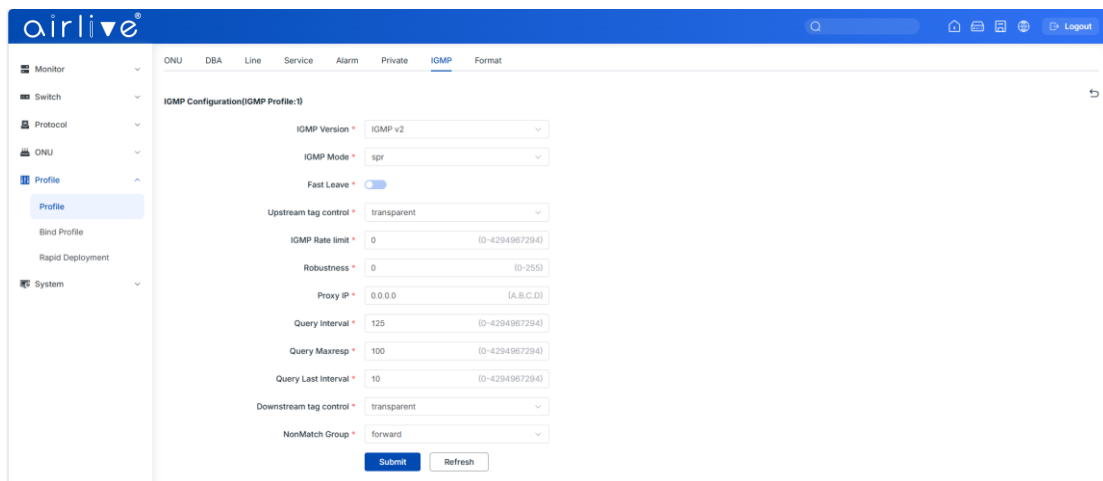


Figure 6.1-44: IGMP Configuration

6.1.8 Format Profile

Format Profile is mainly used to configure the DHCP option format of ONU.

6.1.8.1 Format Profile

Profile → Format → Format Profile

The table displays Format Profile list. You can also do some operations, such as delete and modify.

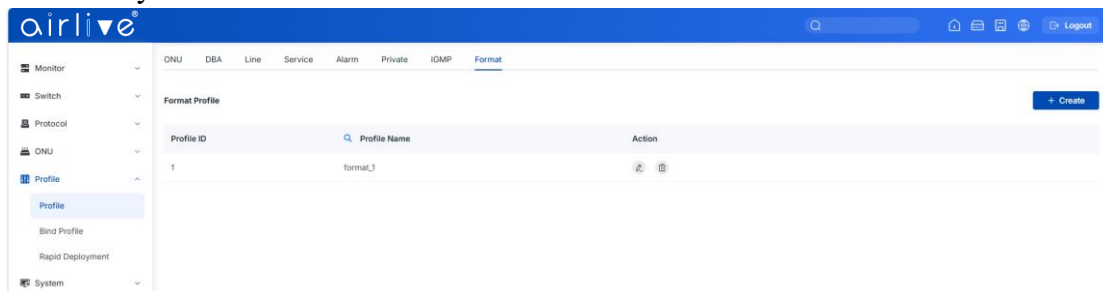


Figure 6.1-45: Format Profile list

6.1.8.2 Create

Profile → Format → Create

Add new Format Profile, set the profile name.

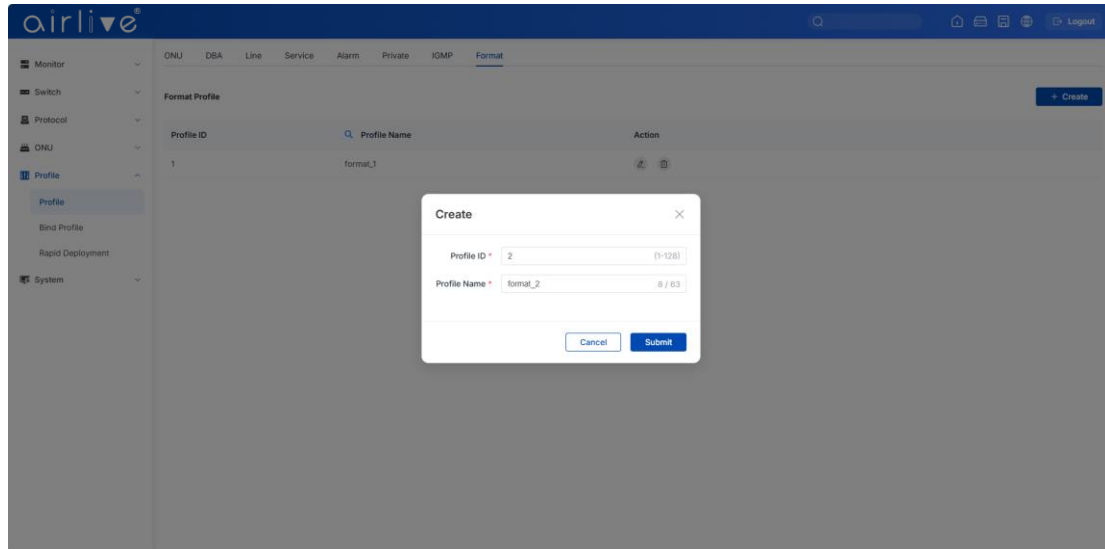


Figure 6.1-46: Add Format Profile

6.1.8.3 Modify

Profile → Format → Format Profile → Modify

In the interface of Format Profile list, click Modify to edit the profile.

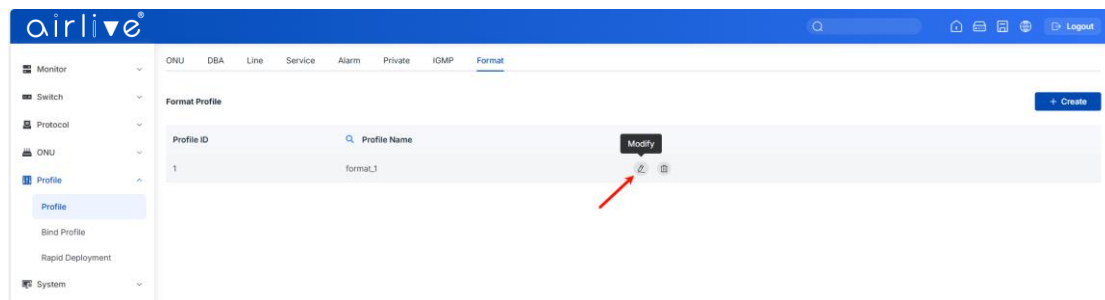


Figure 6.1-47: Modify Format Profile

Set DHCP option parameters as required.

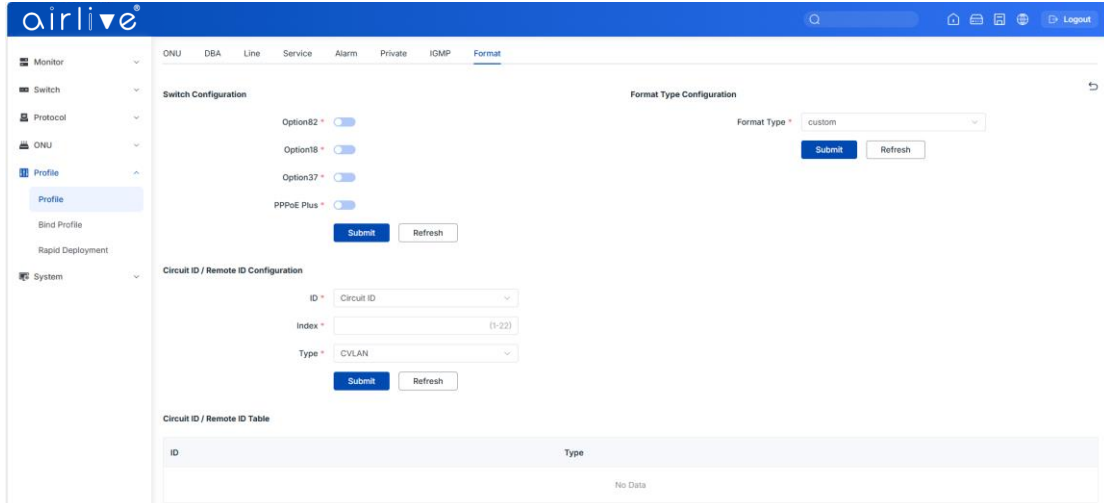


Figure 6.1-48: Format Profile Configuration

6.2 Bind Profile

Profile Configuration → Bind Profile

After Profile is configured, it is necessary to bind it to ONU.

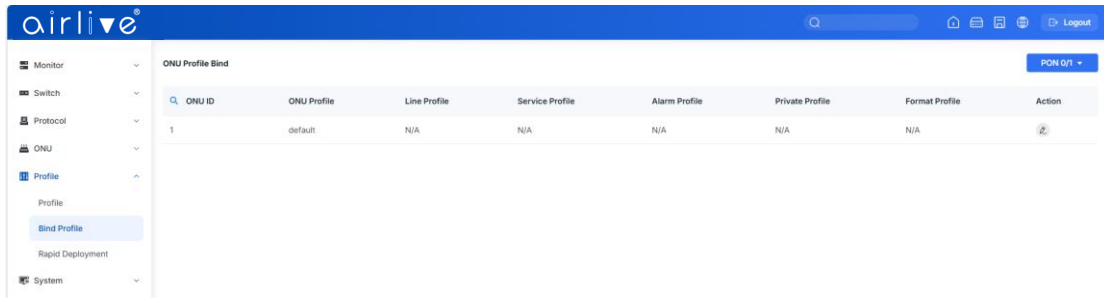


Figure 6.2-1: Bind profile

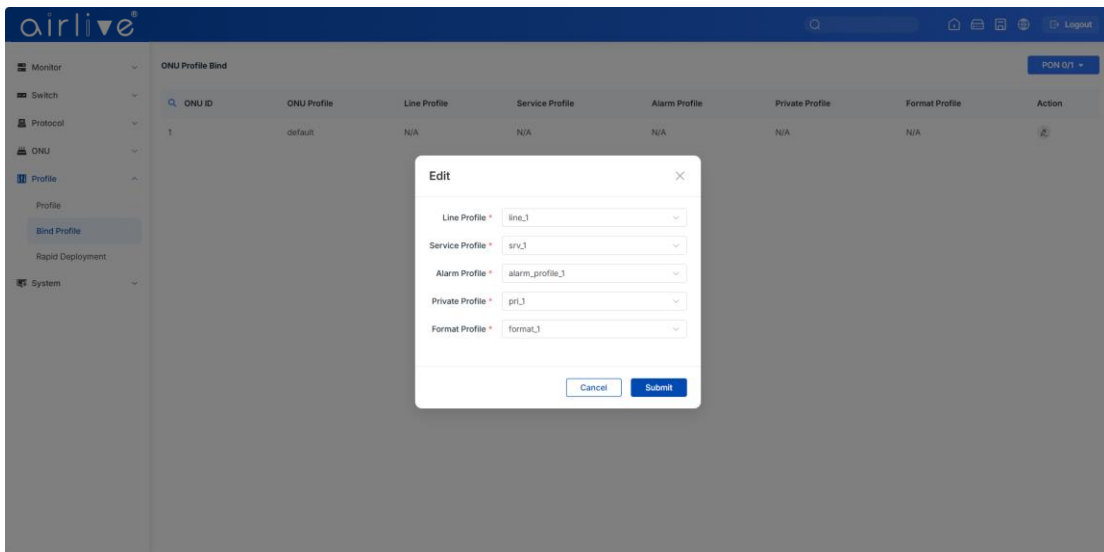


Figure 6.2-2: Modify Profile

6.3 Rapid Deployment

There are three sub-items in the ONU rapid deployment function, namely Pre-set Profile, Application and Deployment Status. After the Pre-set Profile configuration service is completed, select the created Pre-set Profile in Application menu and bind it to the PON port, so that the ONUs under the corresponding PON port can go online and take effect the relevant configuration. And users can check the binding result of taking effect in Deployment Status.

