

# **GPON OLT Products User Manual**

**FD1608GS/FD1608SN/FD1616GS/FD1616SN**

## **---Quick Configuration Guide**

**Version: V1.3**

# Content

<b>1. Instruction.....</b>	<b>1</b>
Document Scope.....	1
Revision History.....	1
Proper Noun.....	1
Note.....	2
<b>2. OLT Login Manage.....</b>	<b>2</b>
2.1. OLT Login Manage Explanation.....	2
2.2. OLT Login By Serial Port.....	2
2.3. OLT Login By Telnet.....	4
<b>3. OLT Upgrade.....</b>	<b>5</b>
<b>4. OLT WEB Program Installation Method.....</b>	<b>7</b>
<b>5. Configure Service In OLT Discrete Mode(Non-Template)--CLI Command Method.....</b>	<b>8</b>
5.1. FTTH Service Topology.....	8
5.2. Data Plan.....	9
5.3. Config Process.....	9
5.4. Configure OLT Service.....	10
5.4.1. Configure OLT Global Vlan.....	10
5.4.2. Configure OLT GE Port Service Vlan.....	10
5.4.3. Configure DBA Profile.....	12
5.4.4. Configure ONT Lineprofile.....	12
5.4.5. Configure ONT Srvprofile.....	12
5.4.6. Configure OLT Multicast mode and vlan.....	13
5.5. Check ONT Register Status.....	13
5.6. Configure Bridge ONT(SFU) Service.....	13
5.6.1. Configure Bridge ONT(SFU) Internet Service.....	13
5.6.2. Configure Bridge ONT(SFU) Multicast Service.....	14
5.7. Configure Gateway ONT (HGU) Service.....	15
5.7.1. Configure Gateway ONT (HGU) Internet Service--RTK Solution.....	15
5.7.2. Configure Gateway ONT (HGU) Multicast Service--RTK Solution.....	17
5.7.3. Configure Gateway ONT (HGU) Internet Service--ZTE Solution.....	18
5.7.4. Configure Gateway ONT (HGU) Multicast Service--ZTE Solution.....	20
5.7.5. Configure Gateway ONT (HGU) VOIP Service--ZTE Solution.....	22
<b>6. Configure Service In OLT Profile Mode--CLI Command Method.....</b>	<b>25</b>
6.1. Data Plan.....	25
6.2. Configure Process.....	25
6.3. Configure OLT Service.....	26
6.3.1. Configure OLT Globle Vlan.....	26
6.3.2. Configure OLT GE Port Service Vlan.....	26
6.3.3. Configure OLT Multicast Service.....	27
6.4. Create ONT Profile.....	27
6.4.1. Create ONT DBA Profile.....	27
6.4.2. Create ONT Lineprofile.....	28

6.4.3. Create ONT Srvprofile.....	28
6.5. Add ONT Manually.....	29
6.6. Check ONT Registration Status.....	29
6.7. Configure Bridge ONT (SFU) Service.....	30
6.7.1. Configure Bridge ONT(SFU) Internet Service.....	30
6.7.2. Configure Bridge ONT(SFU) IPTV Service.....	30
6.8. Gateway ONT (HGU) Service Configure Introduction.....	31
<b>7. Configure OLT QinQ Service.....</b>	<b>31</b>
7.1. Data Plan.....	31
7.2. Configure Processes.....	32
7.3. QinQ VLAN Config.....	32
<b>8. Common Command Description.....</b>	<b>33</b>
<b>9. OLT Service Configuration---EMS Method.....</b>	<b>34</b>
9.1. Configuration Process.....	34
9.2. Internet Service Configuration.....	34
9.2.1. Data Plan.....	34
9.2.2. Create Global VLAN.....	35
9.2.3. Create ONT DBA profile.....	36
9.2.4. Create ONT Lineprofile.....	36
9.2.5. Create ONT Srvprofile.....	40
9.2.6. Register ONT(SFU).....	41
9.2.7. Create ONT Service-port (SFU).....	43
9.2.8. Config ONT Port VLAN(SFU).....	45
9.3. Multicast Service Configuration.....	46
9.3.1. Data Plan.....	46
9.3.2. Create Global VLAN.....	46
9.3.3. Create ONT DBA Profile.....	48
9.3.4. Create ONT Lineprofile.....	49
9.3.5. Create ONT Srvprofile.....	52
9.3.6. Register ONU.....	54
9.3.7. Create ONT Service-port.....	55
9.3.8. OLT Multicast Configuration.....	57
9.3.9. ONT Multicast Configuration(SFU).....	59
<b>10. OLT Service Configuration---WEB Method.....</b>	<b>60</b>
10.1. Configuration Process.....	60
10.2. Internet Service Configuration.....	61
10.2.1. Data Plan.....	61
10.2.2. Create Global VLAN.....	61
10.2.3. Create ONT DBA Profile.....	62
10.2.4. Create ONT Lineprofile.....	63
10.2.5. Create ONT Srvprofile.....	65
10.2.6. Register ONU (SFU).....	66
10.2.7. Create ONT Service-port(SFU).....	67
10.2.8. Config ONT Port VLAN (SFU).....	68

10.3. Multicast Service Configuration.....	68
10.3.1. Data Plan.....	68
10.3.2. Create Global VLAN.....	69
10.3.3. Create ONT DBA profile.....	69
10.3.4. Create ONT Lineprofile.....	70
10.3.5. Create ONT Srvprofile.....	72
10.3.6. Registered ONT.....	72
10.3.7. Create ONT Service-port(SFU).....	73
10.3.8. OLT Multicast Configuration.....	74
10.3.9. ONT Multicast Configuration(SFU).....	77
<b>Concluding Remarks.....</b>	<b>78</b>

# 1. Instruction

## Document Scope

Reading Object	Product	Products Software Version	
Employees, FTTX Operation&Maintenance Engineer, Customer's Technical Engineer	GPON OLT (FD1608GS/FD1608SN/FD1616GS/ FD1616SN)	V1.0.X	
Compiling Department	Product Management Center Technical Support Department	Document Version	V1.3

## Revision History

Date	Version	Description	Author
2018-04-25	V1.1	New Version GPON OLT First Edition Configuration Guide	Technical Support Department
2018-07-23	V1.2	Change Document Format and Name	Technical Support Department
2019-02-14	V1.3	1.Add OLT EMS and WEB management type config guide 2.Add how to access the OLT web management	Technical Support Department

## Proper Noun

Acronym	Full name	Instructions
<b>GPON</b>	Gigabit-Capable Passive Optical Network	Gigabit Capable Passive Optical Network
<b>OLT</b>	Optical Line Terminal	Optical Line Terminal
<b>ONT</b>	Optical Network Terminal	Optical Network Terminal
<b>OMCI</b>	ONT Management and Control Interface	GPON OLT&ONT Management and Control Interface(protocol)
<b>OAM</b>	Operation Administration and Maintenance	EPON OLT&ONU Operation Administration and Maintenance Protocol

<b>DBA</b>	Dynamic Bandwidth Allocation	Dynamic Bandwidth Allocation
<b>VLAN</b>	Virtual Local Area Network	Virtual Local Area Network
<b>VoIP</b>	Voice over IP	Voice over IP
<b>WLAN</b>	Wireless Local Area Networks	Wireless Local Area Networks
<b>FTTH</b>	Fiber To The Home	Fiber To The Home
<b>FTTB</b>	Fiber To The Building	Fiber To The Building

## Note

- The command line described in the document is case sensitive in OLT.
- If we meet a command that cannot be inputted or is prompted for error, we can input “?” to see the latter command format.
- Input incomplete commands can be completed by pressing the “**Tab**” key.
- FD1608GS, FD1608SN, FD1616GS, FD1616SN are Pizza-Box OLT, only have one card, so, if we want to enter PON mode, need input interface gpon 0/0

## 2. OLT Login Manage

### 2.1. OLT Login Manage Explanation

FD1608GS, FD1608SN, FD1616GS, FD1616SN OLT support CLI management; CLI manage type divided into telnet remote manage and console local manage, please check #2.2 and #2.3 chapter to see concrete operations; please check EMS user manual to see EMS manage way; please check #4 to see WEB manage way.

### 2.2. OLT Login By Serial Port

The serial port login mode can be divided into the following two types according to the connected interface:

1. find **Console port** on OLT front surface, which is a RJ45 port. If you want to login OLT by Console port, we need to prepare as follows:

- Need RJ-45-to-DB-9 serial line
- Connect PC to OLT console port, find COM number in “**computer management**”
- Software for logging OLT by console port (Putty, SecureCRT)
- parameter for console login software

Baud Rate: **115200**

Parity Check:None

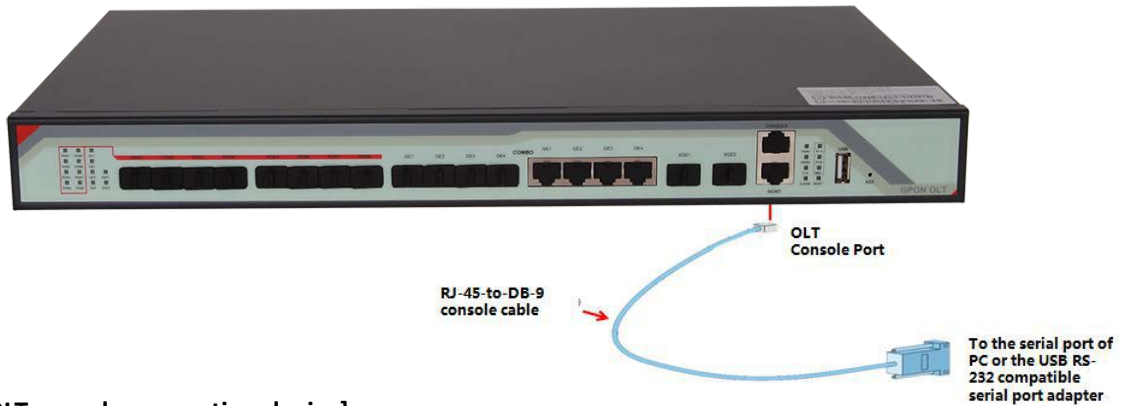
Databit:8

Stopbit:1

Flow Control:None

Login OLT by console login software,then input **username:root,password:admin**

**[OLT console connection diagram]**



**[OLT console connection device]**



RJ-45 to DB-9 Console Cable



USB to RS-232 compatible serial port adapter

Port on Computer	Required Cable	Port on OLT
Serial Port	RJ-45 to DB-9 Console Cable	RJ-45 Console Port
USB Type-A Port	<ul style="list-style-type: none"><li>● USB to RS-232 compatible serial port adapter ( Adapter may require a software driver )</li><li>● RJ-45 to DB-9 Console Cable</li></ul>	

2. find **Type-C port** on OLT front surface.if want to login OLT by Type-C port,we need do prepare as follows:

- Need Type-C port universal data line
- Connect PC USB port to OLT Type-C port,find COM number in **“computer management”**
- Software for logining OLT by console port(Putty,SecureCRT)
- parameter for console login software

Baud Rate:**115200**

Parity Check:None

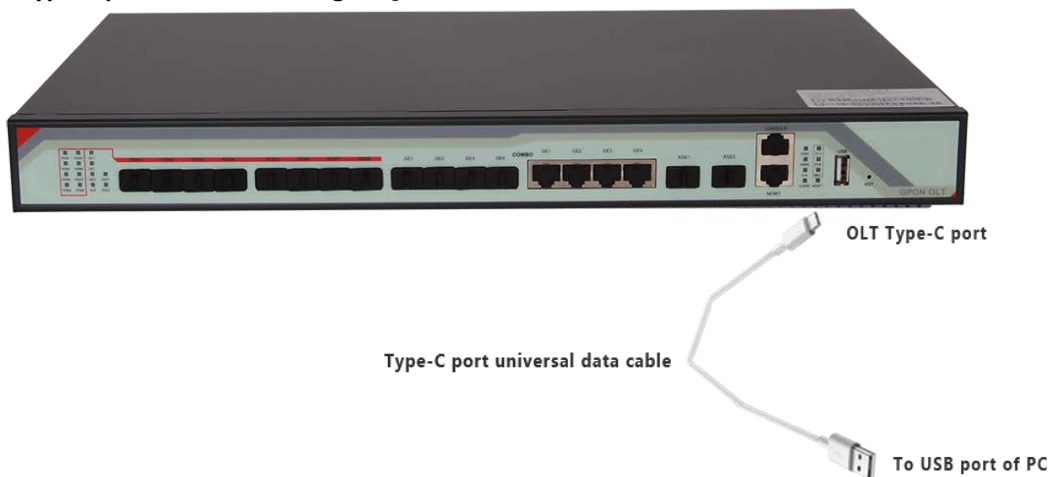
Databit:8

Stopbit:1

Flow Control:None

Login OLT by Type-C port, then input **username:root,password:admin**

### [OLT Type-C port connection diagram]



### [OLT Type-C port connection device]



Type-C port universal data line

Port on Computer	Required Cable	Port on OLT
USB Port	● Type-C port universal data line	Type-C port

## 2.3. OLT Login By Telnet

There are two way to telnet,one is outband management,another is inband management.

### 1. Outband management(connect OLT MGMT port).

set PC ip as 192.168.1.X(except **192.168.1.100**),PC connect to OLT MGMT port, login the OLT with OLT default manage IP (default IP : 192.168.1.100). then input username and password,default



login username is **root**,password is **admin**.

**Use command as follow can modify the outband management IP:**

```
OLT> enable
```

```
OLT# config
```

```
OLT(config)# interface mgmt
```

```
OLT(config-interface-mgmt)# ip address 192.168.5.100 24
```

```
OLT(config-interface-mgmt)# exit
```

## **2. Inband management(connect OLT ge port)**

First we login olt via console port or mgmt port, and add a vlanif for inband management, assigned an IP address to this vlan,add the ge port to the vlan,ge port vlan mode can be access or trunk,which depend on your network environment,then pc connect to OLT ge port ( ge1-ge4 ) and telnet to the OLT.

**The way to set inband magement ip as follows:**

```
OLT> enable
```

```
OLT# config
```

```
OLT(config)# vlan 100
```

```
OLT(config)# interface ge
```

```
OLT(interface-ge)# vlan access 1 100 ----configure ge 1 as inband management port
```

```
OLT(interface-ge)# exit
```

```
OLT(config)# interface vlanif 100
```

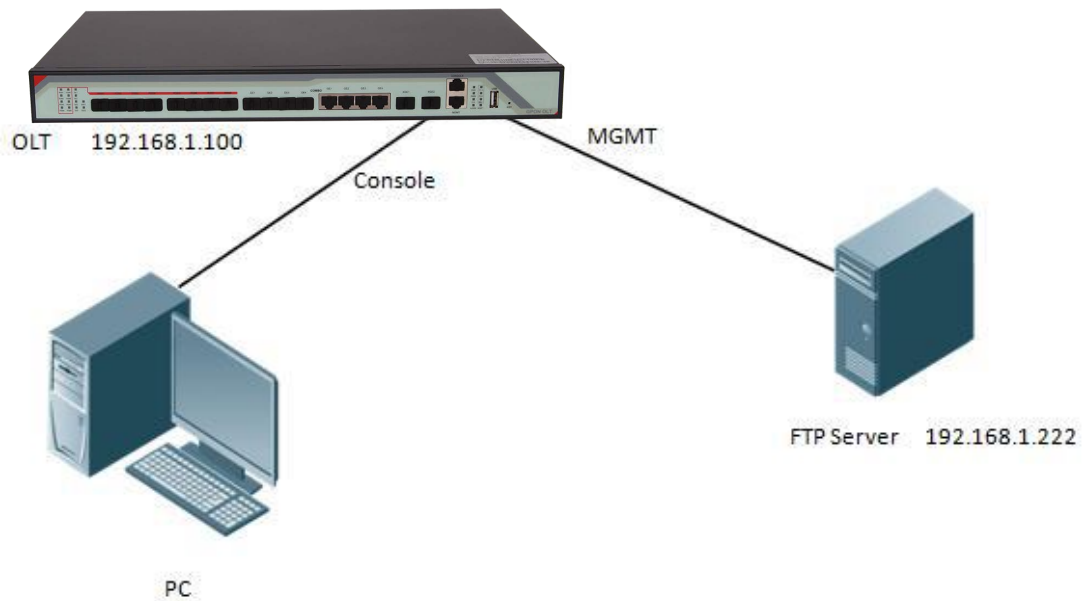
```
OLT(interface-vlanif-100)# ip address 192.168.2.100 255.255.255.0
```

```
OLT(interface-vlanif-100)# exit
```

## **3. OLT Upgrade**

### **1.Set up OLT update topology:**

Use a PC as FTP server(run wftpd32.exe or Wftpd.exe in this pc),and connect to OLT mgmt port or ge port to transmit firmware.

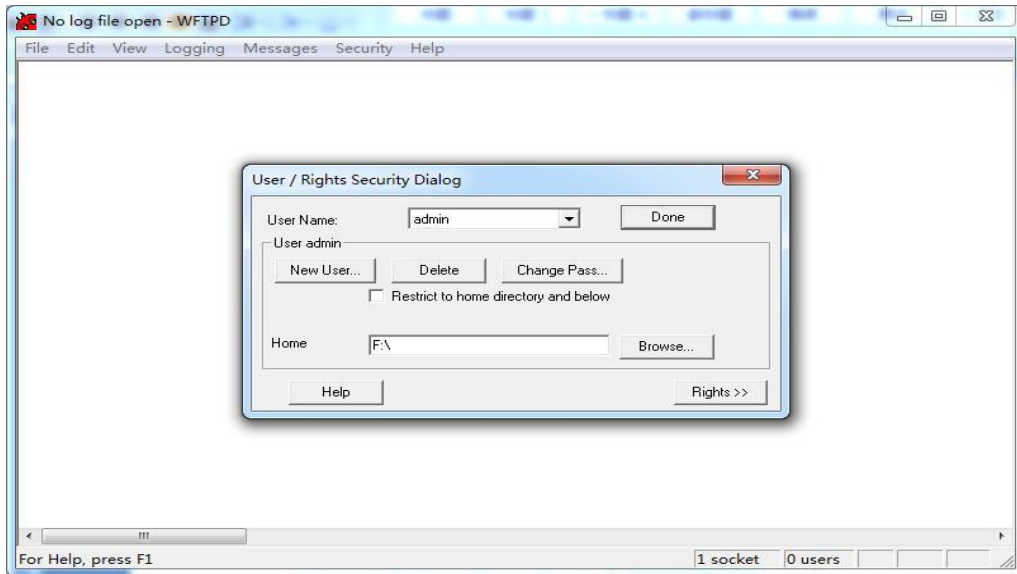


## 2. Test network connectivity

- a. Connect PC to OLT console port, used for updating OLT in boot mode.
- b. Connect PC to OLT MGMT port or GE port, configure PC IP and OLT IP (inband IP or outband IP) are in the same segment.
- c. PC can ping OLT management IP; if PC can ping OLT management IP, it means OLT can connect to the FTP server.
- d. **Close PC firewall, prevent firewall from intercepting FTP software.**

## 3. FTP server configuration

- a. Open FTP software, configure FTP username and password, **such as:** admin/admin
- b. Set up a directory for OLT update files for the FTP server, such as the way for setting up the wftp32. Exe software:
  - Security -> User/Rights Security Dialog -> User Name —input admin
  - Change Password —input admin
  - Home Directory —set directory of OLT upgrade files



#### 4. OLT update command

FD1608GS, FD1608SN, FD1616GS, FD1616SN OLT only need to update a file, if the boot file is too old, we need update boot file in OLT boot mode, boot upgrade way will be provided separately. OLT the common upgrade method please see below:

**a. Input command as follows to update OLT FW file (file name include FW):**

```
OLT(config)# load packetfile ftp 192.168.1.222 admin admin New16Port_FW_V1.3.1_X000_171114_1841.img
```

Broadcast message from root:

Upgrade is in process.

File [New16Port\_FW\_V1.3.1\_X000\_171114\_1841.img] download ..... OK

File [New16Port\_FW\_V1.3.1\_X000\_171114\_1841.img] upgrade ..... OK

**b. After update OLT, we need reboot OLT (Note: only reboot OLT, OLT can use new version)**

```
OLT(config)# reboot
```

Please check whether data has saved, the unsaved data will lose if reboot system. Are you sure to reboot system? (y/n)[n]:y

## 4. OLT WEB Program Installation Method

1. First, update the WEB firmware via the #3 OLT upgrade way, (firmware name include Web word, such as New16Port\_Web\_V1.0.1\_X000\_171114\_1841.img)

```
OLT(config)# load packetfile ftp 192.168.1.222 admin admin New16Port_Web_V1.0.1_X000_171114_1841.img
```

2. PC connect to OLT mgmt port or inband management port, make sure PC can ping OLT inband management ip or outband management ip

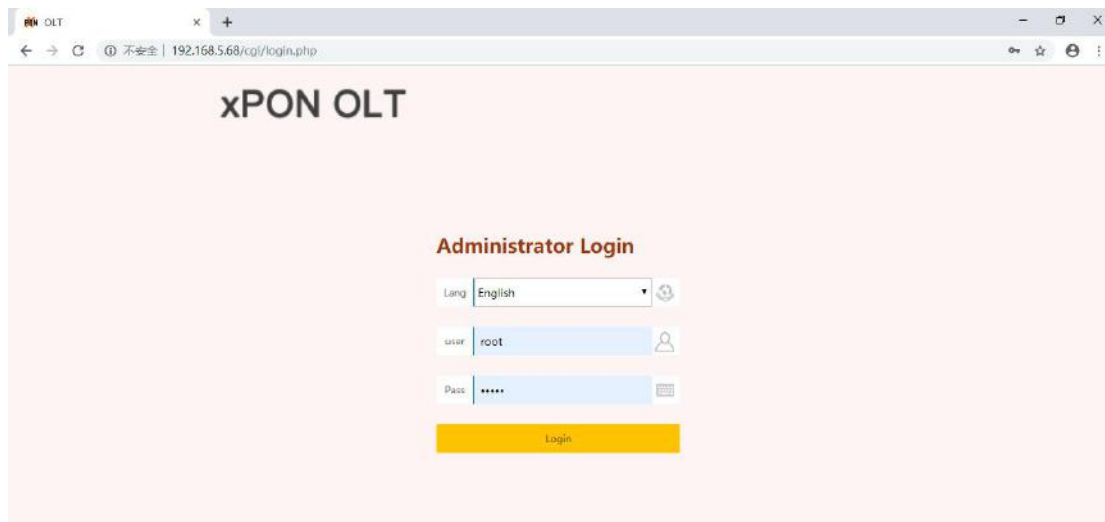
3. Before accessing OLT's web management from a PC, you need to enable OLT's SNMP functionality by the OLT command line. The configuration command is as follows:

```
OLT(config)# snmp-agent enable
OLT(config)# snmp-agent community read public
OLT(config)# snmp-agent community write private
```

4.After the OLT WEB firmware upgrade,can use below method check the OLT if have the web firmware version informaton,if see the information on the OLT,this mean the OLT have the web firmware version:

```
OLT(config)# show version
Hardware version : V3.0
Firmware version : V1.0.4_190307 (Thu, 07 Mar 2019 14:43:15 +0800)
Web version      : V1.2.0_181011 (Thu, 11 Oct 2018 16:44:44 +0800)
```

5.Open PC browser input OLT management ip,then we can see web login interface,web login username and password is **root/admin**:

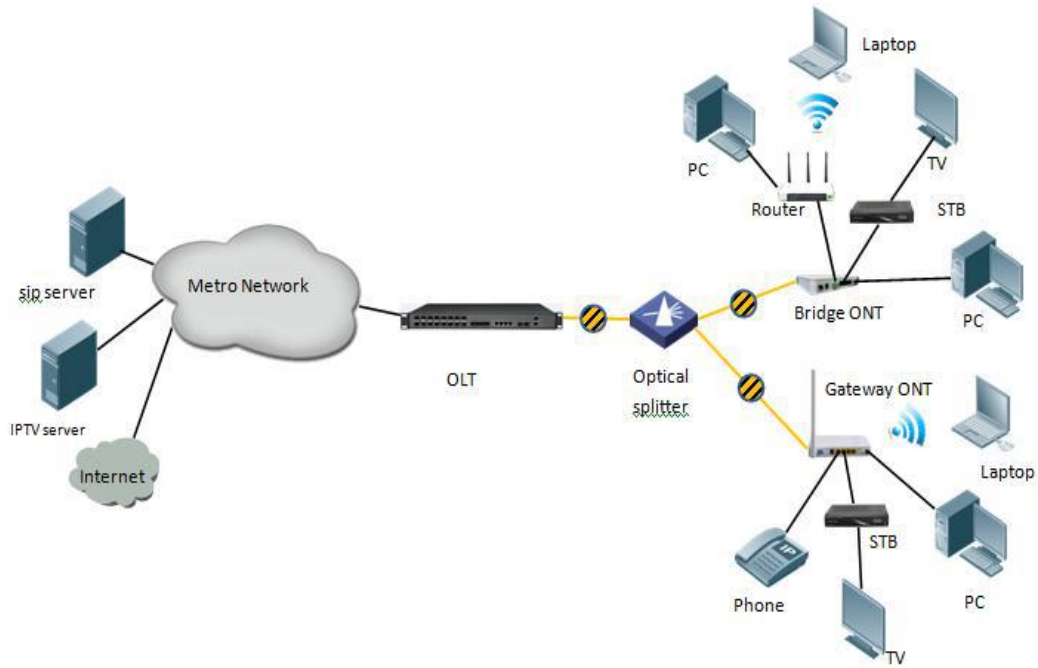


## 5. Configure Service In OLT Discrete Mode(Non-Template)-

### --CLI Command Method

This section mainly introduce FD1608GS, FD1608SN, FD1616GS, FD1616SN OLT internet service, voice service and multicast service in discrete mode in FTTH environment.Mainly introduce the bridge ONT(SFU and Home Gateway ONT (HGU)),The following will introduce the service configuration way for OLT and ONT according to two types ONT.

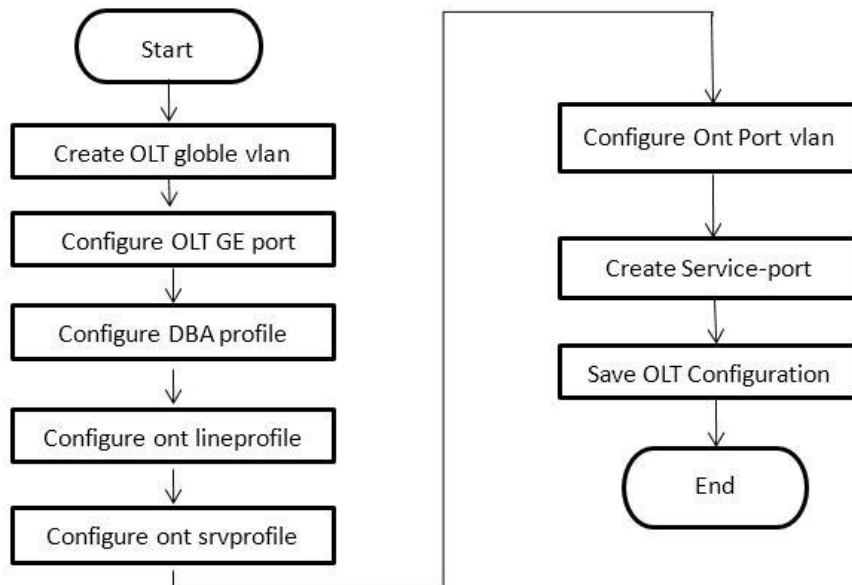
### 5.1. FTTH Service Topology



## 5.2. Data Plan

Main Data Plan List	
Configure Item	Data
<b>OLT Port Config</b>	<b>Ge1:</b> VLAN 100 access mode <b>Ge2:</b> VLAN 200 access mode <b>Ge3:</b> VLAN 300 access mode
<b>DBA Profile (upload bandwidth control)</b>	<b>Profile number:</b> 1
<b>ONT Lineprofile</b>	<b>Profile ID:</b> 0 <b>T-CONT ID:</b> 1 <b>Internet GEM Port ID:</b> 2 <b>Mapping Vlan:</b> 100 <b>Voice GEM Port ID:</b> 3 <b>Mapping Vlan:</b> 200 <b>IPTV GEM Port ID:</b> 4 <b>Mapping Vlan:</b> 300
<b>ONT Srvprofile</b>	<b>Profile ID:</b> 0 <b>ONT Port Capability:</b> adaptive
<b>Bridge ONT Port Config</b>	<b>LAN 1:</b> VLAN 100 <b>LAN 2:</b> VLAN 200 <b>LAN 3:</b> VLAN 300 ---connect to VOIP phone
<b>Gateway ONT Port Config</b>	<b>LAN1:</b> VLAN 100 <b>LAN2:</b> VLAN 200 <b>POTS1:</b> VLAN 300

## 5.3. Config Process



## 5.4. Configure OLT Service

### 5.4.1. Configure OLT Global Vlan

In **config** mode, we can use **OLT(config)# show vlan all** to show the created vlan.

If the created vlan can't meet the need, we can use command **OLT(config)# vlan vlan-list** to create new vlan. According to the data plan, we create vlan100, vlan200, vlan300 firstly:

```

OLT(config)# vlan 100
OLT(config)# vlan 200
OLT(config)# vlan 300
  
```

### 5.4.2. Configure OLT GE Port Service Vlan

We can config GE port vlan mode as access, hybrid and trunk, we can configure different mode according to our network plan, configure way of three mode as follows.

