

Setup guide for OLT and ONU

Route configuration

**AirLive XGSPON OLT-1XGS
and GPON, XGPON, XGSPON ONU**

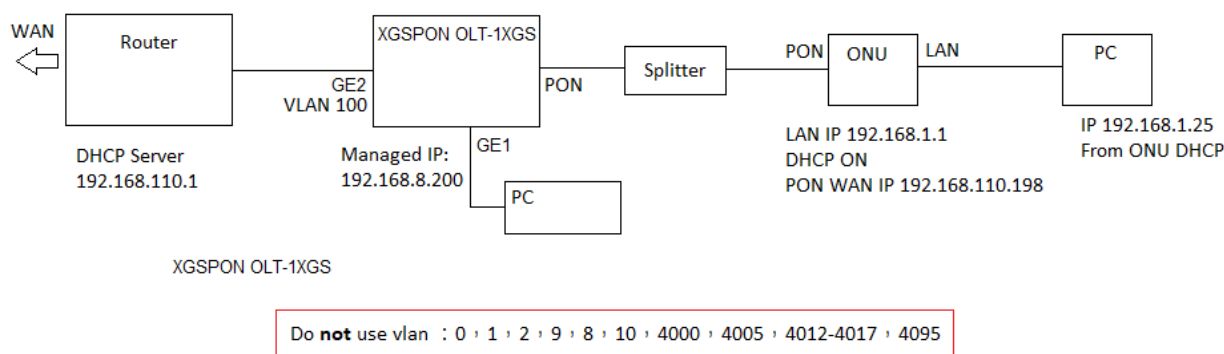


How to set up the OLT and ONU in combination with a Router.

For the setup an AirLive XGSPON OLT-1XGS and an Airlive ONU-10XG(S)-1004-10G was used.

Note: The XGSPON OLT-1XGS is a Triple OLT, it can work with XGSPON, XGPON and GPON ONU's simultaneous.

The setup is following the diagram below, please do **not** use VLAN: 0, 1, 2, 9, 8, 10, 4000, 4005, 4012-4017, 4095.



Setup Steps:

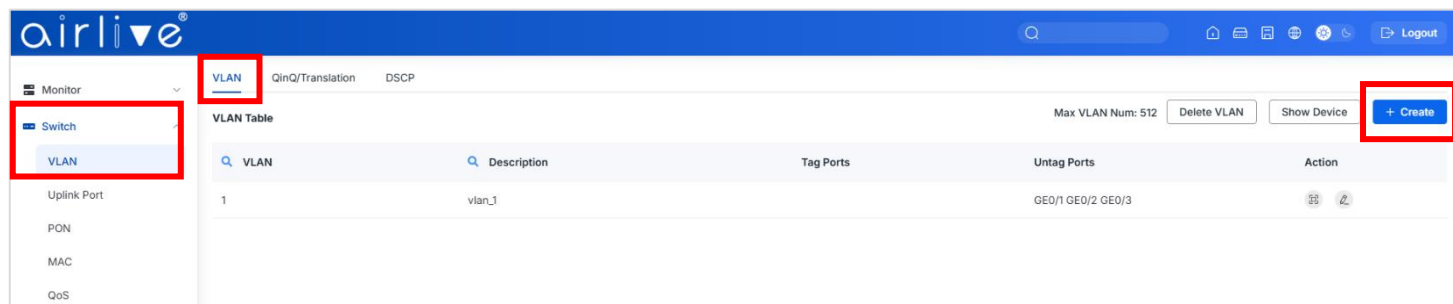
- 1: Login to the OLT management web interface. The default IP is 192.168.8.200 using the GE1 port in this example. The PON mode for the ONU will be auto detected.
- 2: If we want to configure the ONU to access the Internet, we need to create a VLAN in OLT first.
- 3: Create a VLAN, VLAN 100 (for this example) for Internet.
- 4: VLAN bindings for uplink GE port

please note: If the uplink port is in the untag mode, PVID (default vlan id) needs to be configured (100 in this example).
- 5: Open ONU list page, Select the PON port where ONU is located. Find out what ONU you want to configure. Check the ONU status and ensure the ONU is in Online state.
- 6: Click on the ONU configuration page to configure "Tcont", "Gemport", "Service", "Service Port" and other parameters.
- 7: On the "port vlan" page, for ONU, the Mode needs to be configured for "transparent", Port Type needs to be configured for "veip" and Port Id needs to be configured for "1".
- 8: Then we need to create an Internet WAN connection for it, click on "WAN" page. Mode is Route, enable NAT, you can also choose three modes for Internet WAN connection. Here we use the DHCP mode. Then select the VLAN mode and fill in the VLAN information (100 in this example). And choose service mode is "Internet".

Please note: When the configuration is complete, you need to the click "Submit" button. At this point, the configuration is added to running-config list. Finally click the "submit" button.
- 9: You can configure the ONU DHCP Server on the "DHCP server" page, configure the LAN IP and DHCP address pool you need.
- 10: Press "SAVE" in the top bar of the OLT so save the complete configuration.

Start Setup

1: In the “Switch” Configuration select “VLAN” and click on “Create” to make a VLAN ID, in this example we make VLAN 100. Enter 100 and click Submit.



Create

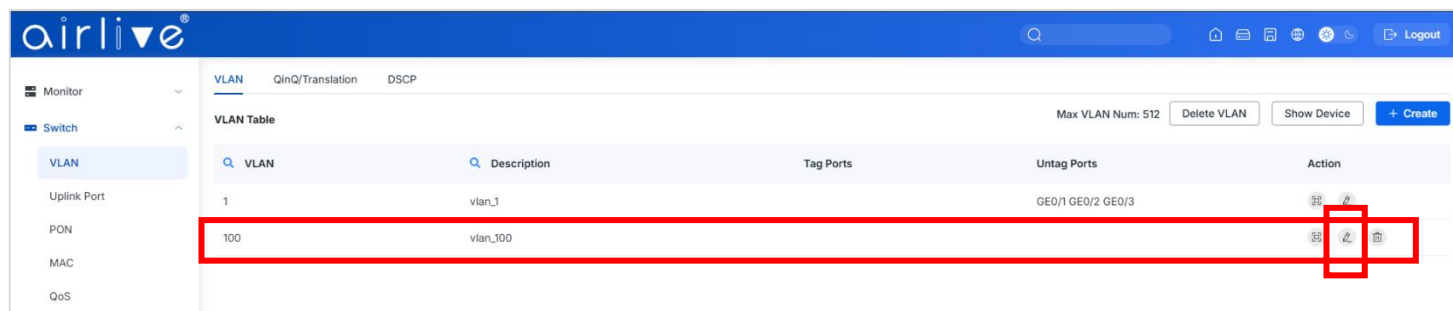
VLAN *

100

Cancel

Submit

2: Bind the Uplink GE port go the “Modify” for the VLAN 100, in this example all ports were binded to the VLAN 100. Make sure the Uplink is in “Untag” mode.



