## Setup guide for OLT and ONU PortVlan

## AirLive GPON OLT-121 with fw 1.1.1 or higher and XPON ONU

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

For the setup an AirLive GPON OLT-121 with fw 1.1.1 or higher and Airlive 2.5GE XPON ONU 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.



Setup Steps:

- 1: Login to the OLT management web interface. The default IP is 192.168.8.200
- 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" and PortVlan parameters.

7: The Ethernet ports for the ONU can be setup directly.

On the "PortVlan" page, for ONU, the Mode needs to be configured for "Tag", PortType needs to be configured for "Eth" and Port Id needs to be configured for each of the ethernet ports of the ONU in this case the ONU has 2 LAN ports for both need to be setup here. First Enter "1" for LAN port 1, then enter the VLAN ID which in this example is 100 and press commit. Now the same thing needs to be setup for LAN port 2. Follow the same steps but now enter "2" at Port Id and press commit again. Now both ports are connected to Internet.

10: Press "SAVE" in the top bar of the OLT so save the complete configuration.

A computer connected to the ONU will now receive an IP address from the Router. In this example in the range of 192.168.110.x.

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

oirlive®	VI AN VI AN Port OirO/Translation 200 DSCD
OLT Information	New VI AN
OLT Configuration	
VLAN	VLAN ID 100 (1-4094, format as X or X-X)
Uplink Port	Description vlan_100 (max length is 30)
PON	Add Delete
MAC	VLAN Table
QoS	Maximumy 510 years
ACL	Used: 2 vlans
IPv6 ACL	VLAN ID Description Edit Delete
IGMP	1 vlan_1 🖉
IPv6 MLD	100 vizz 100 🖉 💼
Loopback	
DHCP	
DHCPv6	
IPv6 SLAAC	
IP Route	

2: Bind the Uplink GE port go the "VLAN" >> "VLAN Port", in this example all ports were binded to the VLAN100. Make sure the Uplink is in "Untag" mode.

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OLT Information	VLAN VL	an Port	Qin	Q/ Iransiatio	n PZ	P	DSCP
OEI Information	Port VLAN	l Configu	ratio	on			
OLT Configuration			100				
VLAN	VLAN ID		100	The set of states of		-	United
Uplink Port	Port ID	Mode		Forbidden	lag		Untag
PON	GE1	Hybrid	~	0	0		۲
MAC	GE2	Hybrid	~	0	$\bigcirc$		۲
QoS	GE3	Hybrid	~	0	$\bigcirc$		
ACL	Submit	Reset				L	
IPv6 ACL	Port VLAN	N Table					
IGMP	VI AN TO	Tog Ports	Upt	an Porte			
IPv6 MLD	VEAN ID	Tag Ports					
Loopback	1		GE	I GE2 GE3			
DHCP	100		GE	L GE2 GE3			
DHCPv6							
IPv6 SLAAC							
IP Route							

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).

airli∎e®												Save	•	Log	Status	ONU list	Logout
	Informati	on Configu	ration Optica	al Information													
OLT Information	GE Con	figuration															
OLT Configuration		-															
VLAN	Submit	Reset			_		-	1	1	Charge (OLC 4	100001/h>	Data (OLCA 1	0000001/h = - )	_		_	
Uplink Port	Port ID	Description	Admin Status	Speed	F	-low Control	Isolate	e PVID		Storm(0]64	-13000kbps)	Ingress Egress		MAC Limit(0-16384)		84)	
PON	CE1			Auto				100			1406	Ingress	Egress	ſ		_	
MAC	021			Auto	1	-		100	_	490	1490				<u> </u>	_	
QoS	GE2			Auto	~			1	~	1496	1496	0	0		0		
ACL	GE3			10G Full	~			1	~	1496	1496	0	0		0		
IPv6 ACL																	
IGMP																	
IPv6 MLD																	
Loopback																	
DHCP																	

4: Adding the ONU to the OLT.

Make sure the ONU has been connected to the OLT via its PON ports and a Splitter.

\*\*Note if you have "ONU AutoLearn" Enabled then the ONU will be automatically added to the "ONU AuthList" and the below steps for adding do not have to be done\*\*

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".

airli▼e®						
	Automati	c Discovery 🛛 🗛	jing Time			
OLT Information	Automa	atic Discovery				
OLT Configuration						
ONU Configuration	Port ID	PON1		•		
ONU AuthList	Search	Info			Searc	h
ONU AutoFind						
ONU AutoLearn	Refres	n Confirm All				
ONU Upgrade	Index	Sn	SnPw	loid	loidpw	Action
Rogue ONU	1	GPON000004c	1234567890	user	NULL	Add
Profile Configuration	-		1201007000	aser	HOLL	Add
System Configuration						

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

airli▼e®		
	Automatic Discovery	Aging Time
OLT Information		
OLT Configuration	Add Onu	
ONU Configuration	DON Num	
ONU AuthList	PON Num	1
ONU AutoFind	ONU Num	3
ONU AutoLearn	Auth Mode	Sn 🗸
ONU Upgrade	Onu Sn	GPON000004c
Rogue ONU		
Profile Configuration	ONU Profile	default 🗸
System Configuration	Submit Back	