**Configure GE 1,2,3 port vlan mode is access (in this document, GE port connect to PC, so we configure ge port vlan mode as access):**

```

OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-3 access
OLT(config-interface-ge-0/0)# vlan access 1 100
OLT(config-interface-ge-0/0)# vlan access 2 200
OLT(config-interface-ge-0/0)# vlan access 3 300
OLT(config-interface-ge-0/0)# exit
  
```

**Configure GE 1、2、3 □ vlan mode is trunk:**

```

OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-3 trunk
OLT(config-interface-ge-0/0)# vlan trunk 1 100
  
```

```

OLT(config-interface-ge-0/0)# vlan trunk 2 200
OLT(config-interface-ge-0/0)# vlan trunk 3 300
OLT(config-interface-ge-0/0)# exit

```

**Configure GE 1、 2、 3 □ vlan mode is hybrid:**

```

OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-3 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 1 tagged 100
OLT(config-interface-ge-0/0)# vlan hybrid 2 tagged 200
OLT(config-interface-ge-0/0)# vlan hybrid 3 tagged 300
OLT(config-interface-ge-0/0)# exit

```



**NOTE:**

The OLT vlan handle process as follows:

Vlan mode	Direction	Message have vlan tag or not	Handling method
Access mode	In	vlan tag	Discard
		untag	Add port configured vlan in access mode for message (main parameter is VID),and forward
	Out	vlan tag	Forward message to the corresponding port according to VID and remove vlan tag;If the VLAN ID of the Tagged message is not same to the port VID, it is discard.
		untag	Discard
Trunk mode	In	vlan tag	If the VLAN in the message is permit to pass port, it will be forwarded directly; If the VLAN in the message doesn't permit to pass port, it is discarded.
		untag	Add default vlan(native-vlan) for untagged message and forward.
	Out	vlan tag	If the VLAN in the message is permit to pass port, it will be forwarded directly; If the VLAN ID of the message is the default (native-VLAN)VLAN, then the VLAN tag is discard and forward;If the VLAN in the message doesn't permit to pass port, it is discarded.
		untag	Discard
Hybrid mode	In	vlan tag	If the VLAN in the message is permit to pass

			port, it will be forwarded directly; If the VLAN in the message doesn't permit to pass port, it is discarded.
		<b>untag</b>	Add default vlan(native-vlan) for untagged message and forward.
	<b>Out</b>	<b>vlan tag</b>	If the VLAN in the message is permit to pass port,according vlan tag or vlan untag of message to discard or no discard vlan tag,then forward message,If the VLAN ID of the message is the default (native-VLAN) VLAN, then the VLAN tag is discard and forward; If the VLAN in the message doesn't permit to pass port, it is discarded.
		<b>untag</b>	Discard

### 5.4.3. Configure DBA Profile

In OLT discrete mode,ONT is automatically registered. When ONT online it would bind system default lineprofile 0 and srvprofile 0 automatically. And the TCONT 1 of lineprofile 0, would bind the DBA profile 1 automatically. In this user manual don't modify DBA profile 1 configuration and use it directly

### 5.4.4. Configure ONT Lineprofile

In OLT discrete mode,ONT is automatically registered. When ONT online it would bind system default lineprofile 0 and srvprofile 0 automatically. And the lineprofile 0 would create gem 1 to bind TCONT 1 automatically. Gem 1 can be deleted or modified manually. In this user manual don't modify gem1 and create new gem for different service as flow:

```
OLT(config)# ont-lineprofile gpon profile-id 0
OLT(config-ont-lineprofile-0)# gem add 2 tcont 1
OLT(config-ont-lineprofile-0)# gem mapping 2 1 vlan 100
OLT(config-ont-lineprofile-0)# gem add 3 tcont 1
OLT(config-ont-lineprofile-0)# gem mapping 3 1 vlan 200
OLT(config-ont-lineprofile-0)# gem add 4 tcont 1
OLT(config-ont-lineprofile-0)# gem mapping 4 1 vlan 300
OLT(config-ont-lineprofile-0)# commit
OLT(config-ont-lineprofile-0)# exit
```

### 5.4.5. Configure ONT Srvprofile

In OLT discrete mode,ONT is automatically registered. When ONT online it would bind system default lineprofile 0 and srvprofile 0 automatically. In this user manual don't modify ont srvprofile 0 configuration and use it directly.



### 5.4.6. Configure OLT Multicast mode and vlan

```
OLT(config)# igmp mode snooping
OLT(config)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp router-port ge 0/0/2
OLT(config-multicast-vlan-200)# igmp member port gpon 0/0/1
OLT(config-multicast-vlan-200)# igmp program add program-index 1 ip 224.3.3.3
OLT(config-multicast-vlan-200)# exit
```

### 5.5. Check ONT Register Status.

In OLT discrete mode,ONT is automatically registered. after ONT is automatically registered,use command **show ont info** to query ONT online status.make sure ONT "Control flag" is "Active", "Run State" is "Online", "Config state" is "Success" and "Match state" is "Match"

```
OLT(config-interface-gpon-0/0)# show ont info 1 all
```

F/S	P	ONT ID	SN	Control flag	Run state	Config state	Match state
0/0	1	1	DB19B34F0C16	Active	online	success	match
0/0	1	2	XPONE067B341	Active	online	success	match

```
Total: 2, online 2, deactive: 0, failed: 0
```

### 5.6. Configure Bridge ONT(SFU) Service

In OLT discrete mode,we need enter OLT to config ONT one by one,config way as follows:

#### 5.6.1. Configure Bridge ONT(SFU) Internet Service

**Premise condition of ONT to open internet service:**

- OLT connect to uplink device and open internet service
- OLT have created vlan for internet service
- OLT have configured GE port vlan
- ONT have registered

SFU ethernet port vlan mode have transparent,tag(access),trunk mode and so on,we can according to our network plan configure different mode.all ont vlan is configured by OLT,configure way as follows:

##### 1. Configure traffic profile:

```
OLT(config)# traffic-profile profile-id 1 profile-name 10M cir 10240 pir 10240 cbs 2000 pbs 2000
```

##### 2. Configure ont-srvprofile ONT port vlan mode is tag(access):

```
OLT(config)# ont-srvprofile gpon profile-id 0
OLT(config-ont-srvprofile-0)# port vlan eth 1 100
OLT(config-ont-srvprofile-0)# commit
OLT(config-ont-srvprofile-0)# exit
```

### 3. Configure ONT port native-vlan

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 1 vlan 100
OLT(config-interface-gpon-0/0)# exit
```

### 4. Config service port:

```
OLT(config)# service-port 3 vlan 100 gpon 0/0 port 1 ont 1 gemport 2 multi-service user-vlan 100
tag-action transparent inbound name 10M outbound name 10M
```



#### NOTE:

In this user manual service use single vlan. SVLAN is 100, USERVLAN is 100. Tag-action is transparent. USERVLAN equal SVLAN. So the service-port transparent vlan 100. More Tag action rule as follow:

TAG ACTION	Description
DEFAULT	Add a SVLAN to packet.
ADD_DOUBLE	Add a SVLAN and a USERVLAN to packet.
TRANSPARENT	When USERVLAN equal SVLAN would transparent packet.
TRANSLATE	Translate USERVLAN to SVLAN.
TRANSLATE_AND_ADD	Add a SVLAN and translate USERVLAN to the new innervlan

## 5.6.2. Configure Bridge ONT(SFU) Multicast Service

### Premise Condition

- OLT connect to uplink device and open service
- OLT have created vlan for multicast service
- OLT have configured GE port vlan
- ONT have registered

### 1. Configure ont-srvprofile ONT port vlan mode is tag(access):

```
OLT(config)# ont-srvprofile gpon profile-id 0
OLT(config-ont-srvprofile-0)# port vlan eth 2 200
OLT(config-ont-srvprofile-0)# commit
OLT(config-ont-srvprofile-0)# exit
```

### 2. Configure ONT port native-vlan

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 2 vlan 200
OLT(config-interface-gpon-0/0)# exit
```

### 3. Config service port:

```
OLT(config)# service-port 4 vlan 200 gpon 0/0 port 1 ont 1 gemport 3 multi-service user-vlan 200
tag-action transparent inbound name 20M outbound name 20M
```

----End

## 5.7. Configure Gateway ONT (HGU) Service

Gateway ONT (HGU) can provide internet, VOIP, IPTV service for FTTH, support PPPOE/DHCP dial-up, NAT, IGMP. Because HGU have route function, ONT service need to be configured with the local web or tr069, include wan and vlan configuration, don't need configure vlan in olt, only make sure ONT can register to OLT. OLT don't support configure ONT route wan, specific configure as follows:

### 5.7.1. Configure Gateway ONT (HGU) Internet Service--RTK Solution

#### premise condition

- OLT connect to uplink device and open service
- OLT have created vlan for internet
- OLT have configured GE port vlan
- ONT have registered

#### 1. Config traffic profile

```
OLT(config)# traffic-profile profile-id 1 profile-name 10M cir 10240 pir 10240 cbs 2000 pbs 2000
```

#### 2. Config service port:

```
OLT(config)# service-port 3 vlan 100 gpon 0/0 port 1 ont 1 gemport 2 multi-service user-vlan 100
tag-action transparent inbound name 10M outbound name 10M
```

#### 3. Create route wan and bind LAN1 in ont web

Click Internet → Internet Config → WAN Config

**WAN Config**

WAN Connection name:

Mode:

Connection Mode:

DHCP Obtain an IP address automatically  
 Static Use Static IP address  
 PPPoE PPP over Ethernet (PPPoE)

NAT:

Enable Vlan:

Vlan ID:

802.1p:

MTU:

Request DNS:  Enable  Disable

Primary DNS:

Secondary DNS:

Service Mode:

Bind port:
  Port\_1  Port\_2  
 Port\_3  Port\_4  
 wireless (SSID)



**NOTE:**

Mode select **Route**. Check **Enable VLAN** and Vlan ID input 100. Service Mode select **INTERNET**. Bind port check **Port\_1** and **wireless(SSID)**. Internet service take DHCP mode as an example in this document. The service type please select suitable type according to the user's actual environment. ONT detail usage please refer to ONT user manual.

**4. Check ONT internet wan status**

Click Status → Internet Info

**WAN Info**

Interface	VLAN ID	Protocol	IGMP	Status	IP address
1_TR069_R_VID_46	46	IPoE	Enable	down	
2_INTERNET_R_VID_100	100	IPoE	Enable	up	192.168.5.129

**Network Information**

Default Gateway	192.168.5.254
Subnet Mask	255.255.255.0
Primary DNS	192.168.5.254
Secondary DNS	

## 5.7.2. Configure Gateway ONT (HGU) Multicast Service--RTK Solution

### premise condition

- OLT connect to uplink device and open multicast service
- OLT have created vlan for multicast
- OLT have configured GE port multicast vlan
- ONT have registered

### 1.Create service port

```
OLT(config)# service-port 5 vlan 200 gpon 0/0 port 1 ont 2 gempport 3 multi-service user-vlan 200  
tag-action transparent
```

### 2.Create bridge wan and bind LAN2 in ont web

Click Internet→Internet Config→ WAN Config

Status	Internet	Security	Application	Management	Diagnosis		
Internet Config	Port Binding	DHCP Server	WLAN Config	Remote Mgmt	QoS	Time Config	Routing

#### WAN Config

WAN Connection name: Add WAN connection

Mode: Bridge

Connection Mode: Ipv4/Ipv6

Enable Vlan:

Vlan ID: 200

SO2 Ip: (NULL)

Service Mode: Other

Bind port:

Port\_1  Port\_2

Port\_3  Port\_4

wireless (SSID)

NOTE: Can not bind the same port to different WAN connection. If the same port has been binded to different WAN connection, the last configuration will flush your previous configurations on this port.

When the Bridge mode is set to Other, the PC on the port does not dynamically obtain the IP address through the gateway. When the service mode is Other, please be careful not to bind all LAN ports for such a situation!

Apply delete



### NOTE:

Mode select to **Bridge**. Check **Enable Vlan**,Vlan ID input **200**. Service Mode select **Other**.Bind port click **Port\_2**.

### 3.Config IGMP mode in ONT web

Click Application→ IGMP Config→ IGMP Snooping. Enable IGMP Snooping.

Application	Status	Internet	Security	Application	
DDNS Config	Advanced NAT	UPNP Config	IGMP Config	MLD Config	Multicast Vlan

#### IGMP Snooping

This page allows you to config IGMP Snooping function.

IGMP Snooping:  Disable  Enable

Save/Apply

### 4.Configure multicast vlan on ONT web

Click Application → Multicast Vlan → 3\_Other\_B\_VID\_200 → Modify. Input 200 behind VLAN multicast(blank said set).

Interface	Multicast VLAN	Modify
1_TR069_R_VID_46		
2_INTERNET_R_VID_100		
3_Other_B_VID_200	200	

## 5. Check ONT multicast wan status

Click Status → Internet Info

Interface	VLAN ID	Protocol	IGMP	Status	IP address
1_TR069_R_VID_46	46	IPoE	Enable	down	
2_INTERNET_R_VID_100	100	IPoE	Enable	up	192.168.5.129
3_Other_B_VID_200	200	br1483	Disable	up	

Network Information	
Default Gateway	192.168.5.254
Subnet Mask	255.255.255.0
Primary DNS	192.168.5.254
Secondary DNS	

----end

## 5.7.3. Configure Gateway ONT (HGU) Internet Service--ZTE Solution

### premise condition

- OLT connect to uplink device and open internet service
- OLT have created vlan for internet
- OLT have configured GE port vlan
- ONT have registered

### 1. Config traffic profile

```
OLT(config)# traffic-profile profile-id 1 profile-name 10M cir 10240 pir 10240 cbs 2000 pbs 2000
```

### 2. Config service port

```
OLT(config)# service-port 6 vlan 100 gpon 0/0 port 1 ont 3 gempport 2 multi-service user-vlan 100 tag-action transparent inbound name 10M outbound name 10M
```

### 3. Create route wan and bind LAN1 in ont web

Click Network → WAN → WAN Connection. Type select to DHCP. Connection Name select to Create WAN Connection. Port Binding check LAN1, LAN2, LAN3 and SSID1. Service List select to INTERNET. VLAN Mode select to Used. VLAN ID enter 100. finally click Create.

Status | Network | Security | App | Administration | Diagnosis | Help

WAN

- WAN Connection
- 4in6 Tunnel Connection
- ARP Detect
- DHCP Release First

Bonding configuration

LAN Configuration

Prefix Management

WLAN

TR-069

QoS

SNTP

Route

IP Version: IPv4

Type: DHCP

Connection Name: Create WAN Connection

Port Binding:  LAN1  LAN2  LAN3  LAN4  
 SSID1  SSID2  SSID3  SSID4

Enable DHCP:

Enable NAT:

Service List: INTERNET

VLAN Mode: Used

VLAN ID: 100

802.1p: 0

Enable DSCP:

DSCP: [ ]

MTU: 1492

English

Help

Logout

Create Cancel



**NOTE:**

Type select to **DHCP**. Connection Name select to **Create WAN Connection**. Port Binding check **LAN1, LAN2, LAN3** and **SSID1**. Service List select to **INTERNET**. VLAN Mode select to **Used**. VLAN ID enter **100**. Enable DHCP and Enable NAT keep default checked status.

In this document, Internet service take DHCP mode as an example. please selected suitable service type according to the user's actual need. ONT detail use way please refer to ONT user manual.

**4. Check ONT internet wan status**

Status | Network | Security | App | Administration | Diagnosis | Help

Device Information

Network Interface

- WAN Connection (IPv4)
- WAN Connection (IPv6)
- 4in6 Tunnel Connection
- PON Inform
- PON Alarm

User Interface

VoIP Status

Remote Management Status

Type	DHCP
Connection Name	1_INTERNET_R_VID_100
NAT	Enabled
IP	192.168.7.235/255.255.254.0
DNS1	202.96.134.133
DNS2	202.96.128.166
DNS3	0.0.0.0
WAN MAC	E0:67:B3:00:00:04
Gateway	192.168.6.254
Connection Status	Connected
Remaining Lease Time	3174sec

English

Help

Logout

Refresh

## 5.7.4. Configure Gateway ONT (HGU) Multicast Service--ZTE Solution

### premise condition

- OLT connect to uplink device and open multicast service
- OLT have created vlan for multicast
- OLT have configured GE port multicast vlan
- ONT have registered

### 1.Config Config service port

```
OLT(config)# service-port 7 vlan 200 gpon 0/0 port 1 ont 3 gempport 3 multi-service user-vlan 200 tag-action transparent
```

### 2.Create bridge wan in ont web

Click Network→WAN→WAN Connection. Type select to Bridge. Connection Name select to Create WAN Connection. Port Binding check LAN4. Service List select to OTHER. VLAN Mode select to Used. VLAN ID enter 200. Finally click Create.

The screenshot shows the ONT web interface with the 'Network' tab selected. The 'WAN Connection' configuration page is displayed. The configuration fields are as follows:

- IP Version: IPv4
- Type: Bridge
- Connection Name: Create WAN Connection
- Port Binding: LAN1, LAN2, LAN3, LAN4 (checked), SSID1, SSID2, SSID3, SSID4
- Enable DHCP:
- Service List: OTHER
- VLAN Mode: Used
- VLAN ID: 200
- 802.1p: 0
- Enable DSCP:
- DSCP: (empty field)

Buttons for 'English', 'Help', 'Logout', 'Create', and 'Cancel' are visible.



### NOTE:

Type select to **Bridge**. Connection Name select to **Create WAN Connection**. Port Binding check **LAN4**. Service List select to **OTHER**. VLAN Mode select to **Used**. VLAN ID enter **200**. Enable DHCP keep default unchecked status.

### 3.Check ONT Bridge wan status



Click Status→Network Interface→WAN Connection(IPv4).

Status | Network | Security | App | Administration | Diagnosis | Help

Device Information

Network Interface

- WAN Connection(IPv4)
- WAN Connection(IPv6)
- 4in6 Tunnel Connection
- PON Inform
- PON Alarm

User Interface

VoIP Status

Remote Management Status

Type	DHCP
Connection Name	1_INTERNET_R_VID_100
NAT	Enabled
IP	192.168.7.235/255.255.254.0
DNS1	202.96.134.133
DNS2	202.96.128.166
DNS3	0.0.0.0
WAN MAC	E0:67:B3:00:00:04
Gateway	192.168.6.254
Connection Status	Connected
Remaining Lease Time	1910sec

Type	Bridge Connection
Connection Name	2_Other_B_VID_200

English ▾

Help

Logout

Refresh

#### 4. Configure multicast vlan on ONT web

Click App→Normal App→IPTV. Modify the Bridge WAN 2\_Other\_B\_VID\_200

Status | Network | Security | App | Administration | Diagnosis | Help

DDNS

Advance NAT Configuration

UPnP Setting

Voip configuration

IGMP

Normal App

- Home storage
- IPTV

DMS

MLD Configuration

DNS Service

Port Filter

Connection Name

Multicast VLAN

Modify

Connection Name	Multicast VLAN	DNS2 server
1_INTERNET_R_VID_100		
2_Other_B_VID_200		

English ▾

Help

Logout

Multicast VLAN enter 200. Then click Modify.

Status | Network | Security | **App** | Administration | Diagnosis | Help

DDNS

Advance NAT Configuration

UPnP Setting

Voip configuration

IGMP

Normal App

Home storage

**IFTV**

DMS

MLD Configuration

DNS Service

Port Filter

Connection Name

Multicast VLAN

Modify

English ▾

Help

Logout

Connection Name	Multicast VLAN	DNS2 server
1_INTERNET_R_VID_100		
2_Other_B_VID_200	200	

### 5.7.5. Configure Gateway ONT (HGU) VOIP Service--ZTE Solution

#### premise condition

- OLT connect to uplink device and open multicast service
- OLT have created vlan for VOIP
- OLT have configured GE port VOIP vlan
- ONT have registered

#### 1.Config Config service port

```
OLT(config)# service-port 8 vlan 300 gpon 0/0 port 1 ont 3 gempport 4 multi-service user-vlan 300
tag-action transparent
```

#### 2.Configure Voice in ONT web

Click Network → WAN → WAN Connection. Type Select to DHCP. Connection Name Select to Create WAN Connection. Service List select to VOICE. VLAN Mode select to Used. VLAN ID enter 300. Finally click Create.

Status | Network | Security | App | Administration | Diagnosis | Help

WAN

- WAN Connection
- 4in6 Tunnel Connection
- ARP Detect
- DHCP Release First

Bonding configuration

LAN Configuration

Prefix Management

WLAN

TR-069

QoS

SNTP

Route

IP Version: IPv4

Type: DHCP

Connection Name: Create WAN Connection

Service List: VOICE

VLAN Mode: Used

VLAN ID: 300

802.1p: 0

MTU: 1492

English

Help

Logout

Create Cancel

### 3.Configure ONT VOIP

Click App→Voip configuration→SIP. Enter Sip server ip address.

Status | Network | Security | App | Administration | Diagnosis | Help

DDNS

Advance NAT Configuration

UPnP Setting

Voip configuration

- SIP
- account information
- Call control
- Additional Setting
- Digital Map
- VOIP QoS
- Agreement cancellation
- Media
- Advanced
- Call Display
- SLIC Configuration

ICMP

Normal App

DMS

Enable:

Sip Protocol: Soft Switching S

Local Port: 5060 (0 ~ 65535)

English

Help

Logout

Primary Register Server: 192.168.2.201

Primary Proxy Server: 192.168.2.201

Primary Outbound Proxy Server: 192.168.2.201

Primary Proxy Port: 5060 (0 ~ 65535)

Secondary Register Server: 0.0.0.0

Secondary Proxy Server: 0.0.0.0

Secondary Outbound Proxy Server: 0.0.0.0

Secondary Proxy Port: 5060 (0 ~ 65535)

Register Expires: 3600 sec

Unregister On Reboot:

Enable Link Test:

Link Test Interval: 60 sec

Enable # escape:

Register Retry Interval: 60 sec

Enable Session Update:

#### 4. Configure ONT VOIP Account

Click App → Voip Configuration → account information. Enter Sip account information.

The screenshot shows the configuration page for SIP account information. The top navigation bar includes Status, Network, Security, App, Administration, Diagnosis, and Help. The left sidebar lists various configuration options, with 'SIP account information' selected under the 'Voip configuration' section. The main content area features an 'Enable' checkbox, input fields for 'Sip Account', 'Password', and 'Authentication user name', and a table of existing accounts. On the right, there are buttons for 'English', 'Help', and 'Logout'.

Enable	Sip Account	Authentication user name	Modify
Yes	666	666	
Yes	667	667	



#### NOTE:

Sip Account, Password, Authentication user name please modify according to the user's actual need.

#### 5. Check Sip account register status

Click Status → VoIP Status → Register Status.

The screenshot shows the 'Register Status' page. The top navigation bar includes Status, Network, Security, App, Administration, Diagnosis, and Help. The left sidebar lists various configuration options, with 'Register Status' selected under the 'VoIP Status' section. The main content area features a table showing the register status for two line phones. On the right, there are buttons for 'English', 'Help', and 'Logout'. At the bottom right, there is a 'Refresh' button.

Line Phone	Line Phone1
Register Status	Registered
Line Phone	Line Phone2
Register Status	Registered



#### NOTE:

The **Register Status** is Registered mean sip account register successfully.

---end

## 6. Configure Service In OLT Profile Mode---CLI Command

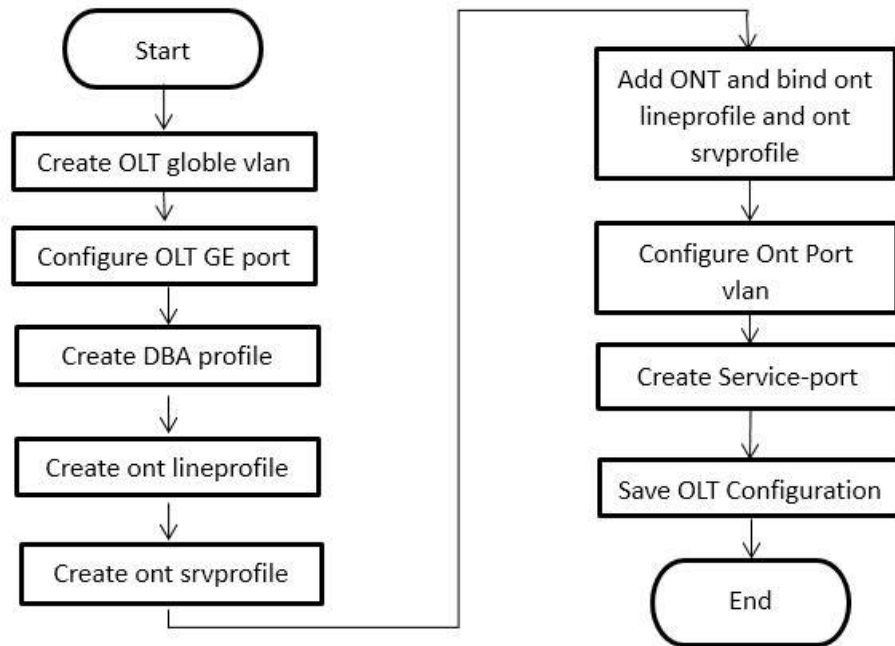
### Method

This section is mainly introduce FD1608GS, FD1608SN, FD1616GS, FD1616SN OLT internet service, voice service and multicast service in profile mode in FTTH environment.we can configure different service profile based on different types of ONT, which can be handled flexibly.Mainly introduce the bridge ONT(SFU) and family gateway ONT (HGU),The following will introduce the service configure way for OLT and ONT according to two types ONT.

### 6.1. Data Plan

Main Data Plan List	
Configure Iteam	Data
OLT Port Config	<b>Ge1:</b> VLAN 100 access mode <b>Ge2:</b> VLAN 200 access mode <b>Ge3:</b> VLAN 300 access mode
DBA Profile (upload bandwidth control)	<b>Profile number:</b> 1
ONT Lineprofile	<b>Profile ID:</b> 1 <b>T-CONT ID:</b> 1 <b>Internet GEM Port ID:</b> 2 <b>Mapping Vlan:</b> 100 <b>Voice GEM Port ID:</b> 3 <b>Mapping Vlan:</b> 200 <b>IPTV GEM Port ID:</b> 4 <b>Mapping Vlan:</b> 300
ONT Srvprofile	<b>Profile ID:</b> 1 <b>ONT Port Capability:</b> adaptive
Bridge ONT Port Config	<b>LAN 1:</b> VLAN 100 <b>LAN 2:</b> VLAN 200 <b>LAN 3:</b> VLAN 300     ---connect to VOIP phone
Gateway ONT Port Config	<b>LAN1:</b> VLAN 100 <b>LAN2:</b> VLAN 200 <b>POTS1:</b> VLAN 300

### 6.2. Configure Process



## 6.3. Configure OLT Service

### 6.3.1. Configure OLT Globe Vlan

In **config** mode, we can use **OLT(config)# show vlan all** to show the created vlan.

If the created vlan can't meet the need, we can use command **OLT(config)# vlan vlan-list** to create new vlan. According to the data plan, we create vlan100, vlan200, vlan300 firstly:

```

OLT(config)# vlan 100
OLT(config)# vlan 200
OLT(config)# vlan 300
  
```

### 6.3.2. Configure OLT GE Port Service Vlan

We can config GE port vlan mode as access, hybrid and trunk, according to our network plan configure different mode, configure way of three mode as follows.

**Configure GE 1、2、3 port vlan mode is access (in this document, GE port connect to PC, so we configure ge port vlan mode as access):**

```

OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-3 access
OLT(config-interface-ge-0/0)# vlan access 1 100
OLT(config-interface-ge-0/0)# vlan access 2 200
OLT(config-interface-ge-0/0)# vlan access 3 300
OLT(config-interface-ge-0/0)# exit
  
```

**Configure GE 1、2、3 port vlan mode is trunk:**

```

OLT(config)# interface ge 0/0
  
```

```
OLT(config-interface-ge-0/0)# vlan mode 1-3 trunk
OLT(config-interface-ge-0/0)# vlan trunk 1 100
OLT(config-interface-ge-0/0)# vlan trunk 2 200
OLT(config-interface-ge-0/0)# vlan trunk 3 300
OLT(config-interface-ge-0/0)# exit
```

**Configure GE 1、2、3 port vlan mode is hybrid:**

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-3 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 1 tagged 100
OLT(config-interface-ge-0/0)# vlan hybrid 2 tagged 200
OLT(config-interface-ge-0/0)# vlan hybrid 3 tagged 300
OLT(config-interface-ge-0/0)# exit
```

### 6.3.3. Configure OLT Multicast Service

**Configure IGMP mode and multicast-vlan 200**

```
OLT(config)# igmp mode snooping
OLT(config)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp router-port ge 0/0/2
OLT(config-multicast-vlan-200)# igmp member port gpon 0/0/1
OLT(config-multicast-vlan-200)# igmp program add program-index 1 ip 224.3.3.3
OLT(config-multicast-vlan-200)# exit
```

## 6.4. Create ONT Profile

GPON ONT profile include DBA-profile,ont-lineprofile,ont-srvprofile.

- DBA profile: The DBA profile describes the traffic parameters of the GPON, and the T-CONT dynamically allocates bandwidth by binding the DBA template to increase the upstream bandwidth utilization.
- ont-lineprofile: The ont-lineprofile describes the binding relationship between the T-CONT and the DBA template, the QoS mode of the service flow, the mapping between the GEM port and the ONT side service.
- ont-srvprofile: The ont-srvprofile provides a service configuration channel for ONTs managed by OMCI.

### 6.4.1. Create ONT DBA Profile

Use **show dba-profile all** command to query the existing DBA profile in the system,if the existing DBA profile can't meet the demand,we need use dba-profile to add DBA profile.Create different DBA profile for different service type.

**Create dba profile number is 1,type is Type3,assure bandwidth is 8Mbit/s,max bandwidth is 20Mbit/s:**

```
OLT(config)# dba-profile profile-id 1
```

```
OLT(dba-profile-1)# type3 assure 8192 max 20480
OLT(dba-profile-1)# commit
OLT(dba-profile-1)# exit
```



**NOTE:**

DBA based on the entire ONT schedule, we need to select the appropriate bandwidth type and bandwidth size according to the service type and ont users number. The summation of fixed bandwidth (fix) and guarantee bandwidth (assure) not surpass the total bandwidth of PON port.

#### 6.4.2. Create ONT Lineprofile

```
OLT(config)# ont-lineprofile gpon profile-id 1
OLT(config-ont-lineprofile-1)# tcont 1 dba-profile-id 1
```

Create a different GEM Port for different business types.Among them

GEM port 1 is used to carry Internet service.

GEM port 2 is used to carry voice service.

GEM port 3 is used to carry video services.

```
OLT(config-ont-lineprofile-1)# gem add 1 tcont 1
OLT(config-ont-lineprofile-1)# gem add 2 tcont 1
OLT(config-ont-lineprofile-1)# gem add 3 tcont 1
```

Configure GEM PORT mapping-mode as VLAN.

```
OLT(config-ont-lineprofile-1)# mapping-mode vlan
```

Different GEM ports are mapped to different vlan for different service types. Among them,

Map the GEM port with index 1 to VLAN 100 to carry the Internet service.

Map the GEM port with index 2 to VLAN 200 to carry the voice service.

Map the GEM port with index 3 to VLAN 300 to carry the video service.

```
OLT(config-ont-lineprofile-1)# gem mapping 1 1 vlan 100
OLT(config-ont-lineprofile-1)# gem mapping 2 1 vlan 200
OLT(config-ont-lineprofile-1)# gem mapping 3 1 vlan 300
```

After the configurations are complete, run the commit command to apply the parameters setting.

```
OLT(config-ont-lineprofile-1)# commit
OLT(config-ont-lineprofile-1)# exit
```

#### 6.4.3. Create ONT Srvprofile

Create GPON ONT **srvprofile**, number is 1, configure ONT ETH port number and POTS port number to adaptive:

```
OLT(config)# ont-srvprofile gpon profile-id 1
OLT(config-ont-srvprofile-1)# ont-port eth adaptive
```



```
OLT(config-ont-srvprofile-1)# ont-port pots adaptive
OLT(config-ont-srvprofile-1)# commit
OLT(config-ont-srvprofile-1)# exit
//finish config,use commit command to make parameter effect
```

## 6.5. Add ONT Manually

### 1. Modify PON port ONT authentication method to manual registered.

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont authmode all manual
```

### 2. Open pon port ONT automatic find function:

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)#ont autofind 1 enable
OLT(config-interface-gpon-0/0)#show ont autofind 1 all
//This command show all unregistered ONT information that is connected to the GPON port by the spectrometer.
```

### 3. Register ONT manually and bind lineprofile and srvprofile.