Edit

Description

vlan_100

8 / 30

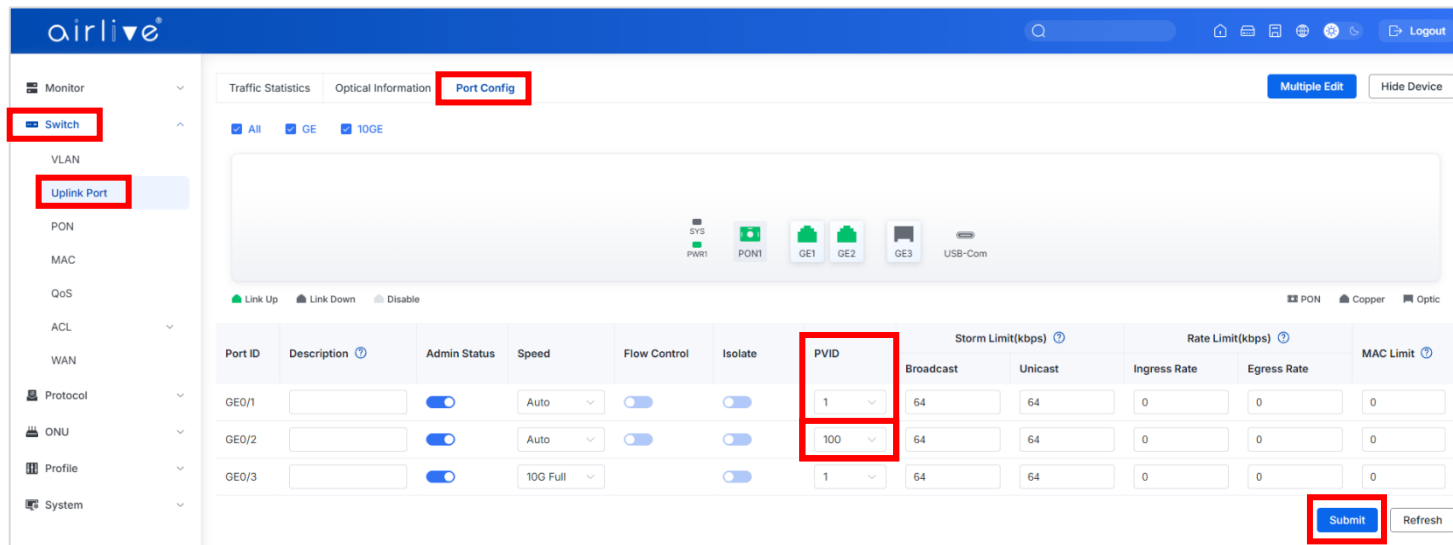
Port VLAN Configuration

Port ID	Port Mode	VLAN Mode		
GE0/1	Hybrid	☐ Forbidden	☐ Tag	☒ Untag
GE0/2	Hybrid	☐ Forbidden	☐ Tag	☒ Untag
GE0/3	Hybrid	☐ Forbidden	☐ Tag	☒ Untag

Cancel

Submit

3: When the Uplink port is in “Untag” mode, the PVID (default VLAN id) needs to be configured. Go to “Switch” >> “Uplink Port” >> “ Port Config”. Change the PVID for the uplink to 100 (in this example) and press Submit.



Port ID	Description	Admin Status	Speed	Flow Control	Isolate	PVID	Broadcast	Unicast	Ingress Rate	Egress Rate	MAC Limit
GE0/1		☒	Auto	☒	☒	1	64	64	0	0	0
GE0/2		☒	Auto	☒	☒	100	64	64	0	0	0
GE0/3		☒	10G Full	☒	☒	1	64	64	0	0	0

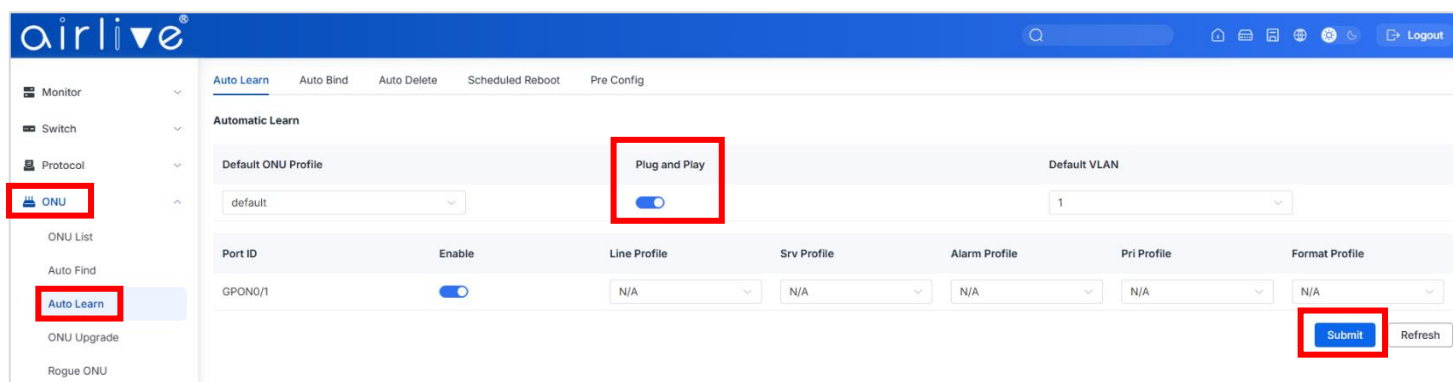
4: Adding the ONU to the OLT.

Make sure to read the full text of point 4 first, before the ONU has been connected to the OLT via its PON port and a Splitter.

Click on “ONU” and select “ONU List” when your ONU has been connected correctly. It will show up here.

4.1 Note: By default the, “ AutoLearn” Plug and Play function is enabled. This function will automatically add the default Profile to the ONU. If these are not the setting you want to use for your ONU. Then first either make your own Profile and select your profile in “Auto Learn” or Disable the Plug and Play function in Auto Learn before you add connect the ONU to the OLT.

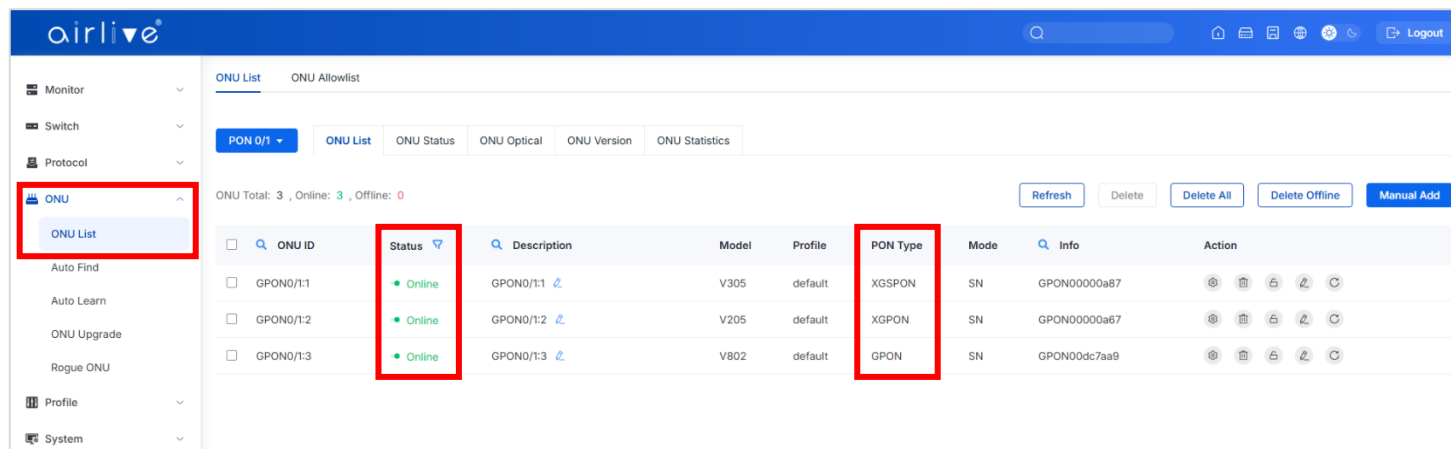
4.2 If you prefer to add the ONU’s manually or when the ONU cannot be found, then please also disable Plug and Play in Auto Learn. And select Manual Add from the ONU List.



