

Setup guide for OLT and ONU in Default Route Configuration

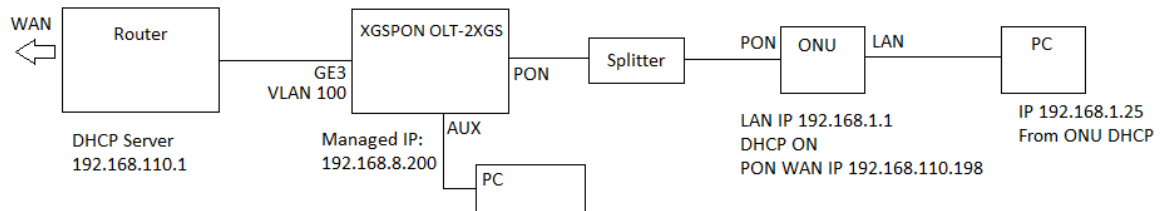
**AirLive XGSPON OLT-2XGS and
ONU-10XG(S)-AX304P-2.5G**

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

For the setup an AirLive GPON OLT-2XGS and a Airlive ONU-10XG(S)-AX304P-2.5G was used.

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



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 AUX port. Make sure the PON mode is the correct one for the ONU used.
- 2: If we want to configure ONU access the Internet, we need to create a VLAN in OLT first.
- 3: Create a 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 click the "Submit" button. At this point, the configuration is added to running-config list. Finally click the "submit" button.
- 9: You can configure ONU DHCP Server on "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.

1: In the OLT Configuration select “VLAN” and make a VLAN ID in this example we make VLAN 100.

The screenshot shows the 'airlive' OLT Configuration interface. The 'VLAN' tab is selected. Under 'New VLAN', the 'Mode' is set to 'single', 'VLAN ID' is 100, and 'Description' is 'VLAN100'. A red box highlights these fields. Below, the 'VLAN Table' shows a table with columns 'VLAN ID', 'Description', 'Edit', and 'Delete'. It lists '1' (default) and '100' (VLAN100).

VLAN ID	Description	Edit	Delete
1	default		
100	VLAN100		

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

The screenshot shows the 'airlive' OLT Configuration interface. The 'VLAN Port' tab is selected. Under 'Port VLAN Configuration', 'VLAN ID' is 100. A table shows ports GE0/1 to GE0/4 with 'Untag' mode selected for all. A red box highlights the 'Untag' column. Below, the 'Port VLAN Table' shows a table with columns 'VLAN ID', 'Tag Ports', and 'Untag Ports'. It lists '1' and '100'.

Port ID	Mode	Forbidden	Tag	Untag
GE0/1	Hybrid	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
GE0/2	Hybrid	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
GE0/3	Hybrid	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
GE0/4	Hybrid	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

VLAN ID	Tag Ports	Untag Ports
1		GE1 GE2 GE3 GE4
100		GE1 GE2 GE3 GE4

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

The screenshot shows the 'airlive' OLT Configuration interface. The 'Configuration' tab is selected. Under 'GE Configuration', a table shows ports GE0/1 to GE0/4 with 'PVID' set to 100 for GE0/3. A red box highlights the 'PVID' column.

Port ID	Description	Admin Status	Speed	Isolate	PVID	Storm(0 64-1000000fps)			Rate(0 64-10000000kpbs)	
						Broadcast	Multicast	Unknown Unicast	Ingress	Egress
GE0/1		<input checked="" type="checkbox"/>	Auto	<input checked="" type="checkbox"/>	1	512	0	512	0	0
GE0/2		<input checked="" type="checkbox"/>	Auto	<input checked="" type="checkbox"/>	1	512	0	512	0	0
GE0/3		<input checked="" type="checkbox"/>	Auto	<input checked="" type="checkbox"/>	100	512	0	512	0	0
GE0/4		<input checked="" type="checkbox"/>	Auto	<input checked="" type="checkbox"/>	1	512	0	512	0	0

4: Adding the ONU to the OLT.

Make sure the ONU has been connected to the OLT via its PON ports and a Splitter. Click ONU "AuthList" it could that your ONU has been automatically added, if this is the case you can go to step 5 directly. If not follow that steps as below.

Click on "ONU Configuration" and select "ONU Autofind" when your ONU has been connected correctly. It will show up here. Select the ONU you want to add (when there are several) and click on "Add".

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Automatic Discovery Aging Time

Automatic Discovery

Port ID: PON1

Search Info: Search

Refresh Confirm All

Index	Sn	SnPw	loid	loidpw	Action
1	GPON0000004c	1234567890	user	NULL	Add

Click on "Submit" on the next page which will automatically appear.