```
OLT(config-interface-gpon-0/0)# ont add 1 1 sn-auth DB19B34F0C16 ont-lineprofile-id 1
ont-srvprofile-id 1
OLT(config-interface-gpon-0/0)# ont add 1 2 sn-auth XPONE067B341 ont-lineprofile-id 1
ont-srvprofile-id 1
```

### 4. Add all the ONT under PON port:

ont confirm command can be used to add all the ONT under PON port, and also can add ONT separately.:

```
OLT(config-interface-gpon-0/0)# ont confirm 1 all sn-auth ont-lineprofile-id 1 ont-srvprofile-id 1
```

## 6.6. Check ONT Registration Status

After adding ONT, use **show ont info** command to query the online status of ONT, and ensure that the "Control flag" of ont is "Active", "Run State" is "Online", "Config state" is "Success" and "Match state" is "Match".

```
OLT(config-interface-gpon-0/0)# show ont info 1 all
```

F/S P	ONT ID	MAC	Control flag	Run state	Config state	Match state
0/0 1	1	DB19B34F0C16	active	online	success	match
0/0 1	2	XPONE067B341	active	online	success	match

```
Total: 2, online 2, deactive: 0, failed: 0
```

**When the ONT configuration status is failed, ONT cannot up:**

- If the “Control flag” is “deactive”,we need to use ont activate command to activate ONT in GPON mode.
- If the ONT not online, the “Run state” is “offline”, it may be a physical line break, or optical module is damaged, so we need to check all device and the physical line.
- If the ONT “config state” is “failed”, it means ONT’s configuration is not applicable to some configuration of srvprofile, we need to capture packet on the ONT and analyze ont not accept which configuration.
- If the ONT “Match state” is “Mismatch”, it shows that ont srvprofile capability(port number) don't Match ONT practical capability,we can use **show ont capability** and **show ont config - capability** to contrast ONT practical ability and ont srvprofile capability.

## 6.7. Configure Bridge ONT (SFU) Service

### 6.7.1. Configure Bridge ONT(SFU) Internet Service

**premise condition of ONT to open internet service:**

- OLT connect to uplink device and open internet service
- OLT have created vlan for internet
- OLT have configured GE port vlan
- ONT have registered and bind to lineprofile and srvprofile

SFU ethernet port vlan mode have transparent,tag(access),trunk mode and so on,we can configure vlan in srvprofile mode or discrete mode. profile config is introduced as follows we can according to our network plan configure different vlan mode,configure way as follows:

#### 1. Configure traffic profile:

```
OLT(config)# traffic-profile profile-id 1 profile-name 10M cir 10240 pir 10240 cbs 2000 pbs 2000
```

#### 2. Configure ont-srvprofile ONT port vlan mode is tag(access):

```
OLT(config)# ont-srvprofile gpon profile-id 0
OLT(config-ont-srvprofile-1)# port vlan eth 1 100
OLT(config-ont-srvprofile-1)# commit
OLT(config-ont-srvprofile-1)# exit
```

#### 3. Configure ONT port native-vlan

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 1 vlan 100
OLT(config-interface-gpon-0/0)# exit
```

#### 4. Config service port

```
OLT(config)# service-port 3 vlan 100 gpon 0/0 port 1 ont 1 gempport 2 multi-service user-vlan 100
tag-action transparent inbound name 10M outbound name 10M
```

### 6.7.2. Configure Bridge ONT(SFU) IPTV Service

### Premise condition of ONT to open internet service:

- OLT connect to uplink device and open internet service
- OLT have created vlan for IPTV
- OLT have configured GE port IPTV vlan
- ONT have registered and bind to lineprofile and srvprofile

we can configure SFU IPTV service in srvprofile mode or discrete mode(note: if we configure ont iptv service in srvprofile and discrete mode,the discrete configuration priority is higher than the profile configuration,when ONT iptv service in discrete configuration is default,will apply profile configuration),#4.5 show the discrete config, profile config is introduced as follows,we can according to our network plan configure different vlan mode,configure way as follows:

#### 1. Configure ont-srvprofile ONT port vlan mode is tag(access):

```
OLT(config)# ont-srvprofile gpon profile-id 1
OLT(config-ont-srvprofile-1)# port vlan eth 2 200
OLT(config-ont-srvprofile-1)# commit
OLT(config-ont-srvprofile-1)# exit
```

#### 2. Configure ONT port native-vlan:

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 2 vlan 200
OLT(config-interface-gpon-0/0)# exit
```

#### 3. Config service port:

```
OLT(config)# service-port 4 vlan 200 gpon 0/0 port 1 ont 1 gempport 3 multi-service user-vlan 200
tag-action transparent inbound name 20M outbound name 20M
```

----end

## 6.8. Gateway ONT (HGU) Service Configure Introduction

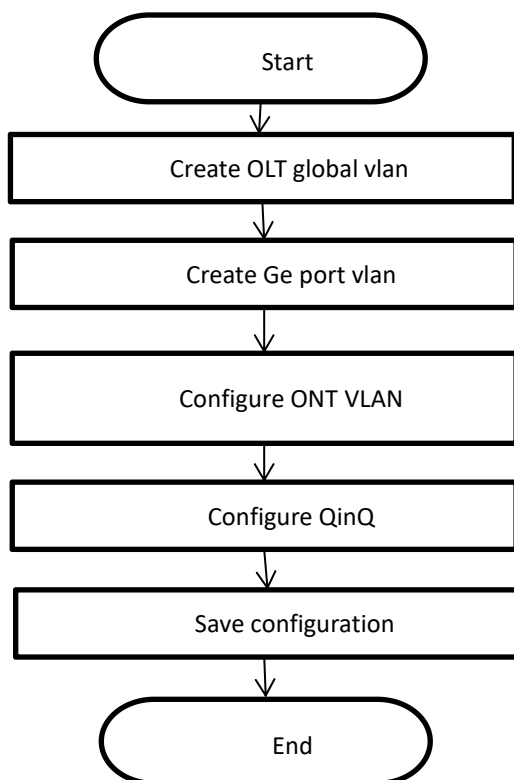
Gateway ONT(HGU) can provide internet,voice,iptv service for FTTH,support PPPOE dial-up, network address translation (NAT), Internet Group Management Protocol (IGMP), due to the ONT have route function, so we need configure ont wan and lan in ont web or TR069 server,not need configure ONT port in OLT, OLT don't support configure ONT route wan, specific configure way can refer to the previous discrete configuration method and the ONT user manual.

## 7. Configure OLT QinQ Service

### 7.1. Data Plan

Main Data Plan List	
Configure Item	Data
VLAN	<b>SVLAN 400</b> : QinQ service outer vlan <b>CVLAN 100</b> : QinQ service inner vlan
OLT Port Configure	<b>Ge1:</b> VLAN 400 Hybrid mode
Bridge ONT Port Configure	<b>LAN 1:</b> VLAN 100
Gateway ONT Port Configure	<b>LAN 1:</b> VLAN 100

## 7.2. Configure Processes



## 7.3. QinQ VLAN Config

### Create outer vlan:

Operate **show vlan all** command can query the existing vlan, If the existing vlan does not meet the need, we can use vlan command to create outer vlan.

```
OLT(config)# vlan 400
```

### Configure GE port QinQ outer vlan:

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)#vlan mode 1 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 1 tagged 400
OLT(config-interface-ge-0/0)# exit
```

### Configure ONT port to tag mode(access)

```
OLT(config)# interface gpon 0/0
OLT(config-interface-gpon-0/0)# ont port native-vlan 1 1 eth 1 vlan 100
OLT(config-interface-gpon-0/0)# exit
```



#### NOTE:

Gateway ONT(HGU) configure ONT port vlan in web.

### Configure service port. Inner vlan is 100. Outer vlan is 400.

```
OLT(config)# service-port 10 vlan 400 gpon 0/0 port 1 ont 1 gemport 2 multi-service user-vlan
100 tag-action default
```

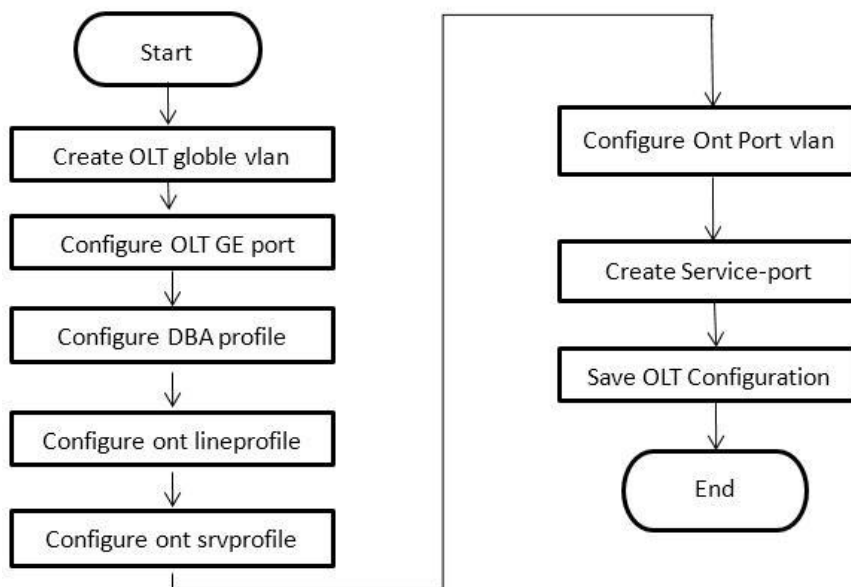
## 8. Common Command Description

Command	Description
interface gpon 0/0	Enter OLT PON board (Apply to box OLT FD1608GS, FD1608SN, FD1616GS, FD1616SN OLT, all default is 0/0)
interface ge 0/0	Enter OLT uplink(ge) board (In default,box OLT all is 0/0)
show vlan all	View all vlan in OLT
show port vlan <Port ID>	View OLT uplink(ge) and PON port vlan(The premise is we need enter the board card mode.)
show port state <Port ID>	View OLT uplink port and PON port status (The premise is we need enter the board card mode.)
show version	View OLT software version
show device	View OLT mode and other information
show interface mgmt	View OLT outband Manage IP
show interface vlanif brief	View OLT inband Management IP(The premise is we need have vlanif interface)
show current-config	View OLT running configuration
show saved-config	View OLT have saved configuration
show ont info 0/0 <Port ID> all	View ONT register status in PON port
show ont info 0/0 <Port ID> <ONT ID>	View ONT details information
show ont autofind <Port ID>	View autofind but unregistered ONT in PON port(The premise is we

	need to enter the PON board mode)
show ont optical-info <Port ID> <ONT ID>	View ONT optical information
show ont port state <Port ID> <ONT ID> eth <ONT Port ID>	View ONT port status(The premise is we need to enter the PON board mode)

## 9. OLT Service Configuration---EMS Method

### 9.1. Configuration Process



### 9.2. Internet Service Configuration

#### 9.2.1. Data Plan

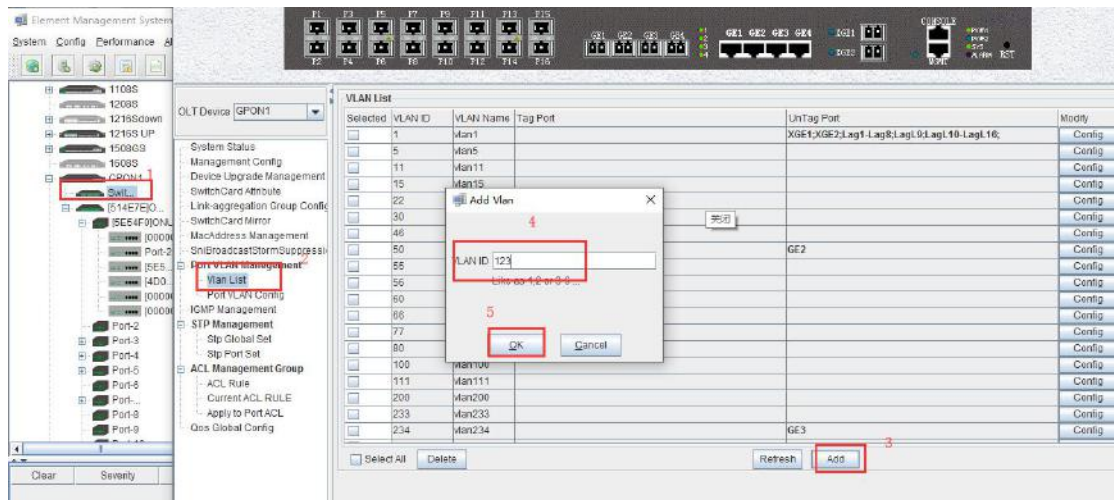
Main Data Plan List	
Configure Item	Data
OLT Port Config	Ge3: VLAN 123 access mode
DBA Profile (upload bandwidth control)	Profile number: 123
ONT Lineprofile	Profile ID: 123 T-CONT ID: 1 Internet GEM Port ID: 1 Mapping Vlan: 123
ONT Srvprofile	Profile ID: 123 ONT Port Capability: eth 1;catv 0;pots 0
Bridge ONT Port Config	LAN 1: VLAN 123

Gateway ONT Port Config

LAN1: VLAN 123

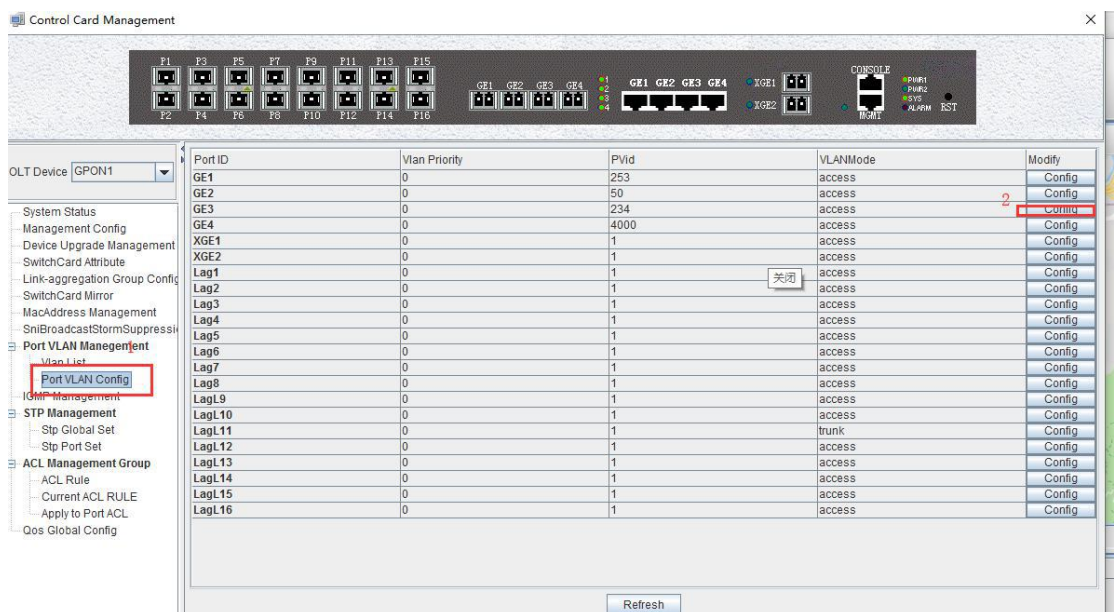
## 9.2.2. Create Global VLAN

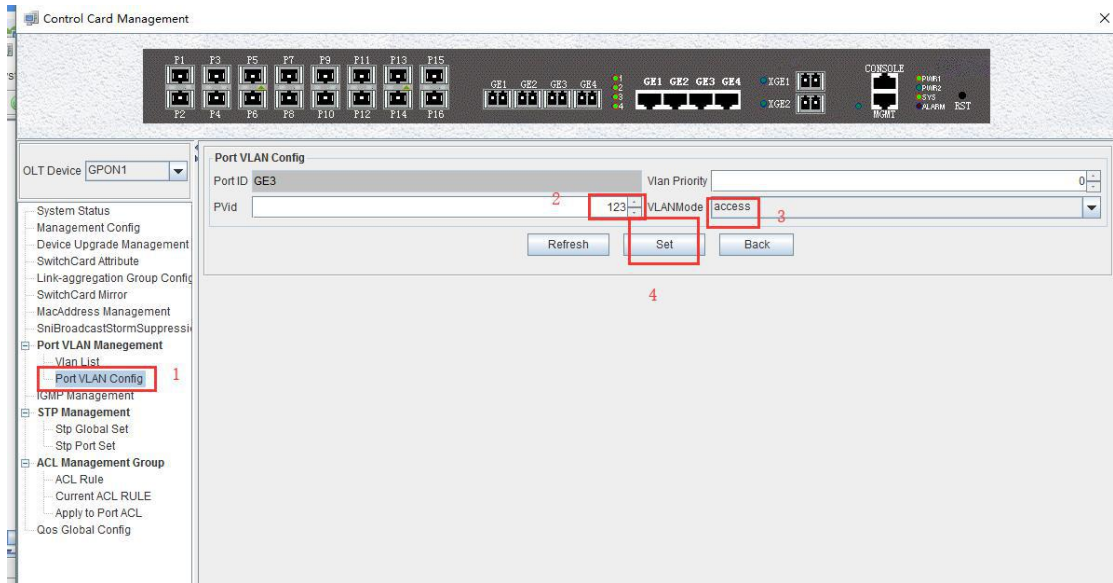
Click "Switch Card" --> "Port VLAN Management" --> "VLAN List" --> "Add", as shown below:



Set the uplink port to access mode

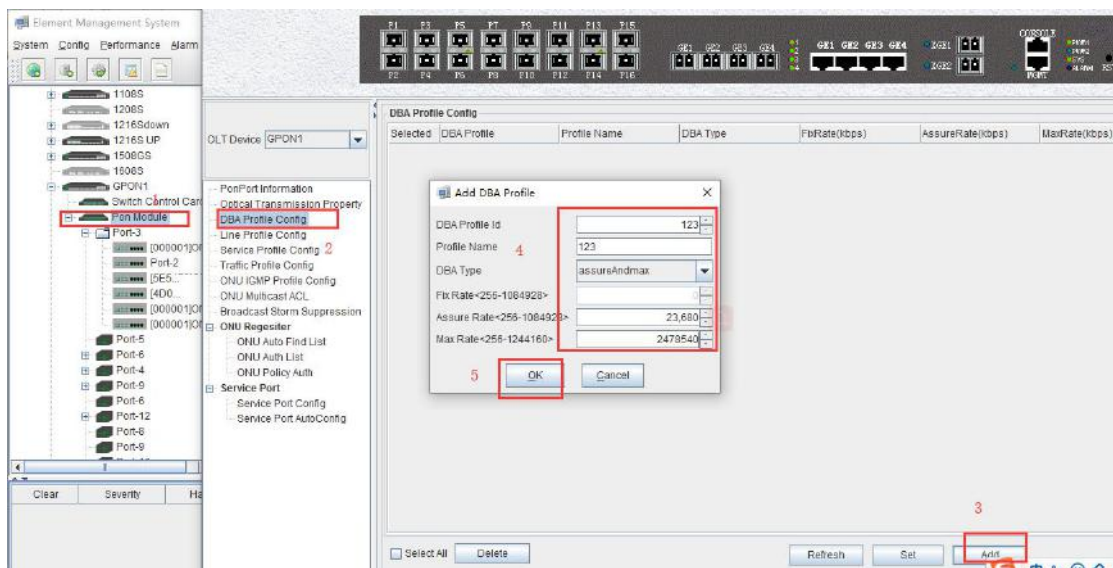
Click "Switch Card" --> "Port VLAN Management" --> "Port VLAN Settings" to configure the mode of the GE2 port as access.





### 9.2.3. Create ONT DBA profile

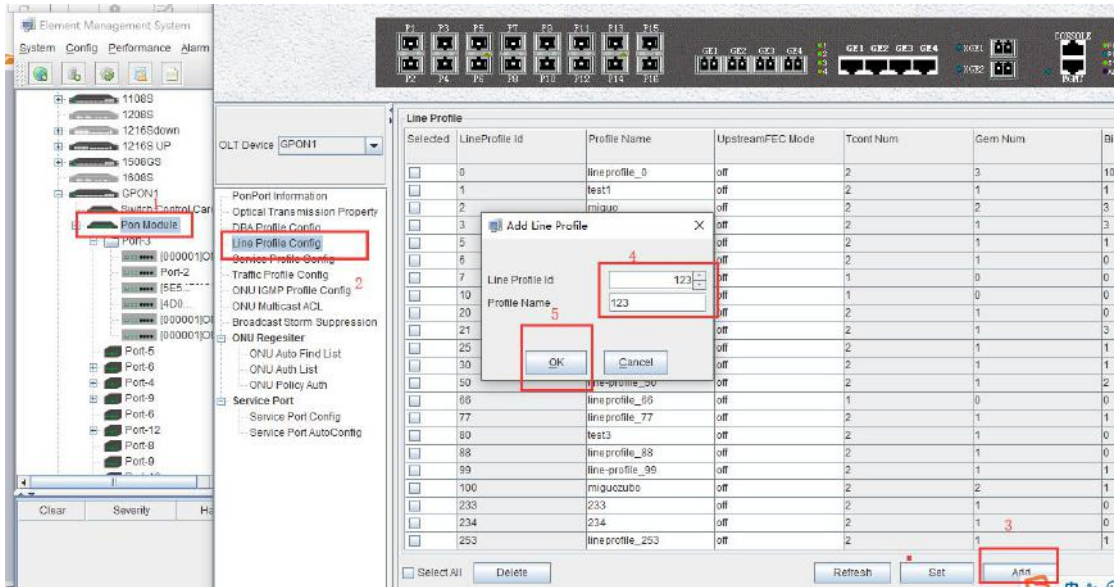
Click "pon card management" --> "DBA template" --> "add" to create a DBA template, as shown in the following figure:



### 9.2.4. Create ONT Lineprofile

Click "pon card management" --> "line template" --> "add" to create a line template, as shown in the following figure:

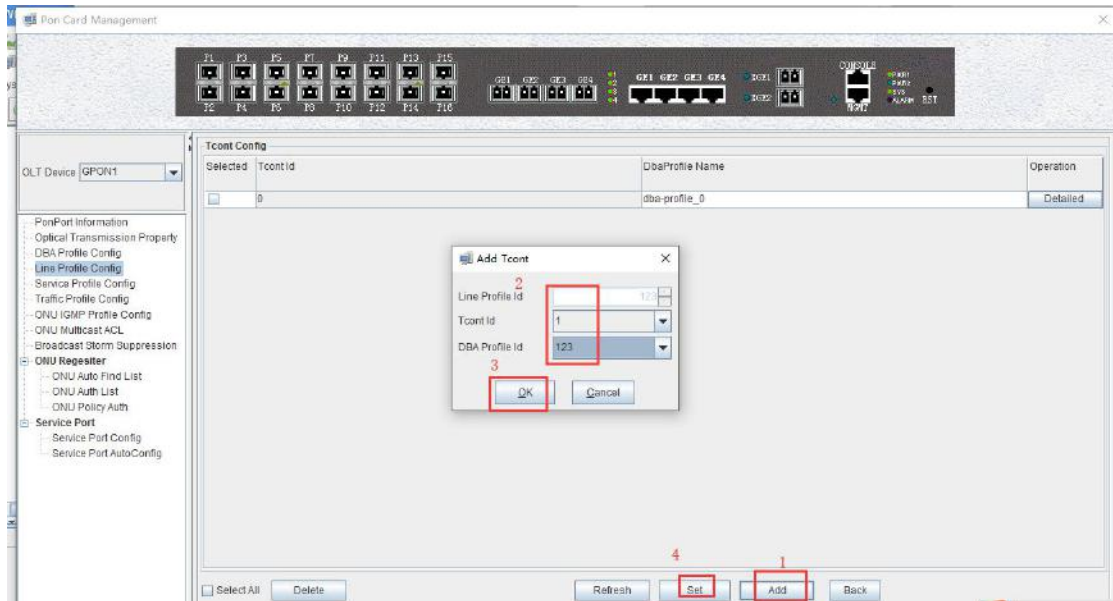




Create tcont 1

Click "pon card management" --> "line template" --> "123 line template details" to create a tcont in the line template

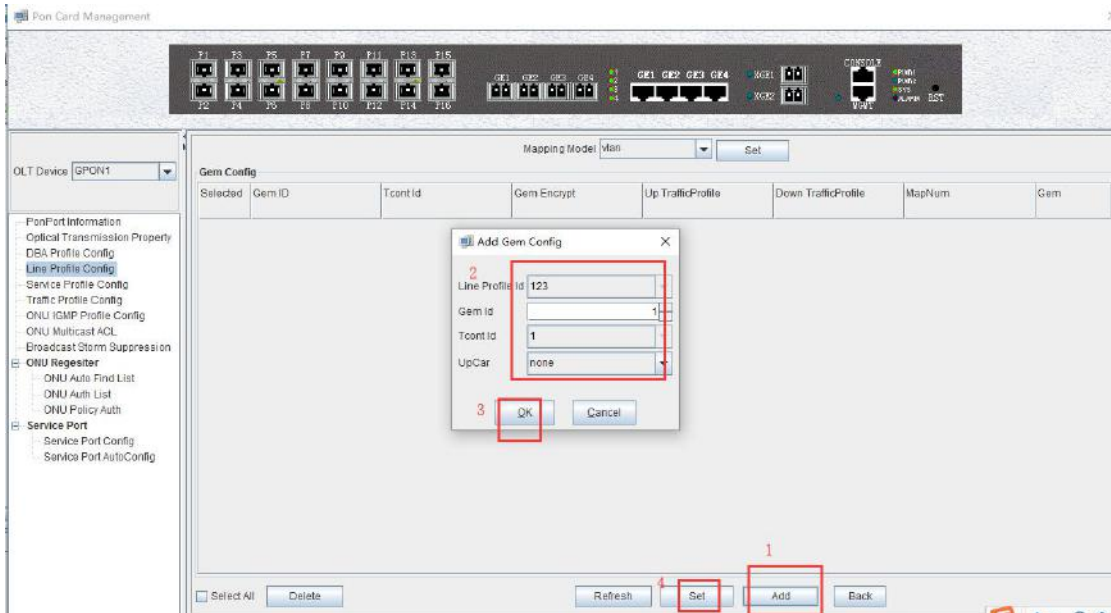




Create GEM 1

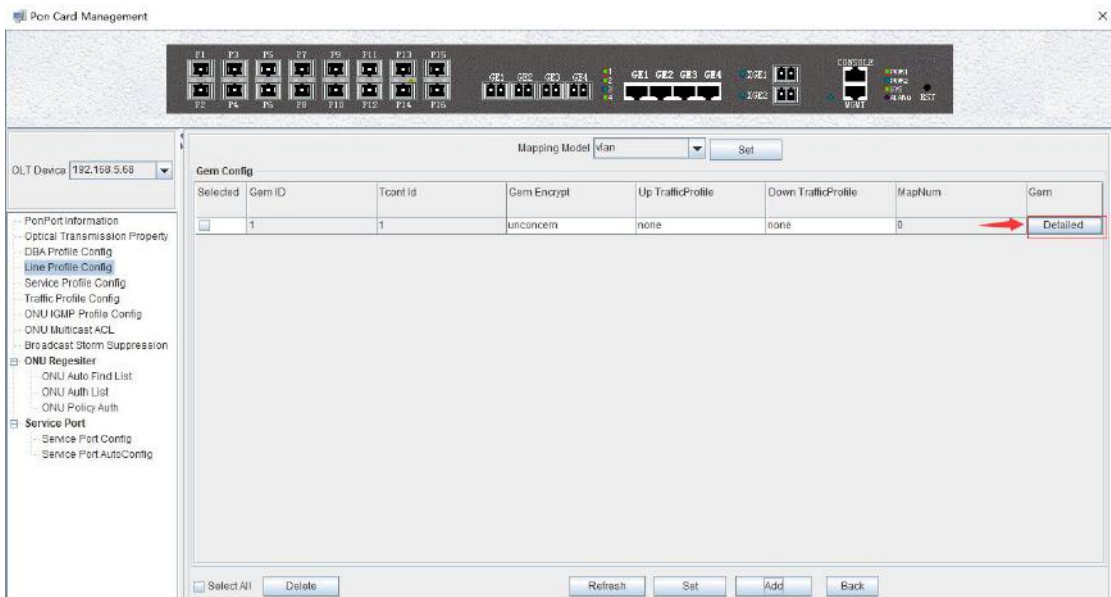
On the tcont configuration page, select tcont1 and continue to click on "Details" to create a gem and bind the created tcont

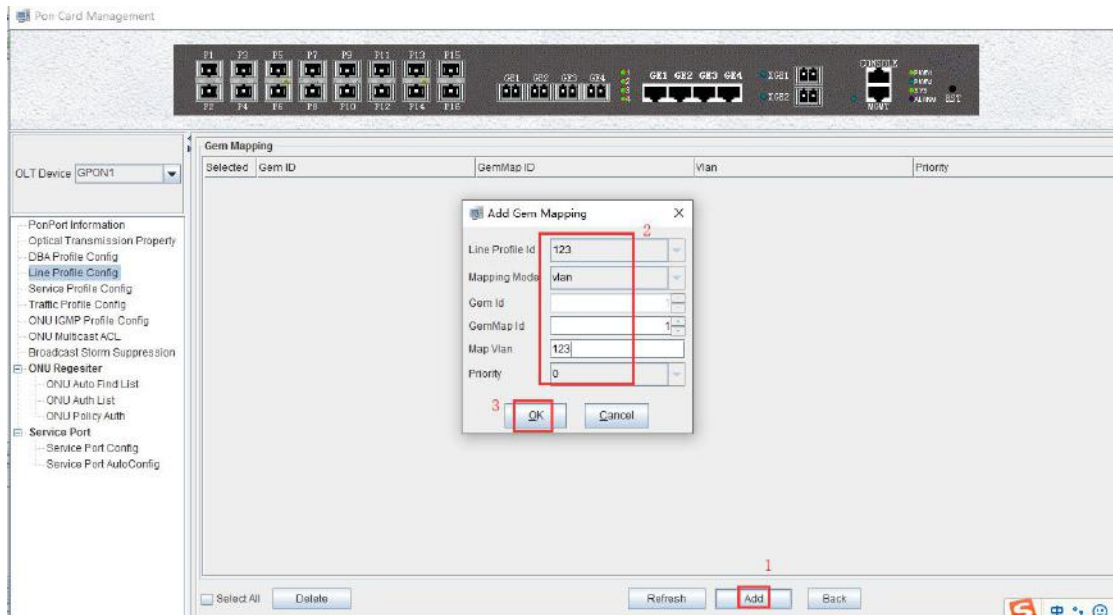




Add a mapping for VLAN 123

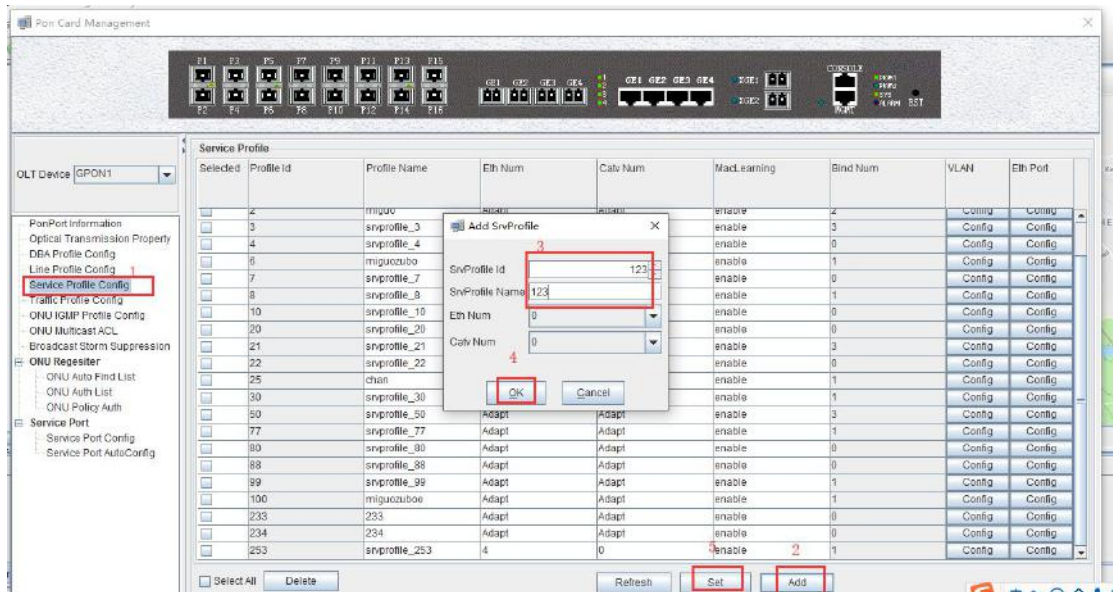
Select the created gem1 in the gem configuration page, continue to click "Detail", add the mapping of VLAN123