Port ID	Enable	Line Profile	Srv Profile	Alarm Profile	Pri Profile	Format Profile
GPON0/1	☒	N/A	N/A	N/A	N/A	N/A

The above image is for turning the Plug and Play option off when needed. Slide the blue bar to the left to turn the function off. Click “Submit ” to save the settings.

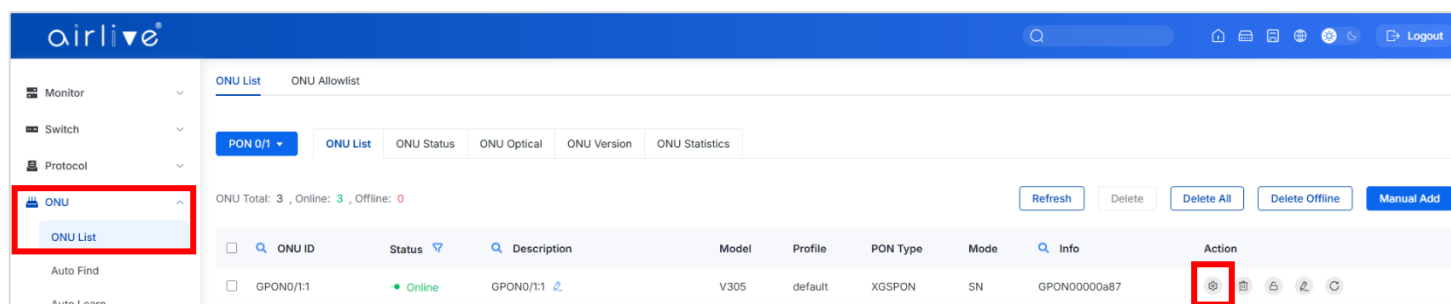
The ONU will now be shown in the ONU List and when connected correctly it will display “Online” in green at Status. The XGSPON OLT-1XGS Supports Triple play PON, GPON/XGPON/XGSPON all at the same time.



ONU ID	Status	Description	Model	Profile	PON Type	Mode	Info	Action
GPON0/1/1	Online	GPON0/1/1	V305	default	XGSPON	SN	GPON00000a87	[Icons]
GPON0/1/2	Online	GPON0/1/2	V205	default	XGPON	SN	GPON00000a67	[Icons]
GPON0/1/3	Online	GPON0/1/3	V802	default	GPON	SN	GPON00dc7aa9	[Icons]

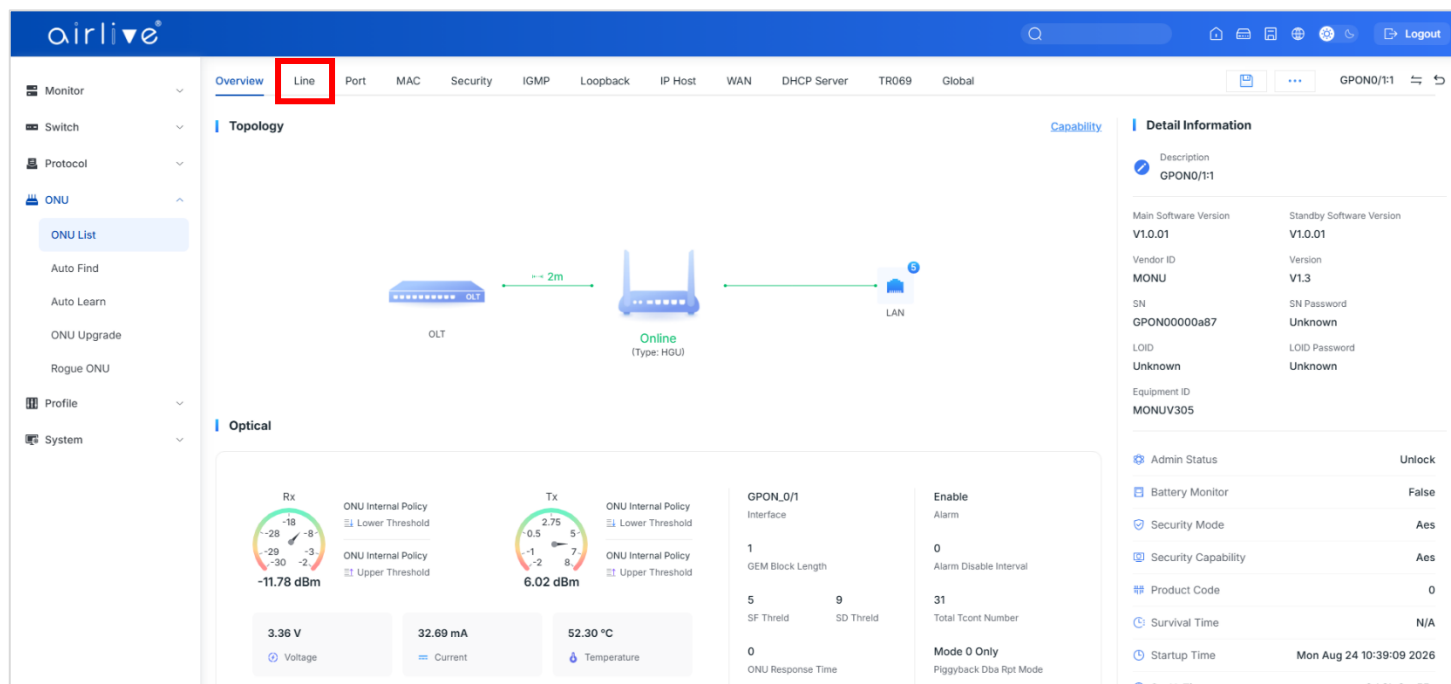
5: Configure the ONU, Click on the “ONU List” in the OLT menu.

The active ONU’s will now be shown, select the ONU you want to configure (make sure the status is “Online”) and click on the “Configuration” button.



6: Setup the "Tcont", "gemport", "Service", "Service Port" and other parameters.

On the main Overview page select “Line”.



