

**Setup guide for OLT and ONU in
Bridge Configuration
Port VLAN (JP)**

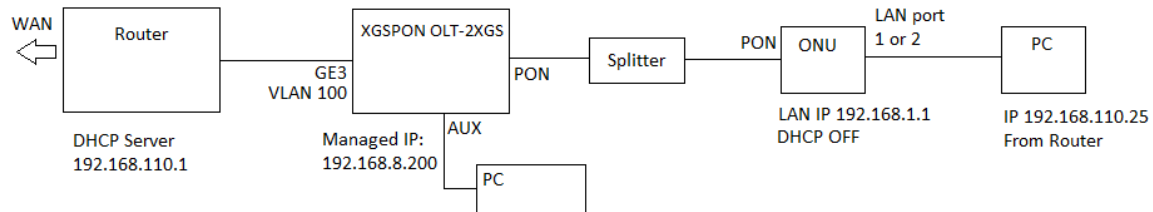
**AirLive XGSPON OLT-2XGS and
ONU-10XG(S)-1004-10G**

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

For the setup an AirLive GPON OLT-2XGS and an Airlive ONU-10XG(S)-1004-10G were 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

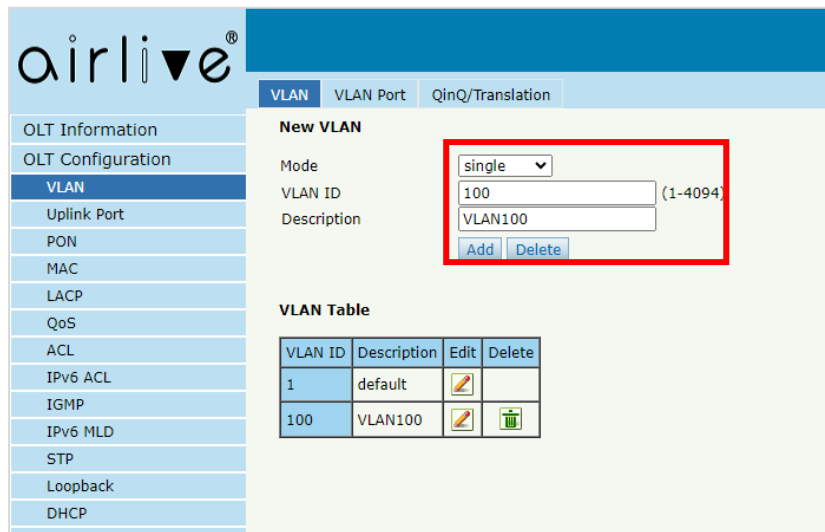
For this setup the ONU-10XGS-1004-10G should have Firmware V1.0.01-250121_SFU on it or higher. SFU meaning the ONU is set up to SFU mode by default.

The OLT-2XGS should have firmware V1.0.1R-24012025 or higher.

NOTE: When a warning message in the PortVLAN setup is shown "Warning: over ONU profile max port num." Then this means more than the 4 default LAN ports are being configured. Please go Point 2 in this guide to change this. This can also already be done before the setup in Point 1 is in made.

- 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 in this case XGS.
- 2: If we want to configure ONU access to 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 "PortVLAN" page, for the ONU, the Mode needs to be configured as "Tag", PortType needs to be configured for "Eth" and Port Id needs to be configured for each of the ethernet ports of the ONU. (default profile is 4 LAN ports, when you have more LAN port on the ONU to configure, go to Point 2 first the bottom of this guide).
- 8: You can configure ONU DHCP Server on "DHCP server" page, this should be disabled.
- 9: 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.



New VLAN

Mode: single (1-4094)

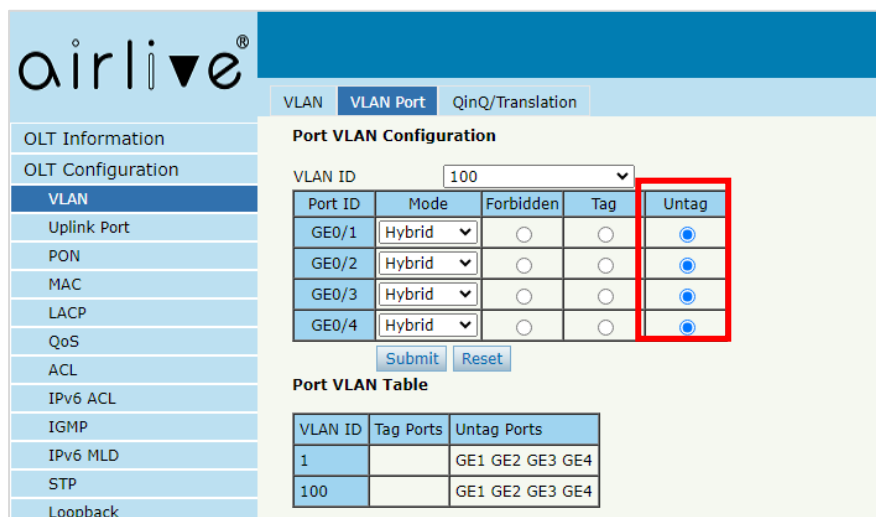
VLAN ID: 100

Description: VLAN100

VLAN Table

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 bind to the VLAN 100. Make sure the Uplink is in “Untag” mode.