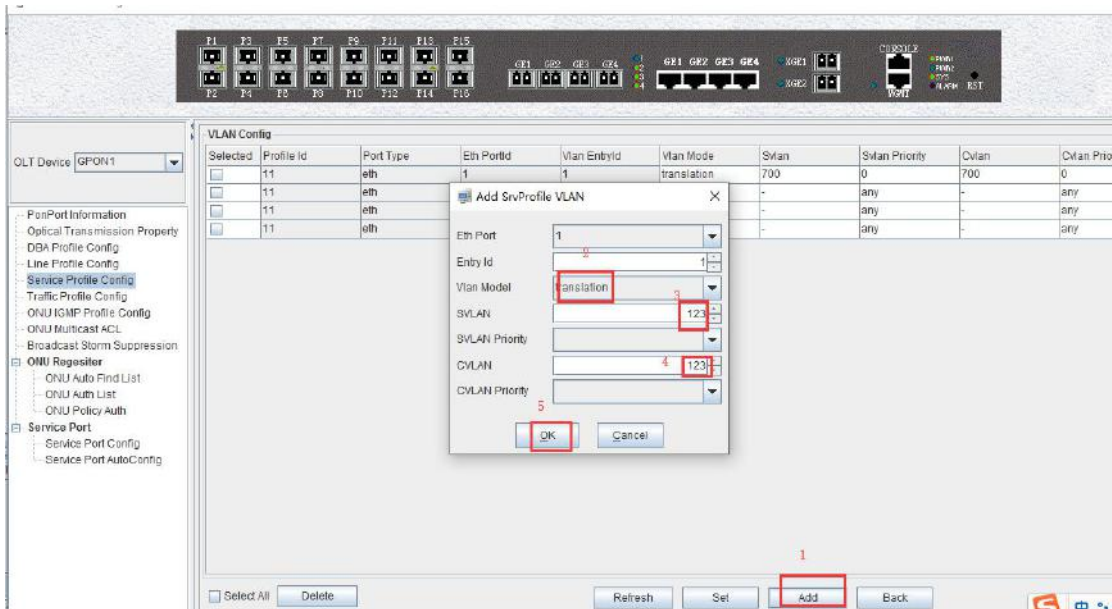
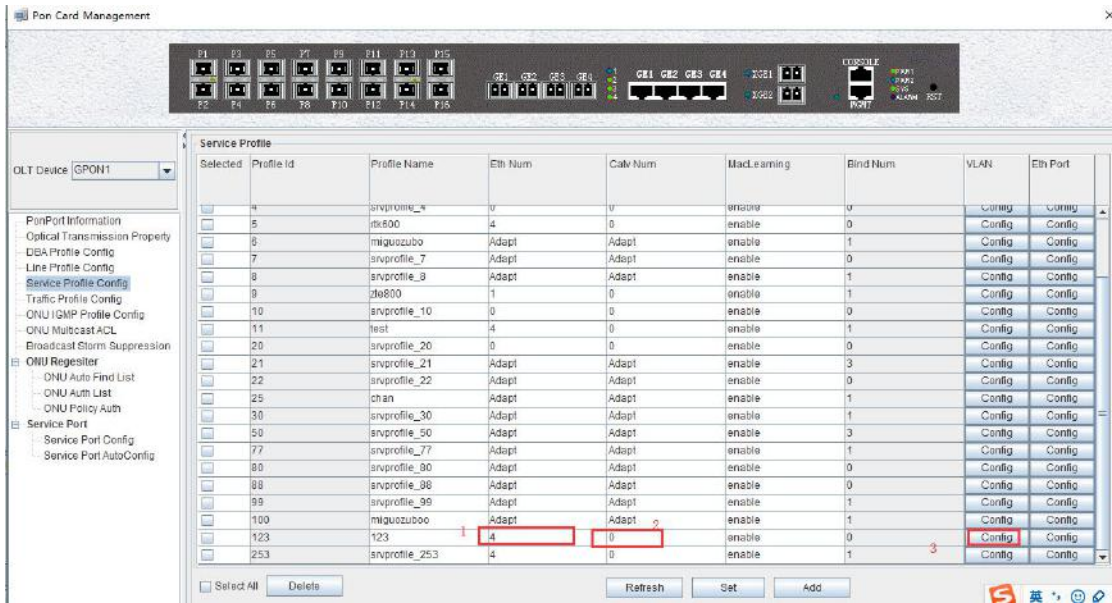


## 9.2.5. Create ONT Srvprofile

Click "pon card management" --> "service template" --> "add" to create a service template.



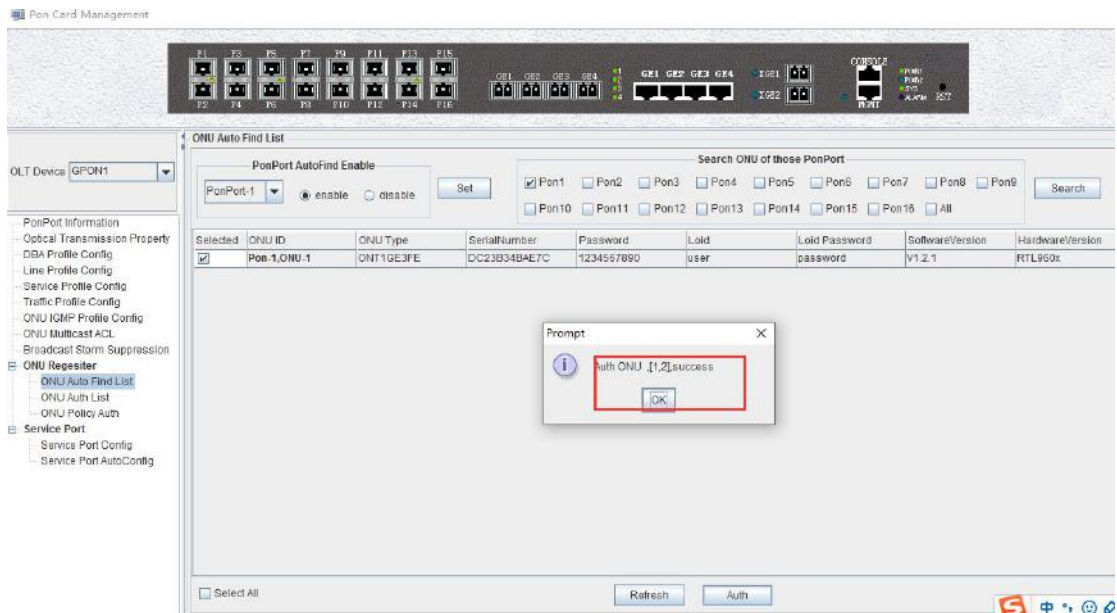
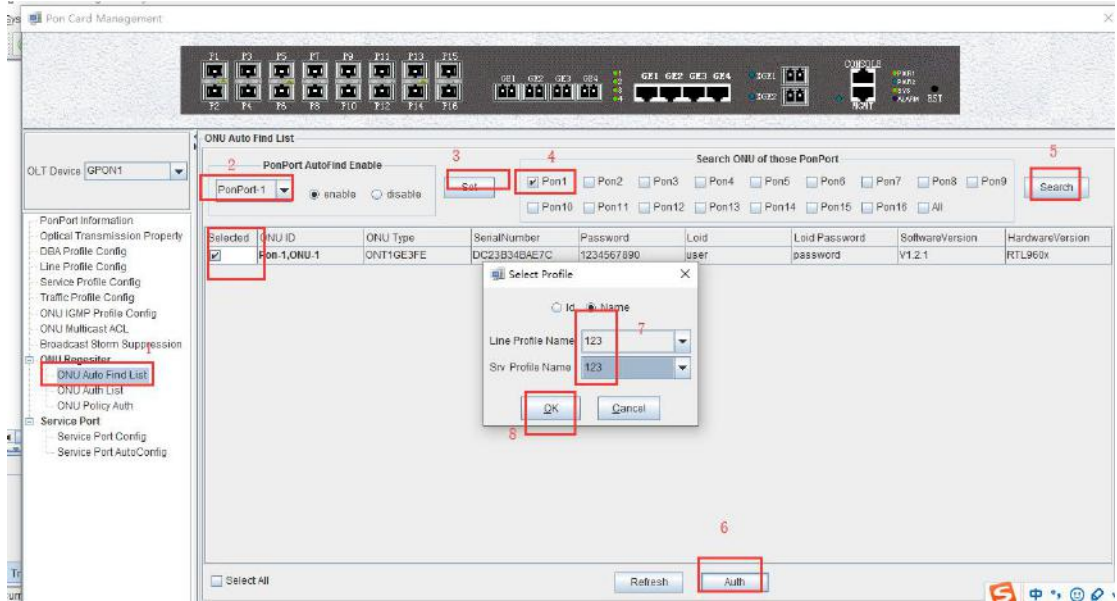
Select the created 123 service template to configure the VLAN. The operation is as shown in the following figure.:



## 9.2.6. Registe ONT(SFU)

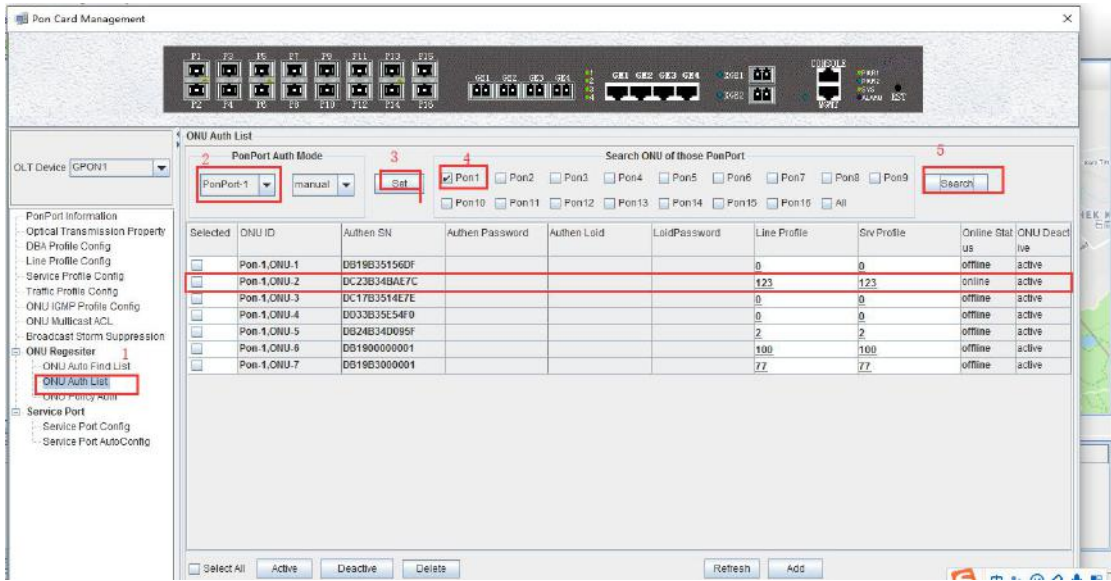
View all discovered ONUs

Click "pon card management" --> "ONU registration" --> "ONU automatic discovery list" to view the ONUs that are queried under the pon2 port, select the ONUs to be viewed, click "Authentication", bind the created DBA templates and The service template is registered, as shown in the following figure:

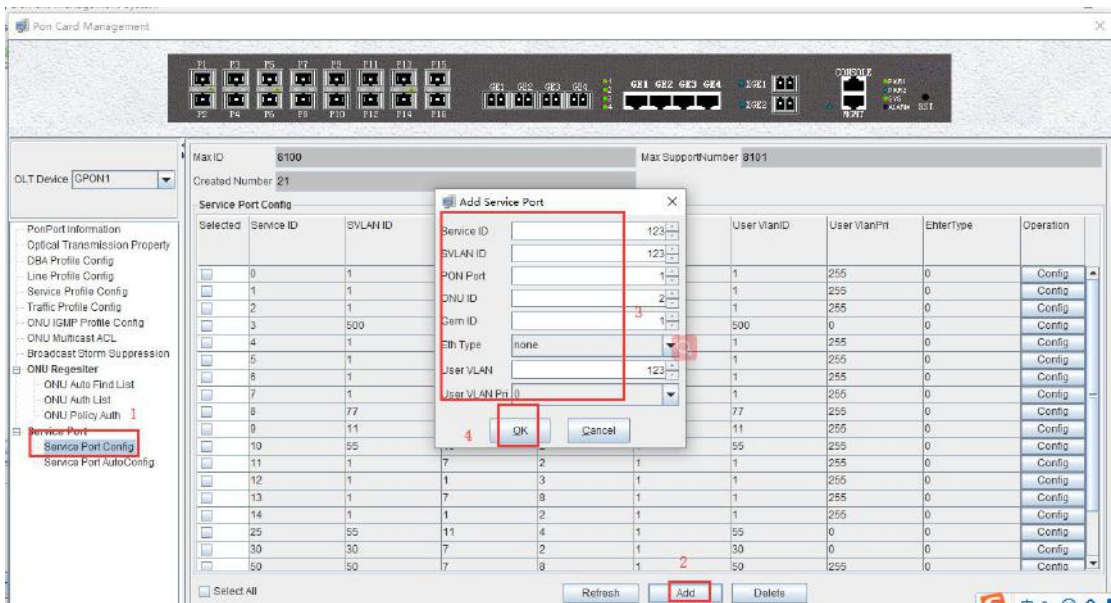


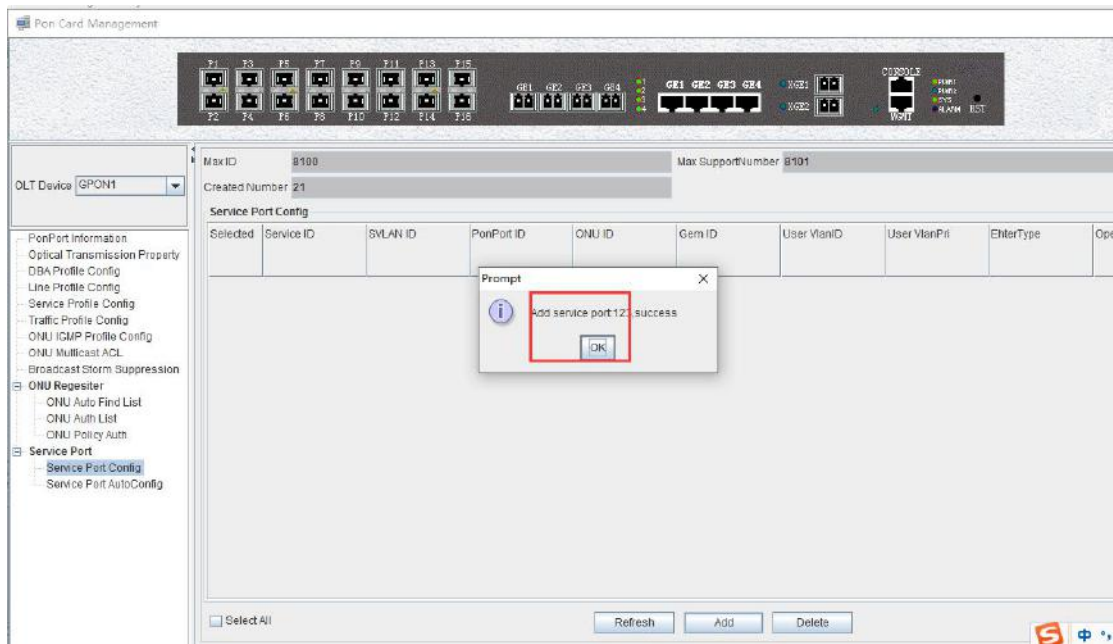
View the registered ONUs .

Click "pon card management" --> "ONU registration" --> "ONU authentication list" to view the ONU information that has been registered and registered.



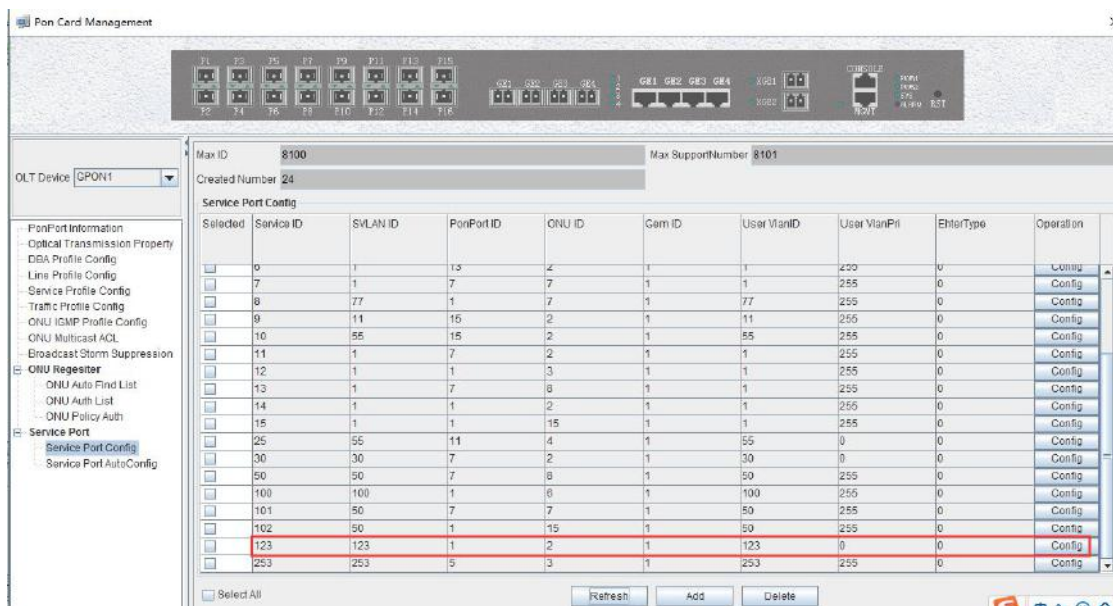
### 9.2.7. Create ONT Service-port (SFU)



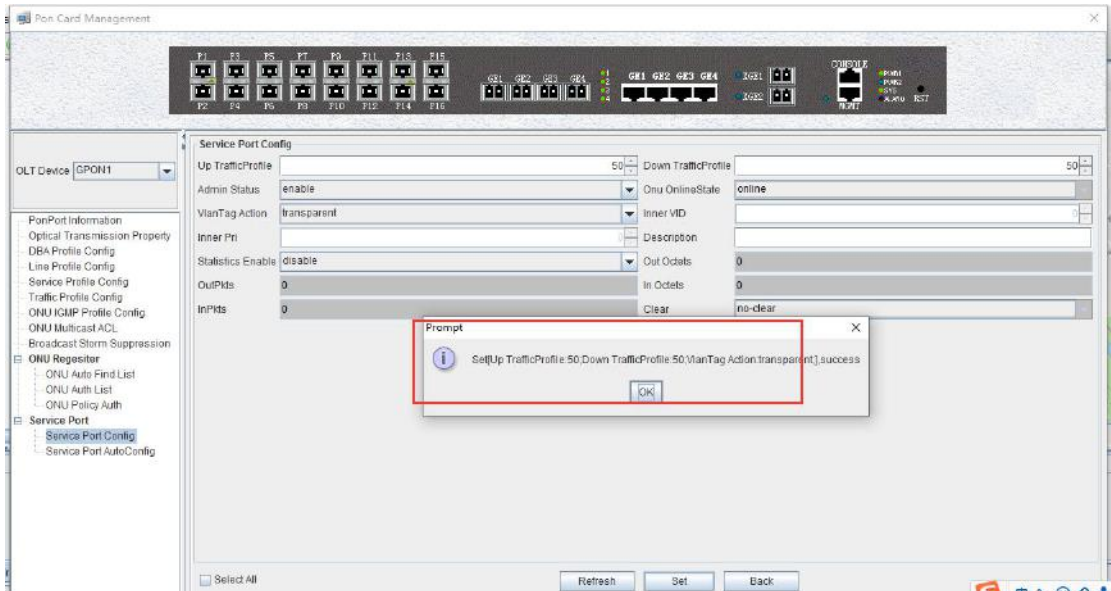
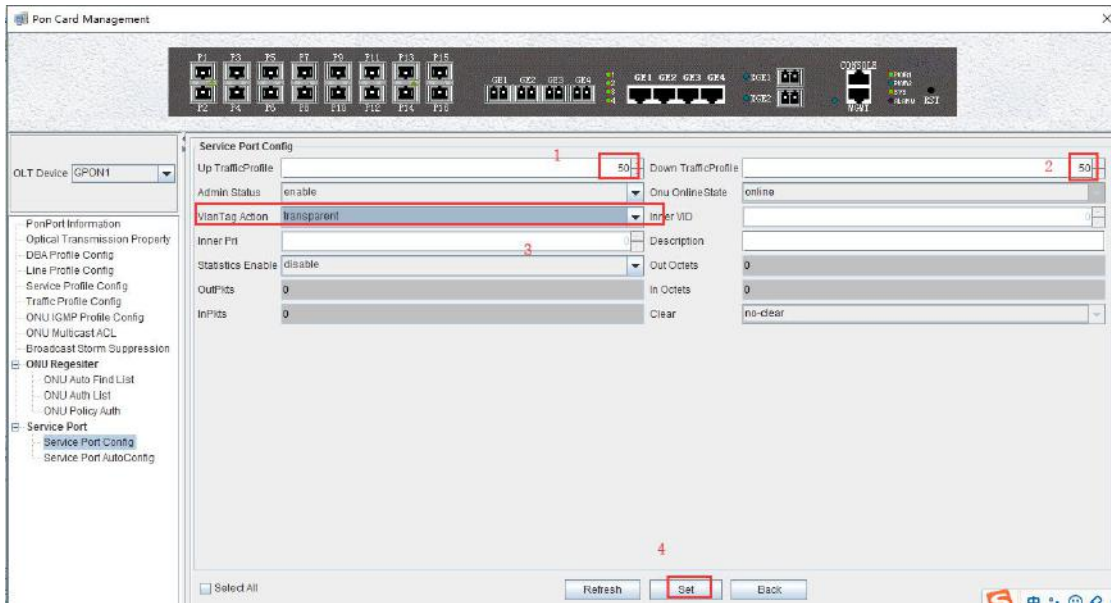


Configure the tag-action

Click pon “card management “-->” service virtual port” -->” service virtual port configuration “--> “add “to create a service virtual port and configure related information. The specific operation is as shown below:

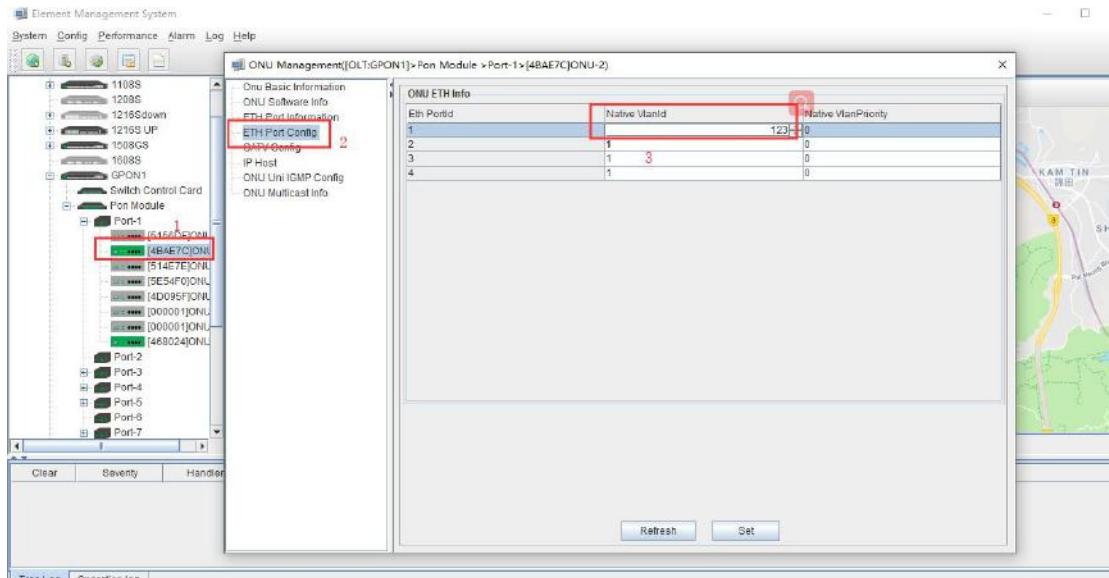






## 9.2.8. Config ONT Port VLAN(SFU)

Configure the ONU port VLAN as 123.



#### Description:

Here, the rtk of the rtk is used as an example to configure the Internet service. The hgu does not need to be configured with a port VLAN. You only need to create a wan connection on the web page. Another: ZTE's ONU also needs to create a wan connection on the web page.