Topology

OLT — 2m —> Online (Type: HGU) —> LAN

Optical

Rx: -11.78 dBm

Tx: 6.02 dBm

Voltage: 3.36 V

Current: 32.69 mA

Temperature: 52.30 °C

Detail Information

Description: GPON0/1/1

Main Software Version: V1.0.01

Standby Software Version: V1.0.01

Vendor ID: MONU

Version: V1.3

SN: GPON00000a87

SN Password: Unknown

LOID: Unknown

LOID Password: Unknown

Equipment ID: MONUV305

Admin Status: Unlock

Battery Monitor: False

Security Mode: Aes

Security Capability: Aes

Product Code: 0

Survival Time: N/A

Startup Time: Mon Aug 24 10:39:09 2026

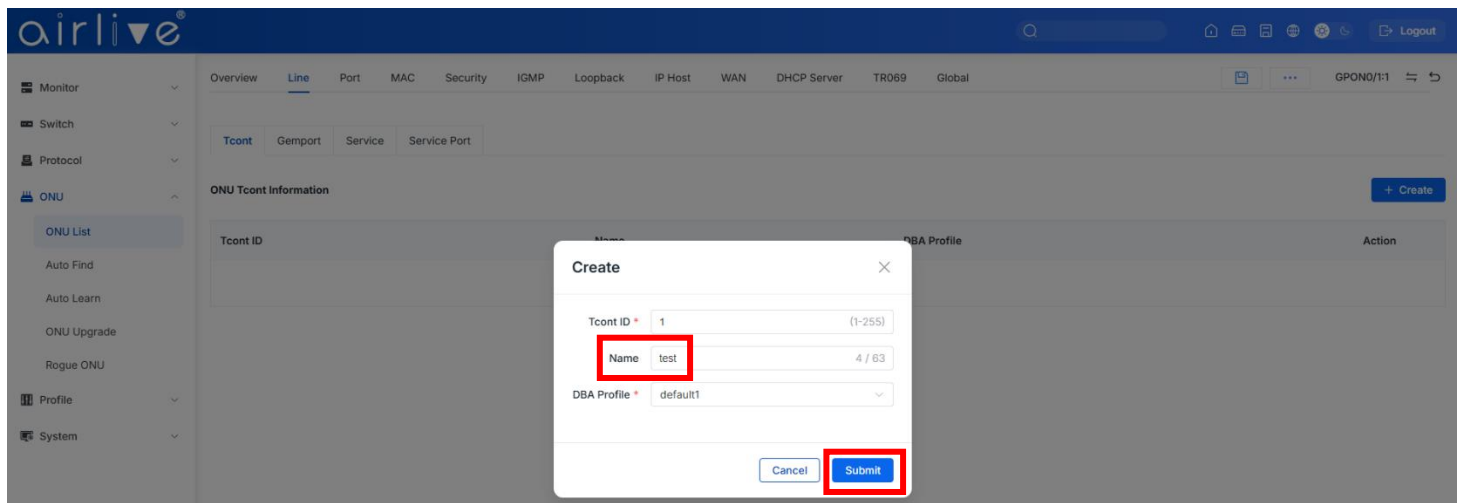
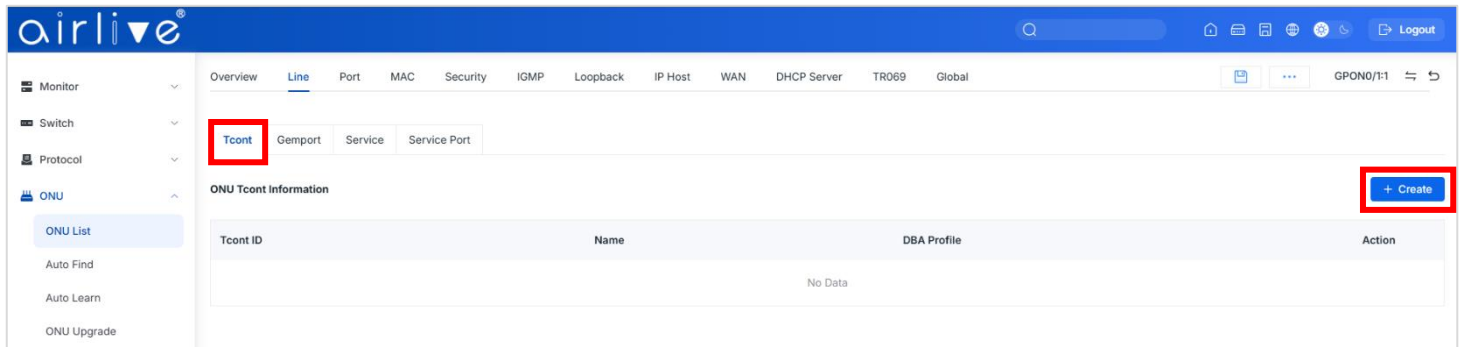
SysUpTime: 0d 0h 6m 55s

Note: If you do not see the WAN option in the top bar it could be that the ONU is in SFU mode, to get the WAN option in the top bar, change the mode from SFU to HGU. To change the mode first got to Global and change the mode. (see page 12).

Select “Tcont”

Setup the “Tcon” default value is 1, in this example for name, the name test was used.

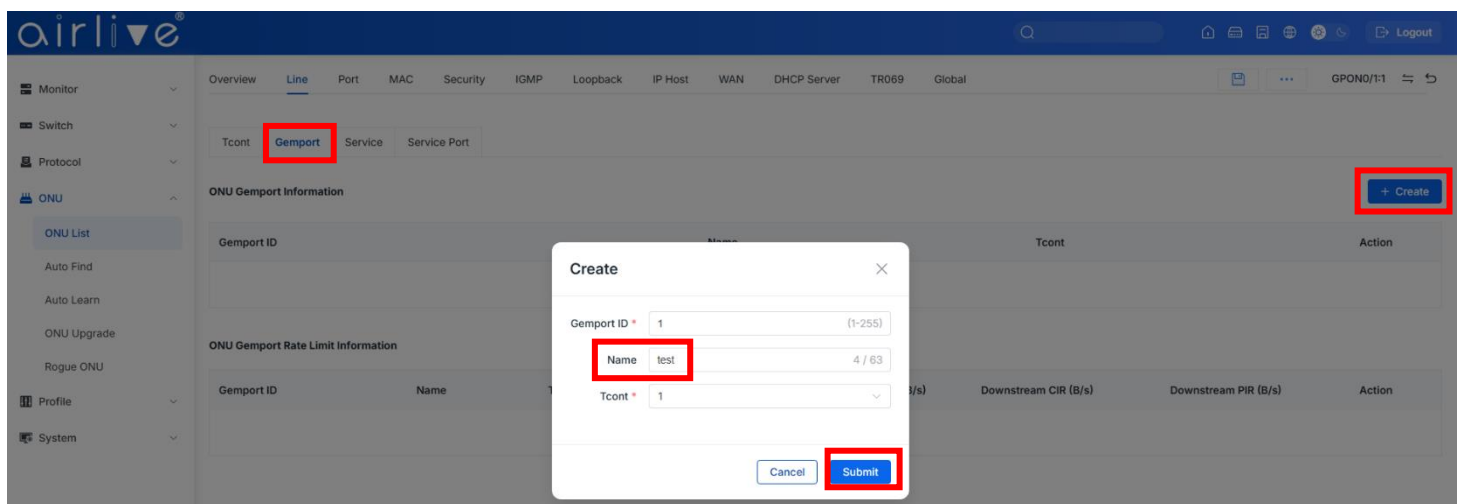
Click “Create” to add the “Tcon”. After entering the information Click “Submit”



Select “Gempport”