Port VLAN Configuration

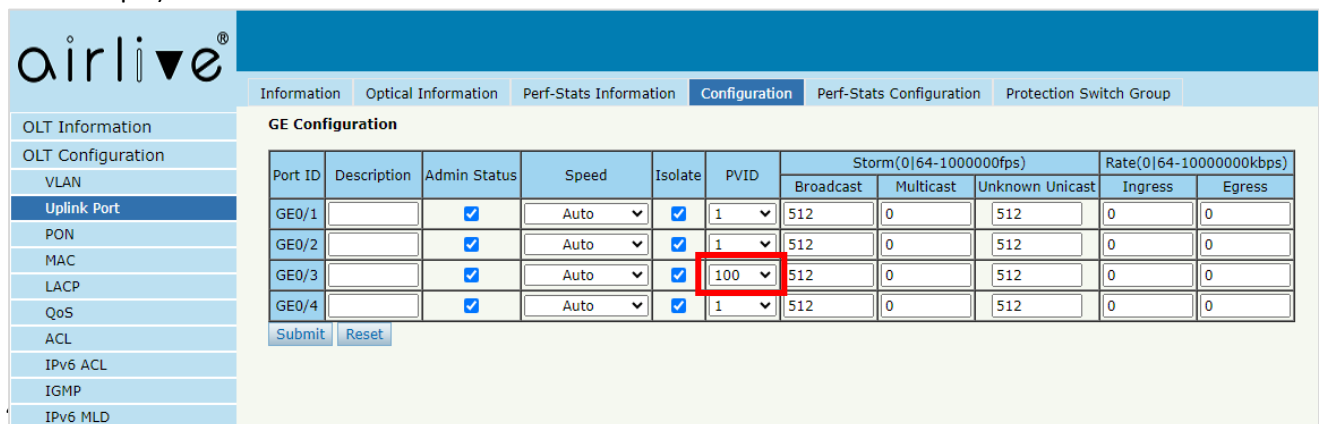
VLAN ID: 100

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"/>

Port VLAN Table

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).

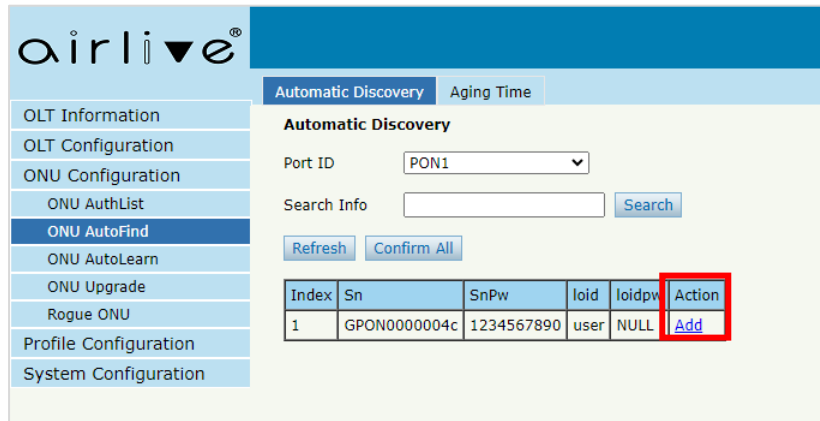


GE Configuration

Port ID	Description	Admin Status	Speed	Isolate	PVID	Storm(0 64-1000000fps)			Rate(0 64-10000000kbps)	
						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

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



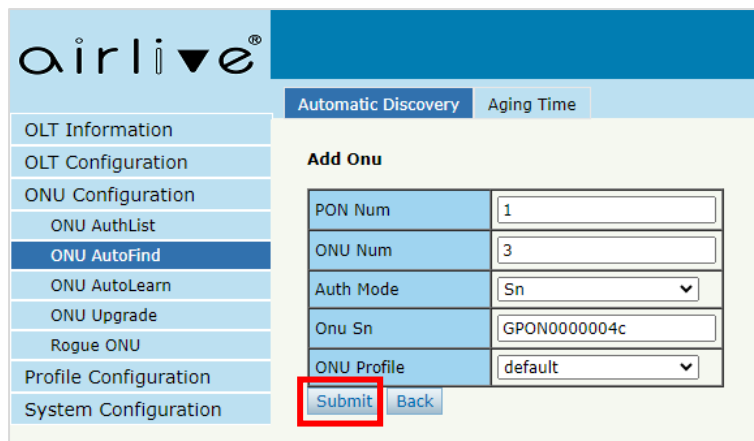
Automatic Discovery

Port ID: PON1

Search Info:

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

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



Add Onu

PON Num: 1

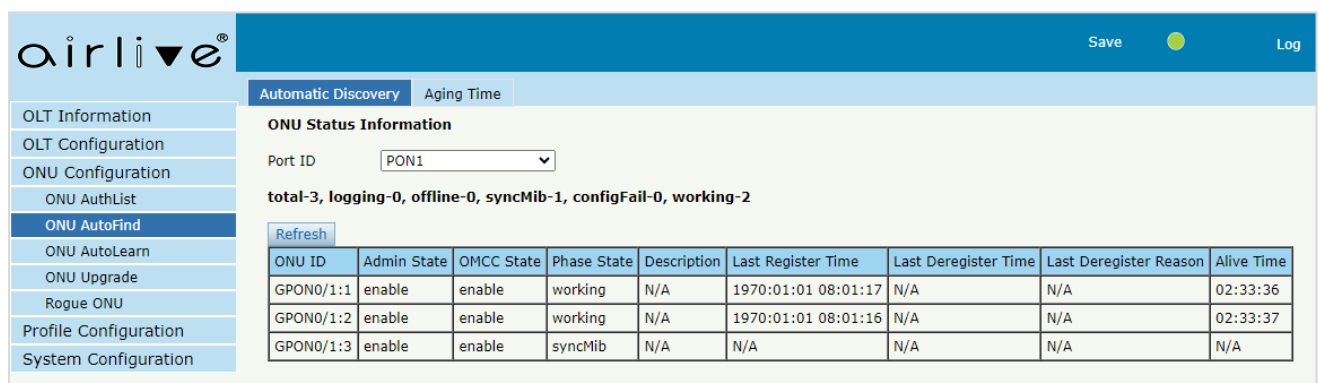
ONU Num: 3

Auth Mode: Sn

Onu Sn: GPON0000004c

ONU Profile: default

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



ONU Status Information

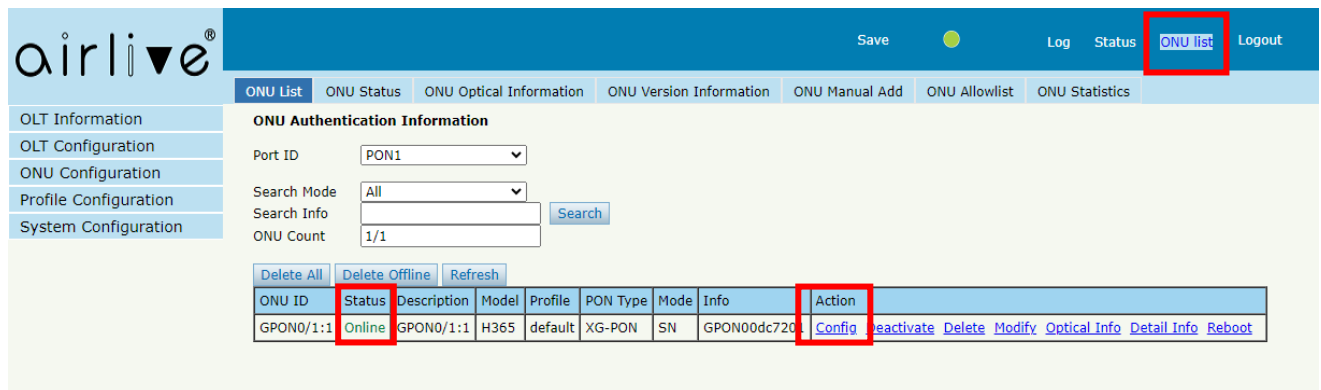
Port ID: PON1

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

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.