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Automatic Discovery Aging Time

Add Onu

PON Num: 1

ONU Num: 3

Auth Mode: Sn

Onu Sn: GPON0000004c

Onu Profile: default

Submit Back

The ONU will now be shown and when connected correctly will show "Enable"

airlive® Save Log

Automatic Discovery Aging Time

ONU Status Information

Port ID: PON1

total-3, logging-0, offline-0, syncMib-1, configFail-0, working-2

Refresh

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 08:01:17	N/A	N/A	02:33:36
GPON0/1:2	enable	enable	working	N/A	1970:01:01 08:01:16	N/A	N/A	02:33:37
GPON0/1:3	enable	enable	syncMib	N/A	N/A	N/A	N/A	N/A

5: Configure the ONU, Click on the "ONU List" in the top right corner of the OLT menu bar.

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 "Config" button.

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

Setup the "tcon" default value is 1, in this example for name, the name test was used.

Setup the "gemport" the default value is 1, make sure the TcontID select is 1 (the one previously made). The name used in this example is test.

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.

ONU Service Information (SLOT:0 PON:1 ONU:1)

ServiceName	Gemport	VLAN Mode	VLAN List	CoS List	Port	Action
ser_1	1	Tag	100	N/A	N/A	Delete

Add ONU Service

ServiceName	ser_2
Gemport ID	1
VLAN Mode	Tag
VLAN List	100 (X,X or X-X;0 for all;max 12 VLANs)
CoS List	N/A (X,X or X-X;)
PortType	N/A
Commit	

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

ONU Service Port Info (SLOT:0 PON:1 ONU:1)

Service Port	Gemport ID	Begin Vid	End Vid	Outer Vid	Inner Vid	VLAN	SVLAN	Mode	Enable	Description	Action
1	1	100	100	N/A	N/A	100	N/A	1:1	YES	N/A	Delete

Add ONU Service Port

Service Mode	CVLAN
Service Port ID	2
Gemport ID	1
User VLAN	
Translate VLAN	
Translate SVLAN	N/A
Description	N/A
Commit	

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

The screenshot displays the AirLive management interface. The top navigation bar includes 'Save', 'Log', 'Status', 'ONU list', and 'Logout'. The main menu on the left lists 'OLT Information', 'OLT Configuration', 'ONU Configuration', 'Profile Configuration', and 'System Configuration'. The top navigation bar contains tabs for 'ONU List', 'ONU Status', 'ONU Optical Information', 'ONU Version Information', 'ONU Manual Add', 'ONU Allowlist', and 'ONU Statistics'. The 'PortVLAN' tab is highlighted. Below this, there are sub-tabs for 'Tcont', 'Gempport', 'Service', 'Service Port', 'PortVLAN', 'Multicast', 'Port', 'IP Host', 'IGMP', 'MAC', 'WAN', 'DHCP Server', 'WIFI', 'VoIP', 'SIP', 'POTS', 'Misc', and 'TR069'. The 'PortVLAN' sub-tab is active, showing 'Security', 'Loopback Detection', 'H.248', and 'MAC ACL'. The main content area is titled 'ONU PortVLAN Info (SLOT:0 PON:1 ONU:1)' and contains a table with the following data:

PortName	Mode	VLAN	VLAN Priority(tag)	Default VLAN(hybrid)	Default Priority(hybrid)	CVLAN(translate)	CVLAN Priority(translate)	SVLAN(translate)	SVLAN Priority(translate)	Action
veip_1	Transparent	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Delete

Below the table is a section titled 'Add ONU PortVLAN' with the following form fields:

- Mode: Transparent (dropdown menu)
- PortType: Eth (dropdown menu)
- Port Id: (text input field)
- Commit: (button)

7: Setting up the WAN port information, click on the "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 "Tag" in this example and fill in the VLAN information in this example 100. And choose service mode is "Internet".

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 displays the AirLive OLT configuration interface. The top navigation bar includes 'Save', 'Log', 'Status', 'ONU list', and 'Logout'. The 'WAN' tab is highlighted in the top menu. Below the navigation, the 'WAN Connect Table (SLOT:0 PON:1 ONU:1)' is shown with the following data:

Index	Mode	IP Version	Service Mode	Status	MAC Address	Configuration Information
1	route	IPv4	TR069	Disconnected	00:4F:5B:00:01:EF	QoS Enable:enable,MTU:1500,Connect Mode:DHCP, NAT:disable, VLAN Mode:Tag,VLAN ID:46, VLAN CoS:255, QinQ Enable:disable,

The 'WAN Connect Parameter Configuration' section includes the following settings:

- WAN Index: NEW
- Mode: route
- IP Version: IPv4/IPv6
- Connect Mode: DHCP
- DNS: Disable
- Master DNS: (A.B.C.D)
- Slave DNS: (A.B.C.D)
- NAT Enable: Enable
- IPv6 DNS: Enable
- DNSv6 Master: (X::X::X:X)
- DNSv6 Slave: (X::X::X:X)
- SLAAC: Enable (While disable,DHCPv6 open automatically)
- Client Address: Disable
- Client Prefix(DHCP PD): Disable
- VLAN Mode: Tag
- VLAN ID: 100 (Tag:0-4095;Transparent:1-4095)
- VLAN CoS: 0 (0-7)
- QinQ Enable: Disable
- QinQ TPID: 0 (1-65534)
- SVLAN ID: 0 (1-4095)
- SVLAN CoS: 0 (0-7)
- MTU: 1500 (576-1500)
- QoS Enable: Disable
- Service Mode: Internet
- Port Binding: LAN1, LAN2, LAN3, LAN4, SSID1, SSID2, SSID3, SSID4, SSID5, SSID6, SSID7, SSID8

A 'Submit' button is located at the bottom of the configuration section.