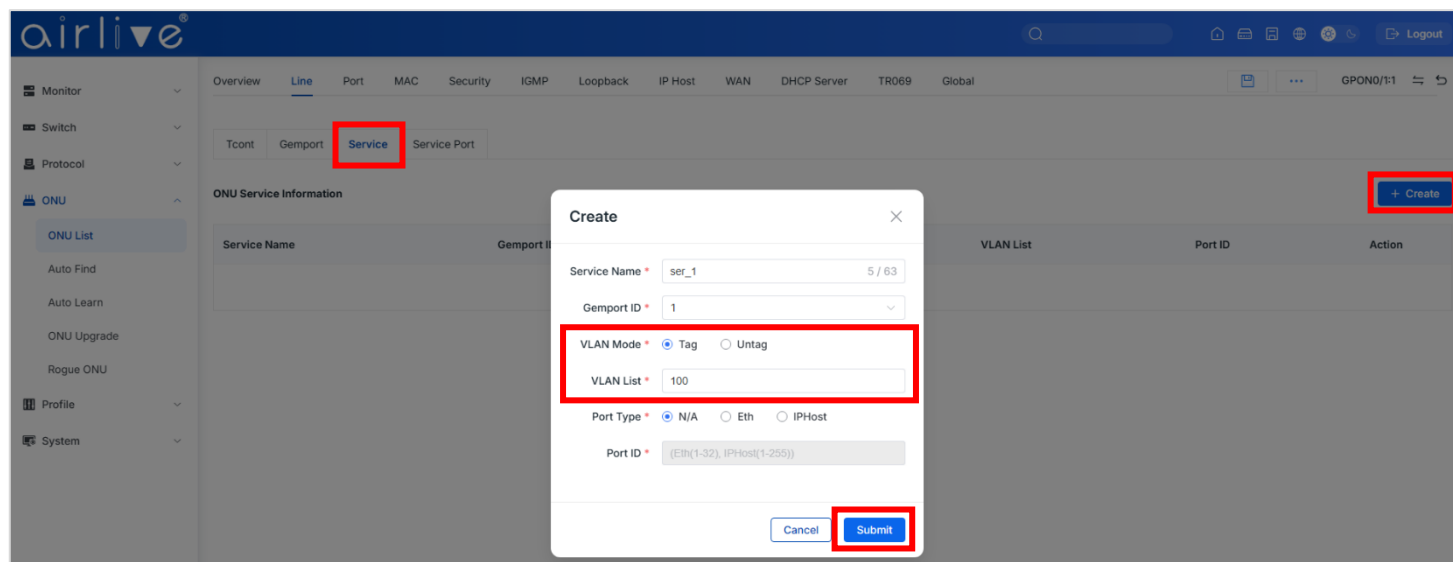
Setup the “Gempport” the default value is 1, make sure the TcontID select is 1 (the one previously made. The name used in this example is test.

Click “Create” to add the “Gempport”. After entering the information Click “Submit”



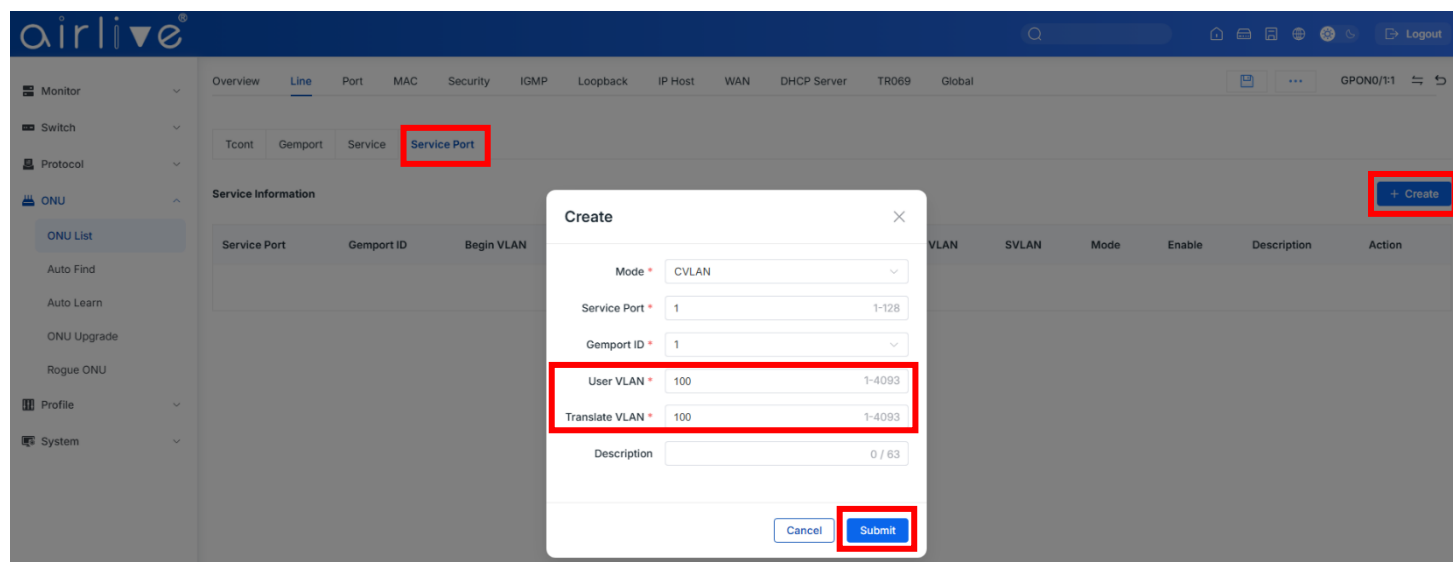
Setup the “Service”, make sure to select Gemport ID 1 (the one just made) and for VLAN mode select “Tag” for “VLAN List” enter the value 100, this is the VLAN id made in the OLT previously.

Click “Create” to add the “Service”. After entering the information Click “Submit”



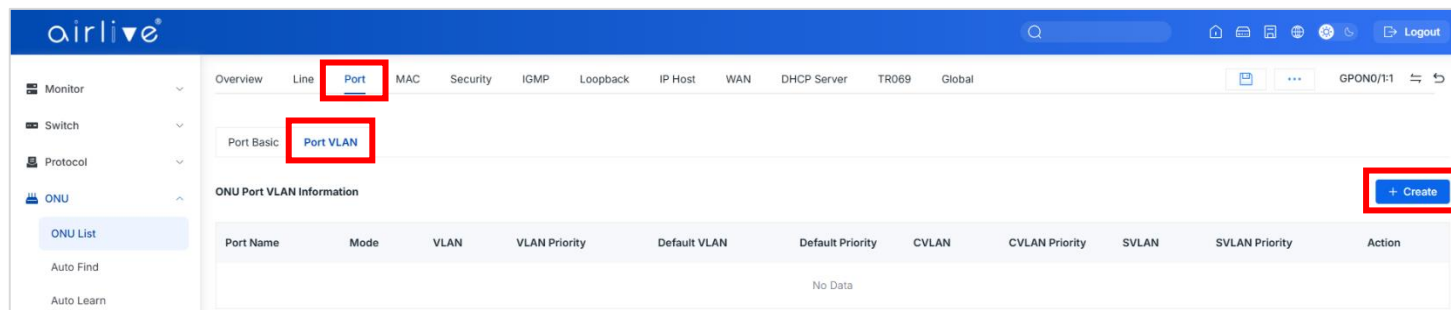
Setup the “Service Port” enter the User VLAN and Translate VLAN in this example both are 100. (as this example is using VLAN 100).