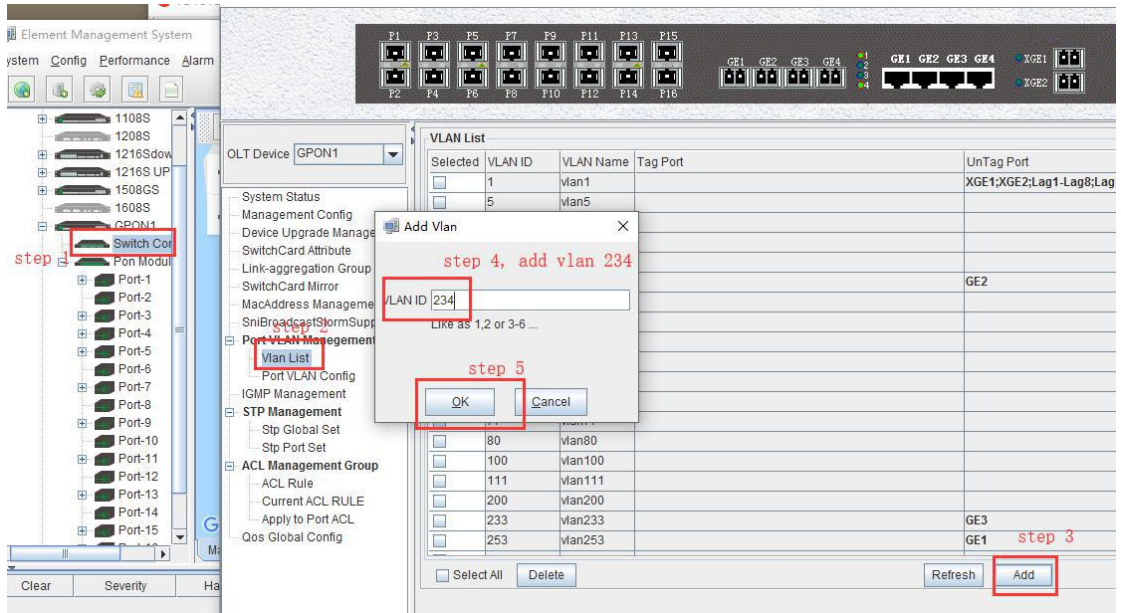
## 9.3. Multicast Service Configuration

### 9.3.1. Data Plan

Main Data Plan List	
Configure Item	Data
OLT Port Config	Ge3: VLAN 234 access mode
DBA Profile (upload bandwidth control)	Profile number: 234
ONT Lineprofile	Profile ID: 234 T-CONT ID: 1 Internet GEM Port ID: 1 Mapping Vlan: 234
ONT Srvprofile	Profile ID: 234 ONT Port Capability: eth 1 ;catv 0;pots 0
Bridge ONT Port Config	LAN 1: VLAN 234
Gateway ONT Port Config	LAN1: VLAN 234

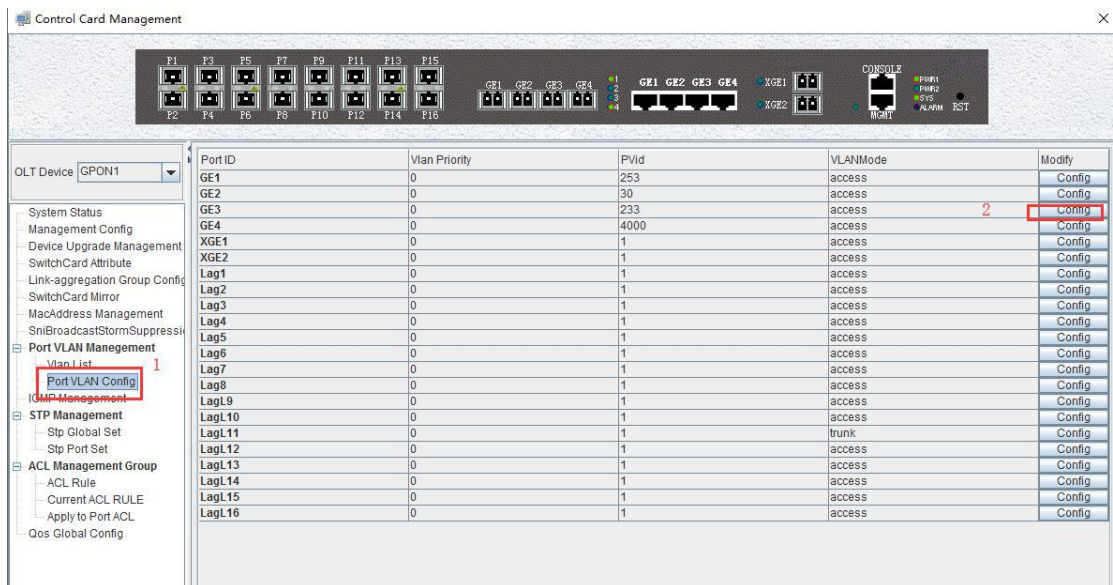
### 9.3.2. Create Global VLAN

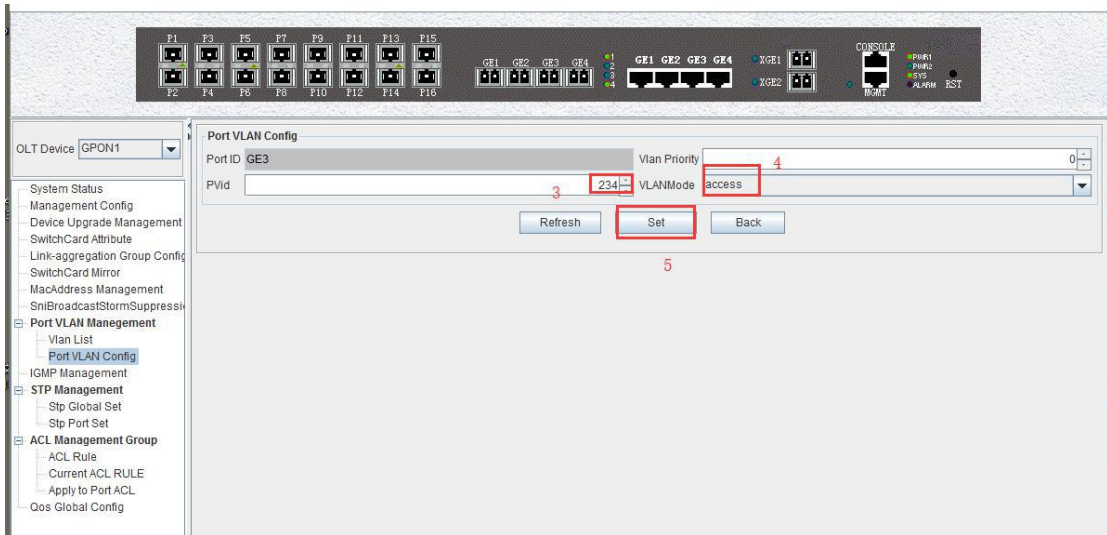
Click "Switch Card" --> "Port VLAN Management" --> "VLAN List" to create VLAN234



set the uplink port

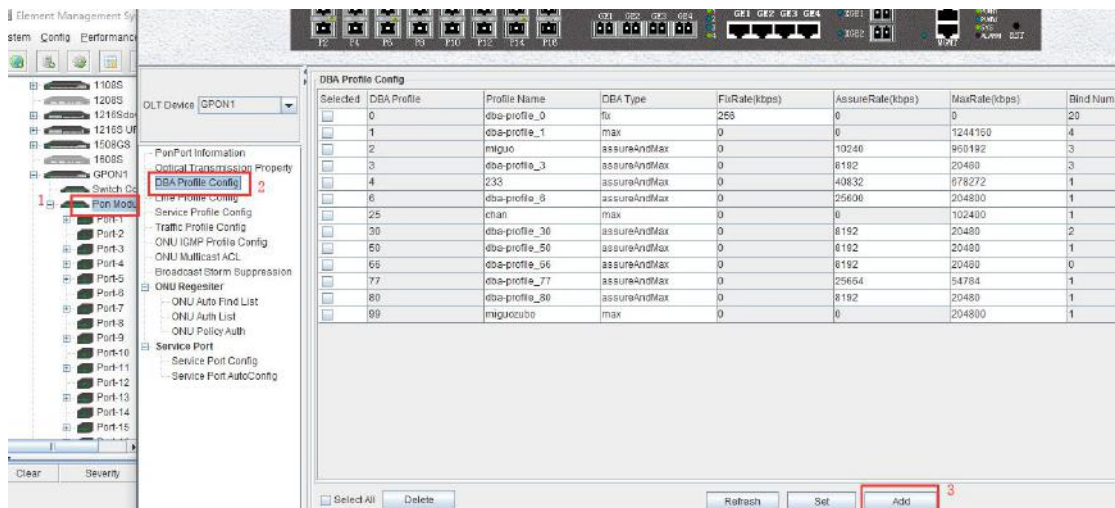
Click "Switch Card" --> "Port VLAN Management" --> "Port VLAN Settings" to configure the mode of the GE2 port as access.

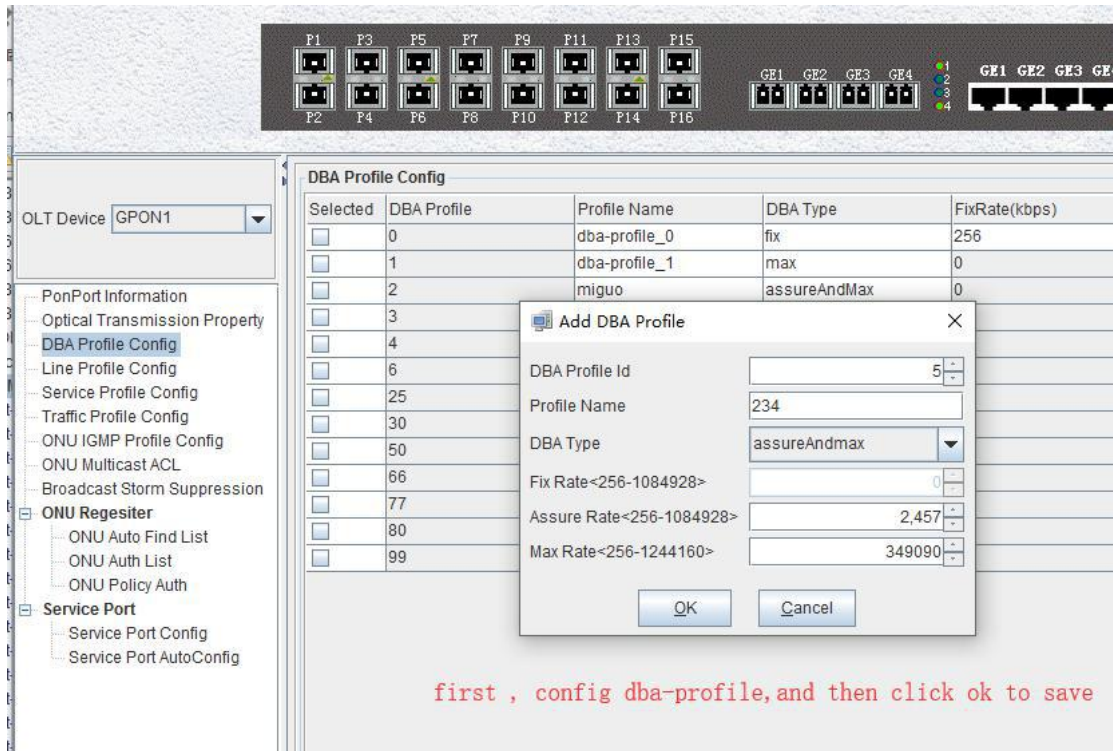




### 9.3.3. Create ONT DBA Profile

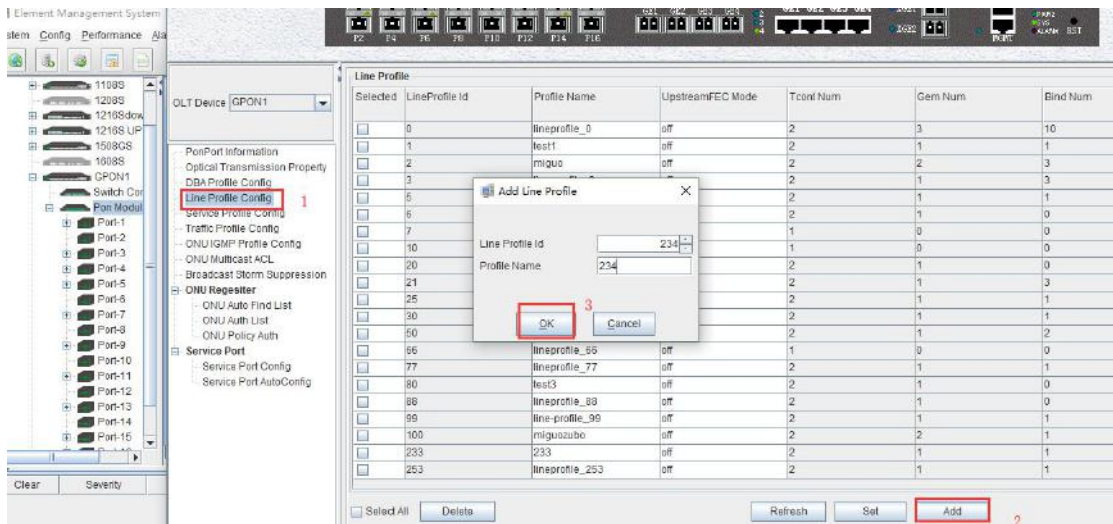
Click "pon card management" --> "DBA template" --> "add" to create a DBA template, as shown in the following figure:





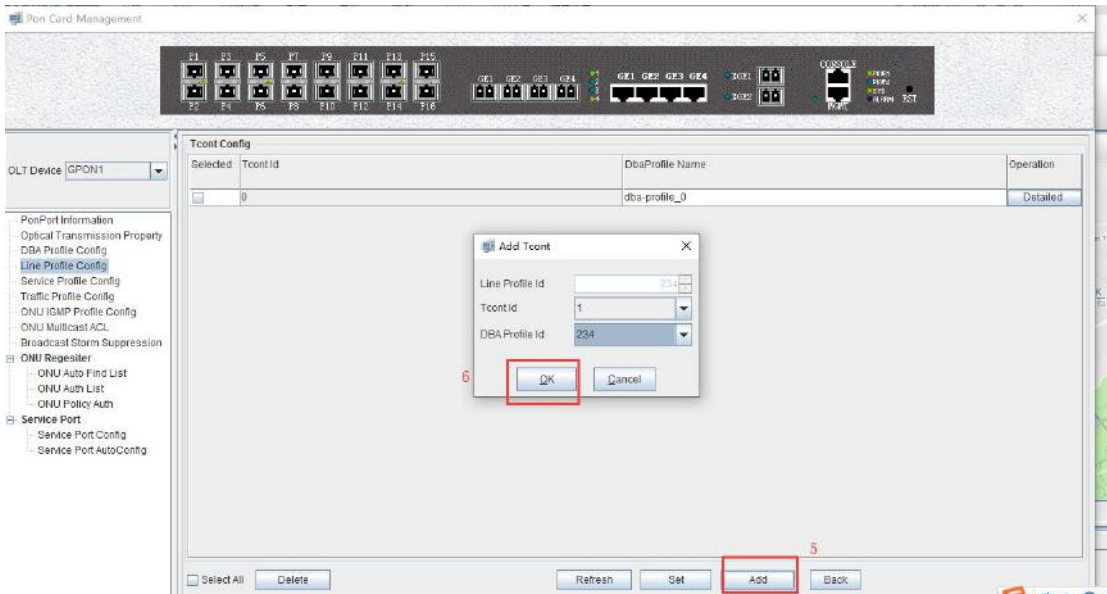
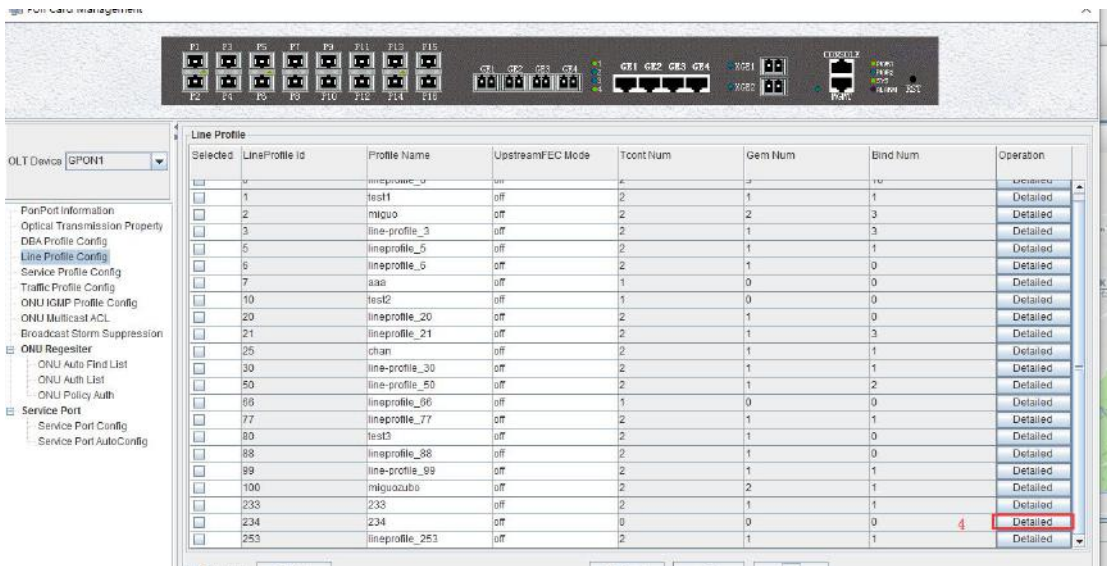
### 9.3.4. Create ONT Lineprofile

Click "pon card management" --> "line template" --> "add" to create a line template, as shown in the following figure:



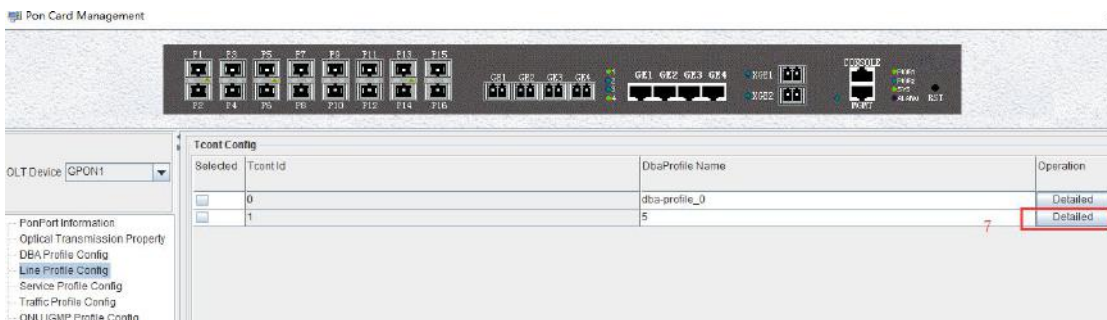
Create tcont1

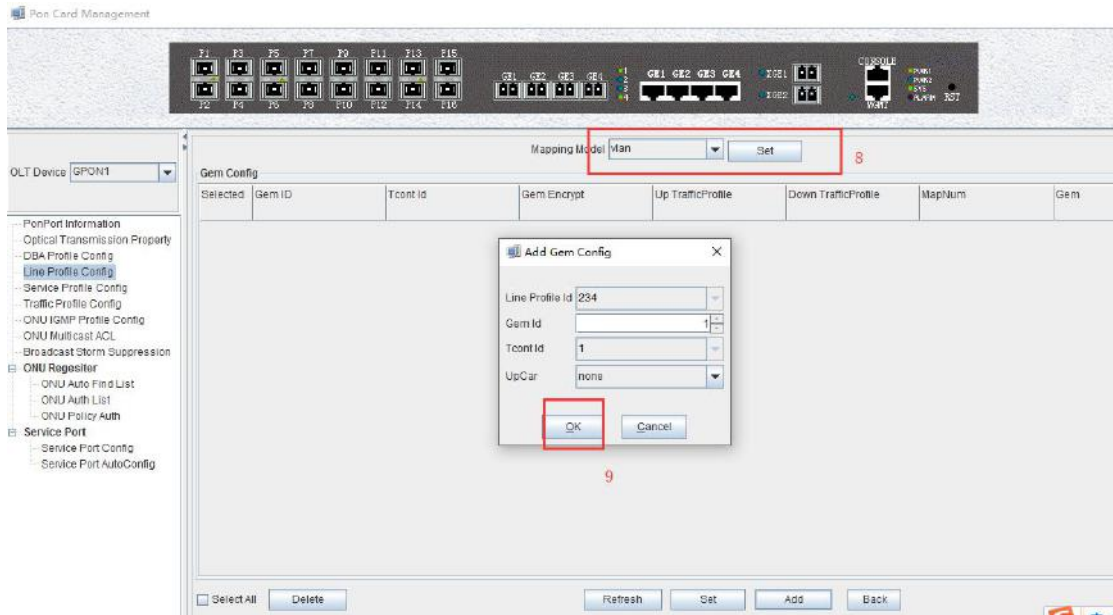
Click "pon card management" --> "line template" --> "123 line template details" to create a tcont in the line profile



### Create GEM 1

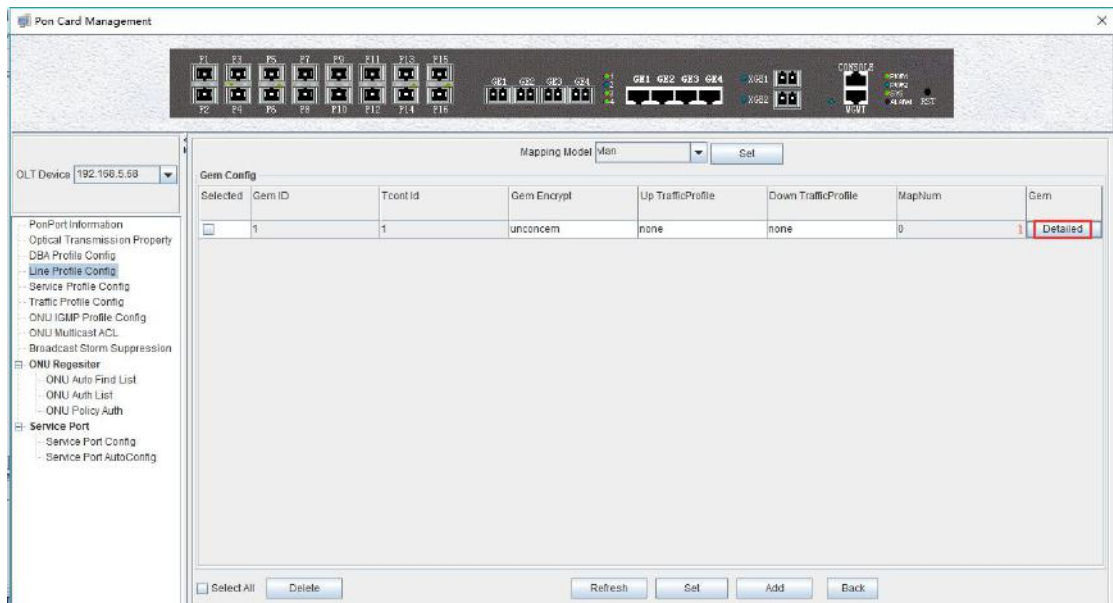
On the tcont configuration page, select tcont1 and continue to click on "Details" to create a gem and bind the created tcont

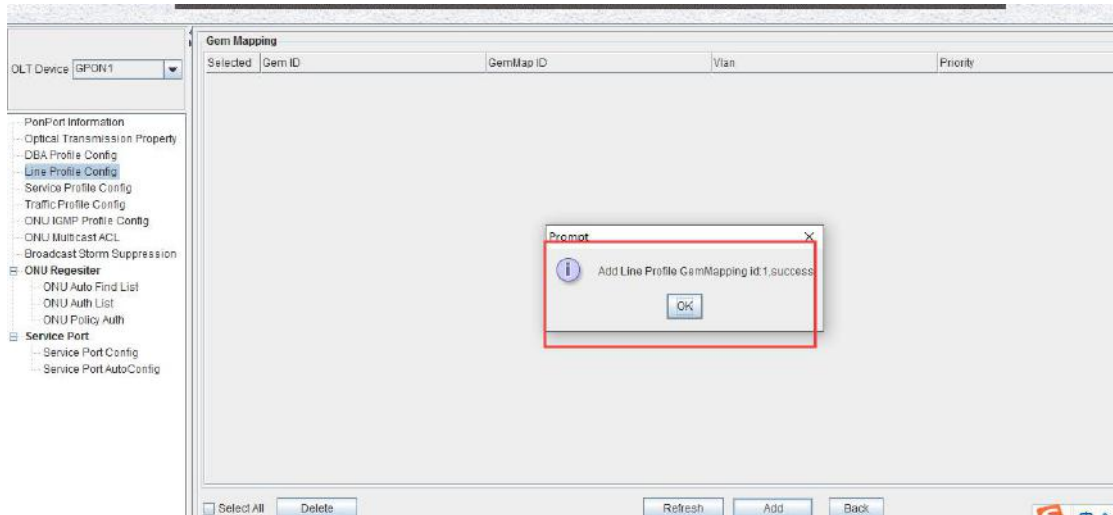
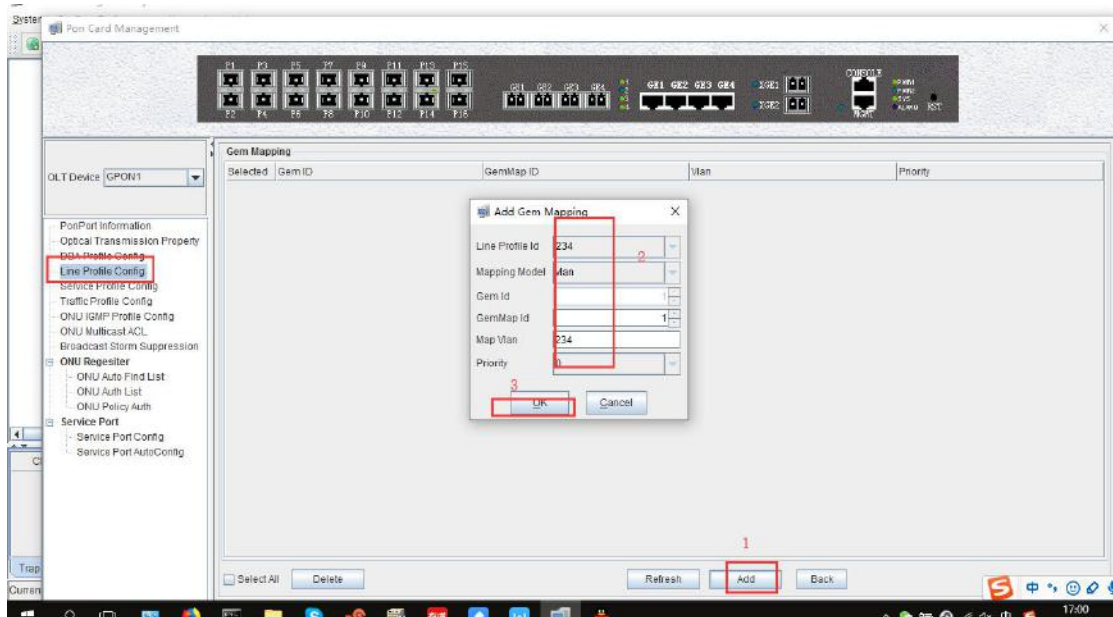




Add a mapping for vlan234

Select the created gem1 in the gem configuration page, continue to click "Detail", add the mapping of VLAN123





### 9.3.5. Create ONT Srvprofile

Click "pon card management" --> "service template" --> "add" to create a servicetemplate

On the service template page, select the created service template and configure the number of Ethernet ports and CATV network ports on the ONU. The operations are as follows:



Pon Card Management

OLT Device: GPON1

Service Profile

Selected	Profile Id	Profile Name	Eth Num	Catv Num	MacLearning	Bind Num	VLAN	Eth Port
<input type="checkbox"/>	1	test1	0	0	enable	1	Config	Config
<input type="checkbox"/>	2	miguoo	0	0	enable	2	Config	Config
<input type="checkbox"/>	3	snvprofile_3	0	0	enable	3	Config	Config
<input type="checkbox"/>	4	snvprofile_4	0	0	enable	0	Config	Config
<input type="checkbox"/>	6	miguozubo	0	0	enable	1	Config	Config
<input type="checkbox"/>	7	snvprofile_7	0	0	enable	0	Config	Config
<input type="checkbox"/>	8	snvprofile_8	0	0	enable	1	Config	Config
<input type="checkbox"/>	10	snvprofile_10	0	0	enable	0	Config	Config
<input type="checkbox"/>	20	snvprofile_20	0	0	enable	0	Config	Config
<input type="checkbox"/>	21	snvprofile_21	Adapt	Adapt	enable	3	Config	Config
<input type="checkbox"/>	22	snvprofile_22	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	25	chan	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	30	snvprofile_30	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	50	snvprofile_50	Adapt	Adapt	enable	2	Config	Config
<input type="checkbox"/>	77	snvprofile_77	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	80	snvprofile_80	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	88	snvprofile_88	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	99	snvprofile_99	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	100	miguozubo0	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	233	233	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	253	snvprofile_253	4	0	enable	1	Config	Config

Buttons: Selected All, Delete, Refresh, Set, Add

Configure the port of onu

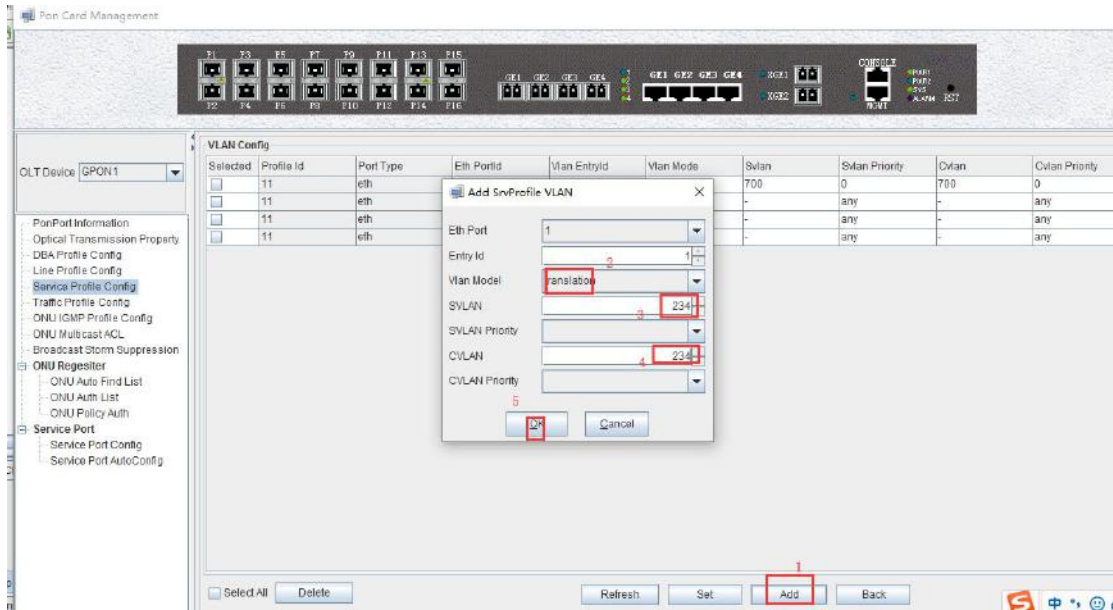
Pon Card Management

OLT Device: GPON1

Service Profile

Selected	Profile Id	Profile Name	Eth Num	Catv Num	MacLearning	Bind Num	VLAN	Eth Port
<input type="checkbox"/>	4	snvprofile_4	0	0	enable	0	Config	Config
<input type="checkbox"/>	5	nb600	4	0	enable	0	Config	Config
<input type="checkbox"/>	6	miguozubo	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	7	snvprofile_7	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	8	snvprofile_8	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	9	zts900	1	0	enable	1	Config	Config
<input type="checkbox"/>	10	snvprofile_10	0	0	enable	0	Config	Config
<input type="checkbox"/>	11	test	4	0	enable	1	Config	Config
<input type="checkbox"/>	20	snvprofile_20	0	0	enable	0	Config	Config
<input type="checkbox"/>	21	snvprofile_21	Adapt	Adapt	enable	3	Config	Config
<input type="checkbox"/>	22	snvprofile_22	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	25	chan	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	30	snvprofile_30	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	50	snvprofile_50	Adapt	Adapt	enable	3	Config	Config
<input type="checkbox"/>	77	snvprofile_77	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	80	snvprofile_80	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	88	snvprofile_88	Adapt	Adapt	enable	0	Config	Config
<input type="checkbox"/>	99	snvprofile_99	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	100	miguozubo0	Adapt	Adapt	enable	1	Config	Config
<input type="checkbox"/>	123	123	4	0	enable	0	Config	Config
<input type="checkbox"/>	253	snvprofile_253	4	0	enable	1	Config	Config

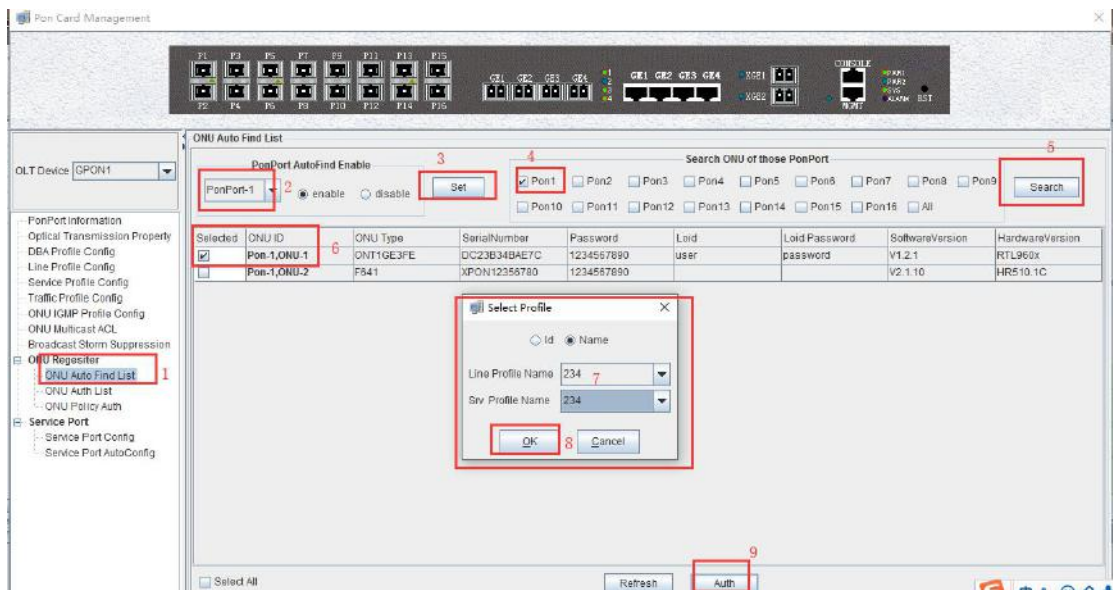
Buttons: Selected All, Delete, Refresh, Set, Add