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

ONU Authentication Information

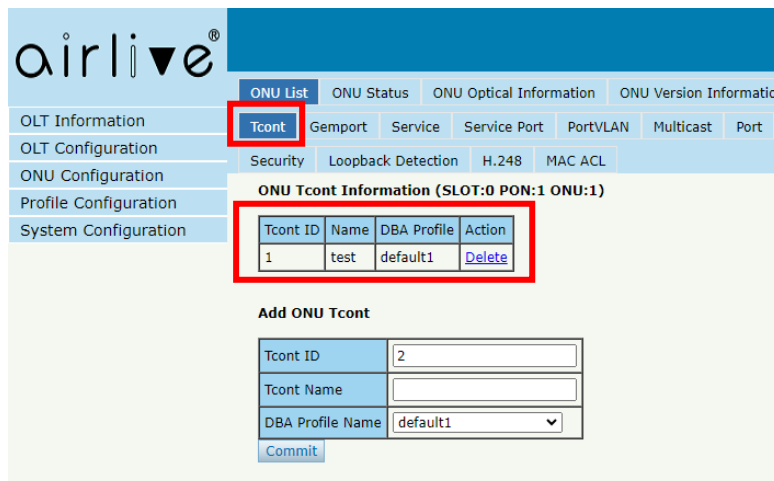
Port ID: PON1
Search Mode: All
Search Info: Search
ONU Count: 1/1

Delete All Delete Offline Refresh

ONU ID	Status	Description	Model	Profile	PON Type	Mode	Info	Action
GPON0/1:1	Online	GPON0/1:1	H365	default	XG-PON	SN	GPON00dc720	Config Reactivate Delete Modify Optical Info Detail Info Reboot

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.



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ONU List **Tcont** Gemport Service Service Port PortVLAN Multicast Port

OLT Information
OLT Configuration
ONU Configuration
Profile Configuration
System Configuration

Security Loopback Detection H.248 MAC ACL

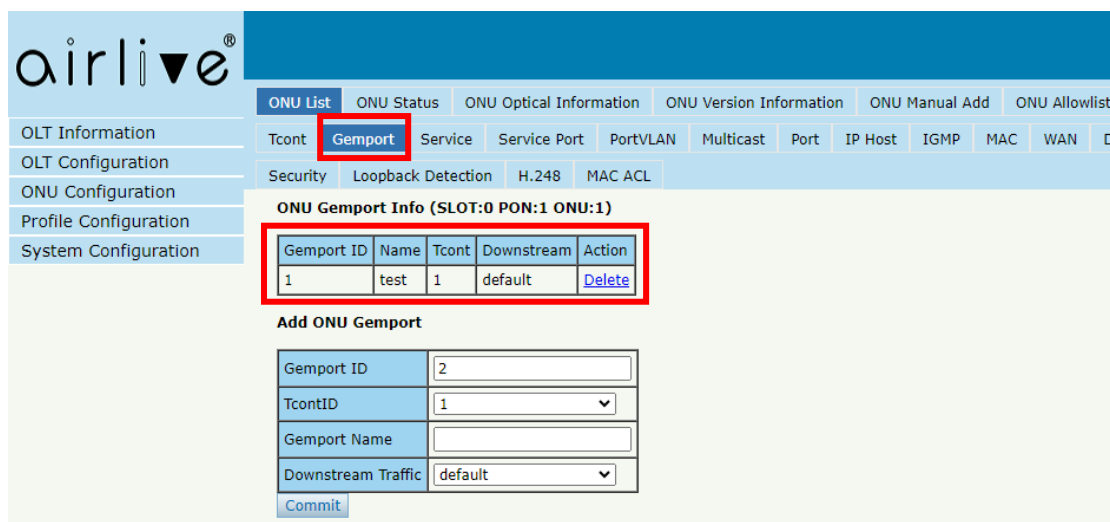
ONU Tcont Information (SLOT:0 PON:1 ONU:1)

Tcont ID	Name	DBA Profile	Action
1	test	default1	Delete

Add ONU Tcont

Tcont ID: 2
Tcont Name:
DBA Profile Name: default1
Commit

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.



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

OLT Information
OLT Configuration
ONU Configuration
Profile Configuration
System Configuration

Tcont **Gemport** Service Service Port PortVLAN Multicast Port IP Host IGMP MAC WAN D

Security Loopback Detection H.248 MAC ACL

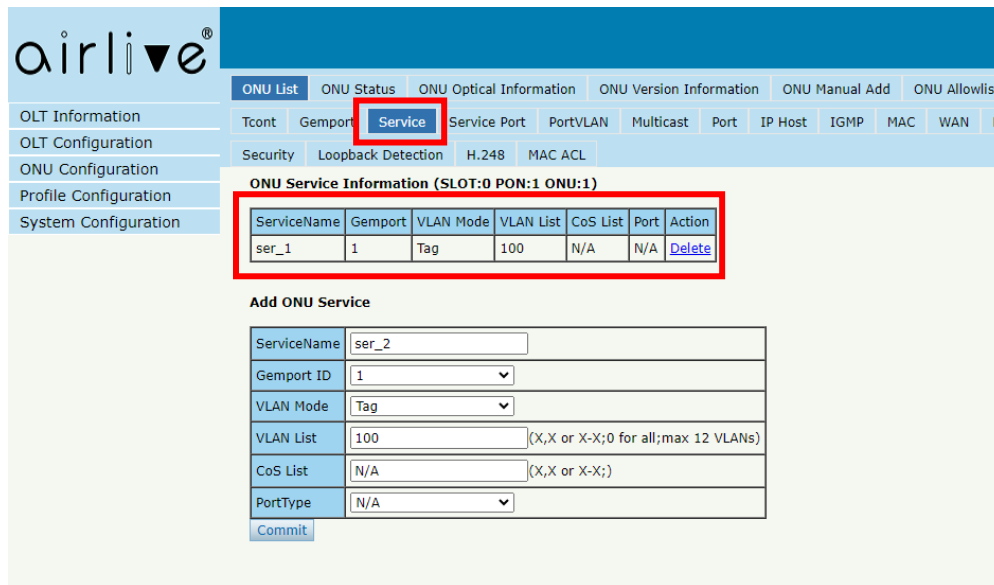
ONU Gemport Info (SLOT:0 PON:1 ONU:1)

Gemport ID	Name	Tcont	Downstream	Action
1	test	1	default	Delete

Add ONU Gemport

Gemport ID: 2
TcontID: 1
Gemport Name:
Downstream Traffic: default
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.



