

# **EPON OLT Products User Manual**

**FD1204S/FD1208S/FD1216S/FD8000-L116**

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

**Version: V1.3**

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## About This Manual

This manual is applicable to C-Data FD1204S、FD1208S、FD1216S、FD8000-L116 EPON OLT products quickly installation configuration guide, Is the user to quickly and easily manage EPON OLT equipment should read the information before guidelines.

The related documents for EPON OLT device are:

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual-Device Installation User Manual》

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual- CLI Operation User Manual》

《FD1204S/FD1208S/FD1216S/FD8000-L116 User Manual- Configuration Guide》

## 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 Console.....	2
2.3 OLT Login By Telnet.....	3
<b>3 OLT Upgrade Method.....</b>	<b>4</b>
<b>4 OLT WEB Access Management Installation Method.....</b>	<b>6</b>
<b>5 Configure Service In OLT Discrete Mode (Non-Template) ---CLI Command Method.....</b>	<b>7</b>
5.1 FTTH Service Topology.....	8
5.2 Data Plan.....	8
5.3 Config Guide.....	8
5.4 Configure OLT Service.....	9
5.4.1 Configure OLT Global Vlan.....	9
5.4.2 Configure OLT GE Port Service Vlan.....	9
5.4.3 Configure OLT PON Port Service Vlan.....	11
5.4.4 Configure OLT Multicast Service.....	12
5.5 Check ONU Register Status.....	12
5.6 Configure Bridge ONU(SFU) Service.....	12
5.6.1 Configure Bridge Onu(SFU) Internet Service.....	12
5.6.2 Configure Bridge Onu(SFU) Multicast Service.....	13
5.7 Configure Gateway ONU (HGU) Service.....	14
5.7.1 Configure Gateway ONU (HGU) Internet Service--RTK Solution.....	14
5.7.2 Configure Gateway ONU (HGU) Multicast Service--RTK Solution.....	15
5.7.3 Configure Gateway ONU (HGU) Internet Service--ZTE Solution.....	16
5.7.4 Configure Gateway ONU (HGU) Multicast Service--ZTE Solution.....	18
5.7.5 Configure Gateway ONU (HGU) VOIP Service--ZTE Solution.....	20
<b>6 Configure Service In OLT Profile Mode---CLI Command Method.....</b>	<b>23</b>
6.1 Data Plan.....	23
6.2 Configure Process.....	23
6.3 Configure OLT Service.....	24
6.3.1 Configure OLT Globle Vlan.....	24
6.3.2 Configure OLT GE Port Service Vlan.....	24
6.3.3 Configure OLT PON Port Service Vlan.....	25
6.3.4 Configure OLT Multicast Service.....	25
6.4 Create ONU Profile.....	26
6.4.1 Create ONU DBA Profile.....	26
6.4.2 Create ONU Lineprofile.....	26
6.4.3 Create ONU Srvprofile.....	27

6.5 Add ONU Manually.....	27
6.6 Check ONU Registration Status.....	27
6.7 Configure Bridge ONU (SFU) Service.....	28
6.7.1 Configure Bridge ONU(SFU) Internet Service.....	28
6.7.2 Configure Bridge ONU(SFU) IPTV Service.....	29
6.8 Gateway ONU (HGU) Service Configure Introduction.....	29
<b>7 Configure OLT QinQ Service.....</b>	<b>30</b>
7.1 Data Plan.....	30
7.2 Configure Processes.....	30
7.3 Configure OLT.....	31
<b>8 Common Command Description.....</b>	<b>31</b>
<b>9 Configure Service In OLT Discrete Mode (Non-Template) ---EMS Method.....</b>	<b>32</b>
9.1 Data Plan.....	32
9.2 Configuration Guide.....	32
9.3 Configure OLT Service.....	33
9.3.1 Configure OLT Global Vlan.....	33
9.3.2 Configure OLT GE Port Service Vlan.....	34
9.3.3 Configure OLT PON Port Service Vlan.....	36
9.3.4 Configure OLT Multicast Service.....	37
9.4 Configure Bridge ONU(SFU) Service.....	40
9.4.1 Configure Bridge Onu(SFU) Internet Service.....	40
9.4.2 Configure Bridge Onu(SFU) Multicast Service.....	41
<b>10 Configure Service In OLT Discrete Mode (Non-Template) ---WEB Method.....</b>	<b>43</b>
10.1 Data Plan.....	43
10.2 Configuration Guide.....	43
10.3 Configure OLT Service.....	44
10.3.1 Configure OLT Global Vlan.....	44
10.3.2 Configure OLT GE Port Service Vlan.....	45
10.3.3 Configure OLT PON Port Service Vlan.....	46
10.3.4 Configure OLT Multicast Service.....	48
10.4 Configure Bridge ONU(SFU) Service.....	50
10.4.1 Configure Bridge Onu(SFU) Internet Service.....	50
10.4.2 Configure Bridge Onu(SFU) Multicast Service.....	51
<b>Concluding Remarks.....</b>	<b>53</b>

# 1 Instruction

## Document Scope

Reading Object	Product	Products Software Version	
C-DATA Employees, FTTX Operation&Maintenance Engineer, C-DATA Customer's Technical Engineer	Cdata EPON OLT (FD1204S/FD1208S /FD1216S/FD8000-L116)	V1.3.X	
Compiling Department	C-Data Product Management Center Technical Support Department	Document Version	V1.3