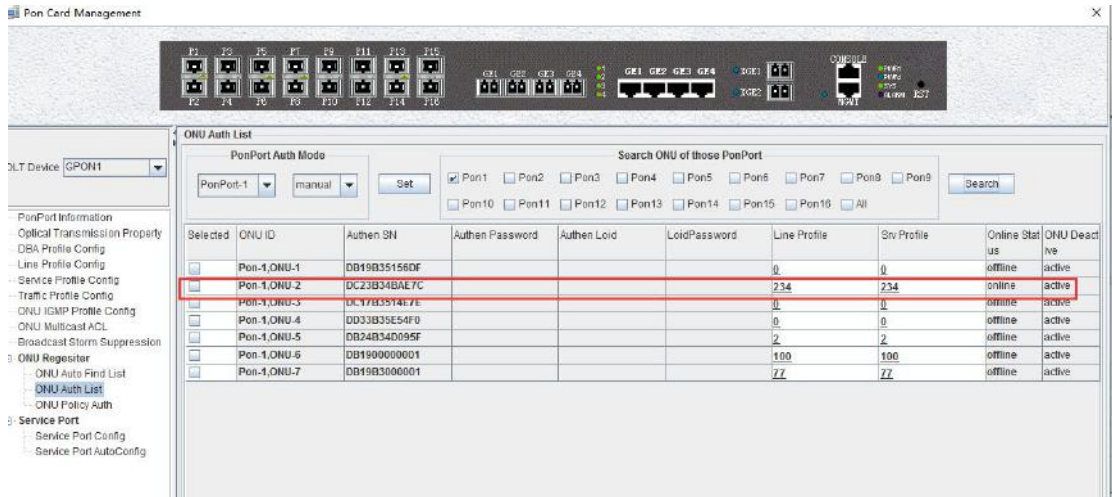


### 9.3.6. Register ONU

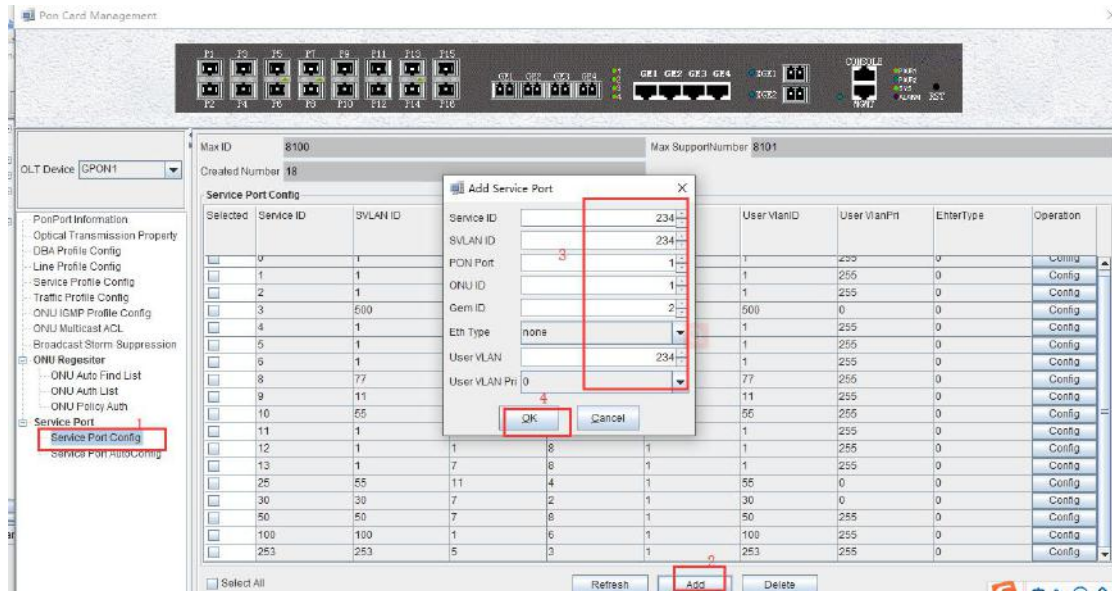
Browse onu that dont registered and then

Click "onu auto find list "-->"set"---->"search"---->"ok"---->"auth" to auth onu





### 9.3.7. Create ONT Service-port



Configure tag-action to transparent

Pon Card Management

OLT Device: 192.168.5.68

Max ID: 8100 Max SupportNumber: 8101

Created Number: 18

Selected	Service ID	SVLAN ID	PortPort ID	ONU ID	Gem ID	User VlanID	User VlanPri	EnterType	Operation
<input type="checkbox"/>	0	1	9	1	1	1	255	0	Config
<input type="checkbox"/>	1	1	4	1	1	1	255	0	Config
<input type="checkbox"/>	2	1	5	3	1	1	255	0	Config
<input type="checkbox"/>	3	500	4	1	1	500	0	0	Config
<input type="checkbox"/>	4	1	15	2	1	1	255	0	Config
<input type="checkbox"/>	5	1	11	4	1	1	255	0	Config
<input type="checkbox"/>	6	1	13	2	1	1	255	0	Config
<input type="checkbox"/>	7	1	9	9	1	1	255	0	Config
<input type="checkbox"/>	8	77	1	7	1	77	255	0	Config
<input type="checkbox"/>	9	11	15	2	1	11	255	0	Config
<input type="checkbox"/>	10	55	15	2	1	55	255	0	Config
<input type="checkbox"/>	11	1	7	2	1	1	255	0	Config
<input type="checkbox"/>	25	55	11	4	1	55	0	0	Config
<input type="checkbox"/>	50	50	1	1	1	50	0	0	Config
<input type="checkbox"/>	60	50	9	9	1	50	255	0	Config
<input type="checkbox"/>	80	80	7	2	1	80	0	0	Config
<input type="checkbox"/>	100	100	1	6	1	100	255	0	Config
<input type="checkbox"/>	253	253	15	3	1	253	255	0	Config

Buttons: Refresh, Add, Delete

Pon Card Management

OLT Device: 192.168.5.68

Service Port Config

Up TrafficProfile: 0 Down TrafficProfile: 0

Admin Status: enable Onu OnlineState: online

VlanTag Action: transparent Inner VID: 0

Inner Pri: 0 Description: 0

Statistics Enable: disable Out Octets: 0

OutPkts: 0 In Octets: 0

InPkts: 0 Clear: no-clear

Buttons: Refresh, 3 Set, Back

Pon Card Management

OLT Device: GPON1

Service Port Config

Up TrafficProfile: 50 Down TrafficProfile: 50

Admin Status: enable Onu OnlineState: online

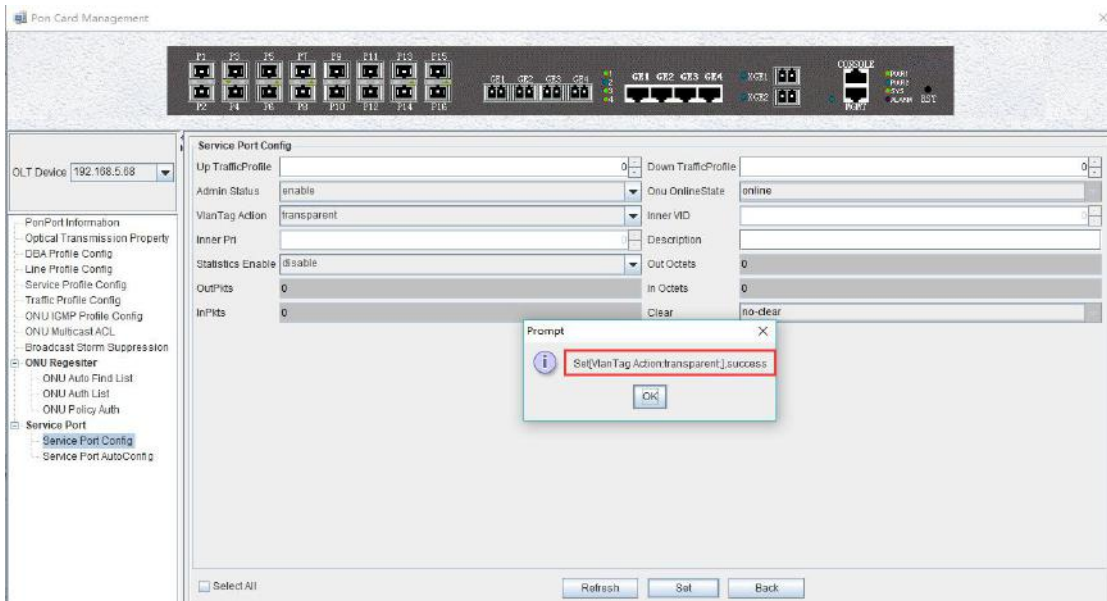
VlanTag Action: transparent Inner VID: 0

Inner Pri: 0 Description: 0

Statistics Enable: enable Out Octets: 0

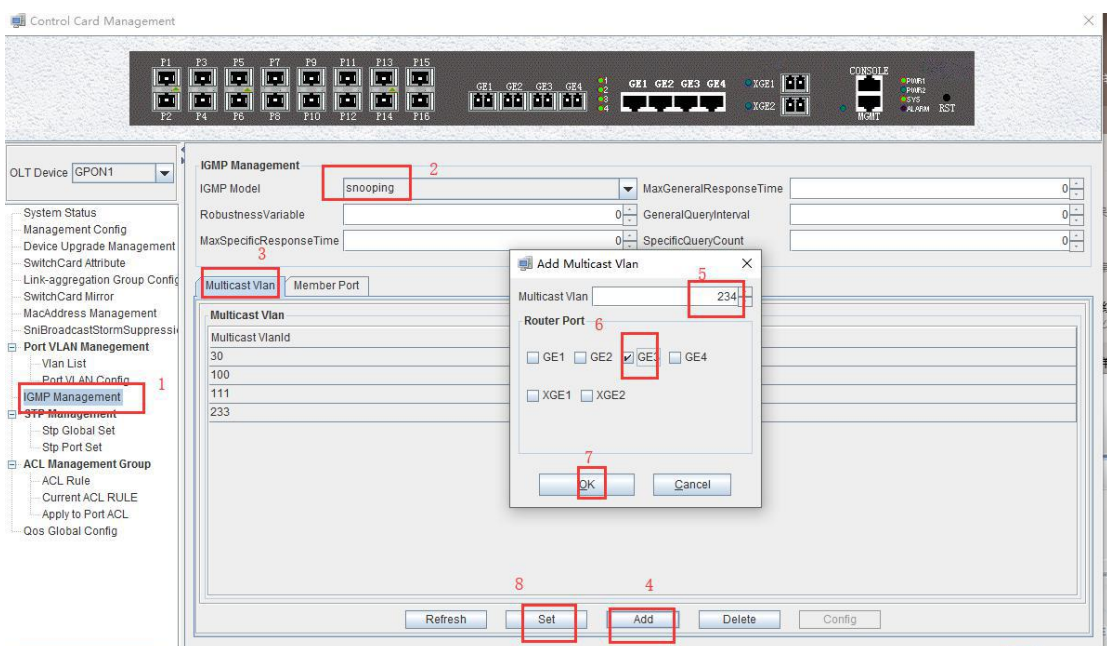
OutPkts: 0 In Octets: 0

InPkts: 0 Clear: no-clear



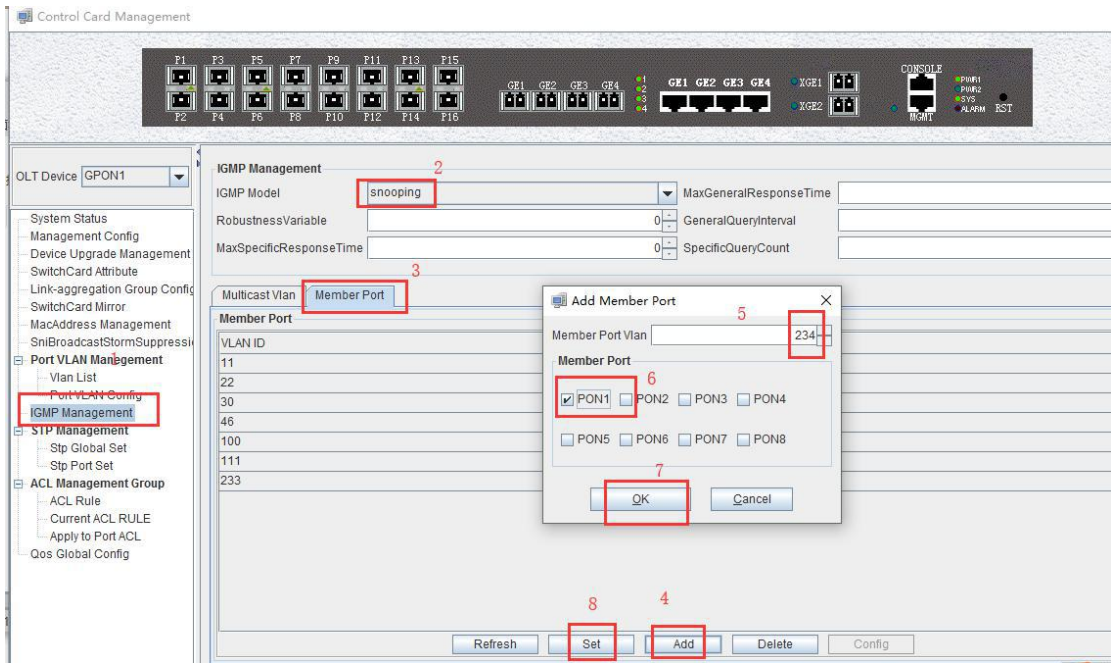
### 9.3.8. OLT Multicast Configuration

Click "Switch Card" --> "IGMP Management", set the multicast mode to snooping, add the multicast VLAN 234 of GE2 port, and click "OK" to apply. The specific operation is as shown below:

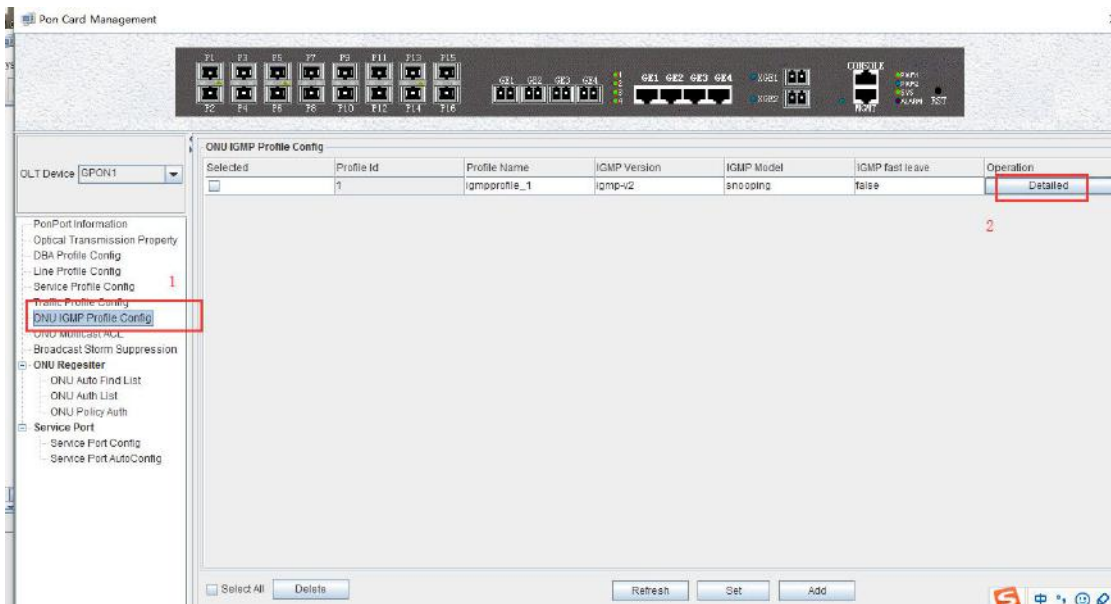


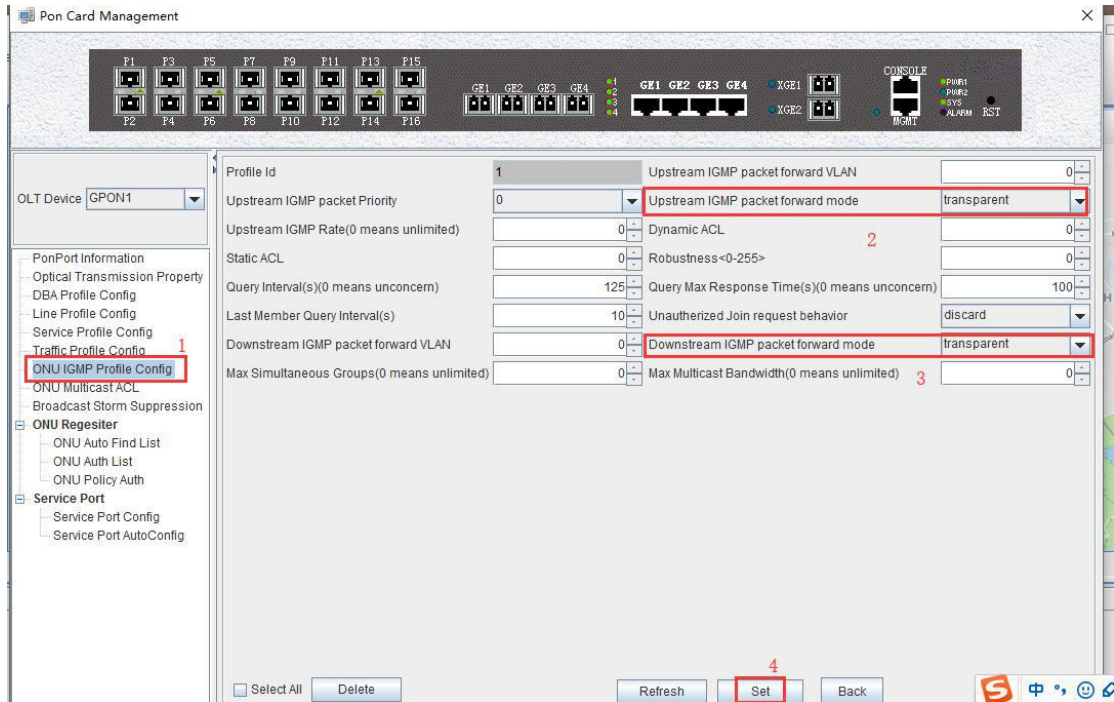
#### Configuring multicast members

On the IGMP management page, select Member Ports, and click "Add" to add the member port pon2 of multicast VLAN 234.



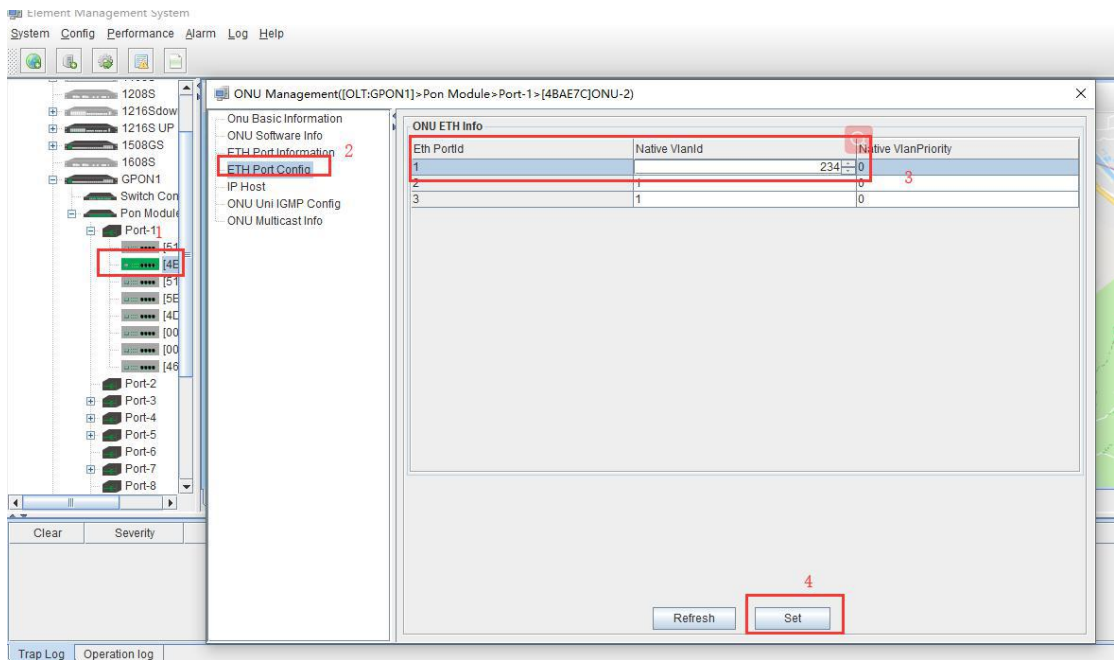
Configure the igmp template of the ONU.





### 9.3.9. ONT Multicast Configuration(SFU)

Configure the native vlan of onu port



Configure the UNI igmp

The screenshot displays the Element Management System interface for configuring an ONU. The top window shows the 'ONU Management([OLT:GPON1]>Pon Module>Port-1>[4BAE7C]ONU-2)' configuration page. The left sidebar lists various configuration options, with 'ONU Uni IGMP Config' selected and highlighted in red. The main area shows the 'ONU Uni IGMP Config' table with the following data:

Port Id	Igmp Profile Id
1	1
2	0
3	0
4	0

Below the table are 'Refresh' and 'Set' buttons. The bottom window shows the 'ONU Management([OLT:GPON1]>Pon Module>Port-1>[4BAE7C]ONU-8)' configuration page. The left sidebar lists various configuration options, with 'ONU Multicast Info' selected and highlighted in blue. The main area shows the 'ONU Multicast Info' table with the following data:

Port Id	Info Id	Source Ip	Destination IP	VLAN Id	Client Ip
1	1	0.0.0.0	239.255.255.255	234	192.168.5.106
1	2	0.0.0.0	239.255.255.250	0	192.168.101.23
1	3	0.0.0.0	239.255.255.250	0	169.254.32.137
1	4	0.0.0.0	239.255.255.250	0	192.168.5.106

Below the table is a 'Refresh' button.



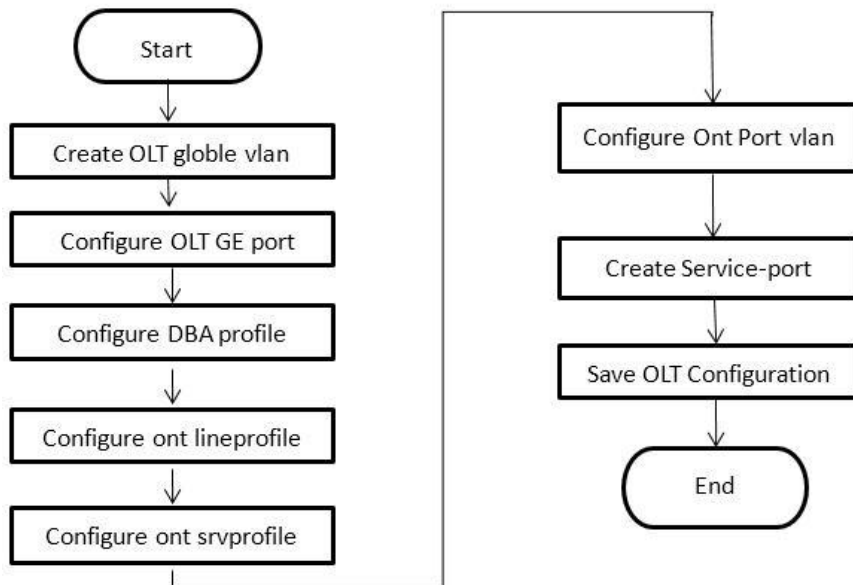
#### Description:

Here, the sfu of rtk is taken as an example to configure the multicast service. The hgu also needs to configure the igmp related information on the web page. In addition; ZTE's ONU also needs to configure igmp related information on the web page.

## 10. OLT Service Configuration---WEB Method

### 10.1. Configuration Process





## 10.2. Internet Service Configuration

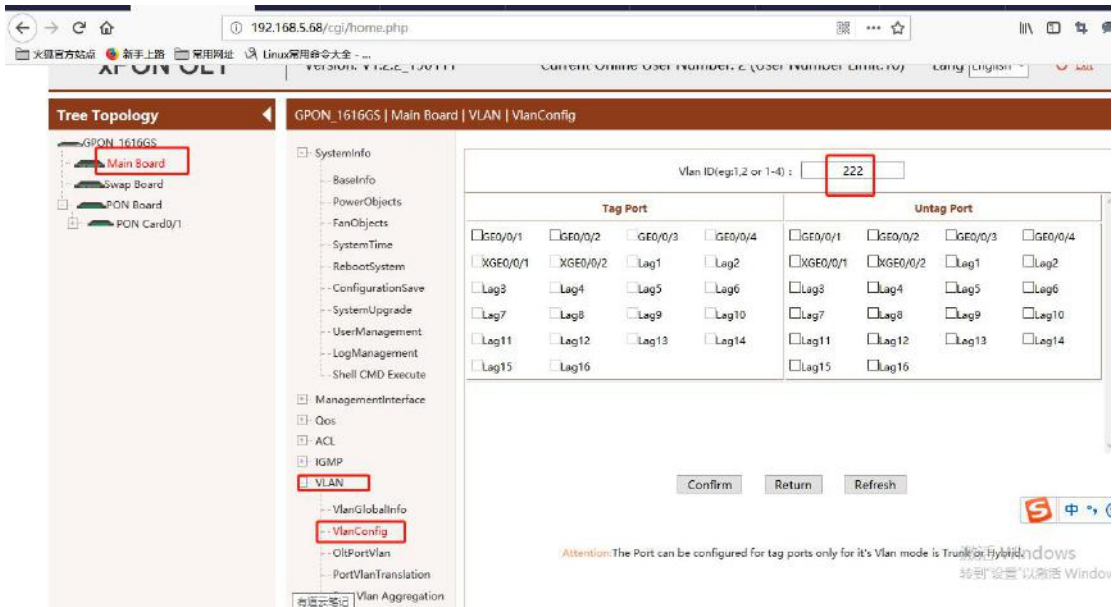
### 10.2.1. Data Plan

Main Data Plan List	
Configure Item	Data
OLT Port Config	Ge2: VLAN 222 access mode
DBA Profile (upload bandwidth control)	Profile number: 7
ONT Lineprofile	Profile ID: 7 T-CONT ID: 1 Internet GEM Port ID: 1 Mapping Vlan: 222
ONT Srvprofile	Profile ID: 7 ONT Port Capability: eth 1;catv 0;pots 0
Bridge ONT Port Config	LAN 1: VLAN 222
Gateway ONT Port Config	LAN1: VLAN 222

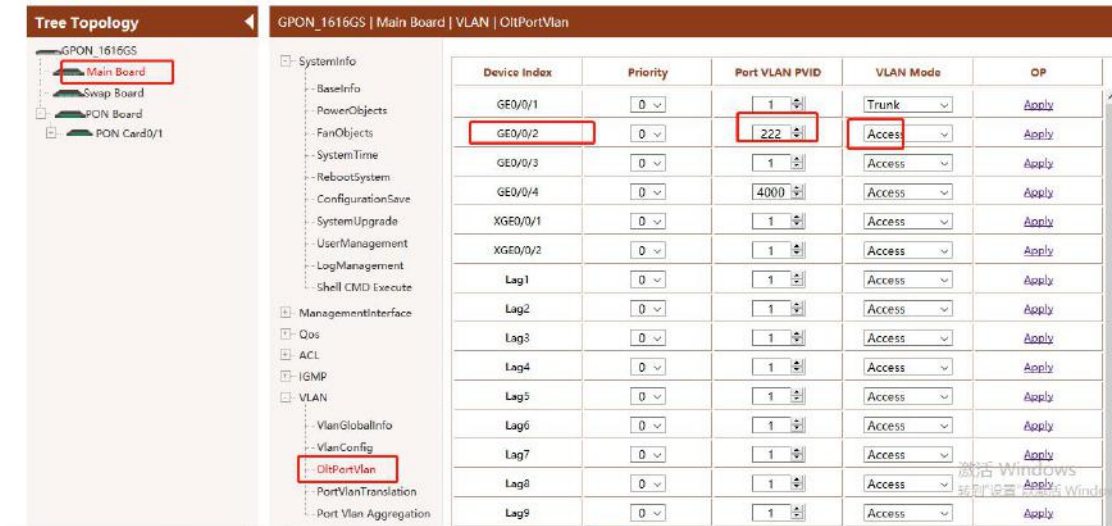
### 10.2.2. Create Global VLAN

Create a VLAN by clicking "Main Control Panel" --> "VLAN Configuration" --> "Add"

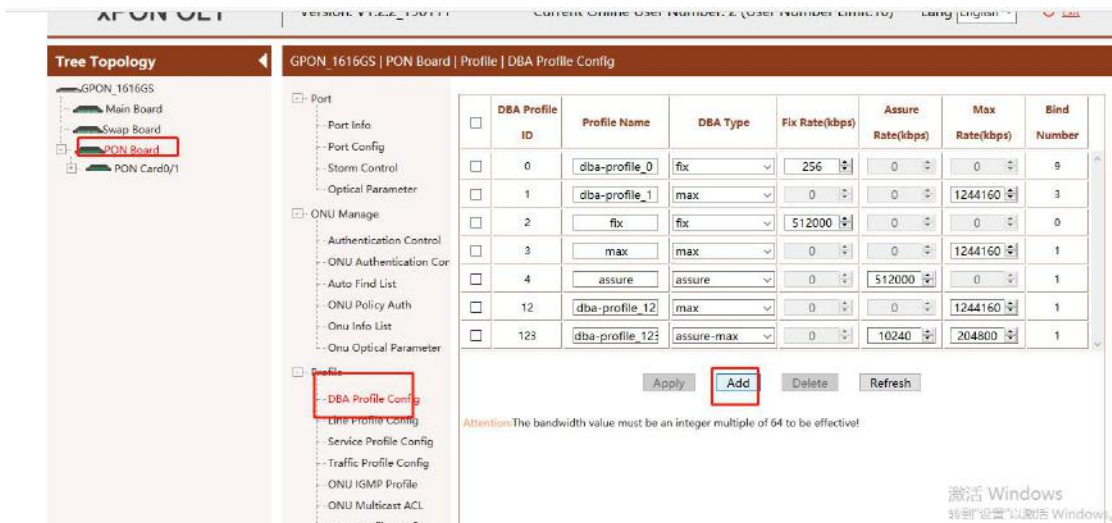
Create VLAN 222 here and add it to the ge1 port. Configure the uplink port to access mode and click OK.