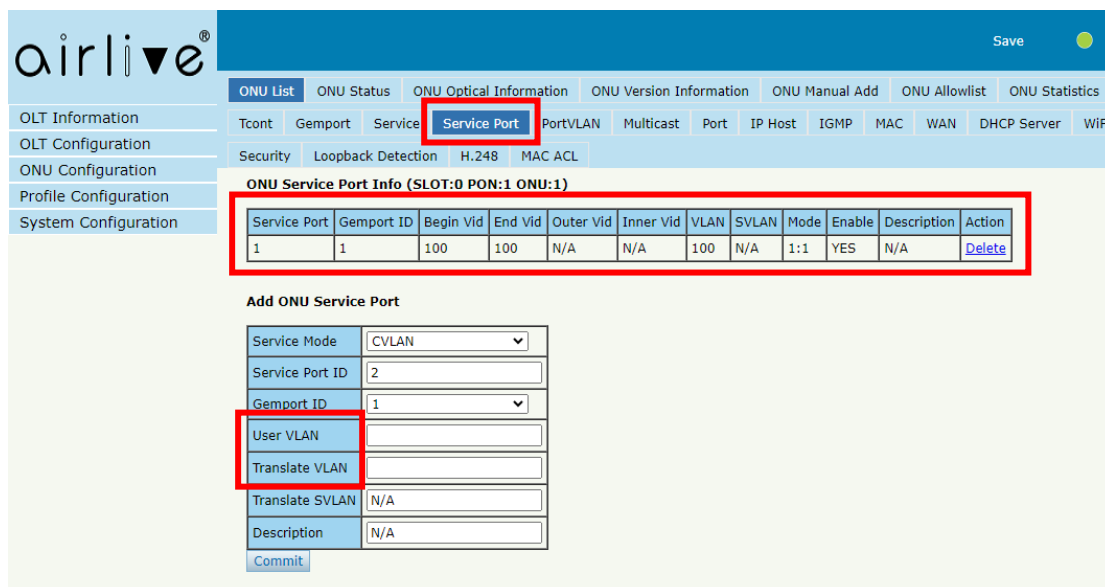
ONU Service Information (SLOT:0 PON:1 ONU:1)

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

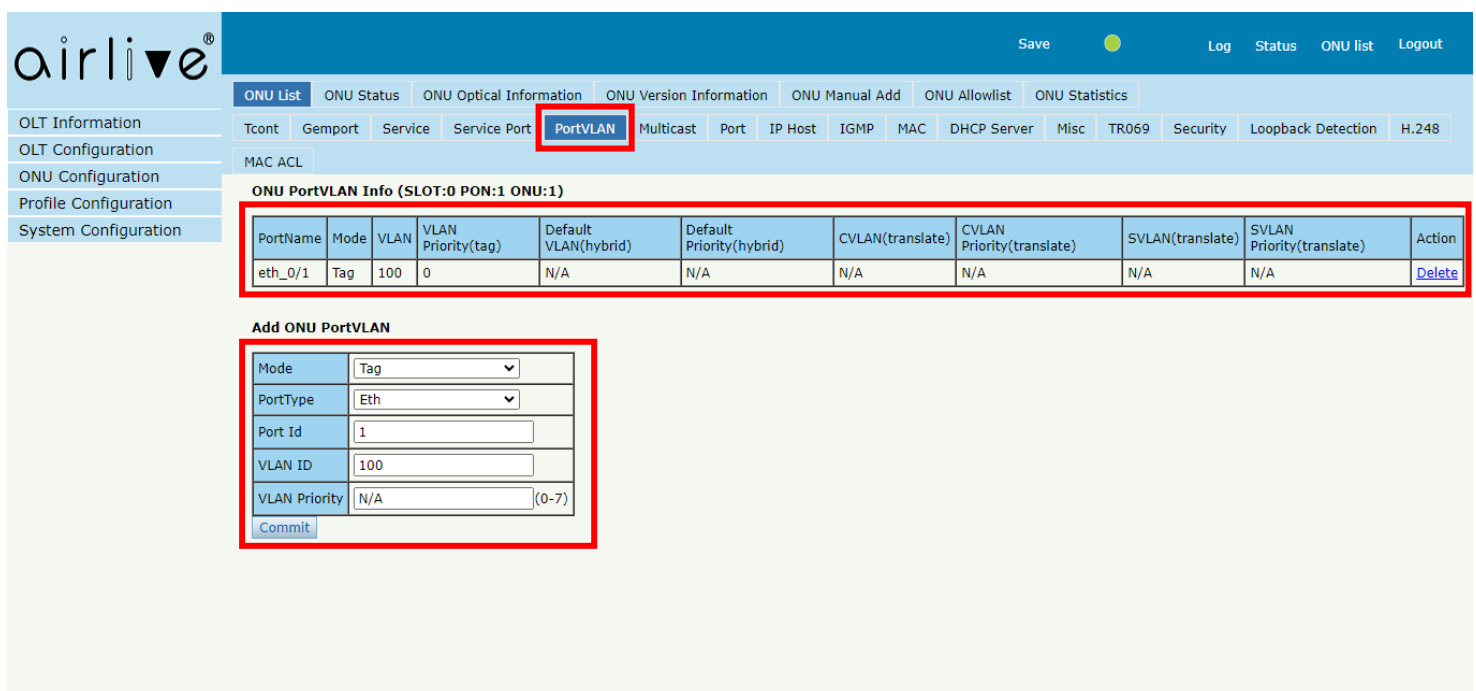
Service Mode	CVLAN
Service Port ID	2
Gemport ID	1
User VLAN	
Translate VLAN	
Translate SVLAN	N/A
Description	N/A
Commit	

7: As the ONU is in SFU mode the Ethernet port(s) needs to be setup directly.