## Revision History

Date	Version	Description	Author
2017-12-7	V1.1	OLT version switch to V1.2.X, cli command line have been changed.,update config guide fully	Technical Support Department
2018-3-4	V1.2	1.OLT version switch to V1.3.X, cli command line have been changed,update config guide fully 2.Add FD8000-L116 config instruction	Technical Support Department
2019-02-13	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
EPON	Ethernet Passive Optical Network	Ethernet Passive Optical Network
OLT	Optical Line Terminal	Optical Line Terminal
ONU	Optical Network Unit	Optical Network Unit
OMCI	ONU Management and Control Interface	GPON OLT&ONU 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.
- FD1204S、FD1208S、FD1216S are Pizza-Box OLT, only have one card, so, if we want to enter PON mode, need input interface epon 0/0
- FD8000-L116 is Plug-in card OLT, has four PON card, so the command for entering PON mode is OLT(config)# interface epon 0/<SlotID>, SlotID is Slot Number, range is 1-4, for example, the command for entering slot 1 is OLT(config)# interface epon 0/1

## 2 OLT Login Manage

### 2.1 OLT Login Manage Explanation

FD1204S、FD1208S、FD1216S support CLI, EMS and WEB 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 Console

First, find console port on OLT front surface, which is a RJ45 port. If you want to login OLT by Console port, we need do 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:9600

Parity Check:None

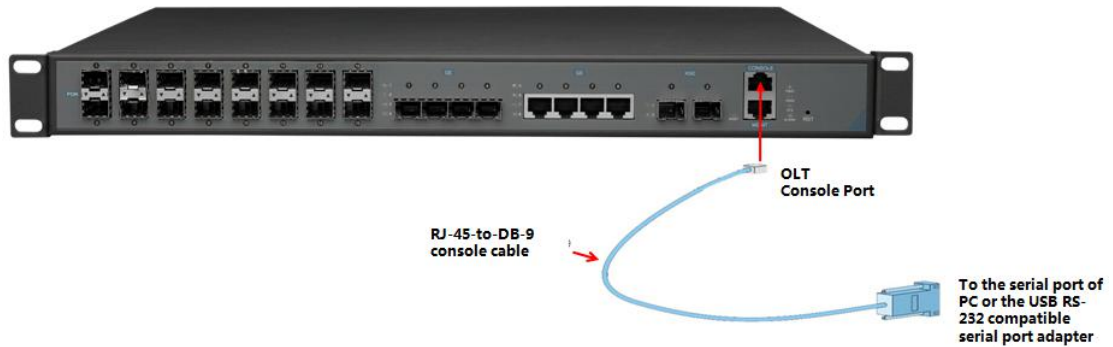
Databit:8

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>	

**2.3 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-ge8 ) and telnet to the OLT.

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

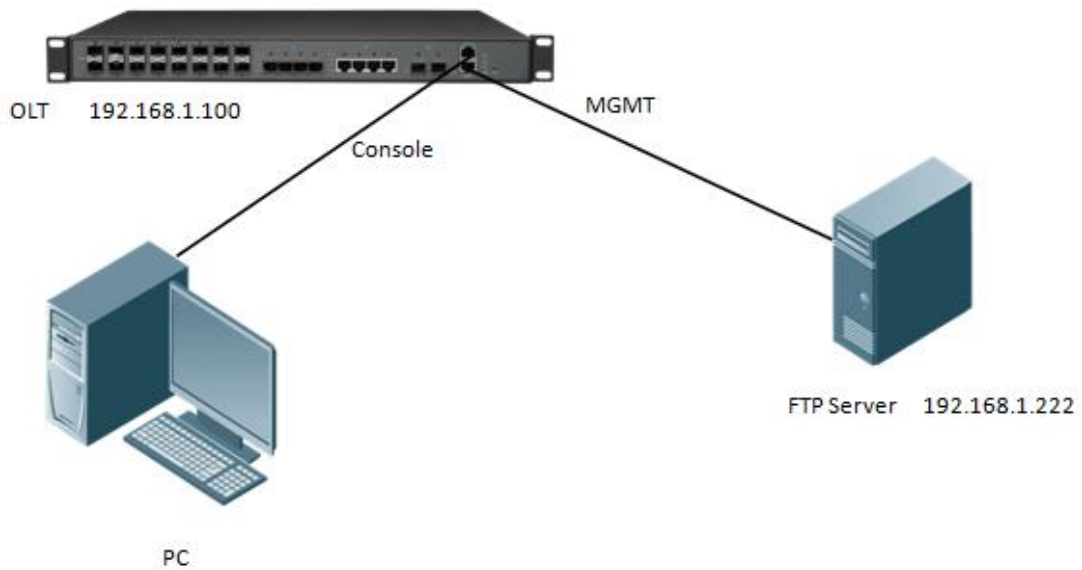
```
OLT> enable
OLT# config
OLT(config)# vlan 100
OLT(config)# interface ge
OLT(interface-ge)# vlan access 5 100 ----configure ge 5 as inband management port
OLT(interface-ge)# exit
OLT(config)# interface vlanif 100
OLT(interface-vlanif-100)# ip address 192.168.2.100 255.255.255.0
OLT(interface-vlanif-100)# exit
```