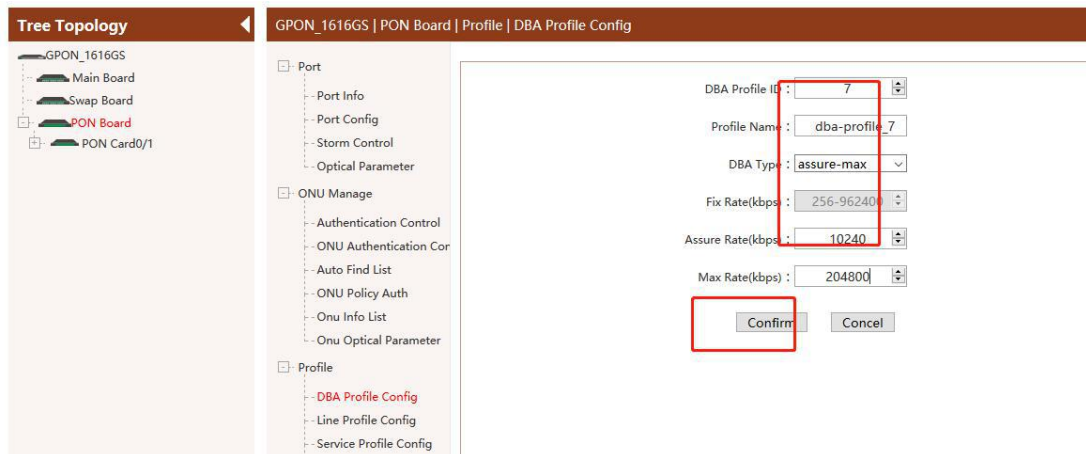
View the uplink port VLAN mode:



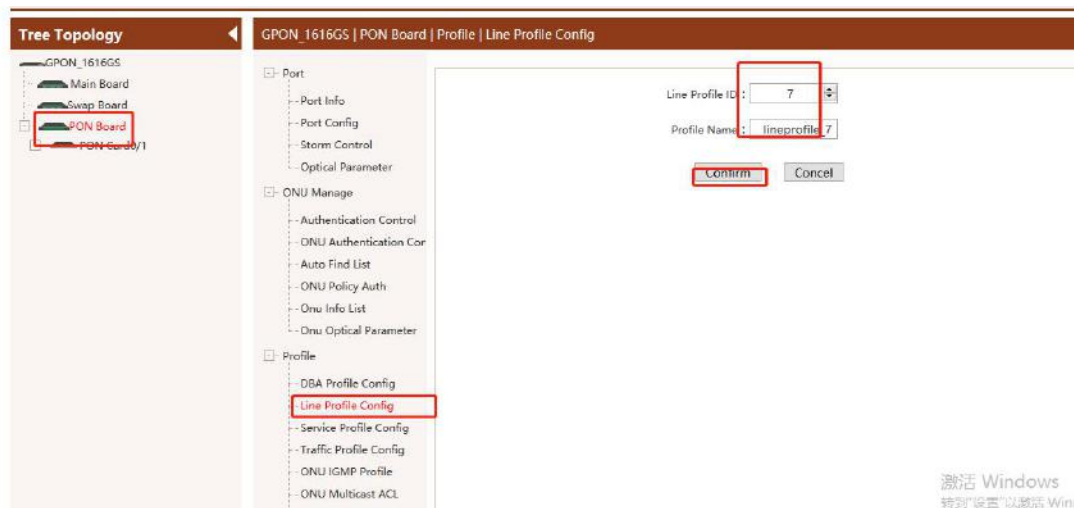
### 10.2.3. Create ONT DBA Profile



Here, for example, create a DBA template with a guaranteed bandwidth of 20480 with the number of 7 and click "Confirm" to create a template.



### 10.2.4. Create ONT Lineprofile



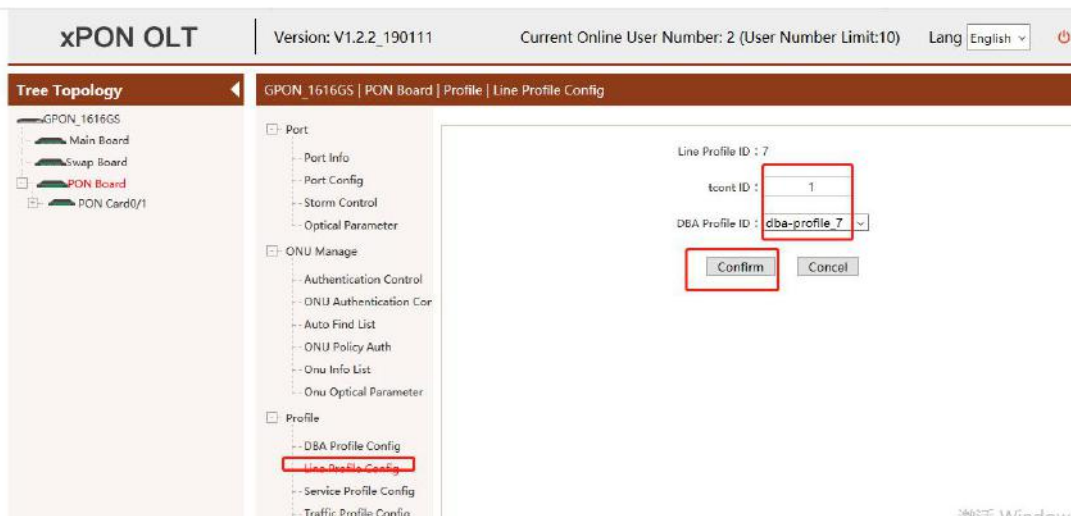
Click "Confirm" to create the line template 7

After the creation is successful, click "Edit" to configure the tcont of the line template.

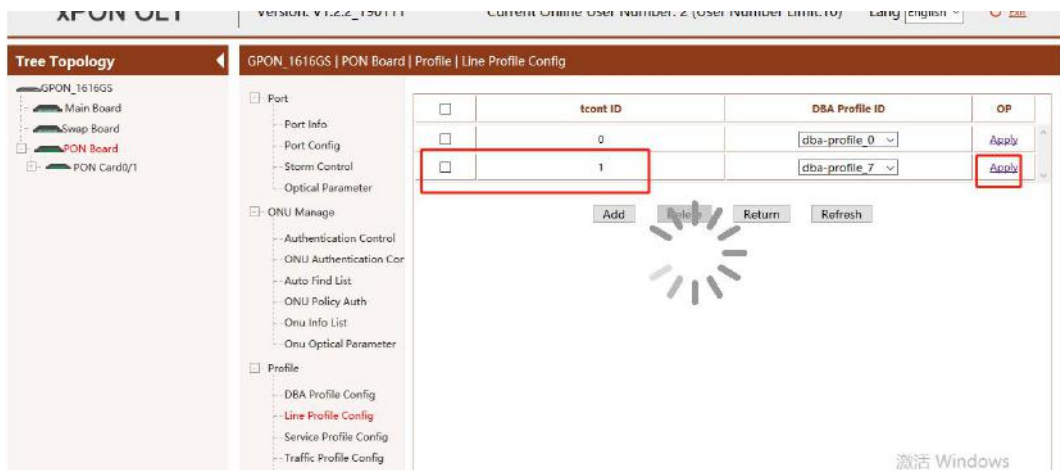


Click "Add" to create tcont1 and bind the created DBA template 7 and click "Confirm" to

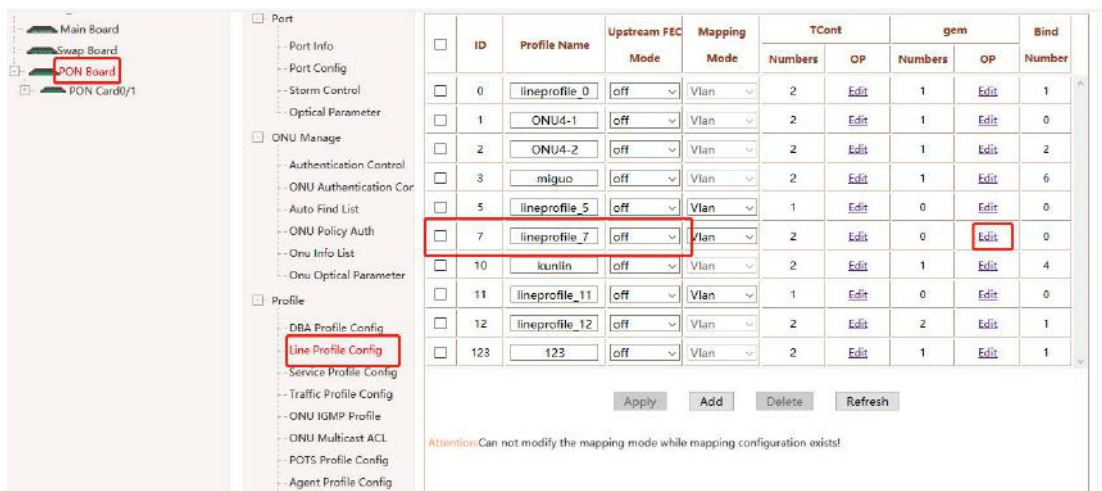
complete the configuration of tcont.



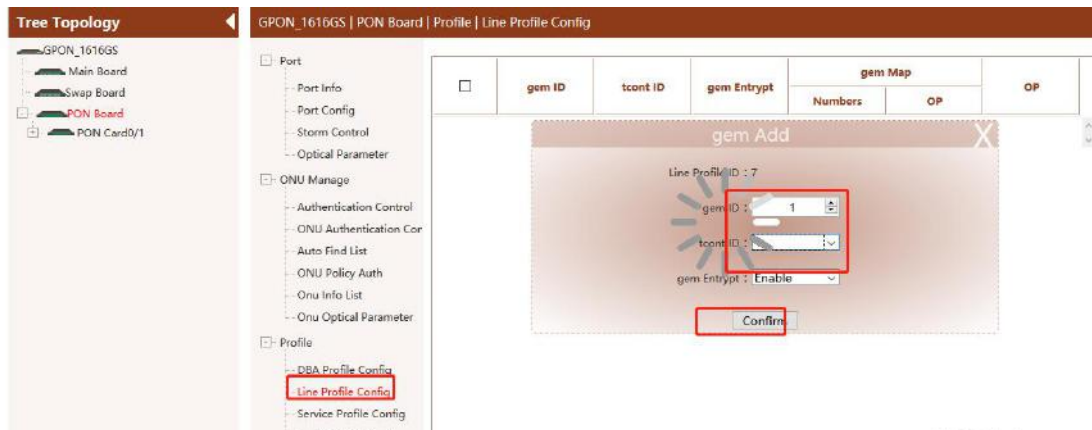
After the configuration is successful, click "Apply" to apply tcont1



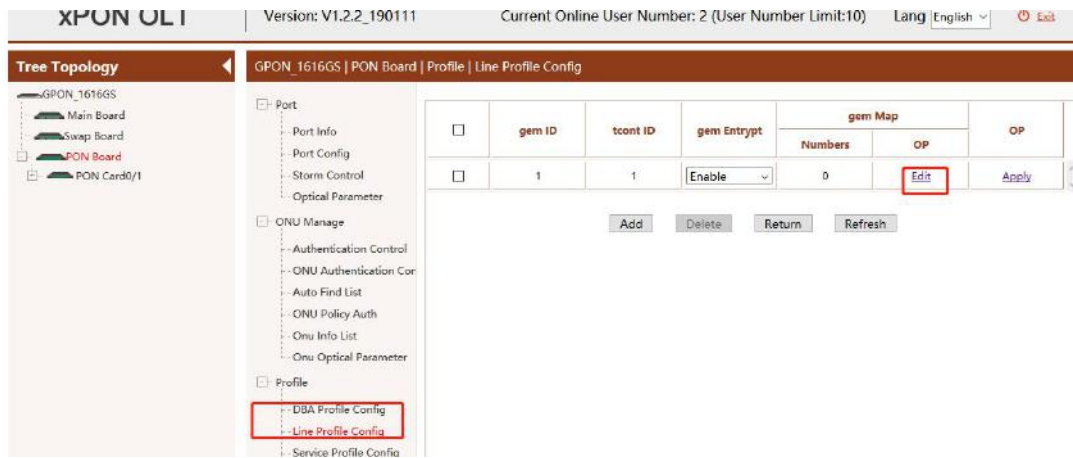
Go back to the page template page and click "Edit" to configure the GEM related configuration in the line template.



Click "Add" to create a gem1 and bind tcont1, click "confirm"



Click "Edit" to continue the configuration of gem1

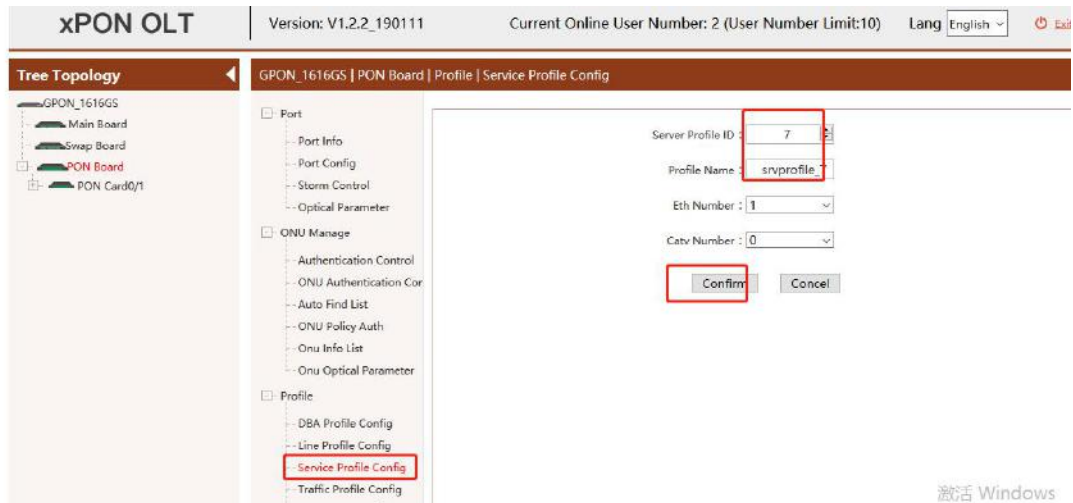


Click "Add" to create a gem map



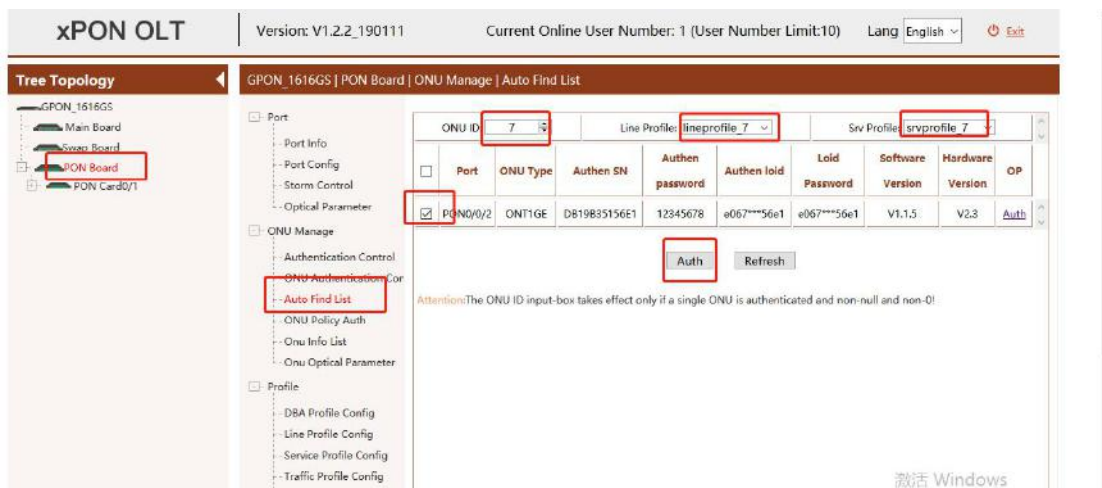
## 10.2.5. Create ONT Srvprofile

Configure the number of Ethernet ports and the number of catv ports.



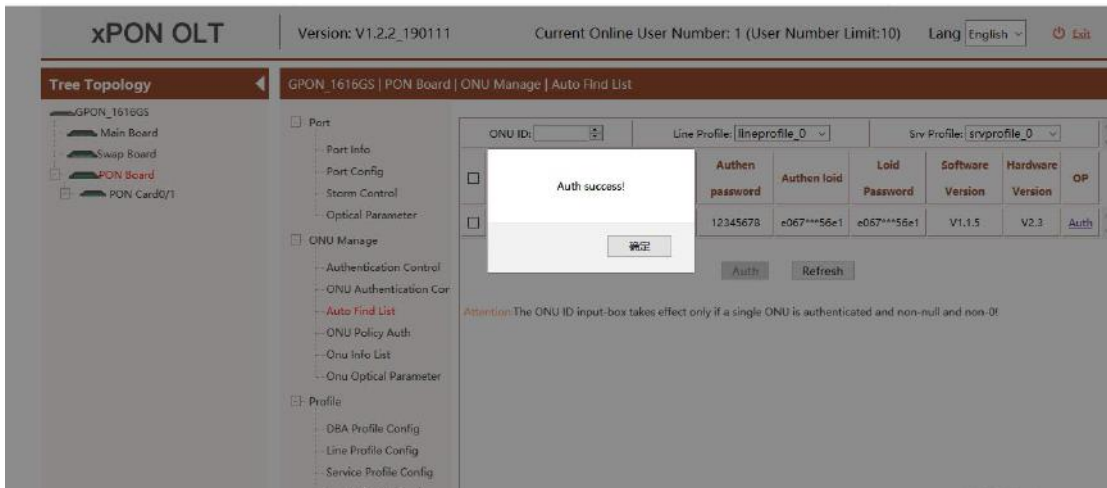
### 10.2.6. Registe ONU (SFU)

Click the "ONU Unauthorized List" in the "pon service board" to view unauthorized ONUs.  
Set the number of the ONU and bind the created line template and service template.



Note: If the ONU number is set to the number of the registered ONU, the system will automatically change the number of the ONU in order. The ONU numbered 1-6 has been registered in this port. The system is set to ONU number 7.

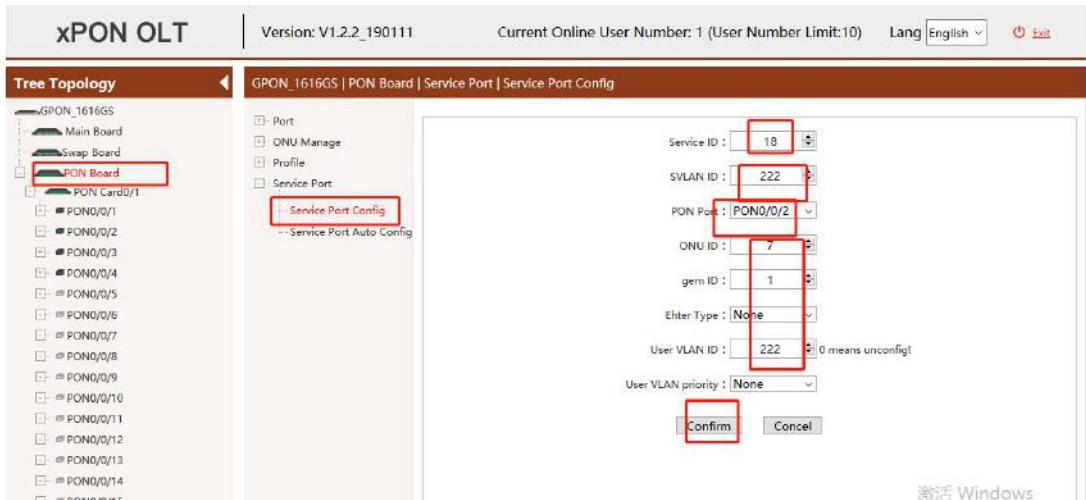
Click "Confirm" to complete the certification registration.



### 10.2.7. Create ONT Service-port(SFU)

Configure the service port in the virtual port settings on the pon service board.

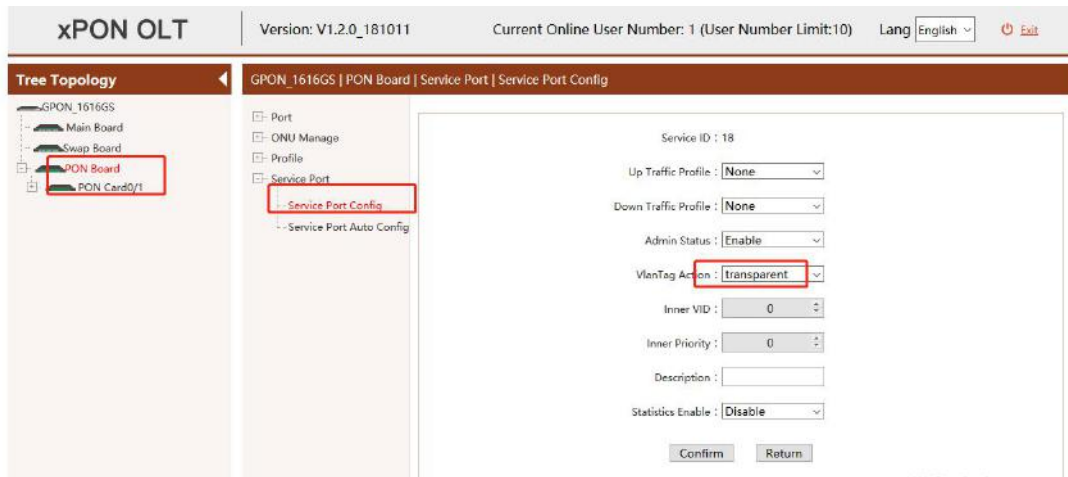
Click **"Add"** to create a service port and configure it accordingly.



Go to the created service port and click **"Edit"**.

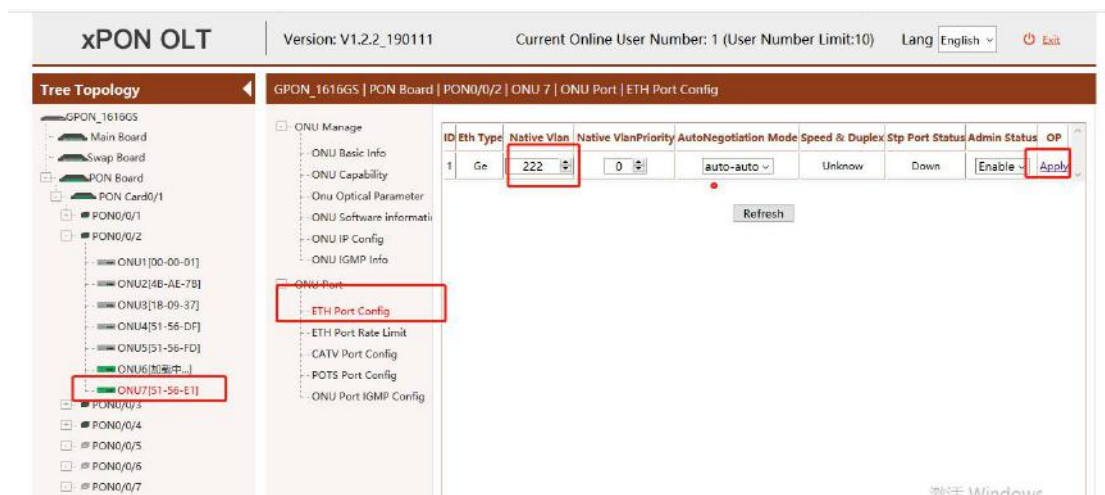


Set the VLANtag rule to transparent



### 10.2.8. Config ONT Port VLAN (SFU)

Configure the Ethernet port native vlan to 222 and click “**apply**” to make it take effect.



#### Notice:

HGU type ONU need create a VLAN 222 wan Internet connection

## 10.3. Multicast Service Configuration

Here, ZTE sfu is used as an example to demonstrate how to configure multicast services on the WEB. Hgu also needs to configure igmp related information on the ONUweb page.

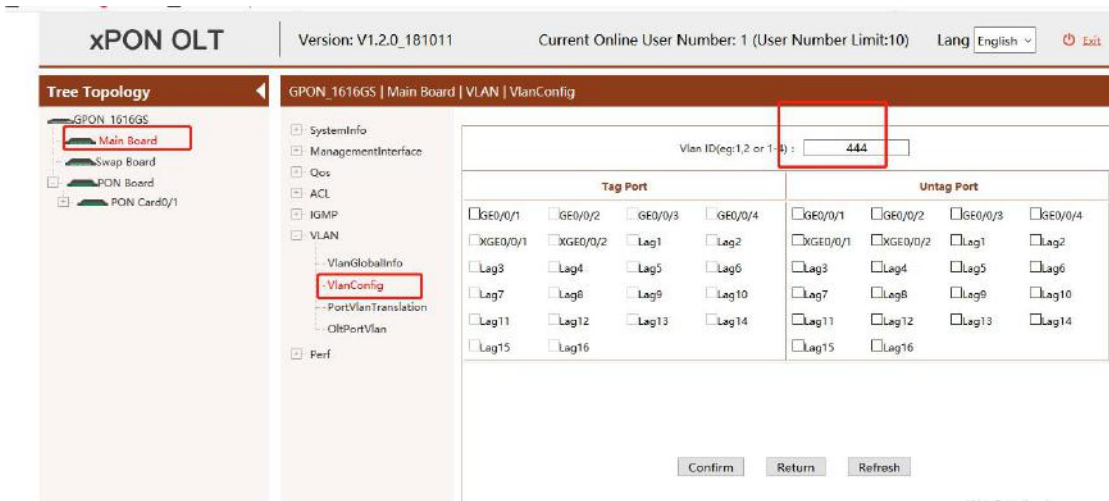
### 10.3.1. Data Plan

Main Data Plan List	
Configure Item	Data
OLT Port Config	Ge1: VLAN 444 access mode
DBA Profile (upload bandwidth control)	Profile number: 8
ONT Lineprofile	Profile ID: 8 T-CONT ID: 1

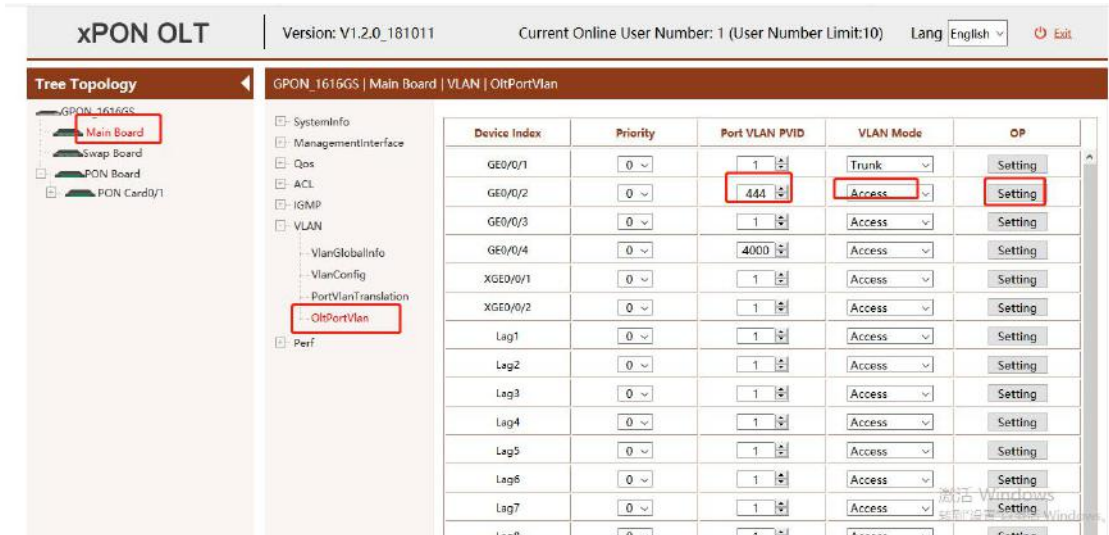


	<b>Internet GEM Port ID: 1</b> <b>Mapping Vlan: 444</b>
<b>ONT Srvprofile</b>	<b>Profile ID: 8</b> <b>ONT Port Capability: eth 1;catv 0;pots 0</b>
<b>Bridge ONT Port Config</b>	<b>LAN 1: VLAN 444</b>
<b>Gateway ONT Port Config</b>	<b>LAN1: VLAN 444</b>

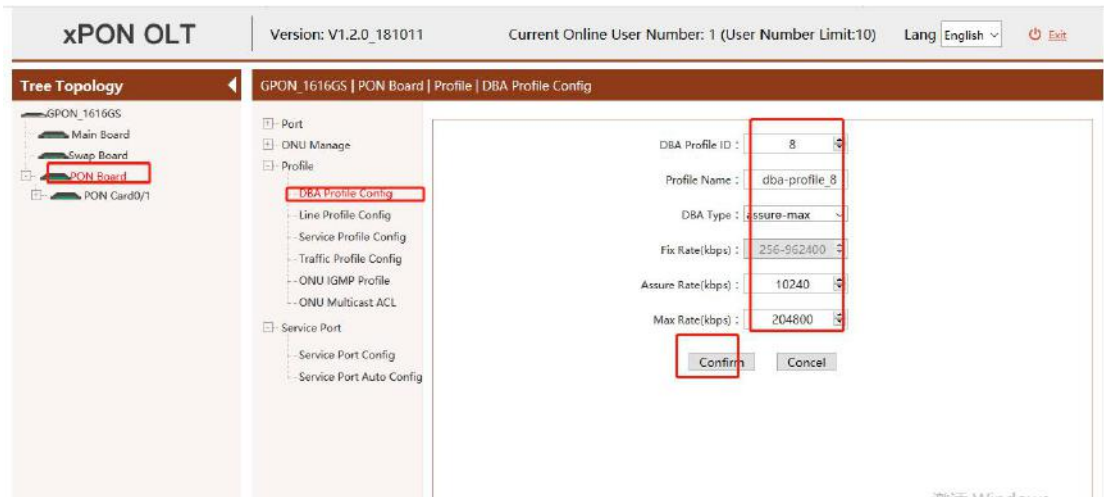
### 10.3.2. Create Global VLAN



View the VLAN information of the ge1 interface.