6.3.1 Pre-set Profile

6.3.1.1 Pre-set Profile

Profile → Rapid Deployment → Pre-set Profile → Pre-set Profile

This page displays the current list of Pre-set Profiles. Users can view details or delete the created Pre-set Profiles .

ID	Profile Name	Multicast	IPhost	WiFi	Service	Action
1	preset_profile_1	Disabled	Disabled	Disabled	Disabled	[View] [Delete]

Figure 6.3-1: Pre-set Profile Information

6.3.1.2 Create

Profile → Rapid Deployment → Pre-set Profile → Create

Specify the profile ID and name. Please note that the ID and name must be unique .

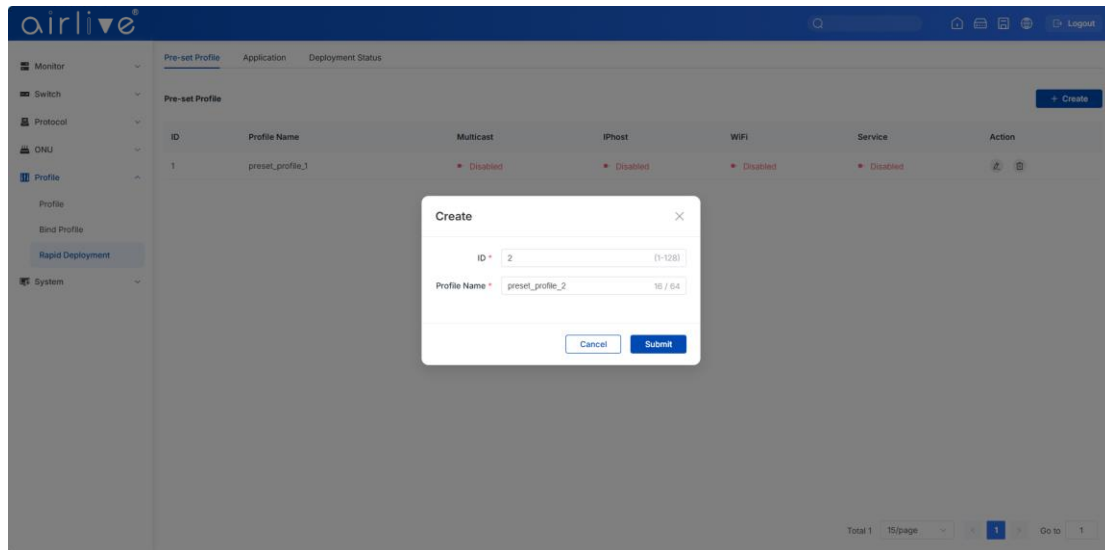


Figure 6.3-2: Create

6.3.1.3 Edit

Profile → Rapid Deployment → Pre-set Profile → Edit

In the interface of Pre-set Profile list, click Edit to edit the profile.

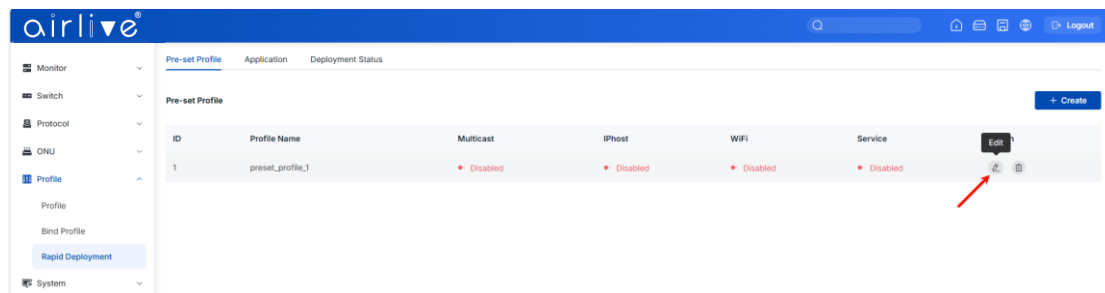


Figure 6.3-3: Edit

6.3.1.3.1 Global

Global Configuration contains the following information:

- (1) Display PVID, Tag VLAN, Untag VLAN and other information based on the port;
- (2) Modify the PVID and VLAN mode of an existing VLAN on a port;
- (3) Add a new VLAN;
- (4) Modify the VLAN IP;

The content in the global configuration step will take effect on the OLT immediately after configuration, and users can configure it according to the actual requirements.

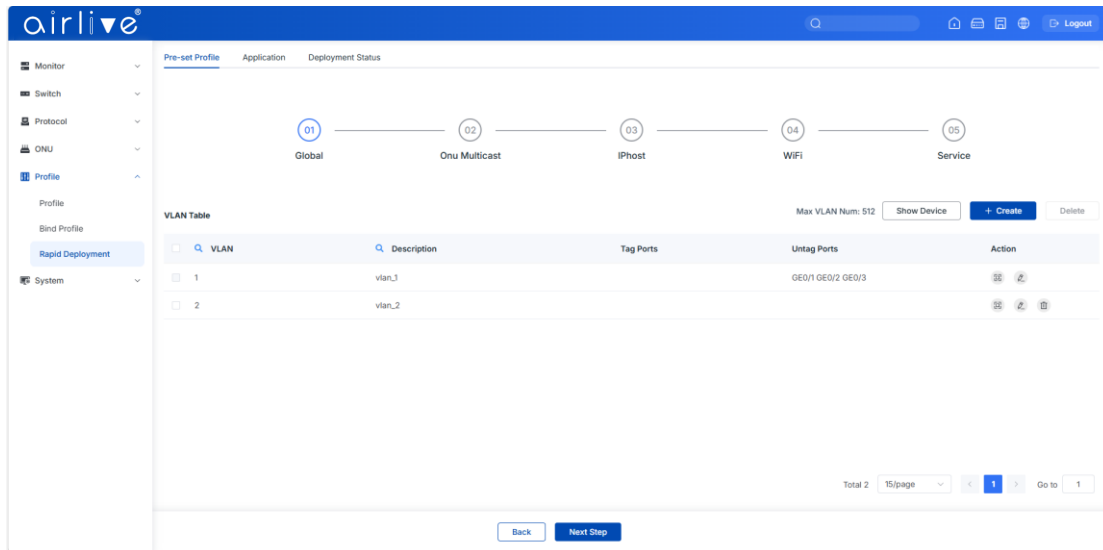


Figure 6.3-4: Global Configuration

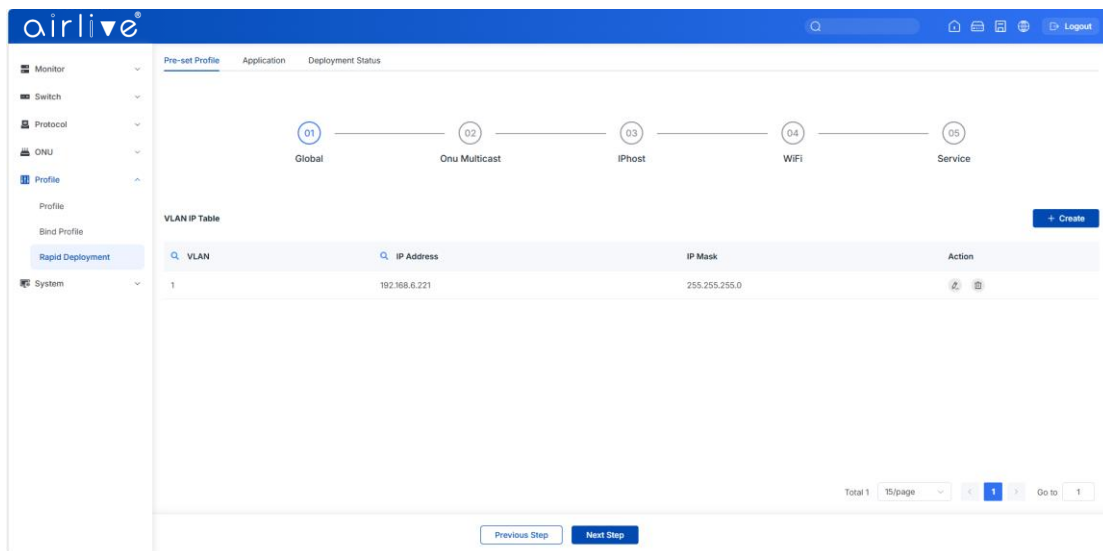


Figure 6.3-5: Global Configuration

6.3.1.3.2 ONU Multicast

By default, this is not configured. It can also be modified and adjusted according to the actual application scenarios. Users can refer to the general configuration of ONU Multicast.

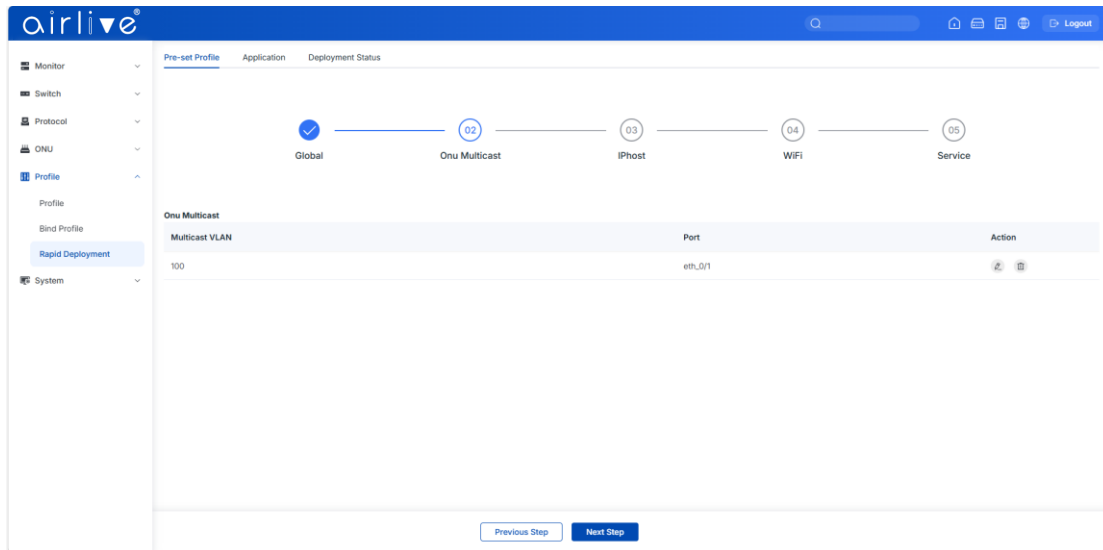


Figure 6.3-6: ONU Multicast Configuration

6.3.1.3.3 IPhost

By default, this is not configured. It can also be modified and adjusted according to the actual application scenarios. Users can refer to the general configuration of ONU IPhost. Currently, only one IPhost is supported.