Click “Create” to add the “Service”. After entering the information Click “Submit”

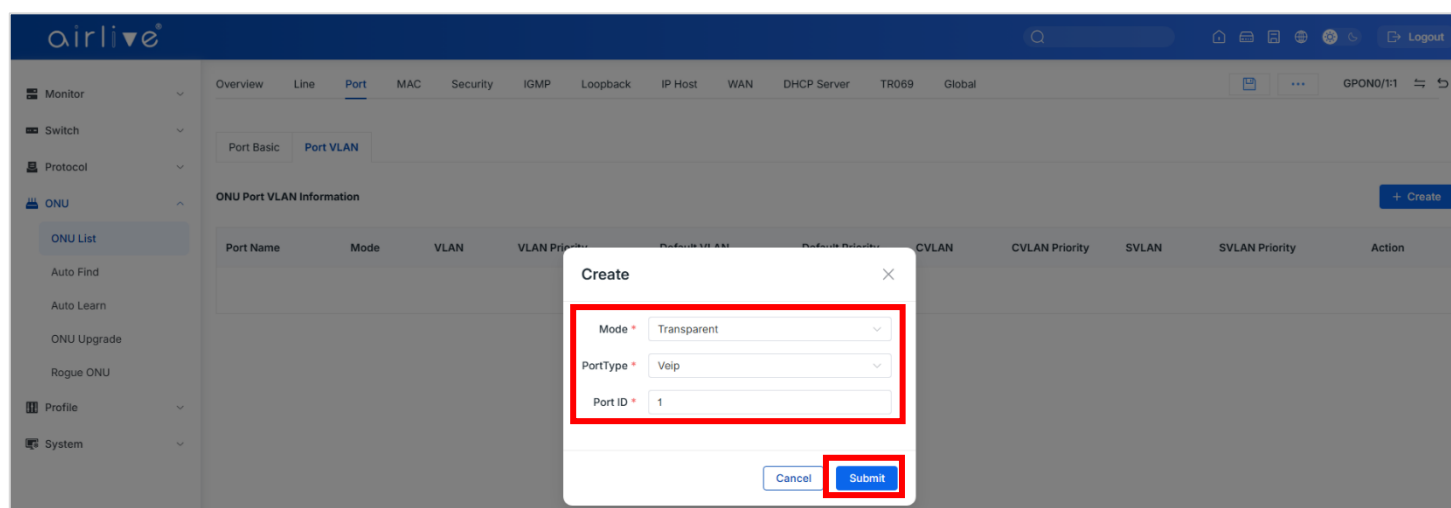


Setup the "Port VLAN" On the "Port VLAN" page, for HGU the mode this needs to be configured to "transparent", the Port Type needs to be configured as "veip" and Port Id needs to be configured as "1".

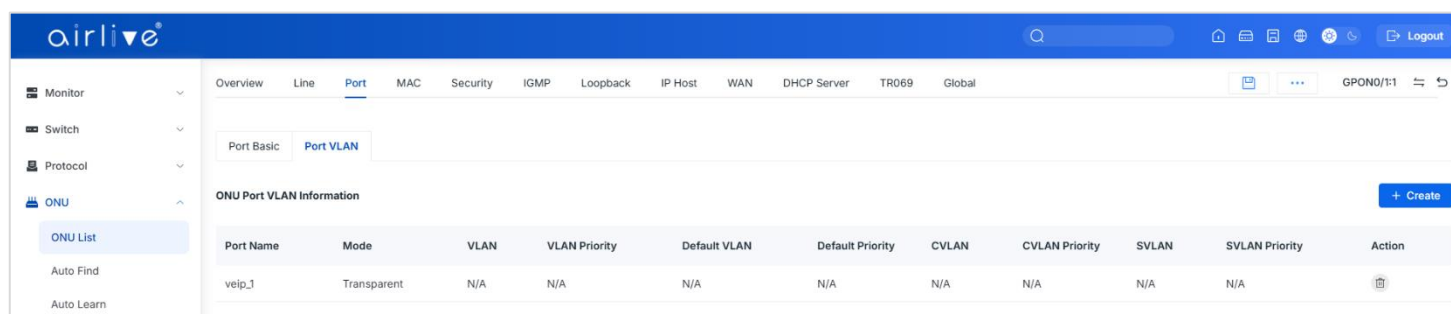
From the Top menu Click on "Port", Then select "Port VLAN" and Click Create.



The screenshot shows the AirLive web interface. The top navigation bar has a 'Port' menu item highlighted. Below it, the 'Port VLAN' sub-menu item is also highlighted. In the main content area, there is a '+ Create' button in the top right corner.



The screenshot shows the 'Create' dialog box for 'Port VLAN'. The dialog box has three fields: 'Mode' (set to 'Transparent'), 'PortType' (set to 'Veip'), and 'Port ID' (set to '1'). The 'Submit' button is highlighted.

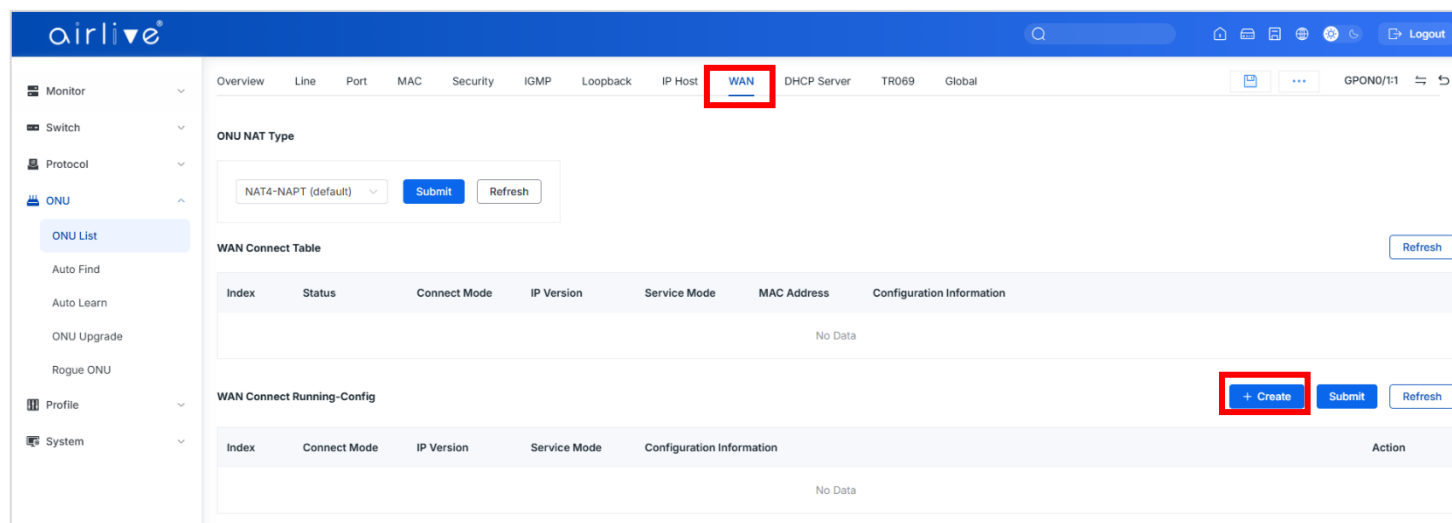


The screenshot shows the 'Port VLAN' configuration page after successful creation. The table 'ONU Port VLAN Information' now contains one entry with 'Port Name' 'veip_1', 'Mode' 'Transparent', and 'VLAN' 'N/A'.

Port Name	Mode	VLAN	VLAN Priority	Default VLAN	Default Priority	CVLAN	CVLAN Priority	SVLAN	SVLAN Priority	Action
veip_1	Transparent	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

7: Setting up the WAN port information, click on "WAN" in the top menu bar. In the WAN menu, Click on "Create" to add WAN. Select the Mode "Route", enable NAT, you can also choose three modes for Internet WAN connection. Here we use the DHCP mode. Then select the VLAN mode "Tag" and fill in the VLAN information in this example 100 and Click "Submit"

Please note: When the configuration is complete, you need to click "Submit" button. At this point, the configuration is added to running-config list. Finally click the "Submit" button to send the configuration to the ONU. Refresh the OLT page and in a few seconds the configuration will be shown it can take 1 min before it will show "Connected" when the configuration has been setup up correctly.