## 3 OLT Upgrade Method

### 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.



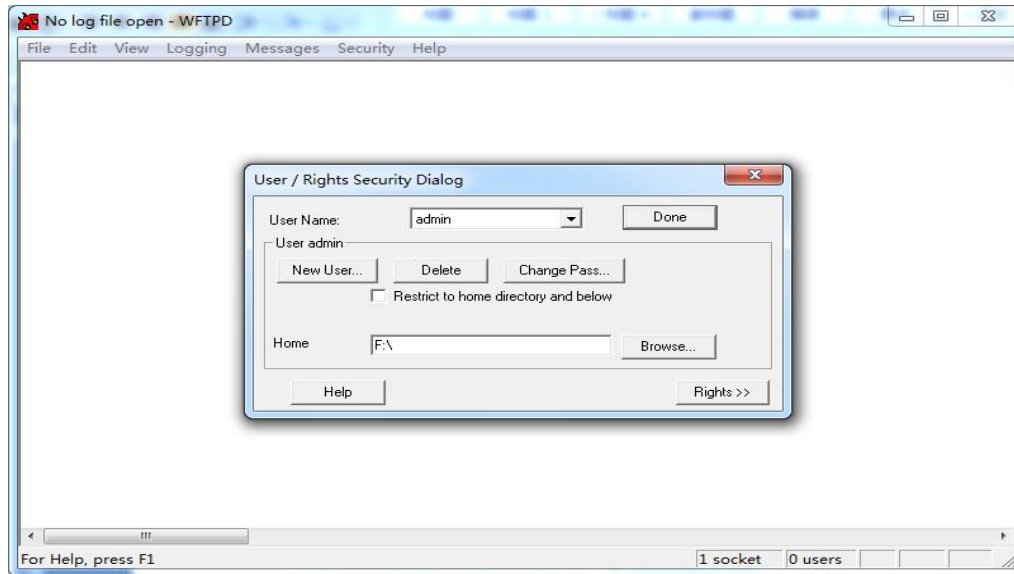


## 2. Test network connectivity

- 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 same segment.
- c. PC can ping OLT management IP; if pc can ping OLT management ip, means OLT can connect to FTP server.
- d. Close PC firewall, prevent firewall intercept FTP software.

## 3. FTP server configuration

- a. Open FTP software, configure FTP username and password, **such as:** admin/admin
- b. Set up a directory of 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

FD1216S、FD1208S、FD1204S、FD8000-L116 OLT need update two file, one is FW file, another is Kernel 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. Enter config view, input command as follows to update OLT kernel file (file name include Kernel )**

```
OLT(config)# load packetfile ftp 192.168.1.222 admin admin FD1216S_Kernel_X000_171114_1833.img
```

Broadcast message from root:

Upgrade is in process.

File [FD1216S\_Kernel\_X000\_171114\_1833.img] download ..... OK

File [FD1216S\_Kernel\_X000\_171114\_1833.img] upgrade ..... OK

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

```
OLT(config)# load packetfile ftp 192.168.1.222 admin admin FD1216S_FW_V1.3.1_X000_171114_1841.img
```

Broadcast message from root:

Upgrade is in process.

File [FD1216S\_FW\_V1.3.1\_X000\_171114\_1841.img] download ..... OK

File [FD1216S\_FW\_V1.3.1\_X000\_171114\_1841.img] upgrade ..... OK

**5. 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 Access Management Installation Method

1.First, update the WEB firmware via the #3 OLT upgrade way,(firmware name include Web word ,such as FD1216S\_Web\_V1.0.1\_X000\_171114\_1841.img)

```
OLT(config)# load packetfile ftp 192.168.1.222 admin admin FD1216S_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

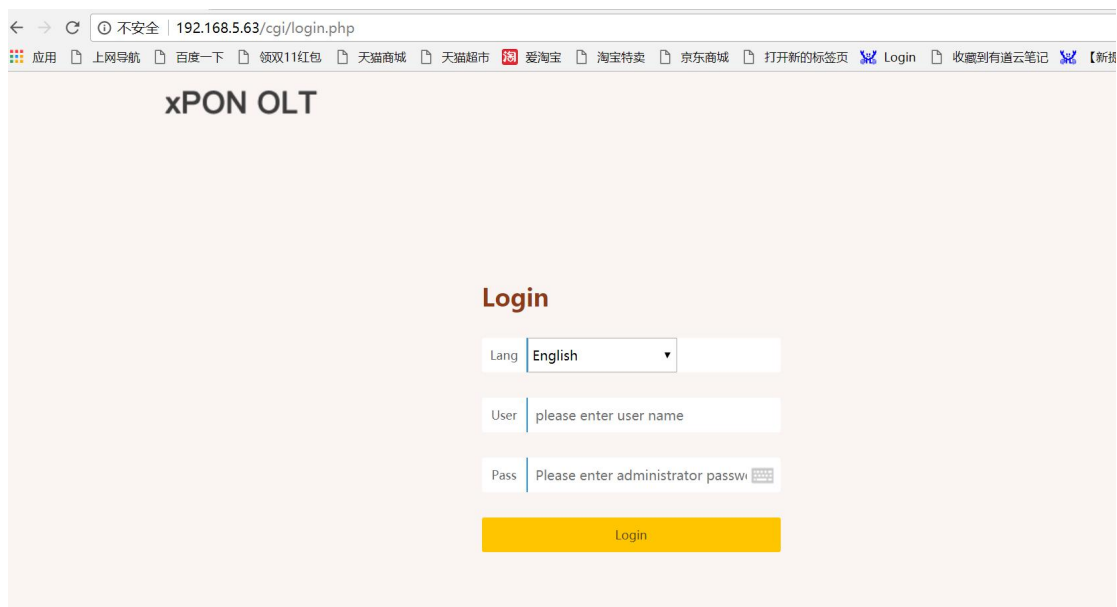
3.Before accessing OLT's web management from a PC, you need to enable OLT's SNMP functionality by the OLT command line.The configuration command is as follows:

```
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 : V1.0B1
Firmware version : V1R03B002 (Tue, 22 Jan 2019 11:02:30 +0800)
Kernel version   : V1.0.0 190122 (Tue, 22 Jan 2019 10:54:57 +0800)
Web version      : V1.1.0_181125 (Sun, 25 Nov 2018 11:26:18 +0800)
```

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

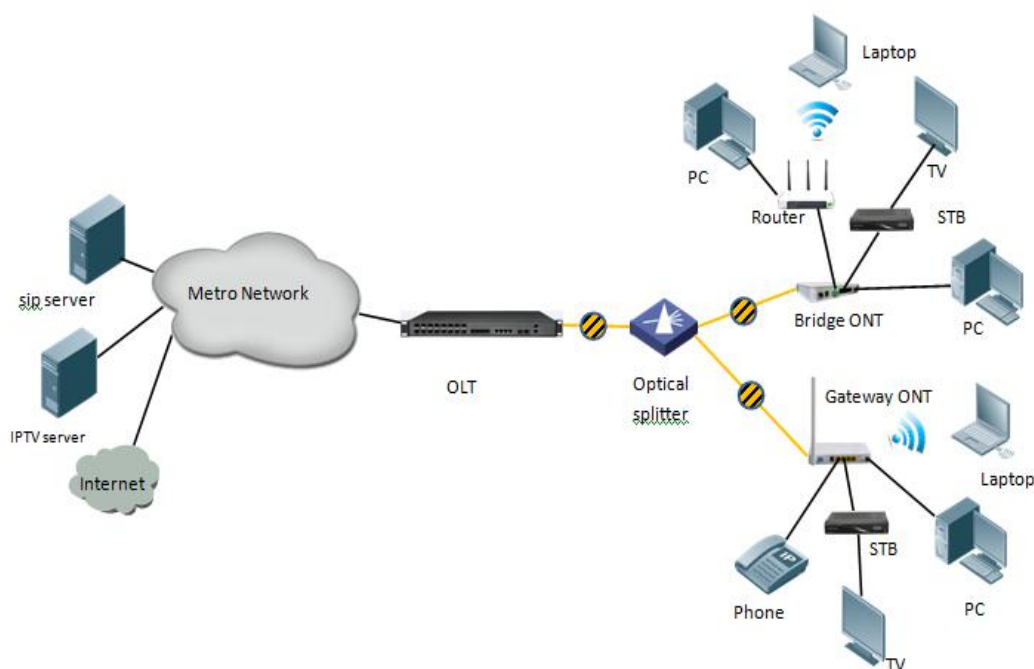


## 5 Configure Service In OLT Discrete Mode (Non-Template)

## ---CLI Command Method

This section mainly introduces FD1204S、FD1208S、FD1216S、FD8000-L116 internet service, voice service and multicast service in discrete mode in FTTH environment. Mainly introduce the bridge ONU (SFU and Home Gateway ONU (HGU)), The following will introduce the service configuration way for OLT and ONU according to two types ONU.

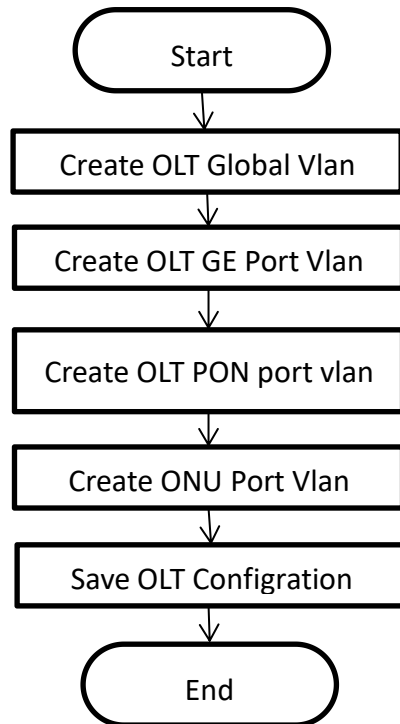
### 5.1 FTTH Service Topology



### 5.2 Data Plan

Main Data Plan List	
Configuration Item	Data
VLAN Data	<b>VLAN 100:</b> Internet Service <b>VLAN 200:</b> IPTV Service <b>VLAN 300:</b> VOIP Service
OLT Port Setting	<b>Ge5:</b> VLAN 100 access mode <b>Ge6:</b> VLAN 200 access mode <b>Ge7:</b> VLAN 300 access mode <b>PON1:</b> VLAN 100, VLAN 200, VLAN 300 trunk mode
ONU Register ID	<b>Bridge ONU ID:</b> 1 <b>Gateway ONU ID:</b> 2
Bridge ONU Port config	<b>LAN 1:</b> VLAN 100 <b>LAN 2:</b> VLAN 200 <b>LAN3:</b> VLAN 300 ---connect to VOIP phone
Gateway ONU Port config	<b>Internet WAN:</b> VLAN 100 <b>IGMP WAN:</b> VLAN 200 <b>VOIC WAN:</b> VLAN 300

### 5.3 Config Guide



## 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 5,6,7 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 5-7 access
OLT(config-interface-ge-0/0)# vlan access 5 100
OLT(config-interface-ge-0/0)# vlan access 6 200
OLT(config-interface-ge-0/0)# vlan access 7 300
OLT(config-interface-ge-0/0)# exit
```

**Configure GE 5、6、7 口 vlan mode is trunk:**

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 5-7 trunk
OLT(config-interface-ge-0/0)# vlan trunk 5 100
OLT(config-interface-ge-0/0)# vlan trunk 6 200
OLT(config-interface-ge-0/0)#vlan trunk 7 300
OLT(config-interface-ge-0/0)# exit
```

**Configure GE 5、6、7 口 vlan mode is hybrid:**

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 5-7 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 5 tagged 100
OLT(config-interface-ge-0/0)# vlan hybrid 6 tagged 200
OLT(config-interface-ge-0/0)# vlan hybrid 7 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.

		<b>untag</b>	Discard
<b>Hybrid mode</b>	<b>In</b>	<b>vlan tag</b>	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 OLT PON Port Service Vlan

We can config PON port vlan mode as access,hybrid and trunk,according to our network plan configure different mode;if message from ONU is untag,we can configure PON port vlan mode is access or hybrid untag mode;if message from ONU is tag,we can configure PON port vlan mode is trunk or hybrid tag mode; configure way as follows.

#### Config PON1 port vlan mode is access:

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 access
OLT(config-interface-epon-0/0)# vlan access 1 100
OLT(config-interface-epon-0/0)# exit
```