On the "PortVLAN" page, for the ONU, the Mode needs to be configured as "Tag", PortType needs to be configured for "Eth" and Port Id needs to be configured for each of the ethernet ports of the ONU. But less can also be set up. When the ONU has 4 LAN ports all need to be set up 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. And again, do the same for ports 3 and 4 and so on. Now the added ports are connected to Internet.

Note: When the warning message "Warning: over ONU profile ma port num." appears. Then please go to point 2 to make a new profile with your correct number of LAN ports.

In the below example only LAN port 1 is shown.



The screenshot shows the airlive web interface. The top navigation bar includes 'Save', 'Log', 'Status', 'ONU list', and 'Logout'. The main navigation menu on the left includes 'OLT Information', 'OLT Configuration', 'ONU Configuration', 'Profile Configuration', and 'System Configuration'. The 'PortVLAN' tab is selected in the top navigation bar. Below the navigation, there is a table titled 'ONU PortVLAN Info (SLOT:0 PON:1 ONU:1)'. The table has 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
eth_0/1	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete

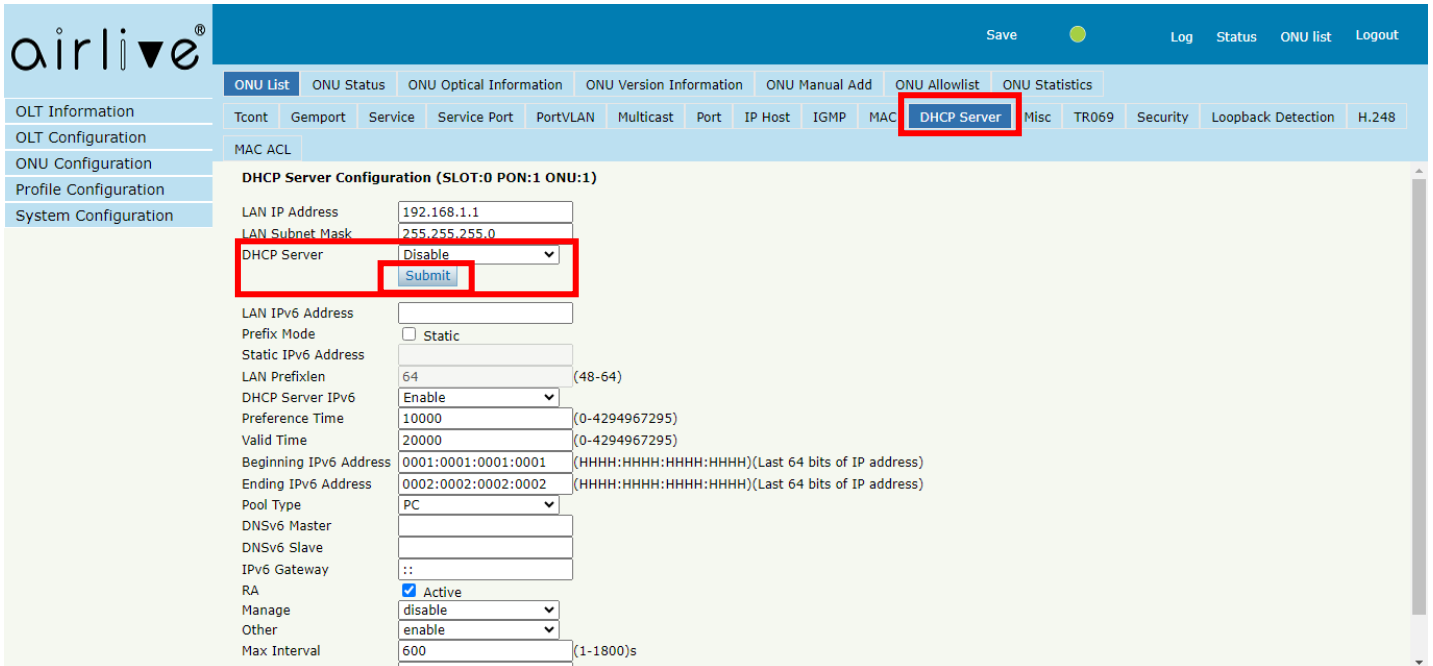
Below the table is a form titled 'Add ONU PortVLAN' with the following fields:

- Mode: Tag (dropdown)
- PortType: Eth (dropdown)
- Port Id: 1 (text input)
- VLAN ID: 100 (text input)
- VLAN Priority: N/A (text input, range (0-7))
- Commit (button)

8: To receive the IP address from the Router on the computer, which is connected to the ONU, please make sure the DHCP server on the ONU is turned off. If this is not the case, the computer will get an IP address from the ONU and Internet will not work correctly.

In the setup menu select “DHCP Server”, at DHCP Server select “Disable” from the pull-down menu and press Submit. After 1 to 2 mins the computer connected to the ONU will receive an IP address from the Router. If this is not the case, then unplug the RJ-45 cable from the computer and plug it back in.

When the DHCP Server is already disabled no settings need to be changed.



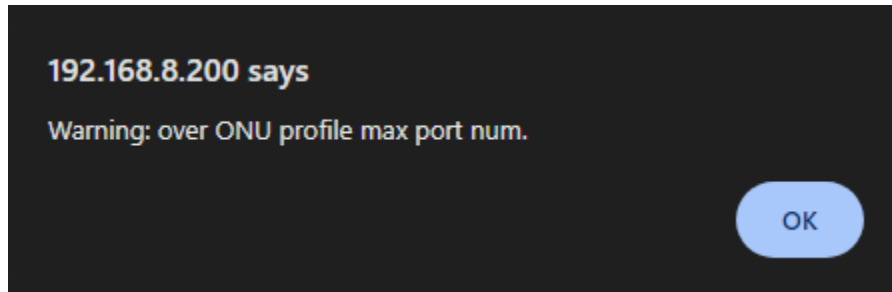
The screenshot shows the airtlive OLT configuration interface. The top navigation bar includes 'Save', 'Log', 'Status', 'ONU list', and 'Logout'. The main menu on the left lists various configuration categories. The current page is 'DHCP Server Configuration (SLOT:0 PON:1 ONU:1)'. The 'DHCP Server' dropdown menu is set to 'Disable', and the 'Submit' button is highlighted with a red box. Other configuration fields include LAN IP Address (192.168.1.1), LAN Subnet Mask (255.255.255.0), LAN IPv6 Address, Prefix Mode (Static), Static IPv6 Address, LAN Prefixlen (64), DHCP Server IPv6 (Enable), Preference Time (10000), Valid Time (20000), Beginning IPv6 Address (0001:0001:0001:0001), Ending IPv6 Address (0002:0002:0002:0002), Pool Type (PC), DNSv6 Master, DNSv6 Slave, IPv6 Gateway (::), RA (Active), Manage (disable), Other (enable), and Max Interval (600).