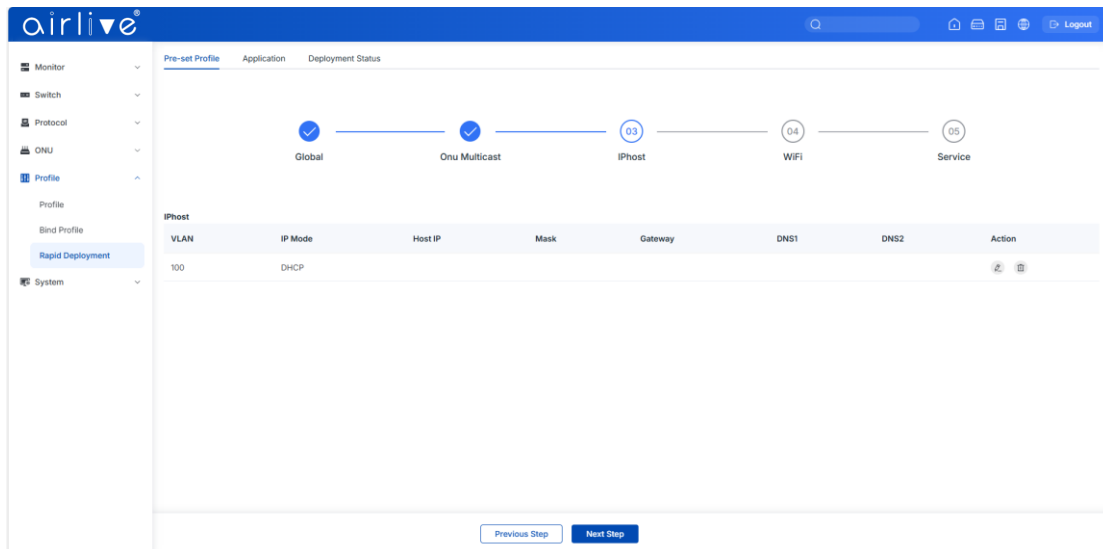


Figure 6.3-7: IPhost Configuration

6.3.1.3.4 WIFI

By default, this is not configured. It can also be modified and adjusted according to the actual application scenarios. Users can refer to the general configuration of ONU WIFI; Note: You need to configure the SSID name, if you don't configure the password, the auth mode will be open by default.

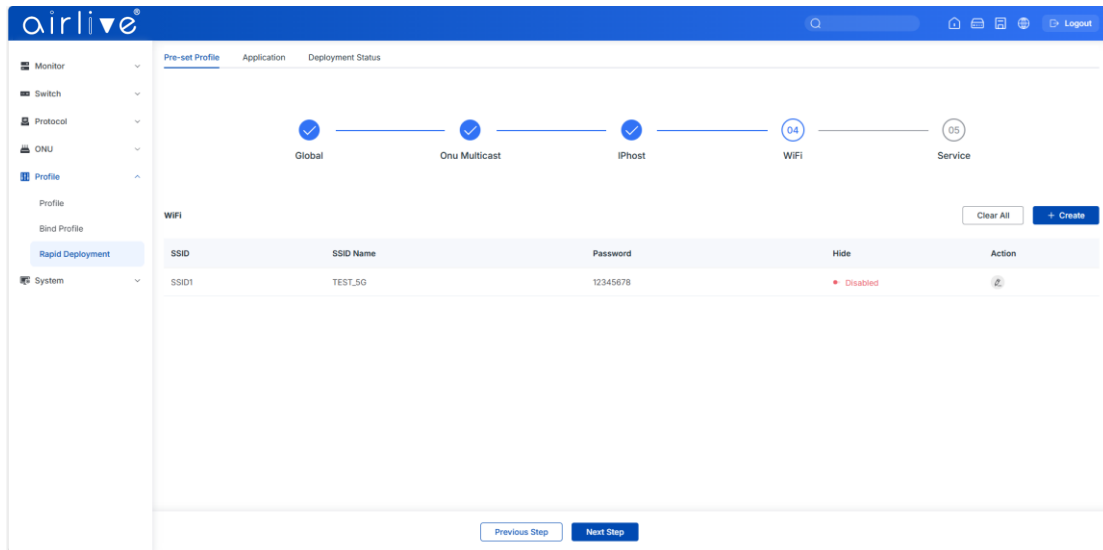


Figure 6.3-8: WIFI Configuration

6.3.1.3.5 Service

(1) You need to configure Service Mode and VLAN ID, Service Mode configures the specific service type, such as Internet, Multicast, Tr069, VoIP and Other. VLAN ID refers to the specific VLAN that the Service takes effect; port binding is configured according to demand;

(2) If Service is configured, the Tcont, Gemport, Service, PortVLAN, WAN and other Services will be configured automatically when ONU goes online. For SFU, PortVLAN will be configured automatically according to the port binding information in the Service configuration and the number of ports in SFU itself;

For HGU portVLAN will be configured with Transparent by default, and if private WAN is supported, WAN service will be configured automatically according to the configuration information;

Currently, at most 5 Services are configured at the same time.

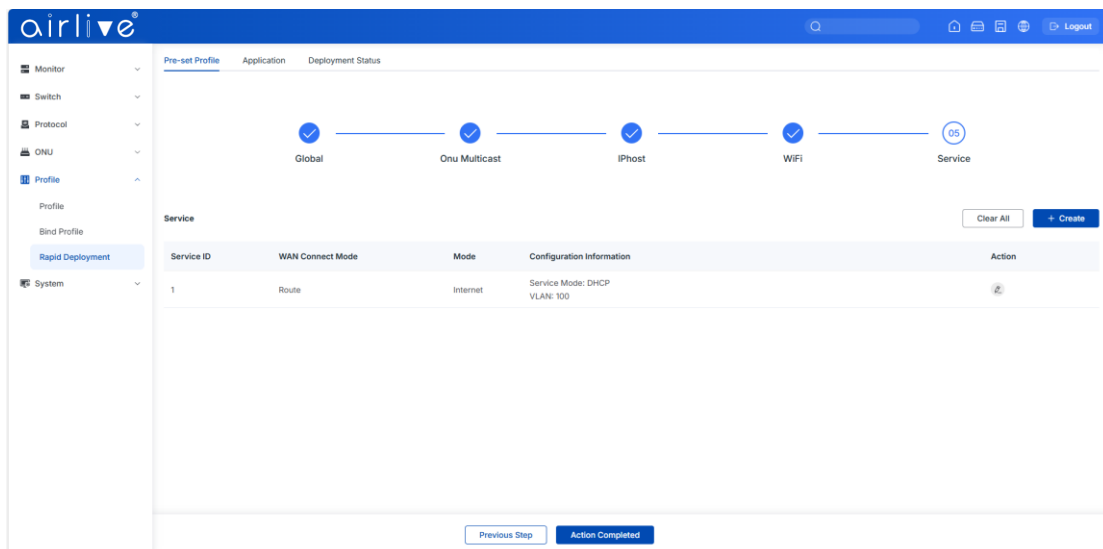


Figure 6.3-9: Service Configuration

6.3.2 Application

The function of Application interface is to configure the Pre-set Profile bind rules. select the corresponding Match rule to validate the ONUs under the PON that satisfy the matching conditions.

6.3.2.1 Information

Profile → Rapid Deployment → Application → Application

This page displays the current list of created Application, which can be Enabled or Disabled and deleted for a specific Application. The Modify function is not supported currently.

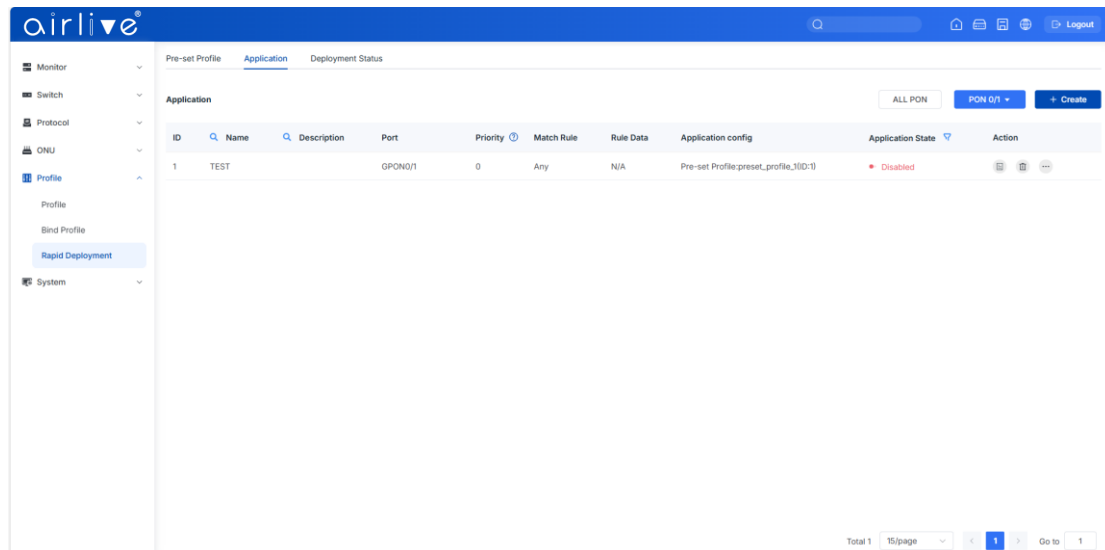


Figure 6.3-10: Application Information

6.3.2.2 Create

Profile → Rapid Deployment → Application → Create

- (1). Specify the Application ID and name. These two items must be unique.
- (2). Specify the priority of the Application rule to take effect. When more than one Application rule exists under the same PON port, the one with the highest priority (0 is the highest priority) will be matched first. Only one Application of the same priority can exist under the same PON port.
- (3) Match Rule includes Any, Fuzzy_Equid, Exact_Equid, ONU_ID, SN, Vendor_ID. Any means any ONU; Fuzzy_Equid means Fuzzy equipment ID of ONU; Exact_Equid means Exact equipment ID of ONU; ONU_ID means ONU id list of ONU, such as 1,3,5-10,12,16, etc.
- (4). Select the corresponding Preset-Profile configuration.
- (5). Select Enable or Disable the currently created application; if Disable, the

Application will not be matched when ONU goes online, but will be skipped directly.

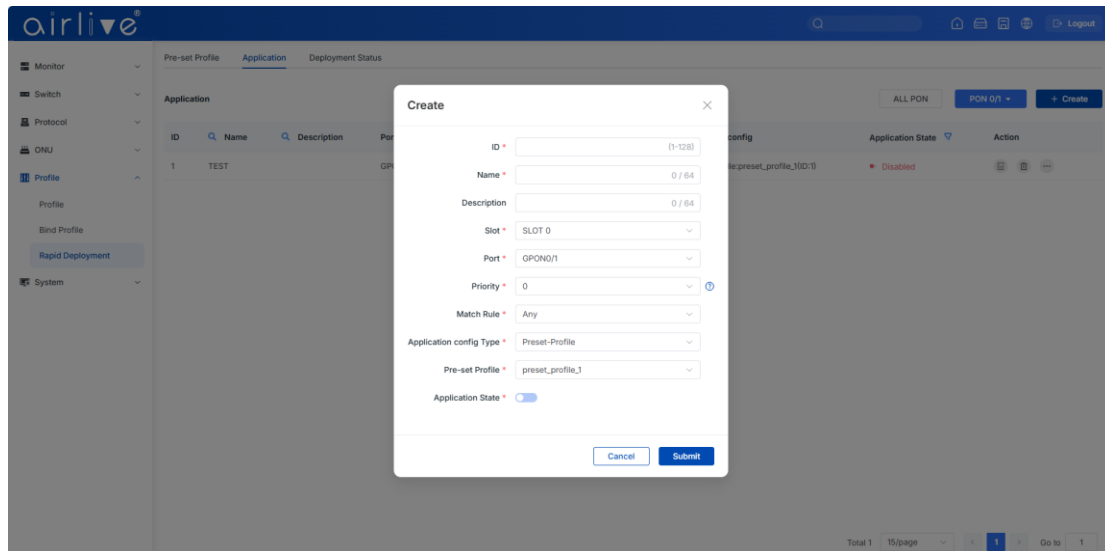


Figure 6.3-11: Add Application

6.3.3 Deployment Status

This page displays the results of the ONU Rapid Deployment configuration taken effect, and also supports users to filter the results as needed.