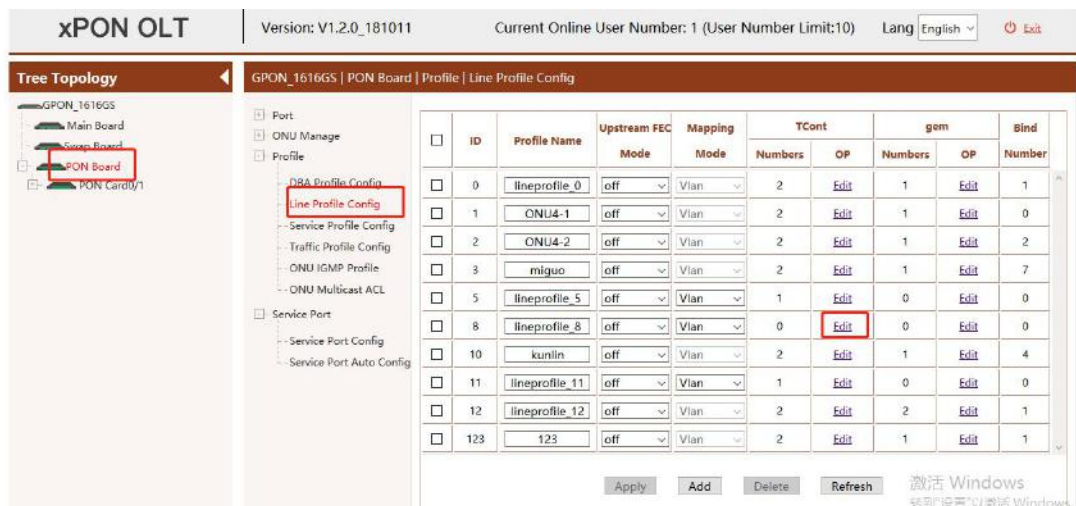
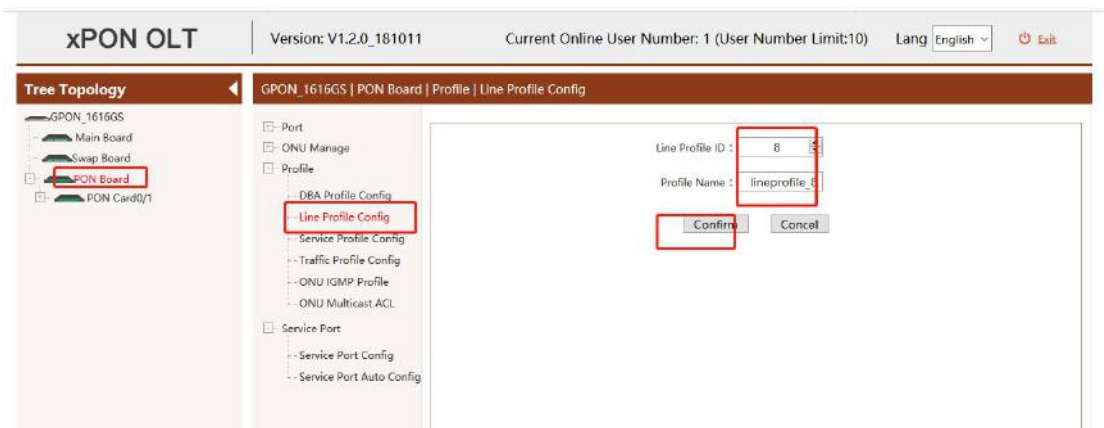


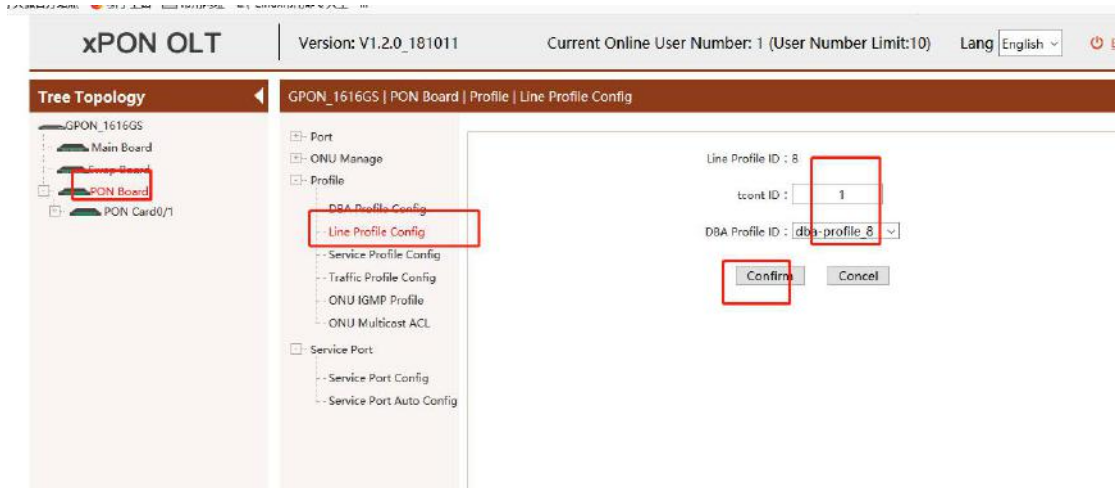
### 10.3.3. Create ONT DBA profile



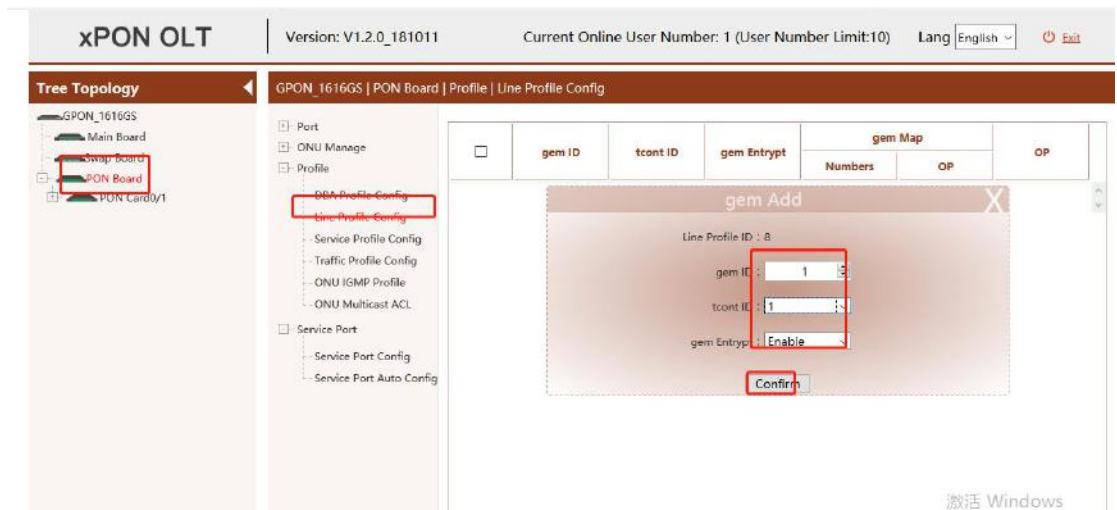
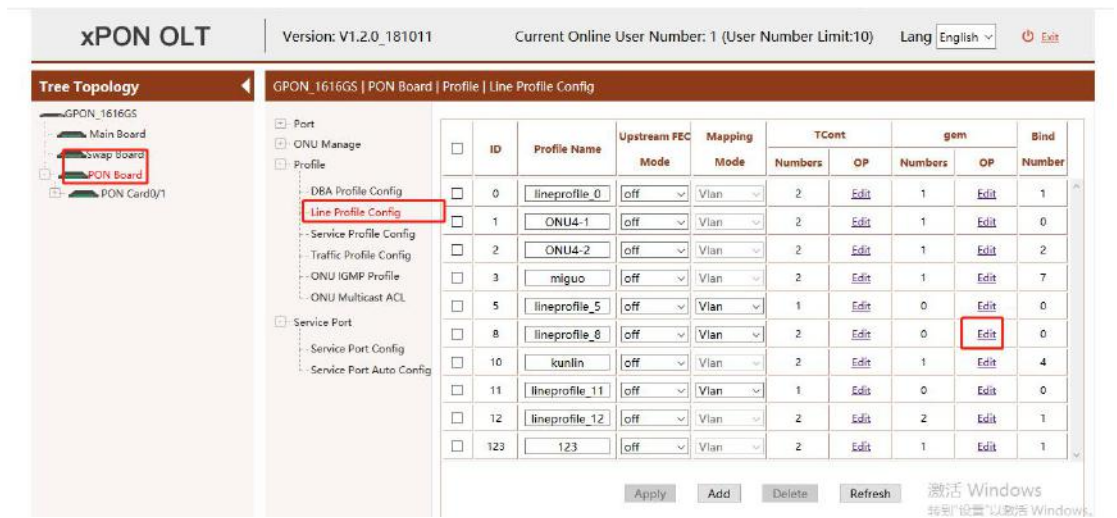
### 10.3.4. Create ONT Lineprofile

Create tcont1 and bind the created DBA template 8 and click **“Apply”** to make it take effect





Add a GEM1 and bind tcont1, click "confirm" and "app" to make it take effect

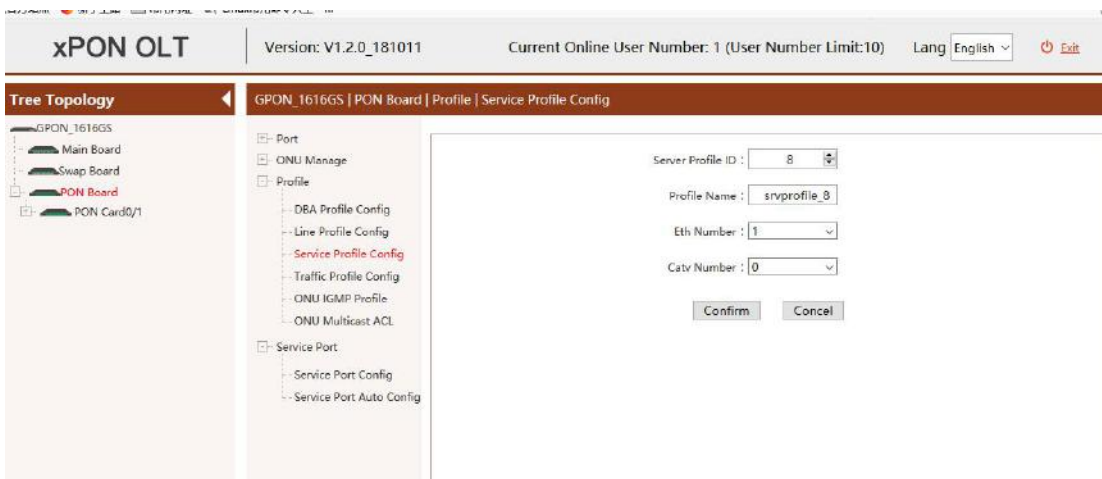


Create a mapping for VLAN 444



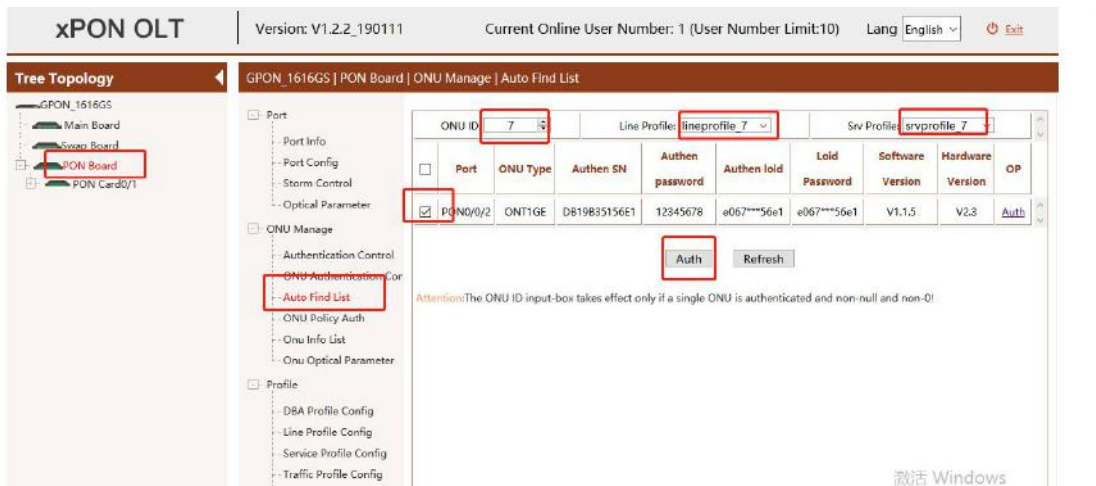
Click "Apply" to make it effective

### 10.3.5. Create ONT Srvprofile



### 10.3.6. Registered ONT

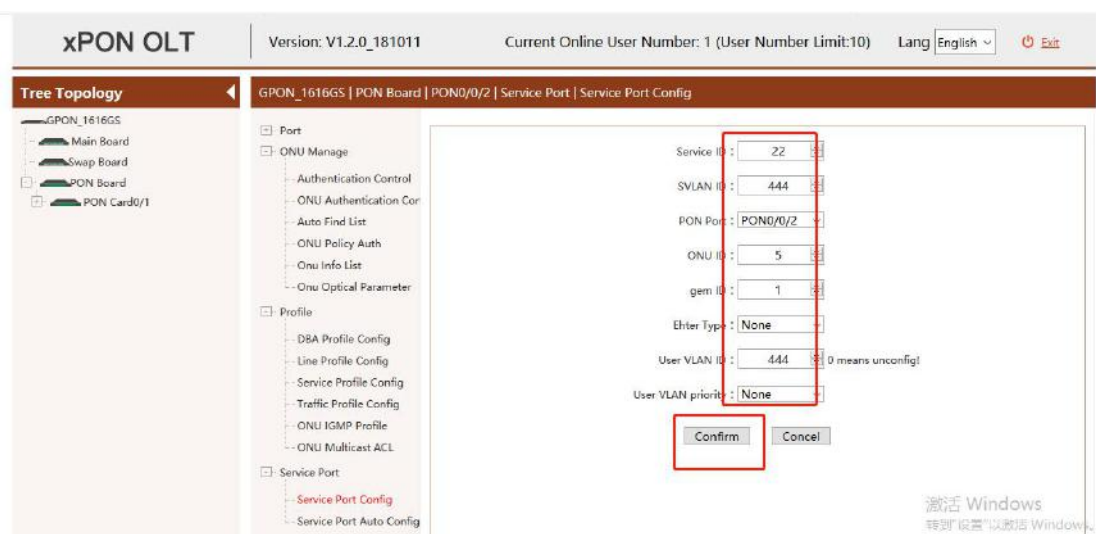
Click the "ONU Unauthorized List" in the "pon service board" to view unauthorized ONUs. Set the number of the ONU and bind the created line template and service template.



Note: If the ONU number is set to the number of the registered ONU, the system will automatically change the number of the ONU in order. The ONU numbered 1-6 has been registered in this port. The system is set to ONU number 7.

Click "Confirm" to complete the certification registration.

### 10.3.7. Create ONT Service-port(SFU)



Configure service port related information

ID	SVLAN ID	PON Port ID	ONU ID	gem ID	User VLAN ID	User VLAN priority	Ether Type	OP
1	1	2	6	1	1	--	0	Edit Perf
2	3	4	3	1	3	--	0	Edit Perf
3	3	4	4	1	3	--	0	Edit Perf
4	1	2	5	1	1	--	0	Edit Perf
5	458	2	2	1	458	--	0	Edit Perf
6	458	2	3	1	458	--	0	Edit Perf
7	42	4	1	1	42	--	0	Edit Perf
8	3	3	1	1	3	--	0	Edit Perf
9	3	4	5	1	3	--	0	Edit Perf
11	458	4	7	1	458	--	0	Edit Perf
12	50	4	6	1	50	--	0	Edit Perf
13	51	4	6	2	51	--	0	Edit Perf
14	100	4	7	1	100	--	0	Edit Perf
18	222	2	6	1	222	--	0	Edit Perf
22	444	2	5	1	444	--	0	Edit Perf
41	41	4	1	1	41	--	0	Edit Perf

Set the VLANtag rule to transparent

Version: V1.2.0\_181011      Current Online User Number: 1 (User Number Limit:10)      Lang English

Tree Topology      GPON\_1616GS | PON Board | PON0/0/2 | Service Port | Service Port Config

Service ID : 22

Up Traffic Profile : None

Down Traffic Profile : None

Admin Status : Enable

VlanTag Action : **transparent**

Inner VID : 0

Inner Priority : 0

Description :

Statistics Enable : Disable

Confirm      Return

### 10.3.8. OLT Multicast Configuration

Version: V1.2.0\_181011      Current Online User Number: 1 (User Number Limit:10)      Lang English

Tree Topology      GPON\_1616GS | Main Board | IGMP | IGMP Global Config

SystemInfo

ManagementInterface

Qos

ACL

IGMP

IGMP Global Config

Multicast Vlan Manage

Multicast Program IP Ma

Multicast Forward Info

VLAN

Perf

Igmp Mode : disabled

Max General Response Time<1-25>(s) : 10

Robustness Variable<1-10> : 2

General Query Interval<2-3000>(s) : 125

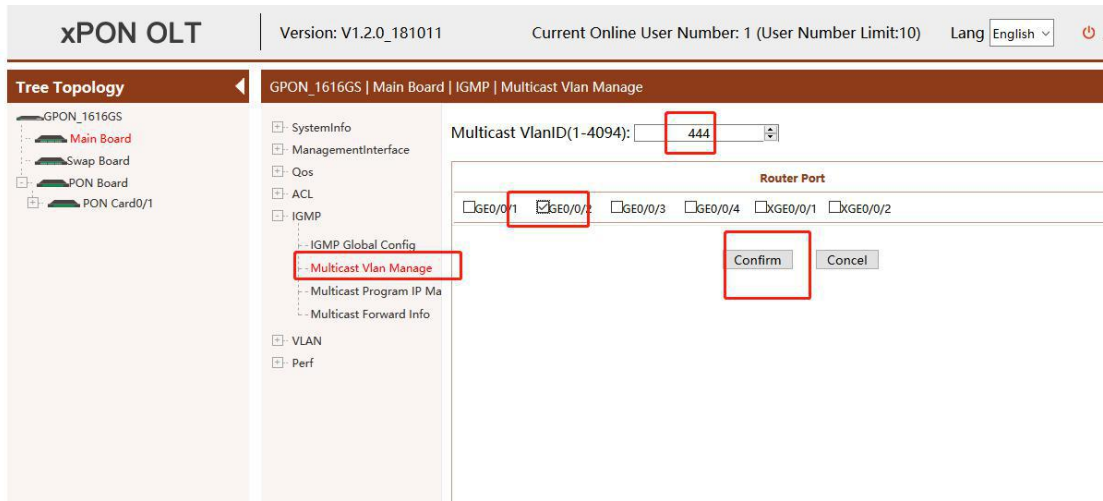
Specific Query Interval<1-100>(0.1s) : 1000

Specific Query Count<1-10> : 2

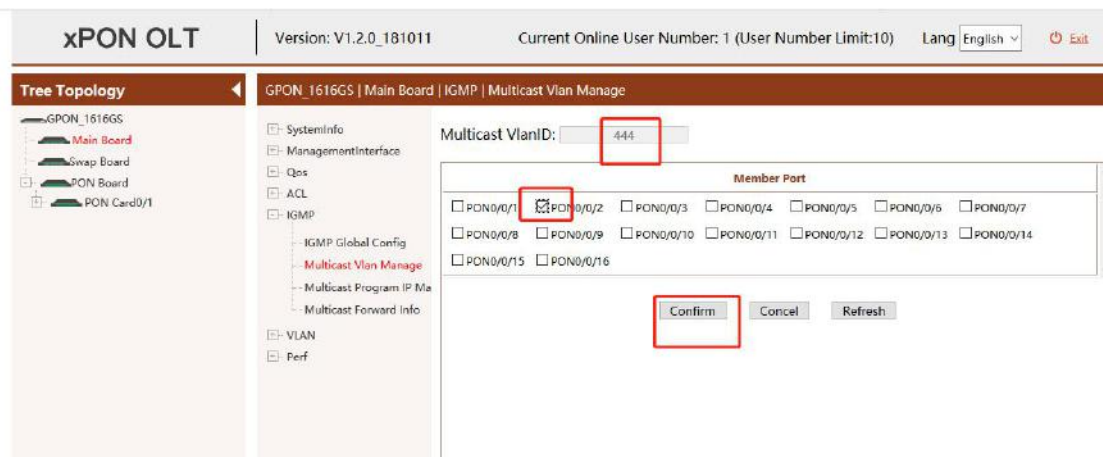
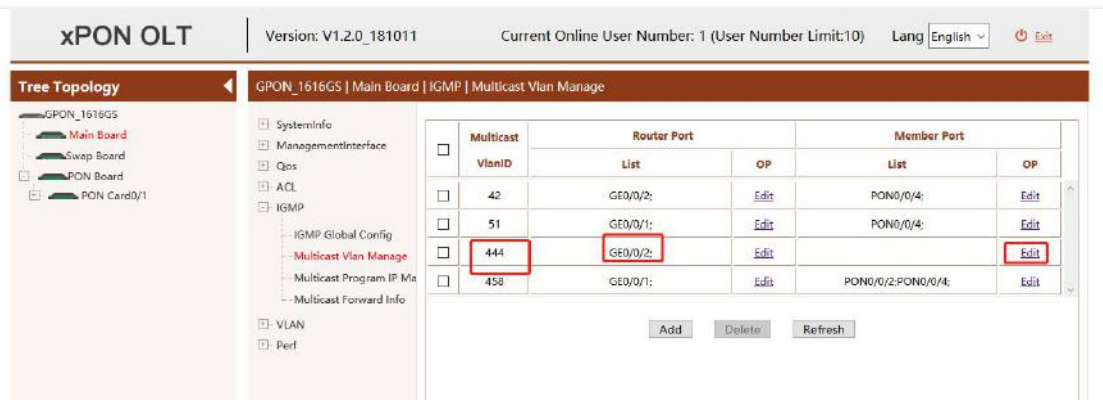
IGMP Version : v2

Apply      Refresh

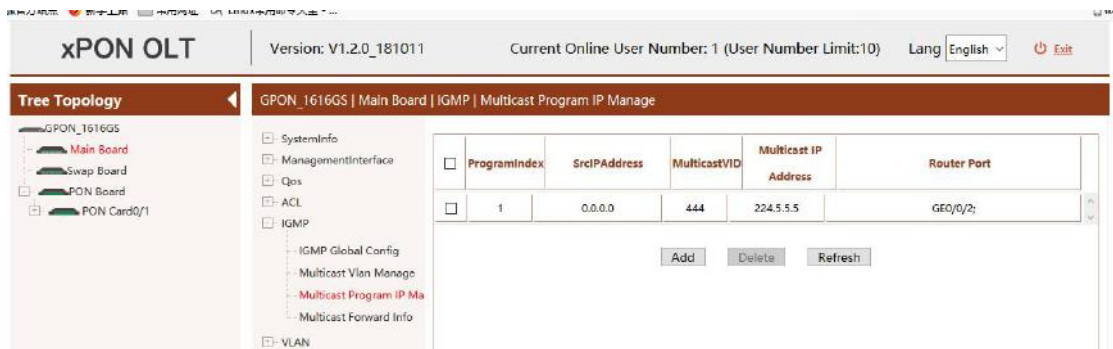
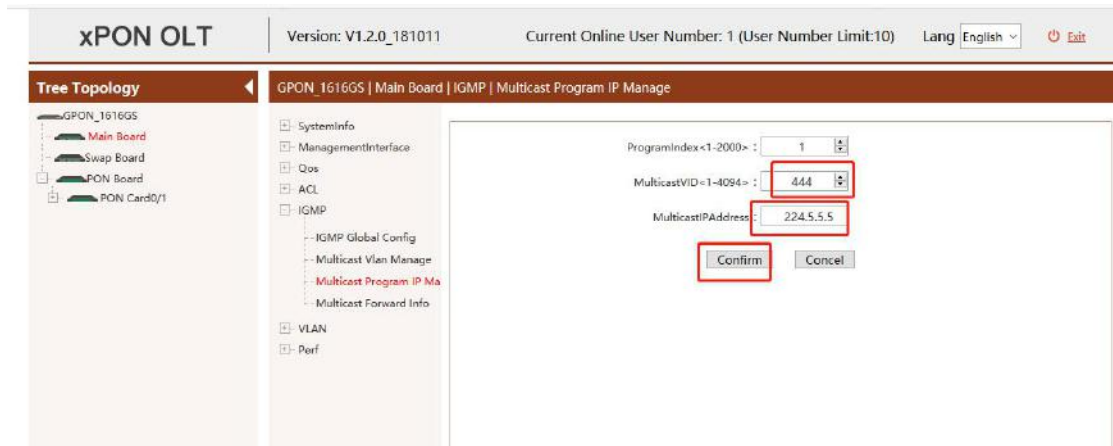
Add a multicast VLAN



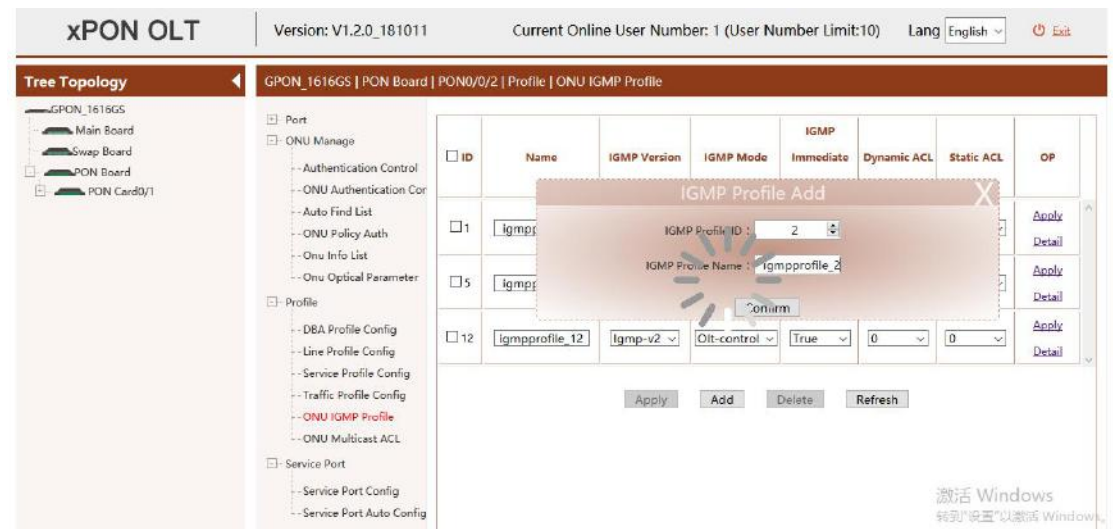
Add multicast VLAN 444, the routing port is ge1, and click "Confirm".  
 Edit multicast VLAN 444 and add member port pon2.



Add a multicast program



Create ONT igmp profile ( HGU )



Configure the multicast mode as igmp snooping igmp-v2 and click "Apply".



xPON OLT | Version: V1.2.0\_181011 | Current Online User Number: 1 (User Number Limit:10) | Lang English | Exit

**Tree Topology**

- GPON\_1616GS
  - Main Board
  - Swap Board
  - PON Board
    - PON Card0/1

**GPON\_1616GS | PON Board | PON0/0/2 | Profile | ONU IGMP Profile**

- Port
- ONU Manage
  - Authentication Control
  - ONU Authentication Cor
  - Auto Find List
  - ONU Policy Auth
  - Onu Info List
  - Onu Optical Parameter
- Profile
  - DBA Profile Config
  - Line Profile Config
  - Service Profile Config
  - Traffic Profile Config
  - ONU IGMP Profile**
  - ONU Multicast ACL
- Service Port
  - Service Port Config

ID	Name	IGMP Version	IGMP Mode	IGMP Immediate Leave	Dynamic ACL	Static ACL	OP
<input type="checkbox"/>	igmpprofile_1	Igmp-v2	Snooping	False	0	0	Apply Detail
<input type="checkbox"/>	igmpprofile_2	Igmp-v2	Snooping	False	0	0	Apply Detail
<input type="checkbox"/>	igmpprofile_5	Igmp-v2	Snooping	False	0	0	Apply Detail
<input type="checkbox"/>	igmpprofile_12	Igmp-v2	Olt-control	True	0	0	Apply Detail

Apply Add Delete Refresh

激活 Windows

### 10.3.9. ONT Multicast Configuration(SFU)

xPON OLT | Version: V1.2.0\_181011 | Current Online User Number: 1 (User Number Limit:10) | Lang English | Exit

**Tree Topology**

- GPON\_1616GS
  - Main Board
  - Swap Board
  - PON Board
    - PON Card0/1
      - PON0/0/1
      - PON0/0/2
        - ONU1[00-00-01]
        - ONU2[48-AE-78]
        - ONU3[18-09-37]
        - ONU4[51-56-DF]
        - ONU6[...]
        - ONU5[51-56-FD]**
      - PON0/0/3
      - PON0/0/4
      - PON0/0/5
      - PON0/0/6
      - PON0/0/7
      - PON0/0/8

**GPON\_1616GS | PON Board | PON0/0/2 | ONU 5 | ONU Port | ETH Port Config**

- ONU Manage
  - ONU Basic Info
  - ONU Capability
  - Onu Optical Parameter
  - ONU Software informati
  - ONU IP Config
  - ONU IGMP Info
- ONU Port
  - ETH Port Config**
  - ETH Port Rate Limit
  - CATV Port Config
  - ONU Port IGMP Config

ID	Eth Type	Native Vlan	Native Vlan Priority	AutoNegotiation Mode	Speed & Duplex	Stp Port Status	Admin Status	OP
1	Unknown	444	0	auto-auto	Unknown	Down	Enable	Apply

Refresh

xPON OLT | Version: V1.2.0\_181011 | Current Online User Number: 1 (User Number Limit:10) | Lang English | Exit

**Tree Topology**

- GPON\_1616GS
  - Main Board
  - Swap Board
  - PON Board
    - PON Card0/1
      - PON0/0/1
      - PON0/0/2
        - ONU1[00-00-01]
        - ONU2[48-AE-78]
        - ONU3[18-09-37]
        - ONU4[51-56-DF]
        - ONU6[...]
        - ONU5[51-56-FD]**
      - PON0/0/3
      - PON0/0/4
      - PON0/0/5
      - PON0/0/6
      - PON0/0/7
      - PON0/0/9
      - PON0/0/10

**GPON\_1616GS | PON Board | PON0/0/2 | ONU 5 | ONU Port | ONU Port IGMP Config**

- ONU Manage
  - ONU Basic Info
  - ONU Capability
  - Onu Optical Parameter
  - ONU Software informati
  - ONU IP Config
  - ONU IGMP Info
- ONU Port
  - ETH Port Config
  - ETH Port Rate Limit
  - CATV Port Config
  - ONU Port IGMP Config**

Port ID	Uni IGMP Profile	OP
1	igmpprofile_2	Apply

Apply Refresh

激活 Windows

Configure the native VLAN

**拓扑树**

- OLT
  - 主控板
  - 交换板
  - PON业务板
    - PON0/0/1
    - PON0/0/2
      - ONU1[48-32-32]
      - ONU2[54-35-93]
      - ONU3[51-56-E7]
      - ONU4[50-C5-1E]
      - ONU5[48-AE-32]
      - ONU6[EE-FF-00]
      - ONU7[51-56-FD]
      - ONU8[51-56-DF]
    - PON0/0/3
    - PON0/0/4
    - PON0/0/5
    - PON0/0/6
    - PON0/0/7
    - PON0/0/8

OLT | PON业务板 | PON0/0/2 | ONU 8 | ONU端口 | ETH端口配置

ONU管理

- ONU基本信息
- ONU能力集
- ONU光参数
- ONU软件信息
- ONU IP配置
- ONU组播信息

ONU端口

- ETH端口配置**
- ETH端口限速
- CATV端口配置
- ONU端口组播配置

ID	以太网口类型	Native Vlan	Native Vlan优先级	自协商模式	速率双工	端口状态	管理状态	操作
1	Ge	444	0	auto-auto	Unknown	Down	Enable	应用

刷新

激活 Windows  
转到“设置”以激活 Windows