#### Config PON1 port vlan mode is trunk: (PON port is trunk mode in this document) :

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 trunk
OLT(config-interface-epon-0/0)# vlan trunk 1 100,200,300
OLT(config-interface-epon-0/0)# exit
```

#### Config PON1 port vlan mode is hybrid:

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 hybrid
OLT(config-interface-epon-0/0)# vlan hybrid 1 tagged 100,200,300
OLT(config-interface-epon-0/0)# exit
```

## 5.4.4 Configure OLT Multicast Service

### Configure IGMP and multicast-vlan 200

```
OLT(config)# igmp mode snooping
OLT(config)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp program add program-index 1 ip 224.3.3.3
OLT(config-multicast-vlan-200)# igmp router-port ge 0/0/6
OLT(config-multicast-vlan-200)# btv
OLT(config-btv)# igmp user add user-index 1 pon 0/0/2 ont 2 vlan 1000 no-auth
OLT(config-btv)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp member user-index 1
OLT(config-multicast-vlan-200)# exit
```



#### NOTE:

**igmp program add program-index** command is used to create multicast program table. Only the program table in the multicast vlan, the user can watch the program. Create multicast program table can use **igmp program add program-index <1-2000> batch** command to batch add program or use **igmp program add program-index <1-2000> ip** command to add program single.

## 5.5 Check ONU Register Status.

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

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

F/S P	ONT ID	MAC	Control flag	Run state	Config state	Match state	Desc
0/0 1 1	E0:67:B3:09:F0:21		active	online	success	match	
0/0 1 2	E0:67:B3:12:05:3E		active	online	success	match	

Total: 2, online 2

## 5.6 Configure Bridge ONU(SFU) Service

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

### 5.6.1 Configure Bridge Onu(SFU) Internet Service

#### Premise condition of ONU 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
- OLT have configured PON port vlan
- ONU 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 onu vlan is configured by OLT,configure way as follows:

**Configure ONU1 eth1 vlan mode is tag(access) (ONU eth port vlan mode is tag in this document):**

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

**Configure ONU1 eth1 vlan mode is transparent:**

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# ont port vlan 1 1 eth 1 transparent
OLT(config-interface-epon-0/0)# exit
```

**Config ONU1 eth1 vlan mode is trunk:**

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

## 5.6.2 Configure Bridge Onu(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
- OLT have configured PON port vlan
- ONU have registered

In OLT discrete mode,we need enter OLT to config ONU multicast service,configure way as follows:

**Configure ONU1 multicast vlan mode is snooping,ONU1 eth2 vlan is 200,and multicast vlan mode is untag:**

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)#ont multicast-mode 1 1 igmp-snooping
OLT(config-interface-epon-0/0)#ont port attribute 1 1 eth 2 multicast-tagstrip untag
OLT(config-interface-epon-0/0)# ont port multicast-vlan 1 2 eth 2 200
OLT(config-interface-epon-0/0)# exit
```

----End

## 5.7 Configure Gateway ONU (HGU) Service

Gateway ONU (HGU) can provide internet, VOIP, IPTV service for FTTH, support PPPOE/DHCP dial-up, NAT, IGMP. Because HGU have route function, ONU 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 ONU can register to OLT. OLT don't support configure ONU route wan, specific configure as follows:

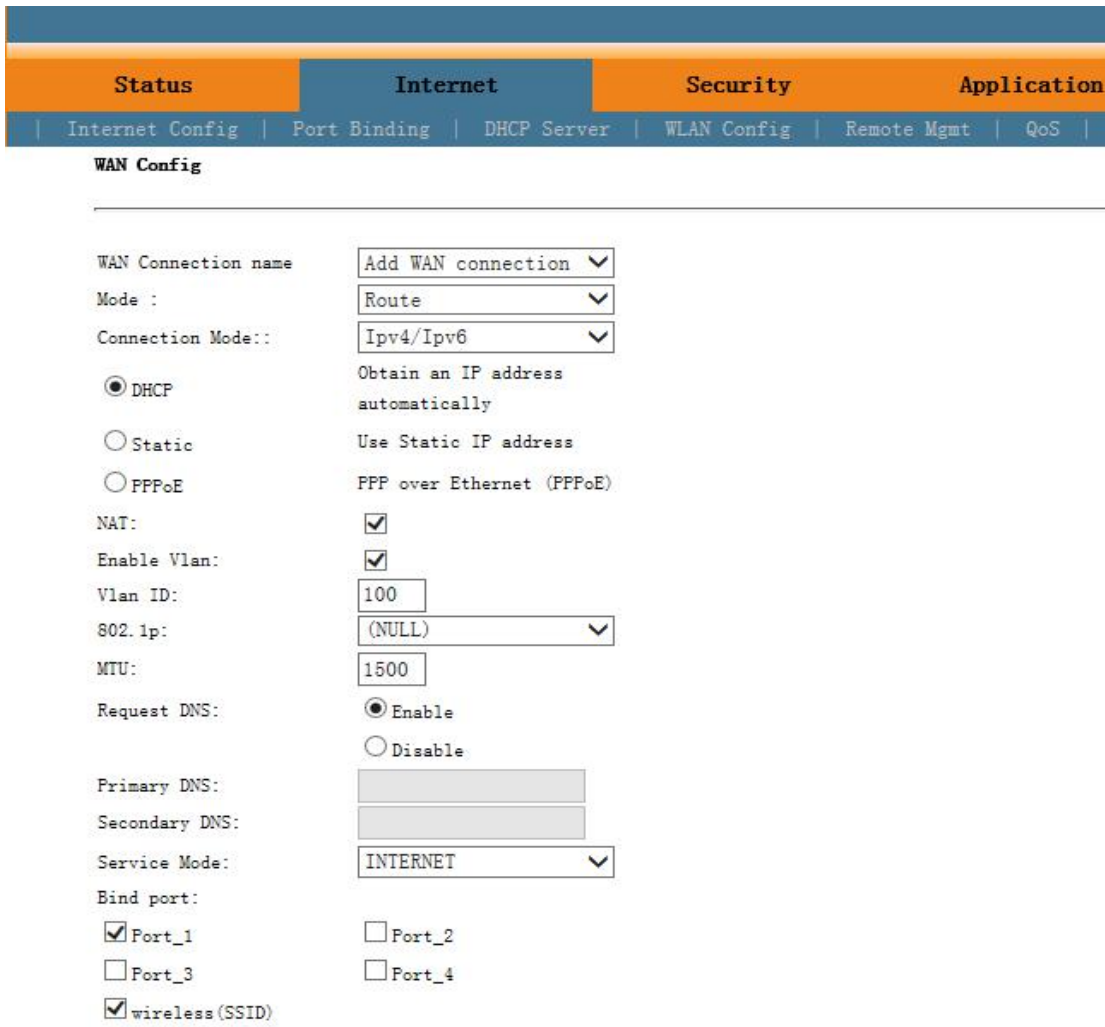
### 5.7.1 Configure Gateway ONU (HGU) Internet Service--RTK Solution