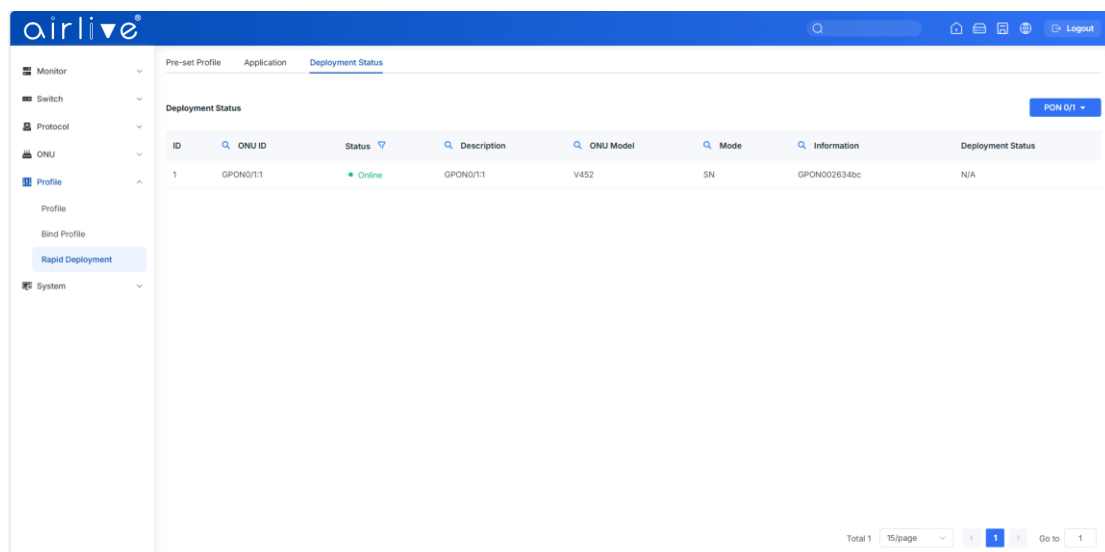


Figure 6.3-12: Deployment Status

Chapter 7 System Configuration

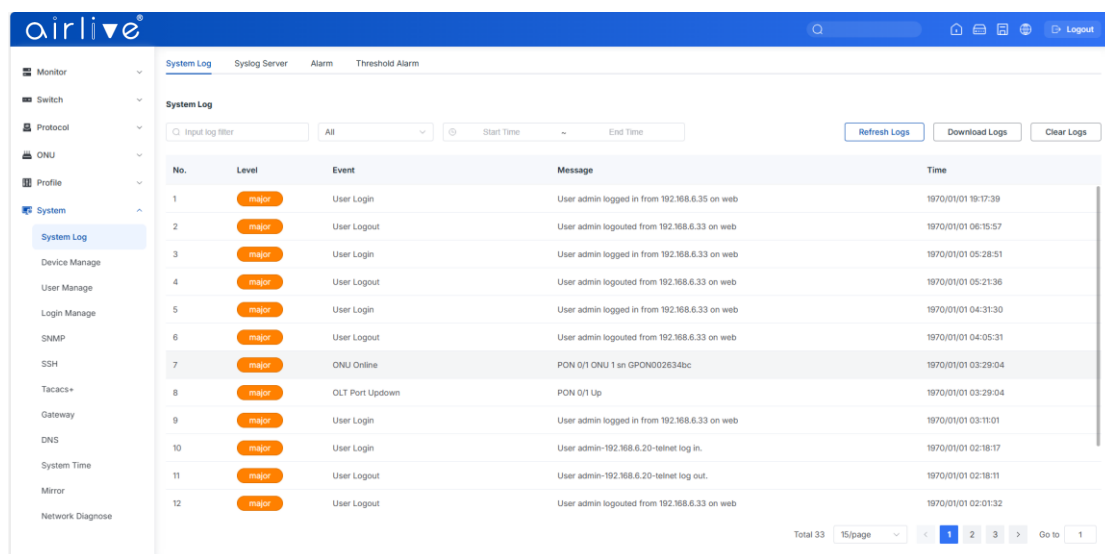
This chapter is about the global management of OLT.

7.1 System Log

7.1.1 System Log

System → **System Log**

This page displays OLT system alarms and events.



No.	Level	Event	Message	Time
1	major	User Login	User admin logged in from 192.168.6.35 on web	1970/01/01 19:17:39
2	major	User Logout	User admin logged out from 192.168.6.33 on web	1970/01/01 06:15:57
3	major	User Login	User admin logged in from 192.168.6.33 on web	1970/01/01 05:28:51
4	major	User Logout	User admin logged out from 192.168.6.33 on web	1970/01/01 05:21:36
5	major	User Login	User admin logged in from 192.168.6.33 on web	1970/01/01 04:31:30
6	major	User Logout	User admin logged out from 192.168.6.33 on web	1970/01/01 04:05:31
7	major	ONU Online	PON O1 ONU 1 sn GPON002634bc	1970/01/01 03:29:04
8	major	OLT Port Updown	PON O1 Up	1970/01/01 03:29:04
9	major	User Login	User admin logged in from 192.168.6.33 on web	1970/01/01 03:11:01
10	major	User Login	User admin-192.168.6.20-telnet log in.	1970/01/01 02:18:17
11	major	User Logout	User admin-192.168.6.20-telnet log out.	1970/01/01 02:18:11
12	major	User Logout	User admin logged out from 192.168.6.33 on web	1970/01/01 02:01:32

Figure 7.1-1: System Log

7.1.2 Syslog server

System → **Syslog server**

This page can configure the syslog server.

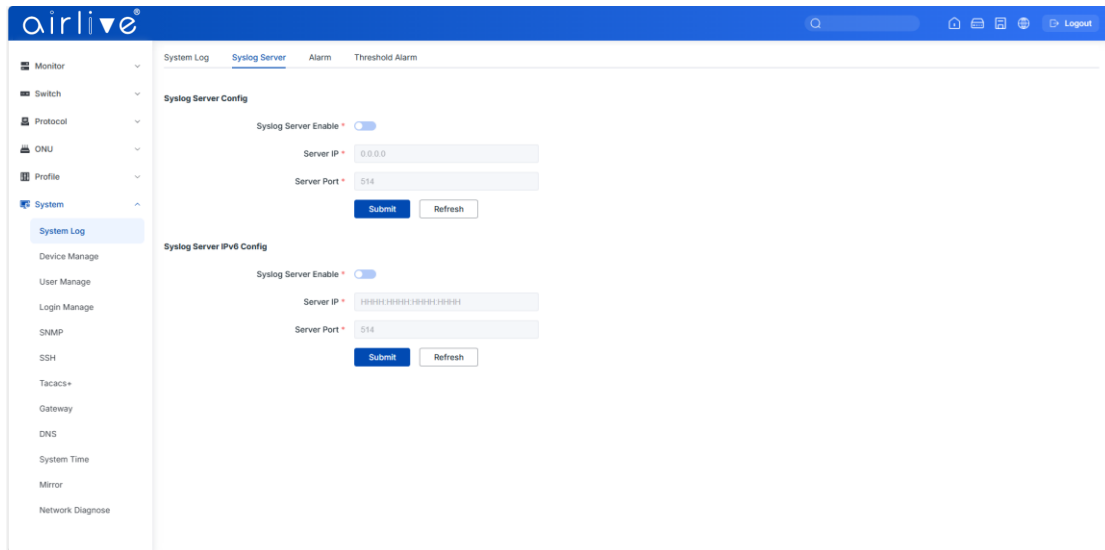


Figure 7.1-2: System Log

7.1.3 Alarm

System → System Log → Alarm

It contains all the Alarms of OLT. User can choose the different Alarms to "Print", "Record", "Trap" and "Remote".

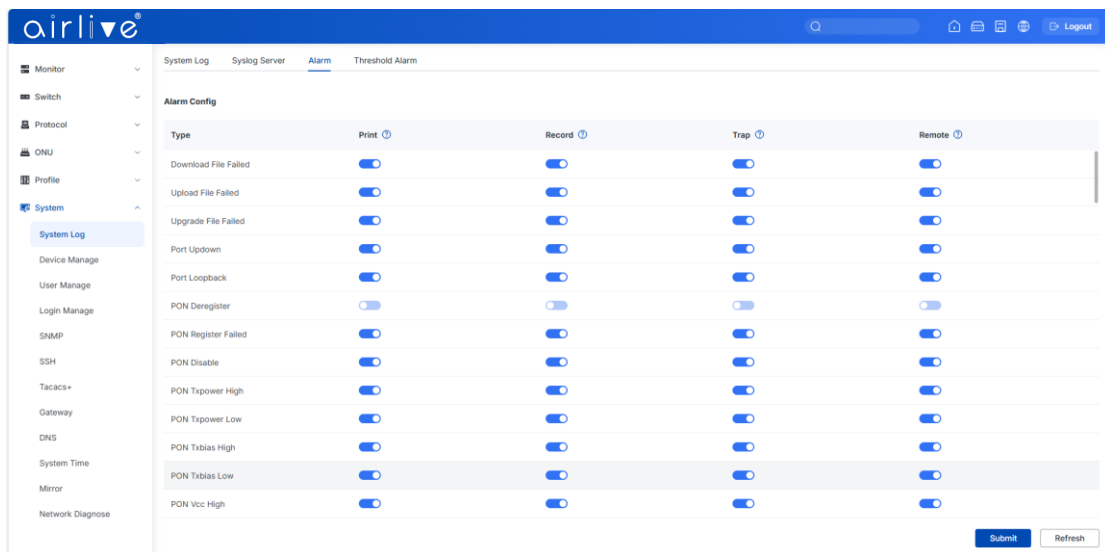


Figure 7.1-3: Alarm

options	Illustration
Print	Alarm and event show in console and telnet, but not show in syslog, EMS and remote log server.
Record	Alarm and event show in syslog, but not show in console, telnet, EMS and remote log server.
Trap	Alarm and event show in EMS, but not show in console, telnet, syslog and

	remote log server.
Remote	Alarm and event show in remote log server, but not show in console, telnet, syslog and EMS.

7.1.4 Threshold Alarm

System → System Log → Threshold Alarm

This page is used to configure OLT temperature threshold, CPU-usage threshold and memory- usage threshold, PON optical threshold.

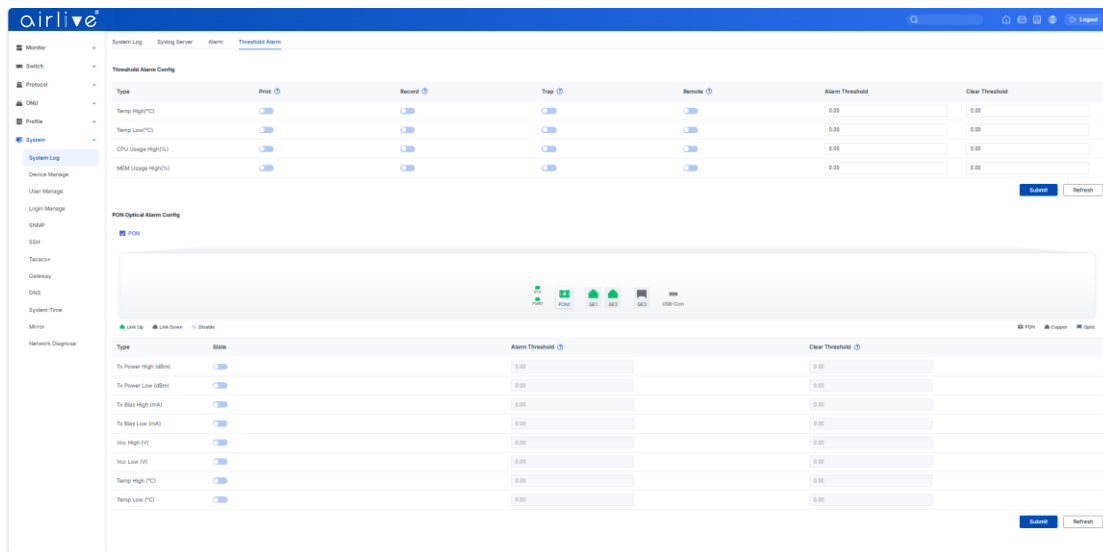


Figure 7.1-4: Threshold Alarm

7.2 Device Management

7.2.1 Firmware Upgrade

System → Device Management → Firmware Upgrade

You can upgrade the OLT firmware on this page. OLT will reboot automatically with the new firmware after upgraded when you select the option “Upgrade And Reboot”.