The screenshot shows the airtlive OLT management interface. The top navigation bar includes 'Overview', 'Line', 'Port', 'MAC', 'Security', 'IGMP', 'Loopback', 'IP Host', 'WAN' (highlighted with a red box), 'DHCP Server', 'TR069', and 'Global'. The left sidebar shows a tree view with 'Monitor', 'Switch', 'Protocol', 'ONU', 'Profile', and 'System'. Under 'ONU', 'ONU List' is selected. The main content area shows the 'WAN' configuration page. It includes a 'WAN NAT Type' section with a dropdown set to 'NAT4-NAPT (default)' and 'Submit' and 'Refresh' buttons. Below is a 'WAN Connect Table' with columns: Index, Status, Connect Mode, IP Version, Service Mode, MAC Address, and Configuration Information. The table is currently empty with 'No Data' displayed. At the bottom right of the table, there is a '+ Create' button (highlighted with a red box), 'Submit', and 'Refresh' buttons. Below the table is a 'WAN Connect Running-Config' section with columns: Index, Connect Mode, IP Version, Service Mode, Configuration Information, and Action. This table is also empty with 'No Data' displayed.

Add WAN

Basic Configuration

Connect Mode
☐ Bridge
☒ Route

IP Version
IPv4/IPv6

Connect Mode
DHCP

QoS Enable
☒

MTU
1500
(576-1500)

Service Mode
Internet

IPv4 Config

DNS
☒

NAT Enable
☒

IPv6 Config

IPv6 DNS
☒

SLAAC
☒

Client Address
☒

Client Prefix(DHCP PD)
☒

VLAN Config

VLAN Mode Tag

VLAN ID 100 (Tag:0~4095;Transparent:1~4095)

VLAN CoS 0 (0-7)

QinQ Enable ☐

Port Binding

LAN1

LAN2

LAN3

LAN4

LAN5

Submit

Cancel

Important after pressing “Submit” your configuration is made but not yet sent to the ONU.

After pressing “Submit” the configuration will be shown as in the below example. Click “Submit” again on the second “Submit” button and the configuration will be sent to the ONU.

airlive

Monitor

Switch

Protocol

ONU

ONU List

Auto Find

Auto Learn

ONU Upgrade

Rogue ONU

Profile

System

Overview

Line

Port

MAC

Security

IGMP

Loopback

IP Host

WAN

DHCP Server

TR069

Global

GPON0/1:1

Logout

ONU NAT Type

NAT4-NAPT (default)

Submit

Refresh

WAN Connect Table

Refresh

Index	Status	Connect Mode	IP Version	Service Mode	MAC Address	Configuration Information
No Data						

WAN Connect Running-Config

+ Create

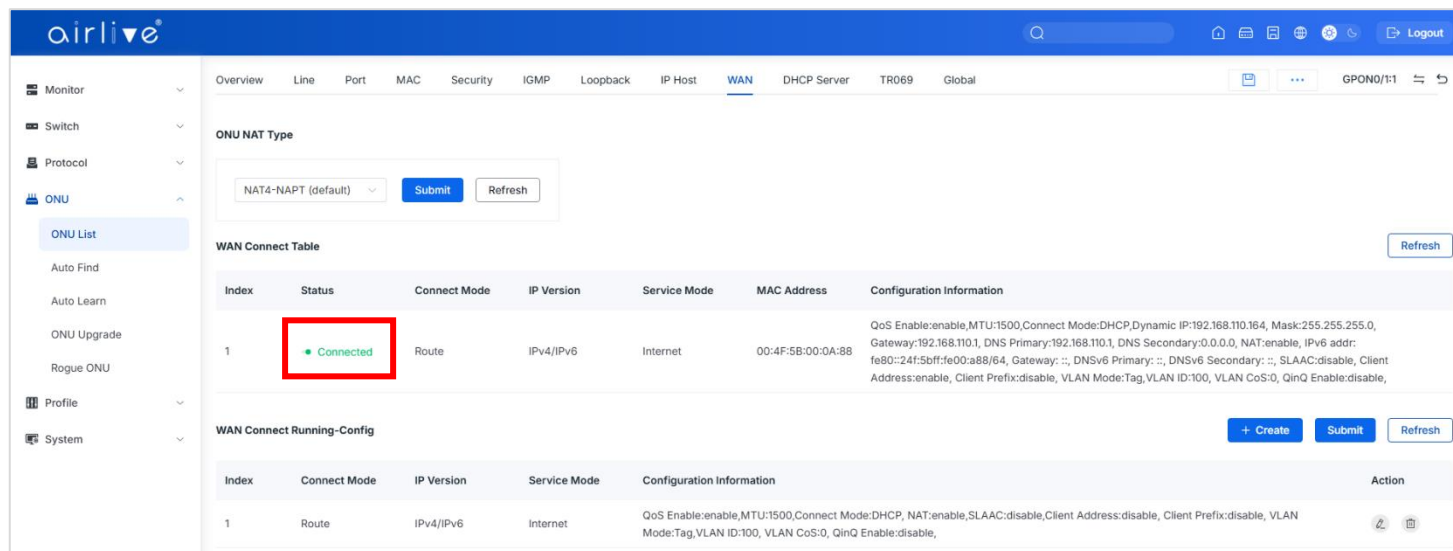
Submit

Refresh

Index	Connect Mode	IP Version	Service Mode	Configuration Information	Action
1	Route	IPv4/IPv6	Internet	QoS Enable:enable,MTU:1500,Connect Mode:DHCP, NAT:enable,SLAAC:disable,Client Address:disable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN CoS:0, QinQ Enable:disable,	

The configuration will now be sent to the ONU and the ONU will make an Internet connection. When the setup was done correctly the words “Connected” will be shown.

Note it can take 1 or 2 minutes before the correct information is shown, please refresh the page.