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. You would need to enter a Fixed IP address in the network of the computer when the DHCP server of the ONU is turned off.

9: Remember to Press “SAVE” in the top bar of the OLT so save the complete configuration.

Point 2 (only when warning message appears)

Setting up the XGSPON OLT-2XGS ONU-10XG(S)-1004-10G using Bridge mode and PortVLAN gives an error, showing Max port number reached with Default ONU profile in the OLT is used.



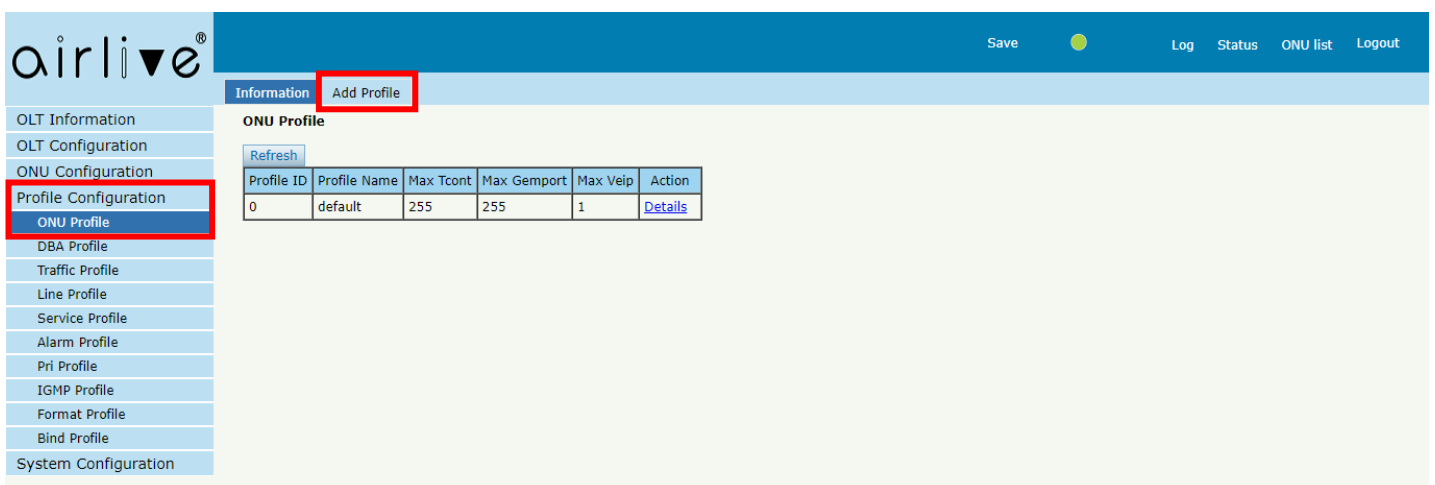
Answer:

When you get this error message it means that the number of LAN ports on your ONU is higher than the number of LAN Ethernet ports specified in the ONU Profile used in the OLT.

To change this, you would need to make an ONU profile with the correct number of Ethernet Port for your ONU. When this new profile is used you will be able to add all the ONU LAN ports to the PortVLAN setup.

1: In the OLT Webui go to Profile Configuration >>> ONU Profile. If you would like to see the number of Ethernet ports used on the Default or any other profile, click on "Detail" behind the Profile name.

To add a new Profile, click on "Add Profile" a new page will open.



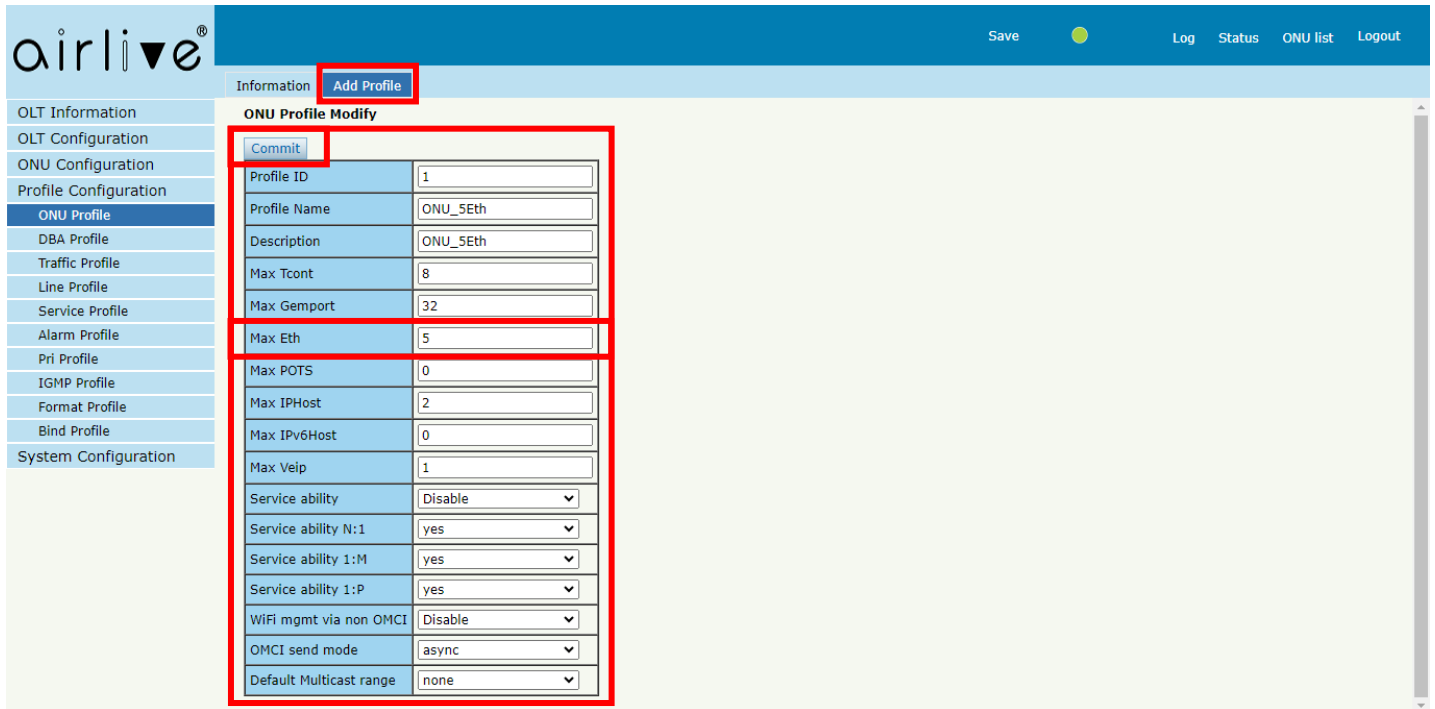
A screenshot of the airtlive web interface. The top navigation bar includes "Save", "Log", "Status", "ONU list", and "Logout". The left sidebar shows a menu with "Profile Configuration" selected, and "ONU Profile" highlighted. The main content area shows the "ONU Profile" configuration page with a table of profiles. The "Add Profile" button is highlighted with a red box.