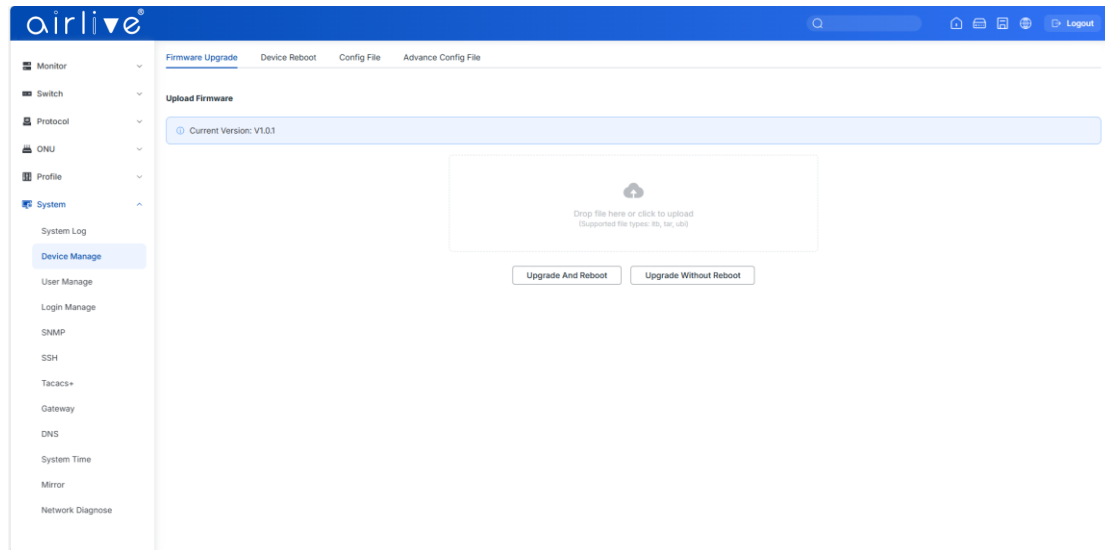


Figure 7.2-1: Firmware Upgrade

7.2.2 Device Reboot

System → Device Management → Device Reboot

You can reboot the entire system on this page. Please do save the configuration before reboot.

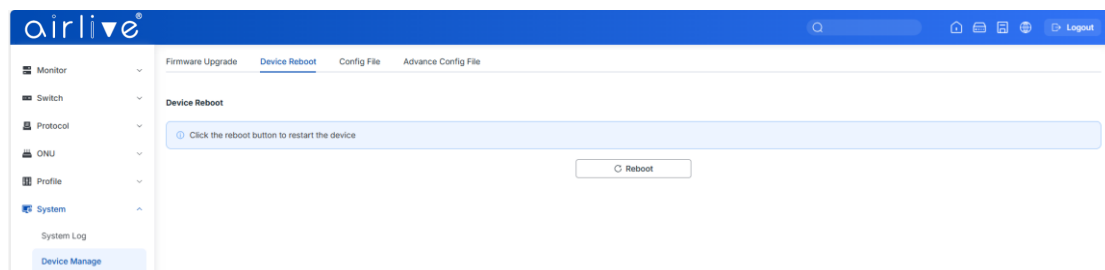


Figure 7.2-2: Device Reboot

7.2.3 Config File

System → Device Management → Config File

You can backup configuration, restore configuration, restore factory defaults and save configuration on this page.

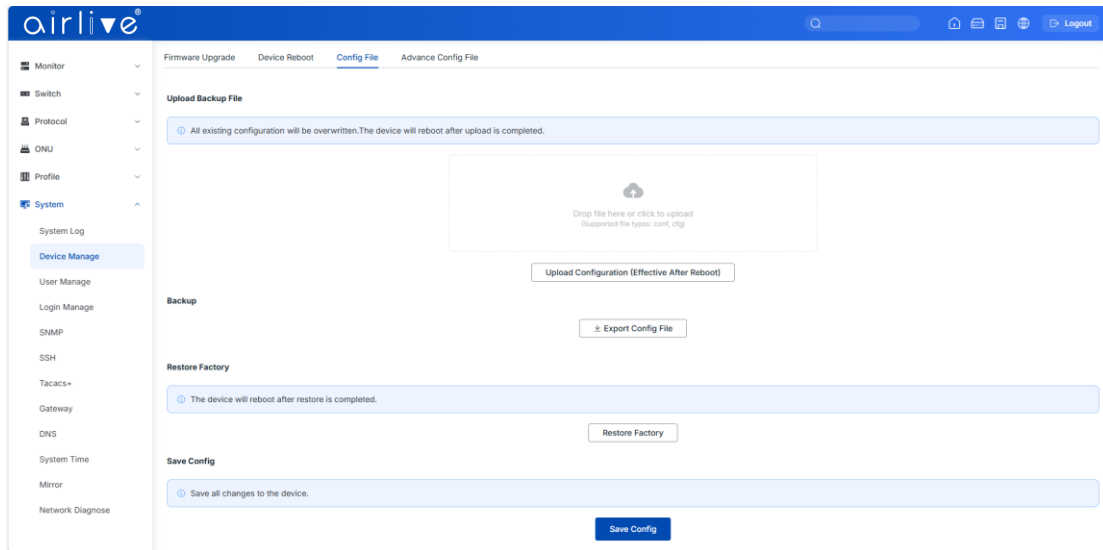


Figure 7.2-3: Config File Configuration

7.2.4 Advance Config File

System → Device Management → Advance Config File

You can automatically backup files on this page.

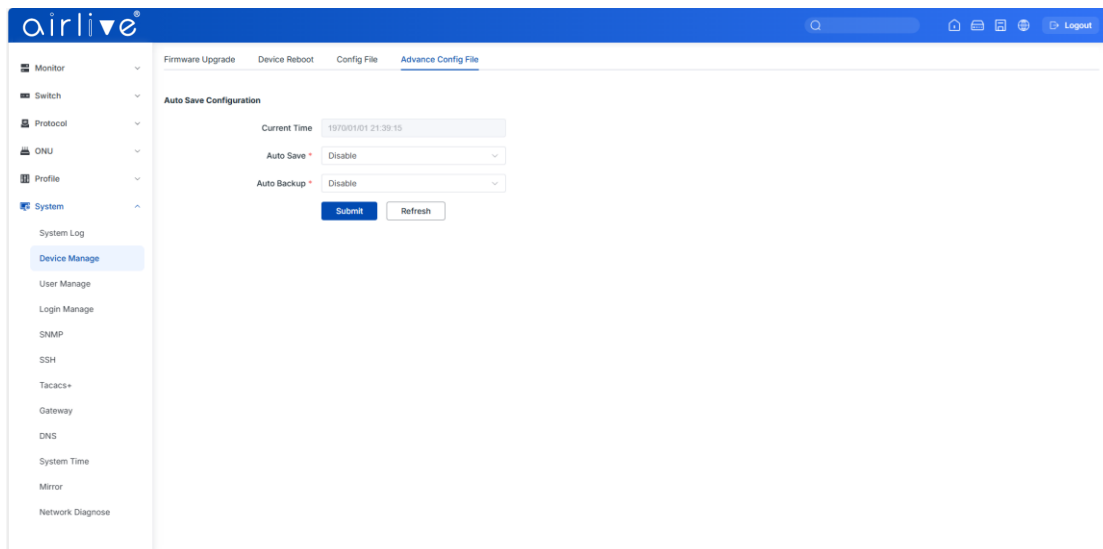


Figure 7.2-4: Advance Config File Configuration

7.3 User Management

System → User Management

Two types of user have been defined, Normal and Admin. There are limitations to normal user, and Admin user has no limits to full function of OLT. The default account member is **Admin** level.

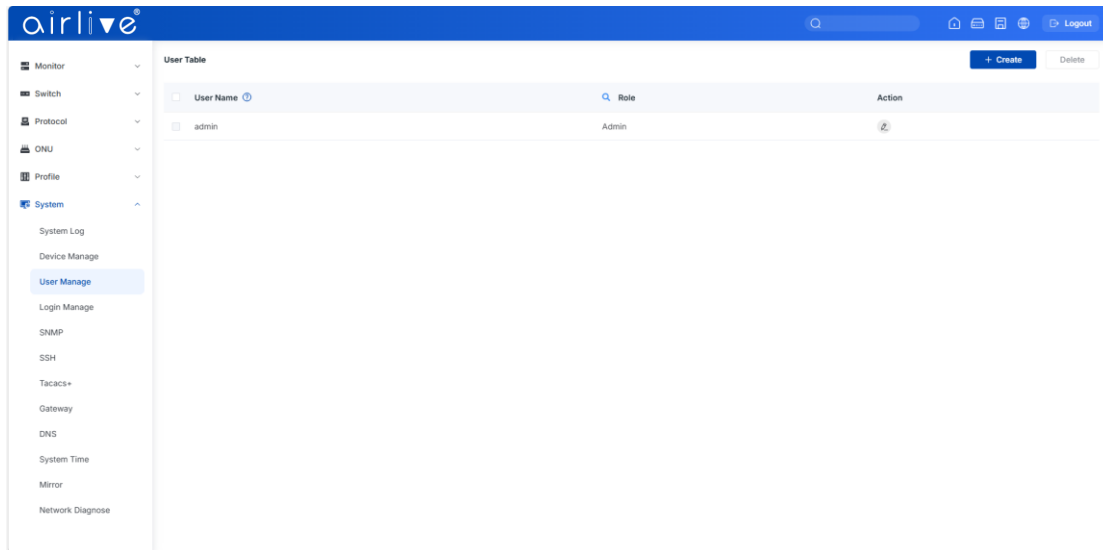


Figure 7.3-1: User Manage

7.4 Login Management

7.4.1 Login Access List

System → Login Management → Login Access List

This page is used to configure access rights for management. You can configure access rights for Telnet, Web, according to source IP address.

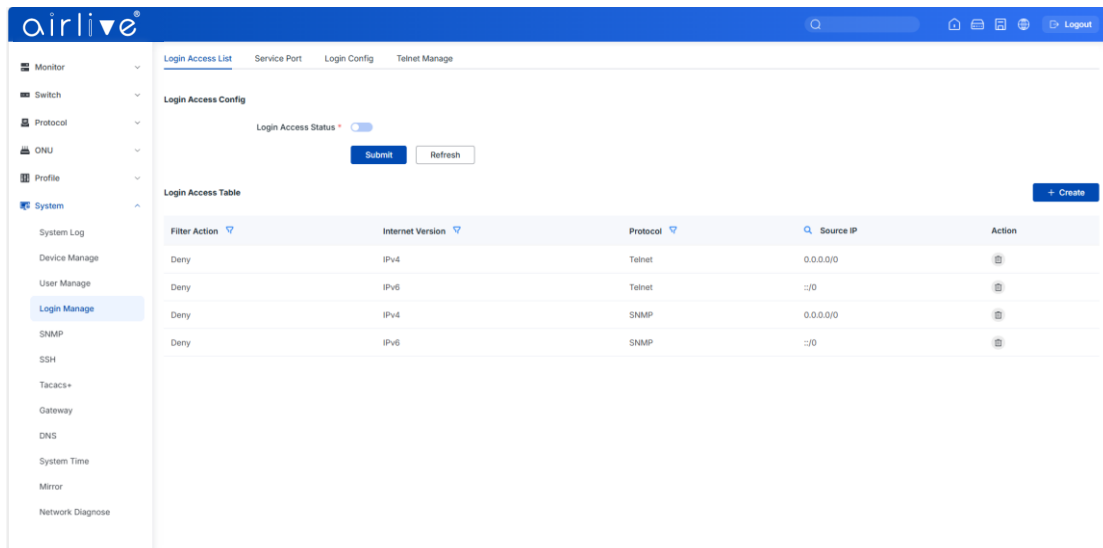


Figure 7.4-1: Login Access List Configuration

7.4.2 Service Port

System → Login Management → Service Port

This page is used to set Web, Telnet Port .