#### premise condition

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

#### 1. Create route wan and bind LAN1 in onu web

Click Internet → Internet Config → WAN Config



**WAN Config**

WAN Connection name	Add WAN connection ▾
Mode :	Route ▾
Connection Mode::	Ipv4/Ipv6 ▾
<input checked="" type="radio"/> DHCP	Obtain an IP address automatically
<input type="radio"/> Static	Use Static IP address
<input type="radio"/> PPPoE	PPP over Ethernet (PPPoE)
NAT:	<input checked="" type="checkbox"/>
Enable Vlan:	<input checked="" type="checkbox"/>
Vlan ID:	100
802.1p:	(NULL) ▾
MTU:	1500
Request DNS:	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Primary DNS:	<input type="text"/>
Secondary DNS:	<input type="text"/>
Service Mode:	INTERNET ▾
Bind port:	
<input checked="" type="checkbox"/> Port_1	<input type="checkbox"/> Port_2
<input type="checkbox"/> Port_3	<input type="checkbox"/> Port_4
<input checked="" type="checkbox"/> 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.

## 2. Check ONU internet wan status

Click Status→Internet Info

Status	Internet	Security	Application	Management	Diagnosis	
Device Info	Internet Info	LAN & WLAN	TR-069 Status			
<b>WAN Info</b>						
	<b>Interface</b>	<b>VLAN ID</b>	<b>Protocol</b>	<b>IGMP</b>	<b>Status</b>	<b>IP address</b>
	1_TR069_R_VID_46	46	IPoE	Enable	down	
	2_INTERNET_R_VID_100	100	IPoE	Enable	up	192.168.5.129
<b>Network Information</b>						
<b>Default Gateway</b>	192.168.5.254					
<b>Subnet Mask</b>	255.255.255.0					
<b>Primary DNS</b>	192.168.5.254					
<b>Secondary DNS</b>						

## 5.7.2 Configure Gateway ONU (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
- OLT have configured PON port multicast vlan
- ONU have registered

### 1. Create bridge wan and bind LAN2 in onu 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
<b>WAN Config</b>							
WAN Connection name	Add WAN connection						
Mode :	Bridge						
Connection Mode::	Ipv4/Ipv6						
Enable Vlan:	<input checked="" type="checkbox"/>						
Vlan ID:	200						
802.ip:	(NULL)						
Service Mode:	Other						
Bind port:	<input type="checkbox"/> Port_1 <input checked="" type="checkbox"/> Port_2 <input type="checkbox"/> Port_3 <input type="checkbox"/> Port_4 <input type="checkbox"/> wireless (SSID)						
<small>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.</small> <small>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!</small>							
Apply		delete					

 **NOTE:**

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

## 2. Config IGMP mode in ONU web

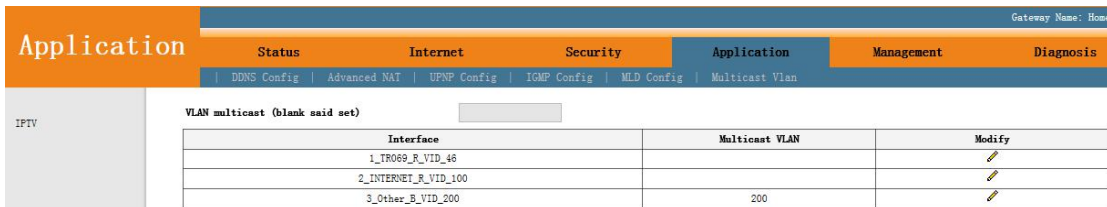
Click Application→ IGMP Config→ IGMP Snooping. Enable IGMP Snooping.



The screenshot shows the 'Application' menu with 'IGMP Snooping' selected. The 'IGMP Snooping' section is active, displaying the text 'This page allows you to config IGMP Snooping function.' Below this, there are radio buttons for 'Disable' and 'Enable', with 'Enable' selected. A 'Save/Apply' button is visible at the bottom.