Profile ID	Profile Name	Max Tcont	Max Gemport	Max Veip	Action
0	default	255	255	1	Details

2: Add Profile

Enter your Profile ID number as will Profile Name and Description. Enter all the necessary information for your ONU. In this example Max Eth was setup to 5 as the ONU-10XG(S)-1004-10G used has 5 LAN Ethernet ports.

After entering all the information press “Commit” to save your profile.



The screenshot shows the Airlive web interface with the 'ONU Profile Modify' form. The 'Commit' button is highlighted in red. The form fields are as follows:

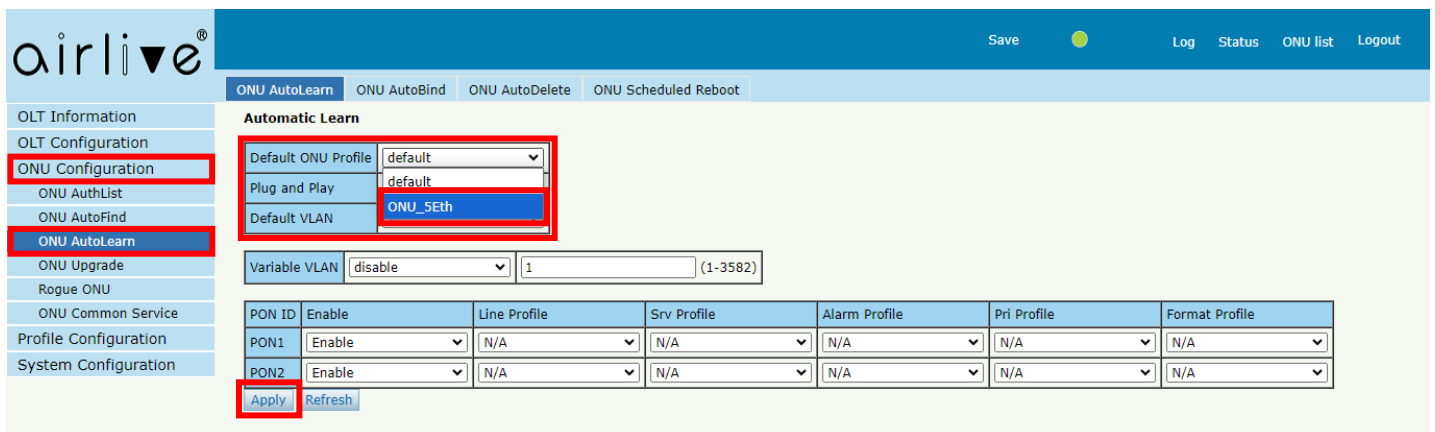
Profile ID	1
Profile Name	ONU_5Eth
Description	ONU_5Eth
Max Tcont	8
Max Gemport	32
Max Eth	5
Max POTS	0
Max IPHost	2
Max IPv6Host	0
Max Veip	1
Service ability	Disable
Service ability N:1	yes
Service ability 1:M	yes
Service ability 1:P	yes
WiFi mgmt via non OMCI	Disable
OMCI send mode	async
Default Multicast range	none

3: Add new Profile to ONU AutoLearn.

Note if you have already added your ONU to the OLT with the default profile, you would need to delete the ONU and re-add it again after you have added the new Profile to ONU AutoLearn.

Go to ONU Configuration >>> ONU AutoLearn >>> Default ONU Profile.

From the Pull-down menu at Default ONU Profile select your correct Profile. After it has been selected press “Apply” to save the settings.



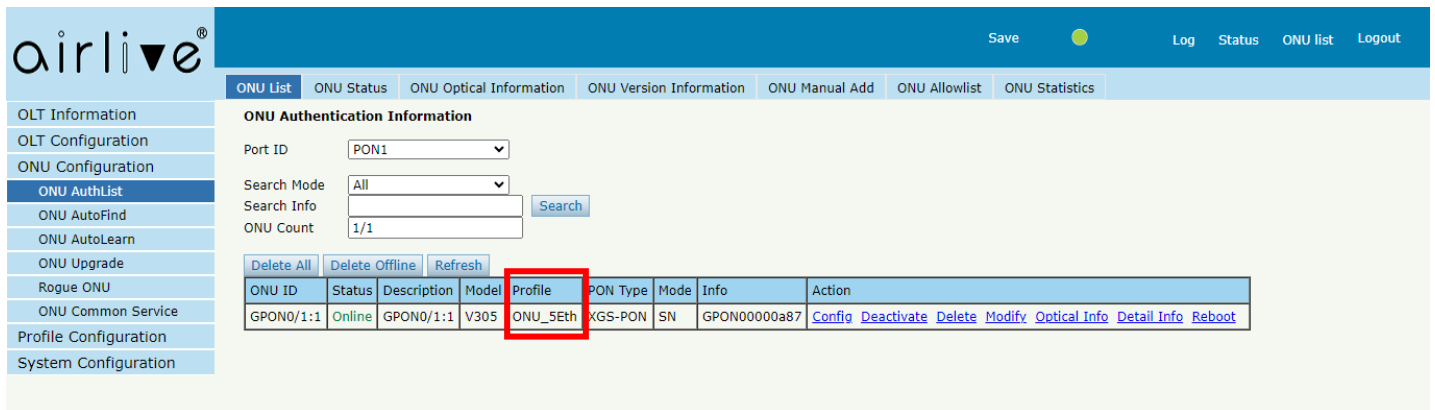
The screenshot shows the Airlive web interface with the 'Automatic Learn' configuration page. The 'Default ONU Profile' dropdown menu is highlighted in red, and the 'Apply' button is also highlighted. The configuration is as follows:

Default ONU Profile	default		
Plug and Play	default		
Default VLAN	ONU_5Eth		
Variable VLAN	disable	1	(1-3582)

PON ID	Enable	Line Profile	Srv Profile	Alarm Profile	Pri Profile	Format Profile
PON1	Enable	N/A	N/A	N/A	N/A	N/A
PON2	Enable	N/A	N/A	N/A	N/A	N/A

4: After adding the ONU to the OLT, the Profile shown should be your new selected profile.

You can now setup the ONU-10XG(S)-1004-10G without the PortVLAN error message coming back.



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
ONU AuthList
ONU AutoFind
ONU AutoLearn
ONU Upgrade
Rogue ONU
ONU Common Service
Profile Configuration
System Configuration

ONU Authentication Information

Port ID: PON1

Search Mode: All

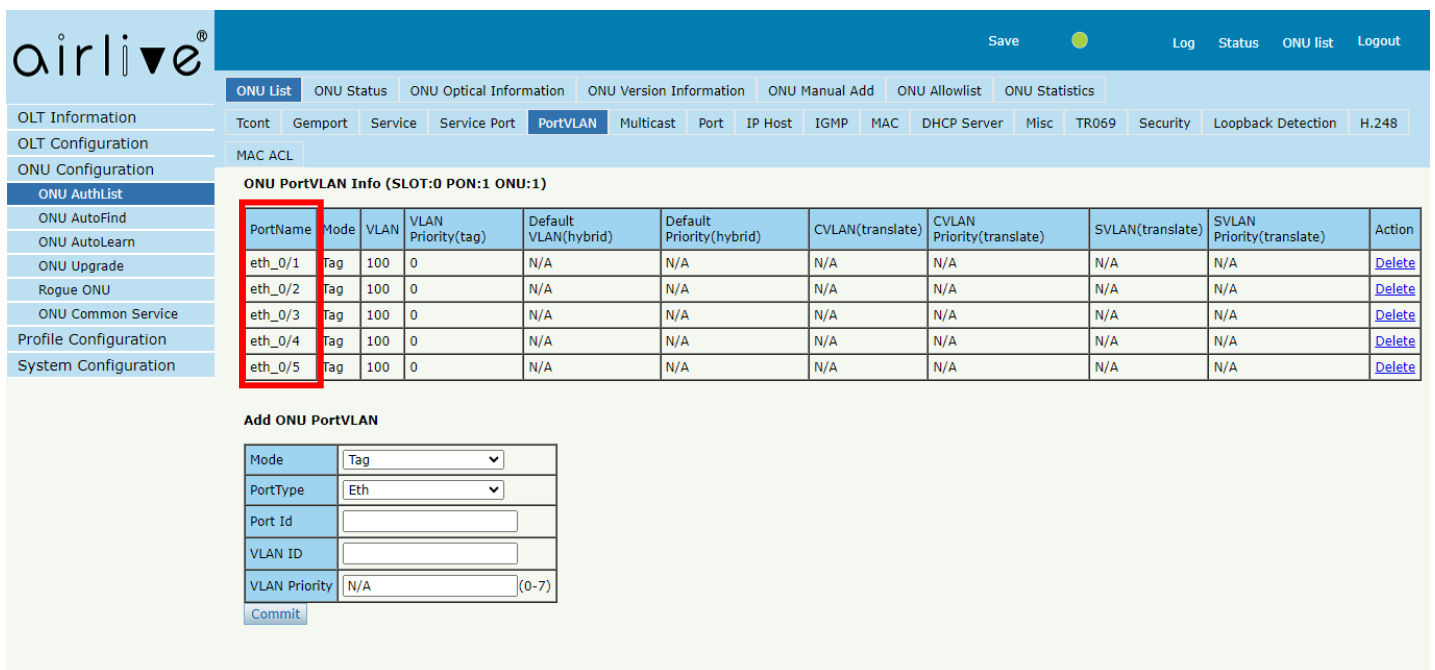
Search Info: Search

ONU Count: 1/1

[Delete All](#) [Delete Offline](#) [Refresh](#)

ONU ID	Status	Description	Model	Profile	PON Type	Mode	Info	Action
GPON0/1:1	Online	GPON0/1:1	V305	ONU_5Eth	XGS-PON	SN	GPON00000a87	Config Deactivate Delete Modify Optical Info Detail Info Reboot

PortVLAN is now able to add all 5 LAN ports of the ONU-10XG(S)-1004-10G.



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
ONU AuthList
ONU AutoFind
ONU AutoLearn
ONU Upgrade
Rogue ONU
ONU Common Service
Profile Configuration
System Configuration

Tcont Gemport Service Service Port **PortVLAN** Multicast Port IP Host IGMP MAC DHCP Server Misc TR069 Security Loopback Detection H.248

MAC ACL

ONU PortVLAN Info (SLOT:0 PON:1 ONU:1)

PortName	Mode	VLAN	VLAN Priority(tag)	Default VLAN(hybrid)	Default Priority(hybrid)	CVLAN(translate)	CVLAN Priority(translate)	SVLAN(translate)	SVLAN Priority(translate)	Action
eth_0/1	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete
eth_0/2	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete
eth_0/3	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete
eth_0/4	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete
eth_0/5	Tag	100	0	N/A	N/A	N/A	N/A	N/A	N/A	Delete

Add ONU PortVLAN

Mode: Tag

PortType: Eth

Port Id:

VLAN ID:

VLAN Priority: N/A (0-7)

[Commit](#)

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