The screenshot shows the 'Service Port Config' page in the AirLive web interface. The left sidebar is expanded to 'System', with 'Login Manage' selected. The main content area has tabs for 'Login Access List', 'Service Port', 'Login Config', and 'Telnet Manage'. The 'Service Port' tab is active, displaying the following configuration fields:

Field	Value
Web Port *	443
Telnet Port *	23
SSH Port *	22
SNMP Port *	161

Buttons for 'Submit' and 'Refresh' are located at the bottom right of the configuration area.

Figure 7.4-2: Service Port Configuration

7.4.3 Login Configuration

System Configuration → **Login Management** → **Login Configuration**

This page is used to set login timeout and verification code switch .

The screenshot shows the 'Login Config' page in the AirLive web interface. The left sidebar is expanded to 'System', with 'Login Manage' selected. The main content area has tabs for 'Login Access List', 'Service Port', 'Login Config', and 'Telnet Manage'. The 'Login Config' tab is active, displaying the following configuration fields:

Field	Value
Login Timeout *	30 min
Verification Code *	On

Buttons for 'Submit' and 'Refresh' are located at the bottom right of the configuration area.

Figure 7.4-3: Login Configuration

7.4.4 Telnet Management

System Configuration → Login Management → Telnet Management

This page displays the current telnet connection information. You can see the host IP address and user name information that are currently accessing the OLT through telnet.

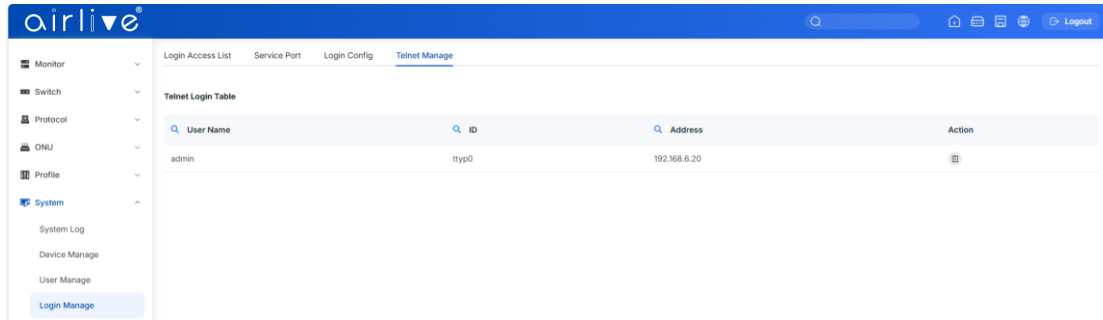


Figure 7.4-4: Telnet Management

7.5 SNMP

7.5.1 SNMPV1/V2

System → SNMP → SNMPV1/V2

This page is used to configure SNMP V1/V2 parameters for OLT management. It is not recommended to modify the default community name in the following image, as it may cause the network management system to be unable to manage and configure it.

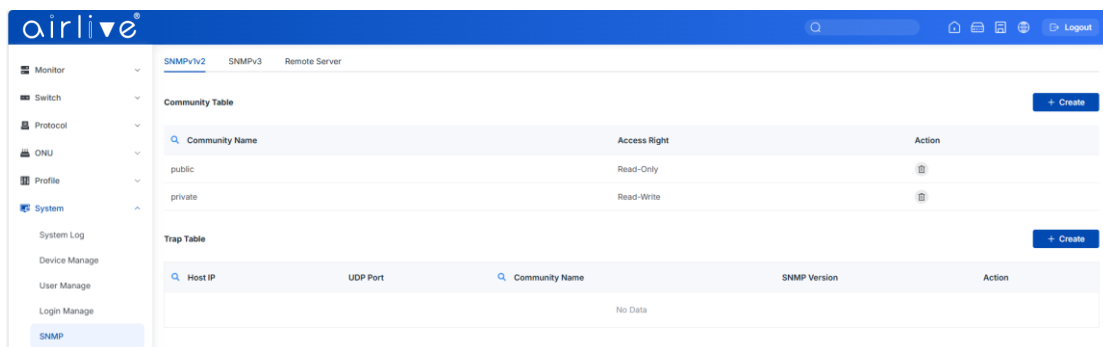


Figure 7.5-1: SNMPV1/V2

7.5.2 SNMPv3

System → SNMP → SNMPV3

This page is used to configure SNMP V3 parameters for OLT management.

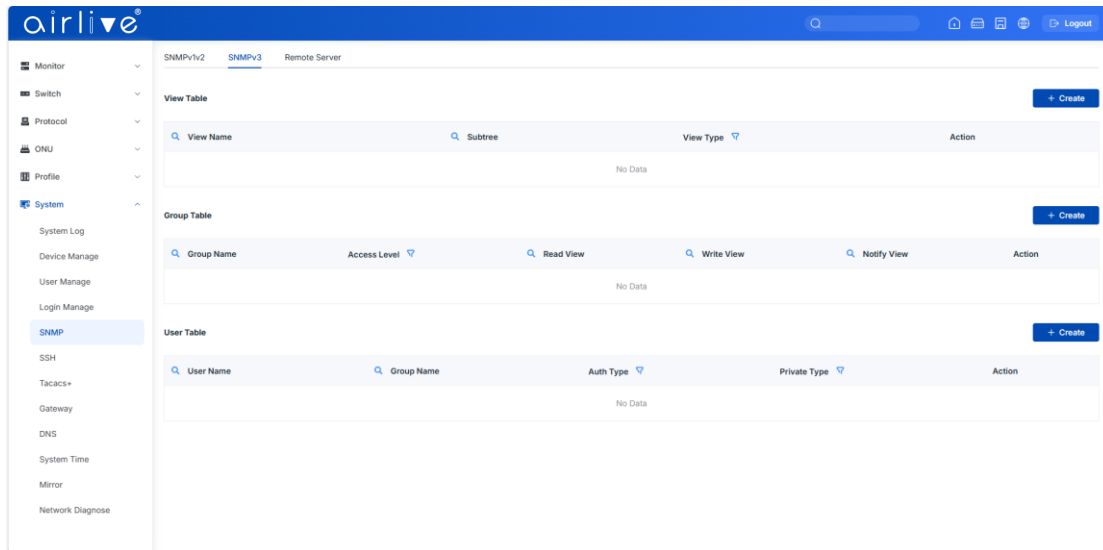


Figure 7.5-2: SNMPv3

7.5.3 Remote Server

System → SNMP → Remote Server

This page is used to configure AirLive EMS, Opticloud/AirCore server IP.

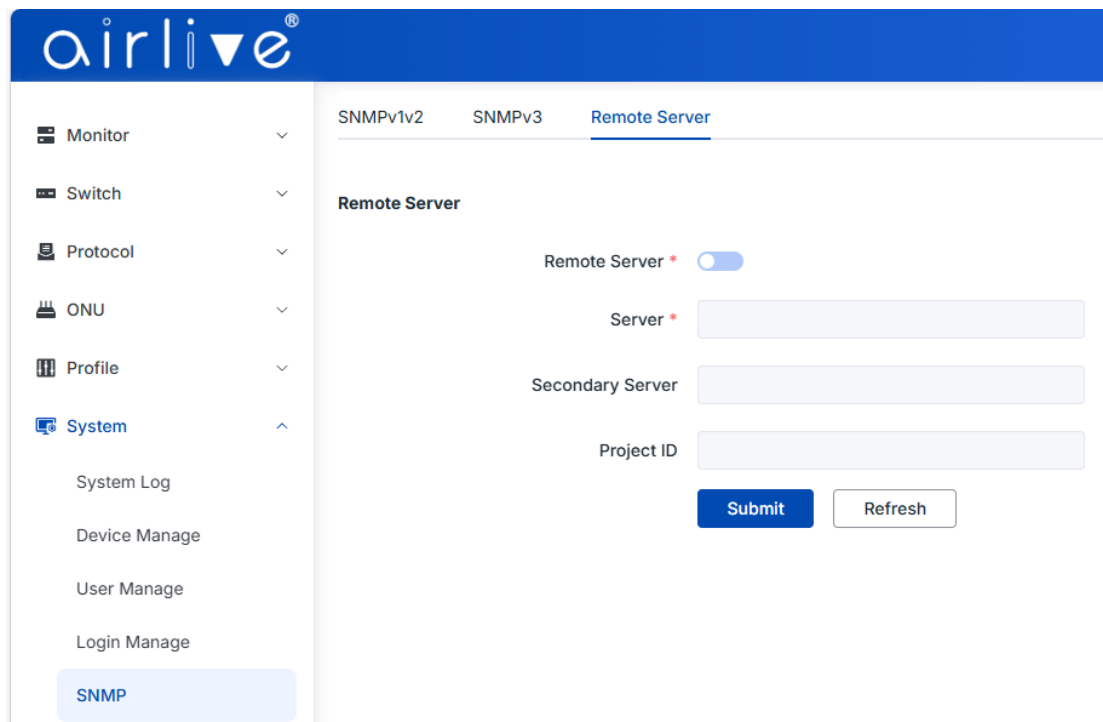


Figure 7.5-3: Remote Server

7.6 SSH

System Configuration → SSH

This page is used to configure SSH protocol related parameters.

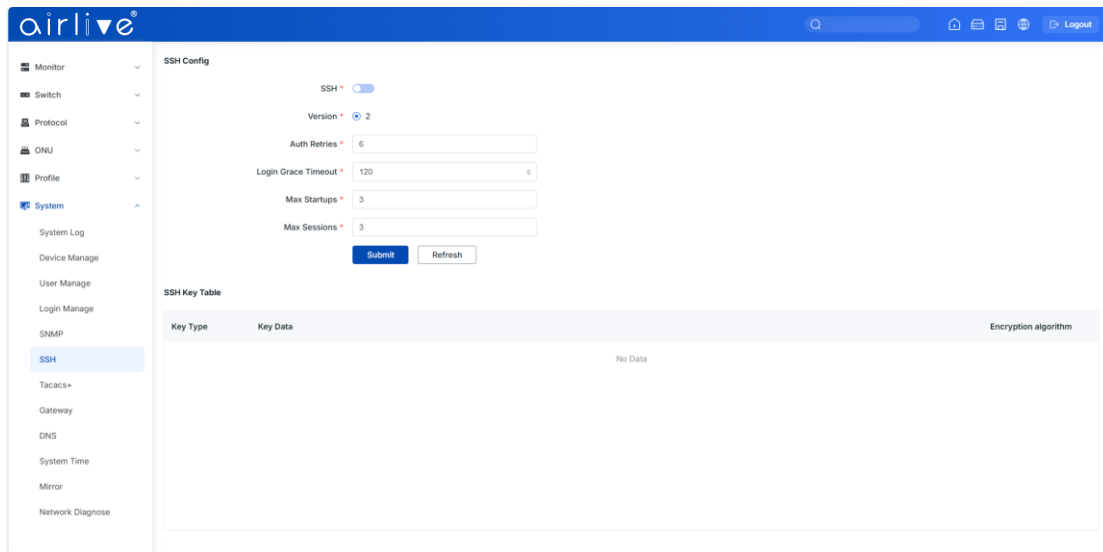


Figure 7.6-1:SSH Enable

7.7 Tacacs+

System Configuration → Tacacs+

Tacacs+ is a protocol that provides access control for routers, network access servers, and other interconnected computing devices through one or more centralized servers. Tacacs+ provides independent authentication, authorization, and billing services. This interface allows you to configure the Tacacs+ server IP address and other specific parameters.