## 3. Configure multicast vlan on ONU web

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

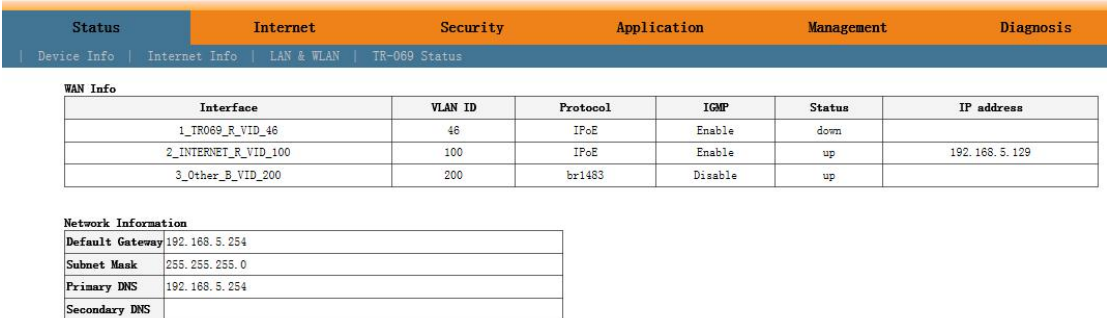


The screenshot shows the 'Application' menu with 'Multicast Vlan' selected. The 'Multicast Vlan' section is active, displaying a table with the following data:

Interface	Multicast VLAN	Modify
1_TR069_R_VID_46		
2_INTERNET_R_VID_100		
3_Other_B_VID_200	200	

## 4. Check ONU multicast wan status

Click Status→Internet Info



The screenshot shows the 'Status' menu with 'Internet Info' selected. The 'WAN Info' section is active, displaying a table with the following data:

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	

Below the table, there is a 'Network Information' section with the following data:

Default Gateway	192.168.5.254
Subnet Mask	255.255.255.0
Primary DNS	192.168.5.254
Secondary DNS	

----end

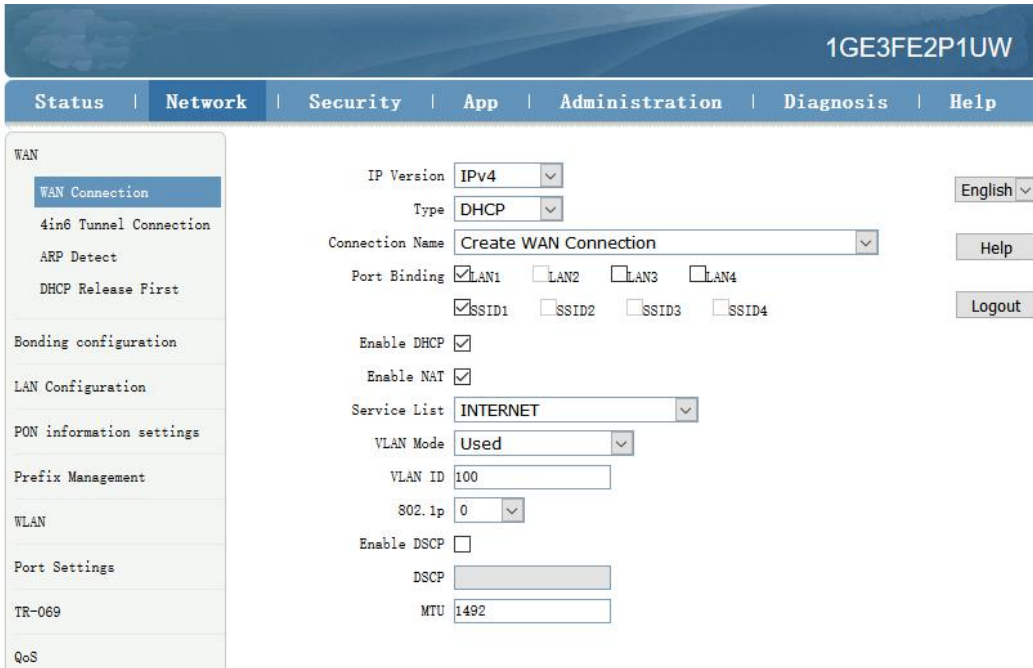
## 5.7.3 Configure Gateway ONU (HGU) Internet Service--ZTE Solution

### premise condition

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

## 1. 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 and SSID1. Service List select to INTERNET. VLAN Mode select to Used. VLAN ID enter 100. finally click Create.




### NOTE:

Type select to **DHCP**. Connection Name select to **Create WAN Connection**. Port Binding check **LAN1** 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.

## 2. Check ONT internet wan status



Type	DHCP
Connection Name	3_INTERNET_R_VID_100
NAT	Enabled
IP	192.168.5.194/255.255.255.0
DNS1	192.168.5.1
DNS2	0.0.0.0
DNS3	0.0.0.0
WAN MAC	E0:67:B3:00:00:BC
Gateway	192.168.5.1
Connection Status	Connected
Remaining Lease Time	85544sec

---end

## 5.7.4 Configure Gateway ONU (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
- OLT have configured PON port multicast vlan
- ONU have registered

#### 1. 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 LAN2. Service List select to OTHER. VLAN Mode select to Used. VLAN ID enter 200. Finally click Create.

The screenshot shows the WAN Connection configuration page. The left sidebar has 'WAN Connection' selected under the 'Network' tab. The main configuration area includes the following fields and options:

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

Additional UI elements include 'English', 'Help', and 'Logout' buttons, and a user ID '1GE3FE2P1UW' in the top right corner.

#### NOTE:

Type select to **Bridge**. Connection Name select to **Create WAN Connection**. Port Binding check **LAN2**. Service List select to **OTHER**. VLAN Mode select to **Used**. VLAN ID enter **200**. Enable DHCP keep default unchecked status.

#### 2. Check ONT Bridge wan status

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



1GE3FE2P1UW

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	3_INTERNET_R_VID_100
NAT	Enabled
IP	192.168.5.194/255.255.255.0
DNS1	192.168.5.1
DNS2	0.0.0.0
DNS3	0.0.0.0
WAN MAC	E0:67:B3:00:00:BC
Gateway	192.168.5.1
Connection Status	Connected
Remaining Lease Time	85544sec

Type	Bridge Connection
Connection Name	2_Other_B_VID_200

English ▾

Help

Logout

### 3. Configure multicast vlan on ONT web

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

1GE3FE2P1UW

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

Advance NAT Configuration

Voip configuration

IGMP

Normal App

Home storage

IPTV

MLD Configuration

DNS Service

Port Filter

Multicast

Connection Name

Multicast VLAN

Modify

Connection Name	Multicast VLAN	DNS2 server
3_INTERNET_R_VID_100		
2_Other_B_VID_200		

English ▾

Help

Logout

Multicast VLAN enter 200. Then click Modify.