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.

MTU: 1500 (576-1500)
 QoS Enable: Disable
 Service Mode: Internet
 Port Binding: LAN1 LAN2 LAN3 LAN4
 SSID1 SSID2 SSID3 SSID4 SSID5 SSID6 SSID7 SSID8
 Submit

WAN Connect running-config
 Submit

Index	ONU running-config	Delete
1	Connect Type:route,IP Version:IPv4/IPv6,Service Mode:Internet,QoS Enable:disable,MTU:1500,Connect Mode:DHCP, NAT:enable, DNSv6 Master: ::, DNSv6 Slave: ::, SLAAC:enable, 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.

airlive® Save Log Status [ONU list](#) Logout

ONU List ONU Status ONU Optical Information ONU Version Information ONU Manual Add ONU Allowlist ONU Statistics

OLT Information
 OLT Configuration
 ONU Configuration
 Profile Configuration
 System Configuration

Tcont Gemport Service Service Port PortVLAN Multicast Port IP Host IGMP MAC WAN DHCP Server WIFI VoIP SIP POT

Security Loopback Detection H.248 MAC ACL

WAN Connect Table (SLOT:0 PON:1 ONU:1)

Index	Mode	IP Version	Service Mode	Status	MAC Address	Configuration Information
1	route	IPv4/IPv6	Internet	Connected	00:4F:5B:00:01:EF	QoS Enable:disable,MTU:1500,Conn Dynamic IP:192.168.110.126, Mask: HCP, DNSv6 Master:192.168.110.1, DNS Sla 55.0, Gateway:192.168.110.1, IPv6 addr: fe80::24f:5bff:fe00:1ef/6 , NAT:enable, DNSv6 Master: ::, DNSv6 Slave: ::, ble, Client Address:disable, Client Prefix: VLAN Mode:Tag,VLAN ID:100, VLAN QinQ Enable:disable,

WAN Connect Parameter Configuration
 WAN Index: NEW
 Mode: bridge
 IP Version: IPv4
 VLAN Mode: Disable
 MTU: 1500 (576-1500)
 QoS Enable: Disable
 Service Mode: Internet
 Port Binding: LAN1 LAN2 LAN3 LAN4
 SSID1 SSID2 SSID3 SSID4 SSID5 SSID6 SSID7 SSID8
 Submit

WAN Connect running-config
 Submit

Index	ONU running-config	Delete
1	Connect Type:route,IP Version:IPv4/IPv6,Service Mode:Internet,QoS Enable:disable,MTU:1500,Connect Mode:DHCP, NAT:enable, DNSv6 Master: ::, DNSv6 Slave: ::, SLAAC:enable, Client Address:disable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN CoS:0, QinQ Enable:disable,	

The Setup is now complete, and the ONU is connected to Internet.

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 “Network” and Select “WAN” at “Connection Name” select the VLAN 100 connection (in this example) so see the setup.

The screenshot shows the 'WAN Config' page. A red arrow points to the 'WAN' option in the left sidebar. The 'WAN Config' page has a 'Connectin Name' dropdown set to '1_INTERNET_R_VID_100'. Other settings include Mode: Route, IP Version: IPv4/IPv6, Connection Mode: DHCP (selected), Enabled NAT: off, Enabled Vlan: on, Vlan ID: 100, 802.1p: 0, MTU: 1500, Request DNS: on, ServiceMode: INTERNET, and Disable LAN DHCP: off.

To see the IP address information Click on “Status” and Select “WAN info” so see the connection.

The screenshot shows the 'WAN Info' page. The left sidebar has 'Status' selected, and 'WAN Info' is highlighted. The main content area displays three tables:

- IPv4 WAN Info:** A table with 8 columns: Service Interface, VLAN ID, Protocol, IGMP, Status, IP Address, Subnet Mask, and MAC Address. The row for '1_INTERNET_R_VID_100' shows IP Address 192.168.110.126 and Subnet Mask 255.255.255.0.
- IPv4 Network Info:** A table with 4 columns: Service Interface, Default Gateway, Primary DNS, and Standby DNS. The row for '1_INTERNET_R_VID_100' shows Default Gateway 192.168.110.1 and Primary DNS 192.168.110.1.
- IPv6 WAN Info:** A table with 8 columns: Service Interface, VLAN ID, Protocol, MLD, Status, IP Address, and Prefix. The row for '1_INTERNET_R_VID_100' shows Status 'down' and Prefix '::'.