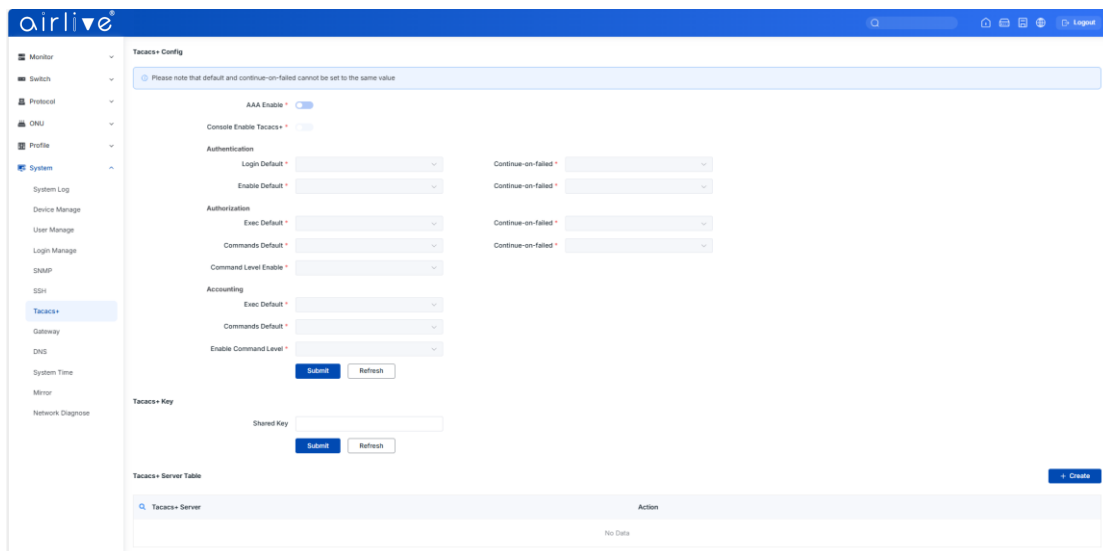


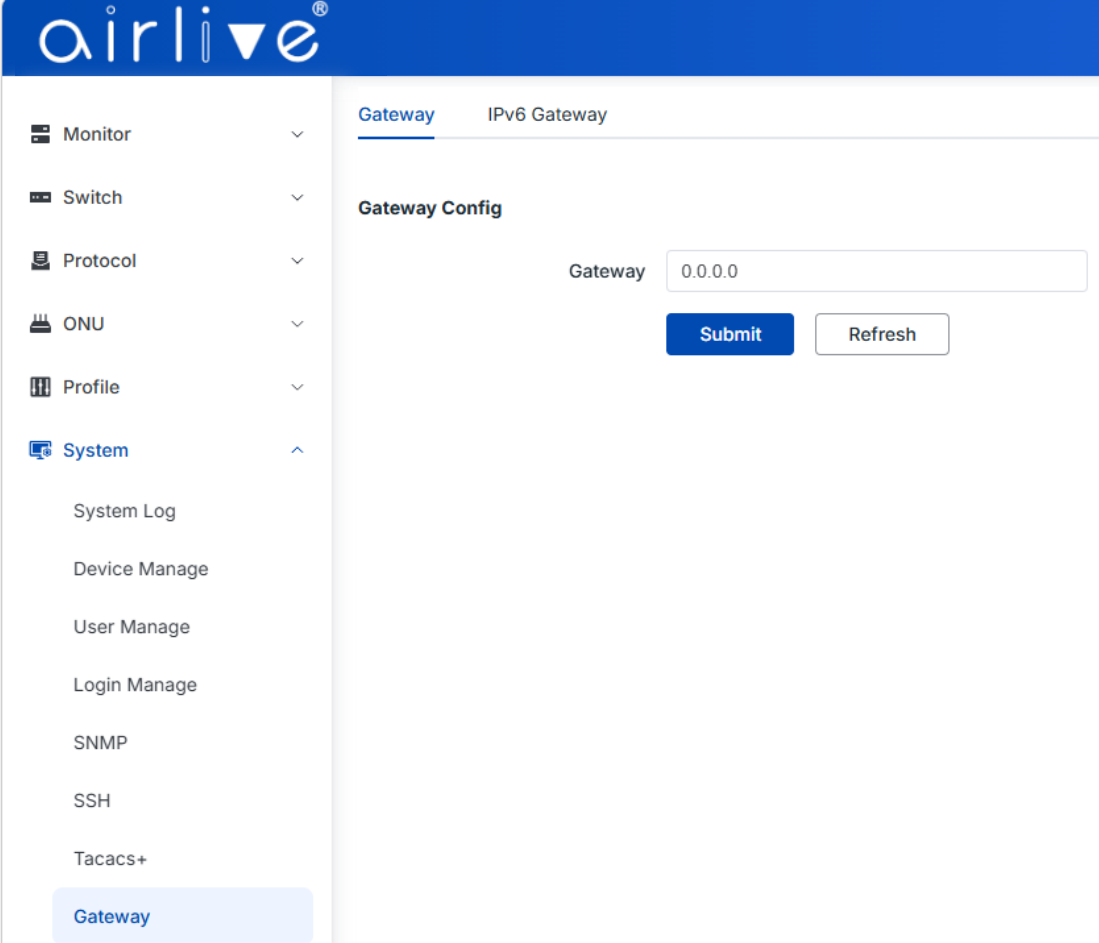
Figure 7.7-1: Tacacs+ Configuration

7.8 Gateway

7.8.1 Gateway

System → Gateway

This page is used to configure the OLT Gateway in case of that the OLT needs to access Internet or any Layer 3 network.



The screenshot displays the AirLive web interface for configuring the Gateway. The top navigation bar is blue with the 'airlive®' logo. The left sidebar contains a menu with the following items: Monitor, Switch, Protocol, ONU, Profile, System (expanded), System Log, Device Manage, User Manage, Login Manage, SNMP, SSH, Tacacs+, and Gateway (highlighted). The main content area is titled 'Gateway' and 'IPv6 Gateway'. Under the 'Gateway Config' section, there is a text input field labeled 'Gateway' containing the value '0.0.0.0'. Below the input field are two buttons: 'Submit' and 'Refresh'.

Figure 7.8-1: Gateway

7.8.2 IPv6 Gateway

System → IPv6 Gateway

This page is used to configure the OLT Gateway in case of that the OLT needs to access Internet or any Layer 3 ipv6 network.

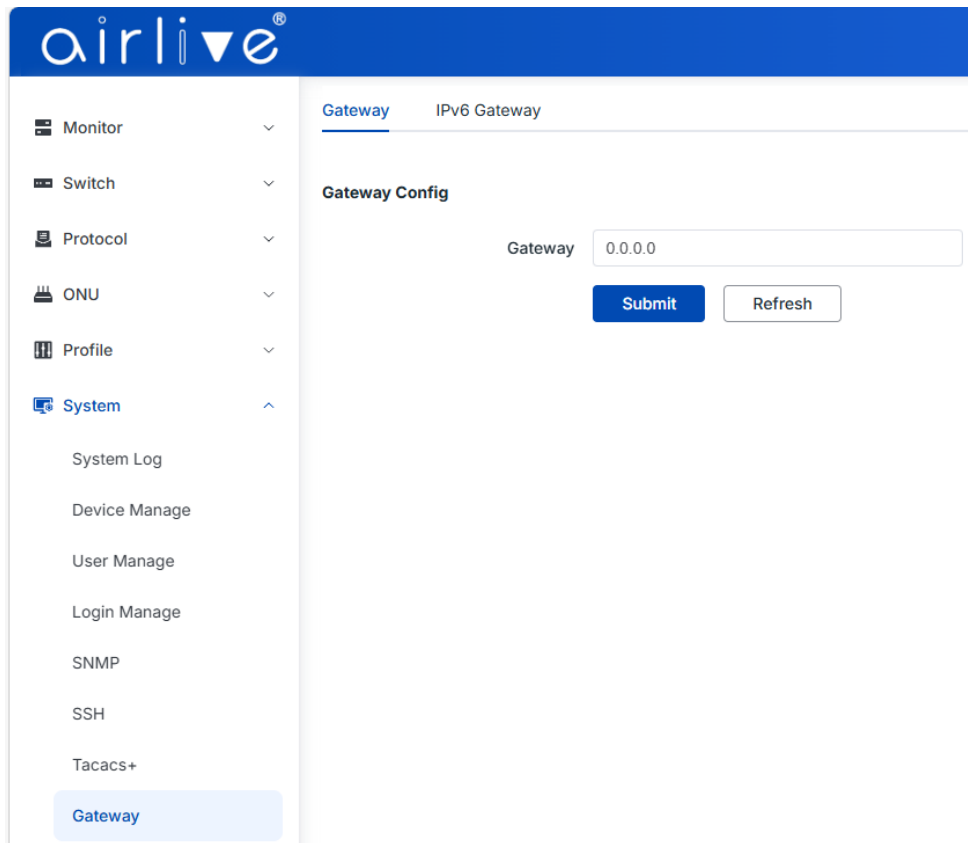


Figure 7.8-2: IPv6 Gateway

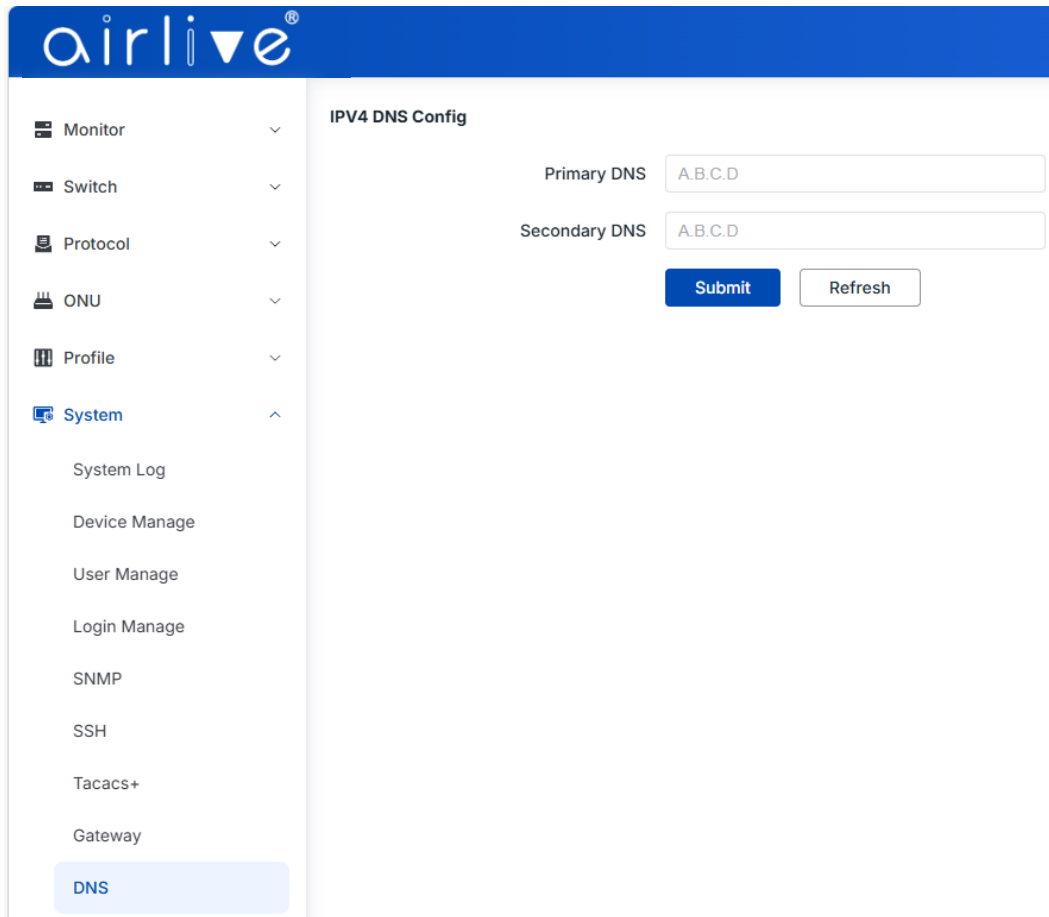
7.9 DNS

DNS is used for domain name resolution. When OLT need to visit a site or a destination by domain, take NTP server for example, DNS is required.

7.9.1 IPv4 DNS Config

System → **DNS** → **IPv4 DNS Config**

This page is used to configure IPv4 DNS.