WAN Connect Table

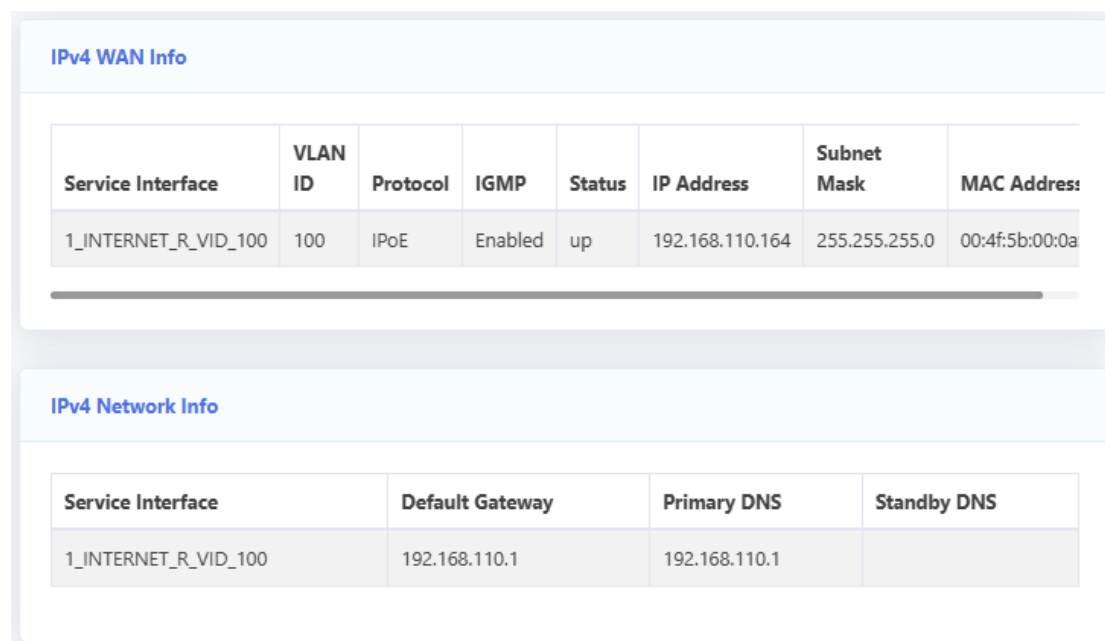
Index	Status	Connect Mode	IP Version	Service Mode	MAC Address	Configuration Information
1	Connected	Route	IPv4/IPv6	Internet	00:4F:5B:00:0A:88	QoS Enable:enable,MTU:1500,Connect Mode:DHCP,Dynamic IP:192.168.110.164, Mask:255.255.255.0, Gateway:192.168.110.1, DNS Primary:192.168.110.1, DNS Secondary:0.0.0.0, NAT:enable, IPv6 addr: fe80::24f:5bff:fe00:a88/64, Gateway: ::, DNSv6 Primary: ::, DNSv6 Secondary: ::, SLAAC:disable, Client Address:enable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN CoS:0, QinQ Enable:disable,

WAN Connect Running-Config

Index	Connect Mode	IP Version	Service Mode	Configuration Information	Action
1	Route	IPv4/IPv6	Internet	QoS Enable:enable,MTU:1500,Connect Mode:DHCP, NAT:enable,SLAAC:disable,Client Address:disable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN CoS:0, QinQ Enable:disable,	

To see the settings of the ONU (which the OLT sent to the ONU), please connect to the ONU with a PC, and enter the default IP address of the ONU in a browser. The default IP address is 192.168.1.1

Note: to see and change the WAN port setup please login as Administrator and not as User. Click on “Setup” and Select “WAN” scroll down to the bottom of the page and select your active setup, one’s check marked your configuration will be shown, which is the same as which was setup in the OLT.



IPv4 WAN Info

Service Interface	VLAN ID	Protocol	IGMP	Status	IP Address	Subnet Mask	MAC Address
1_INTERNET_R_VID_100	100	IPoE	Enabled	up	192.168.110.164	255.255.255.0	00:4f:5b:00:0a:88

IPv4 Network Info

Service Interface	Default Gateway	Primary DNS	Standby DNS
1_INTERNET_R_VID_100	192.168.110.1	192.168.110.1	

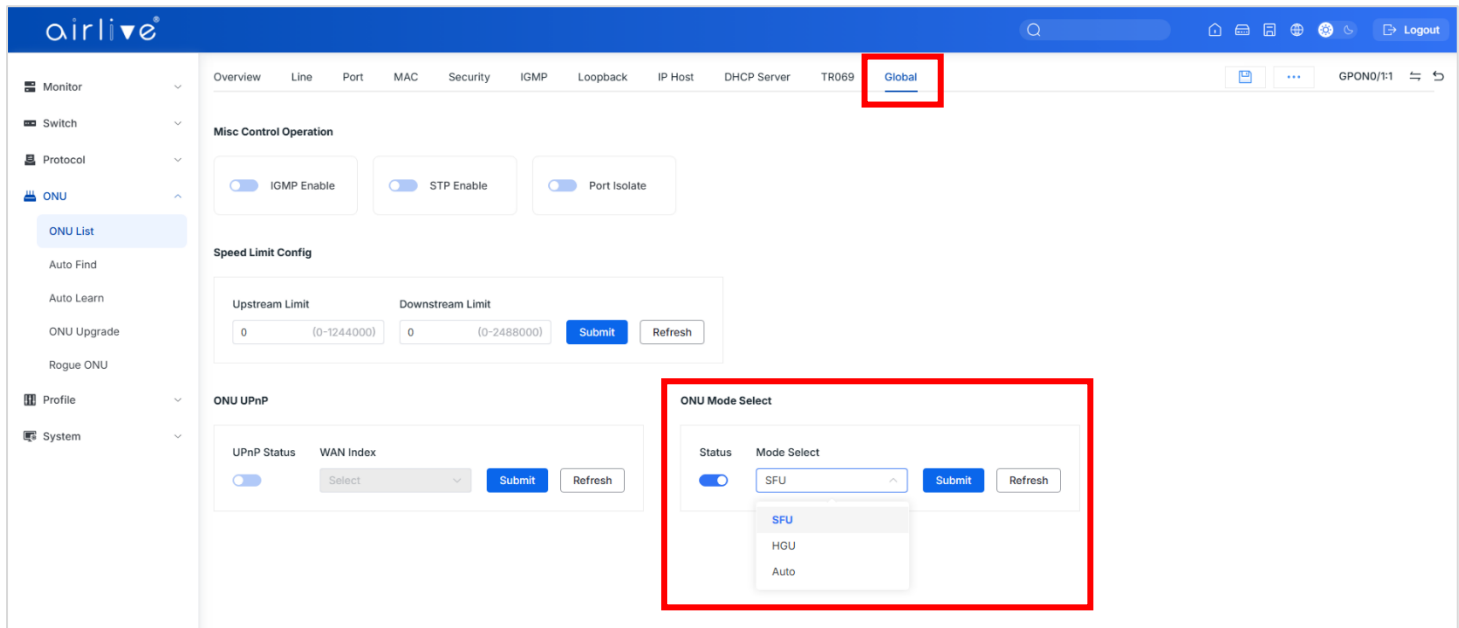
Additional Information:

When using the WAN port option, the ONU is normally in HGU mode, for Port VLAN the ONU would be in SFU mode.

The mode depends on the ONU, some like the GPON models will have auto switching.

For other models like the XGPON and XGPON, the model can change in the OLT.

Go to Global >> ONU Mode select and from the pull-down menu select HGU or SFU.



The screenshot displays the airtlive management interface. The top navigation bar includes the airtlive logo, a search bar, and a 'Logout' button. The main menu on the left lists various system components: Monitor, Switch, Protocol, ONU (selected), Profile, and System. The ONU section is expanded, showing options like ONU List, Auto Find, Auto Learn, ONU Upgrade, and Rogue ONU. The main content area is divided into several tabs: Overview, Line, Port, MAC, Security, IGMP, Loopback, IP Host, DHCP Server, TR069, and Global (highlighted with a red box). The Global tab contains several configuration sections: 'Misc Control Operation' with toggle switches for IGMP Enable, STP Enable, and Port Isolate; 'Speed Limit Config' with input fields for Upstream and Downstream limits; 'ONU UPnP' with a status toggle and a WAN Index dropdown; and 'ONU Mode Select' (highlighted with a red box). The ONU Mode Select section includes a status toggle, a 'Mode Select' dropdown menu currently showing 'SFU' (with a list of options: SFU, HGU, Auto), and 'Submit' and 'Refresh' buttons.