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

airli√e®								Save 🥚	Log				
	Automatic Dis	covery Agir	ig Time										
OLT Information	ONU Status	Information											
OLT Configuration				_									
ONU Configuration	Port ID	Port ID V											
ONU AuthList	total-3, log	total-3, logging-0, offline-0, syncMib-1, configFail-0, working-2											
ONU AutoFind	Refresh												
ONU AutoLearn		Admin State	OMCC State	Phase State	Description	Last Register Time	Last Deregister Time	Last Deregister Reason	Alive Time				
ONU Upgrade	CDON0/1+1	anabla	on the blace	weating	N/A	1070-01-01 00-01-17			02:22:26				
Rogue ONU	GPON0/1:1	enable	enable	working	N/A	1970:01:01 08:01:17	N/A	N/A	02:33:30				
Profile Configuration	GPON0/1:2	enable	enable	working	N/A	1970:01:01 08:01:16	N/A	N/A	02:33:37				
System Configuration	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.

airli▼e®												Save	•		Log	
	ONU list Of	NU Statu	is ONU Op	tical Inf	ormatior	n ON	U Version Inforn	nation	ONU Manua	Add	ONU Allowli	st ONU S	tatistics			
OLT Information	<b>ONU</b> Auther	nticatio	n Informatio	on												
OLT Configuration					1											
ONU Configuration	Port ID	POP	V1	~	J											
Profile Configuration	Search Mode	All		~	]											
System Configuration	Search Info				Sea	arch										
	ONU Count	3/3														
	Delete All	Delete	Offline Ref	resh					_							
	ONU ID	Status	Description	Model	Profile	Mode	Info	Action								
	GPON0/1:1	Online	GPON0/1:1	V802	default	Sn	GPON00dc7aa	Config	[ eactivate	Delete	Optical Info	Detail Info	<u>Reboot</u>			
	GPON0/1:2	Online	GPON0/1:2	V802	default	Sn	GPON00000124	4 <u>Config</u>	Deactivate	<u>Delete</u>	Optical Info	Detail Info	<u>Reboot</u>	7		
	GPON0/1:3	Online	GPON0/1:3	V601	default	Sn	GPON000004	Config	Deactivate	Delete	Optical Info	Detail Info	Reboot			

6: Setup the "Tcont", "Gemport", and "Service"

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 Tcont ID select is 1 (the one previously made. The name used in this example is test.

airli▼e®												
	ONU list ONU Status ONU Optical Information ONU Version Inform											
OLT Information	Tcont Gemport Service PortVlan Multicast Port In Host											
OLT Configuration												
ONU Configuration	OND Gemport Into (PON:1 OND:2)											
ONU AuthList	Gemport ID Name Tcont Action   1 test 1 Delete											
ONU AutoFind												
ONU AutoLearn												
ONU Upgrade	Add ONU Gemport											
Rogue ONU	Gemport ID 2											
Profile Configuration												
System Configuration												
	Gemport Name											
	Commit											

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.

airli▼e®		
	ONU list ONU Status ONU Optical Information ONU Version Information	ONU Ma
OLT Information	Toont Gemport Service PortVlan Multicast Port In Host IGMP	мас
OLT Configuration	ONU Camples Information (DON:1 ONU:2)	1140
ONU Configuration	pon untagged vlan : -	
ONU AuthList		
ONU AutoFind	ServiceName Gemport Vlan Mode Vlan List Port Action	
ONU AutoLearn	ser 1 1 Tag 100 N/A Delete	
ONU Upgrade		
Rogue ONU		
Profile Configuration	Add ONU Service	
System Configuration	ServiceName ser_2	
	Gemport ID 1	
	Vlan Mode Tag 🗸	
	Vlan List (X,X or X-X;0 for all;max 12 vlans)	
	PortType N/A 🗸	
	Commit	

7: Setup the "PortVlan". On the "PortVlan" page, for ONU, the Mode needs to be configured for "Tag", PortType needs to be configured for "Eth" and Port Id needs to be configured for each of the ethernet ports of the ONU in this case the ONU has 2 LAN ports for both need to be setup here. First Enter "1" at Port Id for LAN port 1, then enter the VLAN ID which in this example is 100 and press commit. Now the same thing needs to be setup for LAN port 2. Follow the same steps but now enter "2" at Port Id and press commit again. Now both ports are connected to Internet.

airlive®								Save 🧲	Log	Status ONU list	Logout
	ONU list O	NU Sta	atus	ONU Optical Infor	mation ONU Versio	n Information ONU Ma	inual Add ONU	Allowlist ONU Statistic	s		
OLI Information	Tcont Gem	port	Serv	ice PortVlan I	Multicast Port Ip	Host IGMP MAC	WAN DHCP Se	erver Bind Mode Mis	c TR069 Sec	urity Loopback Detecti	ion
OLT Configuration	ONU PortVian Info (PON:1 ONU:1)										
ONU Configuration		_									
ONU AuthList	PortName	Mode	Vlan	Vlan Priority(tag)	Default Vlan(hybrid)	orid) Default Priority(hybrid) CVlan(transl		CVIan Priority(translate)	SVIan(translate)	SVIan Priority(translate)	Action
ONU AutoFind	eth_0/1	Tag	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<u>Delete</u>
ONU AutoLearn	eth_0/2	Tag	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<u>Delete</u>
ONU Upgrade											
Rogue ONU	Add ONU P	ortVla	in								
Profile Configuration											
System Configuration	Mode	Tag	)	~							
	PortType	Eth	ı	~							
	Port Id										
	Mar ID										
	Vian ID										
	Vlan Priorit	y N/A	4	(	0-7)						
	Commit										

Press "SAVE" in the top bar of the OLT so save the complete configuration.

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 you need to setup your computer to a fixed IP address in the range of 192.168.1.x . As by default the computer will get an IP address from the router in the 192.192.110.x range (as per example).