The screenshot displays the AirLive web interface for IPv4 DNS configuration. The left sidebar shows a navigation menu with the following items: Monitor, Switch, Protocol, ONU, Profile, and System. The System menu is expanded, showing sub-items: System Log, Device Manage, User Manage, Login Manage, SNMP, SSH, Tacacs+, Gateway, and DNS. The main content area is titled "IPV4 DNS Config" and features two input fields for "Primary DNS" and "Secondary DNS", both containing the placeholder text "A.B.C.D". Below these fields are two buttons: "Submit" and "Refresh".

Figure 7.9-1: IPv4 DNS

7.10 System Time

7.10.1 RTC

System → **System Time** → **RTC**

This page is used to set OLT system time. RTC stands for Real-Time Clock, it provides clock signal to the system. There is no battery inside OLT, so the time will not be saved after powered off.

The screenshot shows the AirLive web interface with the 'System Time' menu item selected in the left sidebar. The main content area has three tabs: 'RTC', 'NTP', and 'Format'. The 'RTC' tab is active, displaying the following configuration fields:

- Year: 1970 (range 1970-2000-2099)
- Month: 1 (range 1-12)
- Date: 1 (range 1-31)
- Hour: 21 (range 0-23)
- Minute: 53 (range 0-59)
- Second: 40 (range 0-59)

At the bottom of the form are 'Submit' and 'Refresh' buttons.

Figure 7.10-1: RTC

7.10.2 NTP

System → System Time → NTP

This page is used to configure NTP server. OLT will synchronize time with the NTP server at a given time.

The screenshot shows the AirLive web interface with the 'System Time' menu item selected in the left sidebar. The main content area has three tabs: 'RTC', 'NTP', and 'Format'. The 'NTP' tab is active, displaying the 'NTP Config' section with the following configuration:

- Current Time: 2026/07/08 16:08:00
- NTP Enable:
- Time Zone: (GMT-00:00) Casablanca, Monrovia
- Daylight Saving Time Area: Disable
- NTP Server: [Empty text field]
- Backup NTP Server: [Empty text field]

At the bottom of the form are 'Submit' and 'Refresh' buttons.

Figure 7.10-2: NTP

7.10.3 Format

System → System Time → Format

This page is used to configure system time format.

The screenshot shows the AirLive web interface. On the left is a sidebar menu with the following items: Monitor, Switch, Protocol, ONU, Profile, System (expanded), System Log, Device Manage, User Manage, Login Manage, SNMP, SSH, Tacacs+, Gateway, DNS, and System Time (highlighted). The main content area has three tabs: RTC, NTP, and Format (selected). Below the tabs is the title 'Set Date Time Format'. The configuration fields are as follows:

Date Example	2022/07/11 14:23:45
Standard Format *	Custom Format
Date Format *	yyyy-MM-dd
Date Separator *	'/'
Time Format *	HH:MM:SS
Time System *	24-hour

At the bottom of the form are two buttons: 'Submit' and 'Refresh'.

Figure 7.10-3: Format

7.11 Mirror

7.11.1 Mirror Config

System → Mirror → Mirror Config

Port mirror is usually used for troubleshooting. It can forward incoming and outgoing packets from the source port to the destination port.

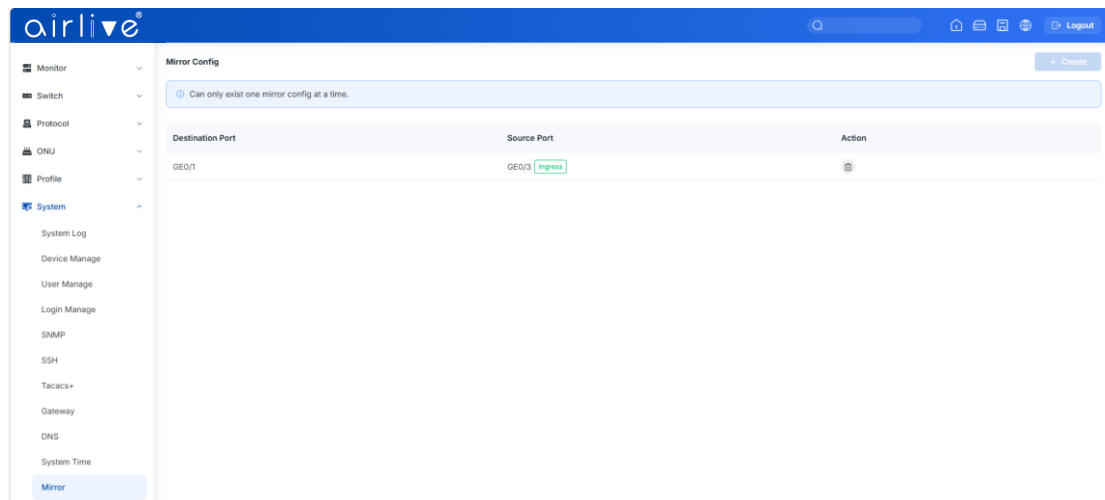


Figure 7.11-1: Mirror Configuration

7.11.2 Create

System → Mirror → Create

This page is used to create mirror rules. Destination Port is the interface where the device that captures the packet is located, Source Port is the original interface where the packet to be analyzed is located, and Direction can be set the direction of the original interface.

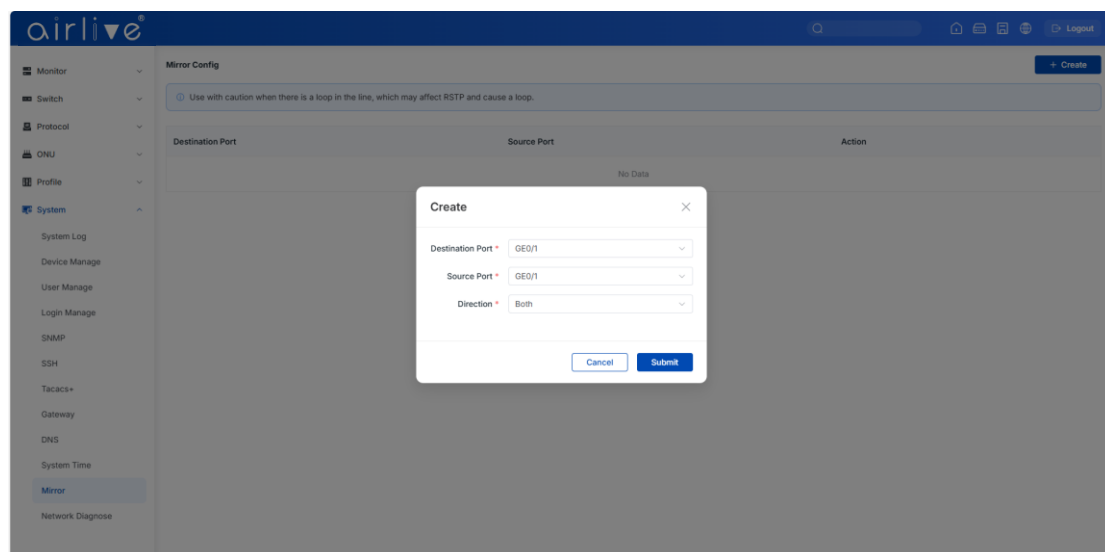


Figure 7.11-2: Create Mirror

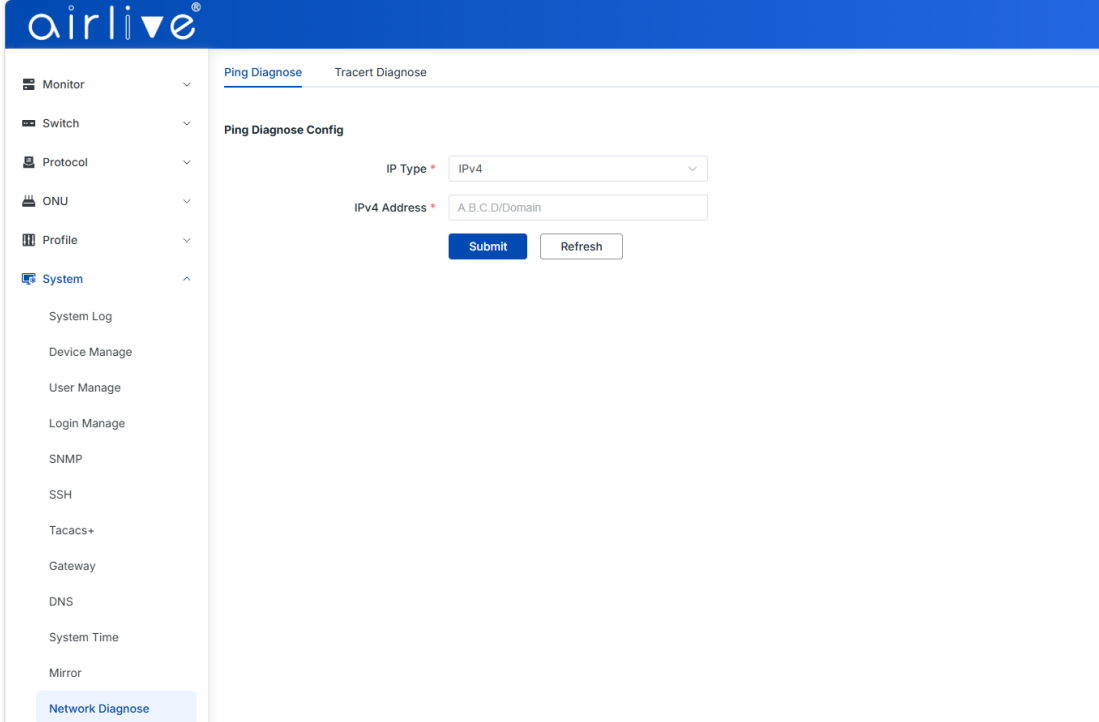
7.12 Network Diagnose

7.12.1 PING Diagnose

System → Network Diagnose → Ping Diagnose

This page supports diagnosing network connections using the PING command.

PING supports IPv4 and IPv6 address.



The screenshot displays the AirLive web management interface. At the top, there is a blue header with the 'airlive' logo. Below the header, a left-hand navigation menu is visible, listing various system management options such as Monitor, Switch, Protocol, ONU, Profile, System, System Log, Device Manage, User Manage, Login Manage, SNMP, SSH, Tacacs+, Gateway, DNS, System Time, and Mirror. The 'System' menu item is expanded, and 'Network Diagnose' is highlighted at the bottom of the list. The main content area is titled 'Ping Diagnose' and 'Tracert Diagnose'. Under the 'Ping Diagnose' tab, there is a 'Ping Diagnose Config' section. This section contains two input fields: 'IP Type' with a dropdown menu set to 'IPv4', and 'IPv4 Address' with a text input field containing the placeholder 'A.B.C.D/Domain'. Below these fields are two buttons: 'Submit' and 'Refresh'.

Figure 7.12-1: Ping Diagnose

7.12.2 Tracert Diagnose

System → Network Diagnose → Tracert Diagnose

This page supports using Tracert commands for route tracing to diagnose network connections.

The routing tracking function supports IPv4 and IPv6 addresses.

The screenshot displays the AirLive web management interface. On the left is a navigation sidebar with the following menu items: Monitor, Switch, Protocol, ONU, Profile, System (expanded), System Log, Device Manage, User Manage, Login Manage, SNMP, SSH, Tacacs+, Gateway, DNS, System Time, Mirror, and Network Diagnose (highlighted). The main content area is titled 'Traceroute Diagnose' and contains two tabs: 'Ping Diagnose' and 'Traceroute Diagnose' (selected). Below the tabs is the 'Traceroute Diagnose Config' section, which includes a dropdown menu for 'IP Type' set to 'IPv4' and a text input field for 'IPv4 Address' with a placeholder 'A.B.C.D/Domain'. At the bottom of this section are two buttons: 'Submit' and 'Refresh'.

Figure 7.12-2:Tracert Diagnose

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