1GE3FE2P1UW

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

Advance NAT Configuration

Voip configuration

IGMP

Normal App

Home storage

IPTV

MLD Configuration

DNS Service

Port Filter

Multicast

Connection Name

Multicast VLAN

Connection Name	Multicast VLAN	DNS2 server
3_INTERNET_R_VID_100		
2_Other_B_VID_200	200	

▾

---end

### 5.7.5 Configure Gateway ONU (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
- OLT have configured PON port VOIP vlan
- ONU have registered

#### 1. 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.



1GE3FE2P1UW

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

WAN

WAN Connection

4in6 Tunnel Connection

ARP Detect

DHCP Release First

---

Bonding configuration

---

LAN Configuration

---

PON information settings

---

Prefix Management

IP Version

Type

Connection Name

Service List

VLAN Mode

VLAN ID

802.1p

MTU

English ▾

Help

Logout

## 2. Configure ONT VOIP

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

1GE3FE2P1UW

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

Advance NAT Configuration

Voip configuration

SIP

account information

Call control

Additional Setting

Digital Map

VOIP QoS

Agreement cancellation

Media

Advanced

Call Display

SLIC Configuration

---

IGMP

---

Normal App

---

MLD Configuration

---

DNS Service

---

Port Filter

Enable

Sip Protocol

Local Port  (0 ~ 65535)

Primary Register Server

Primary Proxy Server

Primary Outbound Proxy Server

Primary Proxy Port  (0 ~ 65535)

Secondary Register Server

Secondary Proxy Server

Secondary Outbound Proxy Server

Secondary Proxy Port  (0 ~ 65535)

Register Expires  sec

Unregister On Reboot

Enable Link Test

Link Test Interval  sec

Enable # escape

Register Retry Interval  sec

English ▾

Help

Logout

## 3. Configure ONT VOIP Account

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

1GE3FE2P1UW

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

Advance NAT Configuration

Voip configuration

SIP

**account information**

Call control

Additional Setting

Digital Map

VOIP QoS

Agreement cancellation

Media

Advanced

Call Display

SLIC Configuration

Enable

Sip Account

Password

Authentication user name

Enable	Sip Account	Authentication user name	Modely
Yes	895	895	
Yes	896	896	

English ▾

Help

Logout

**NOTE:**

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

#### 4. Check Sip account register status

Click Status→VoIP Status→Register Status.

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

Device Information

Network Interface

User Interface

VoIP Status

**Register Status**

Sip Account

Remote ManageMent Status

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

English ▾

Help

Logout

Refresh

**NOTE:**

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

----end

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

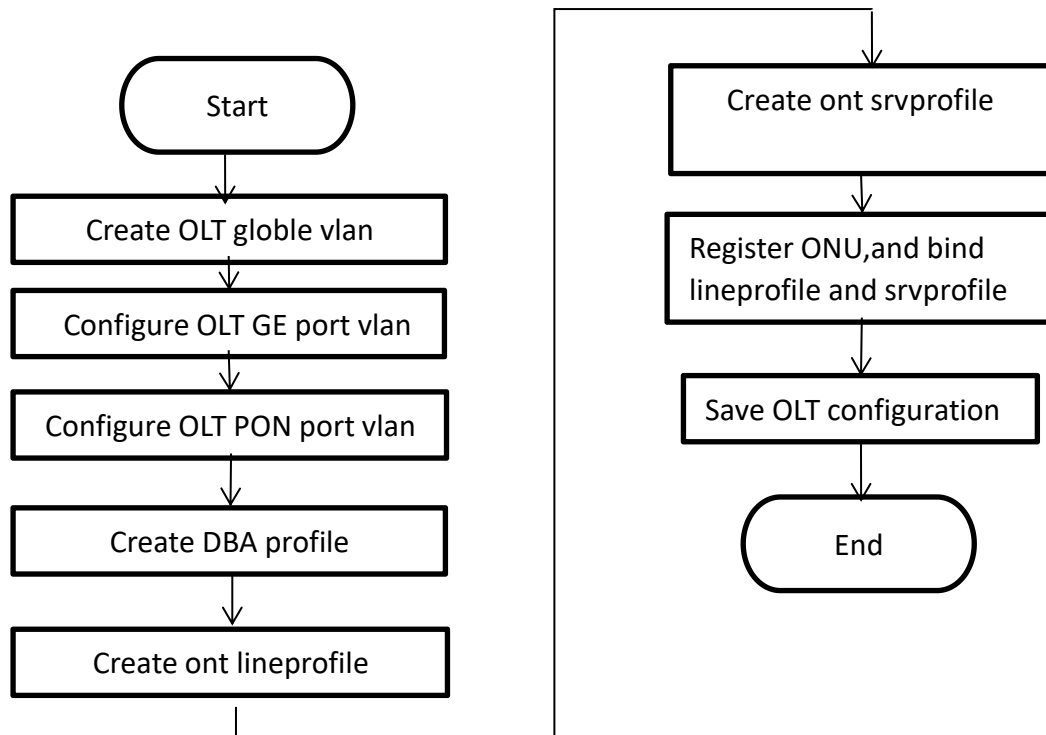
### Method

This section is mainly introduct FD1204S、FD1208S、FD1216S、FD8000-L116 internet service, voice service and multicast service in profile mode in FTTH environment.we can configure different service profile based on different types of ONU, which can be handled flexibly.Mainly introduce the bridge ONU(SFU) and family gateway ONU (HGU),The following will introduce the service configure way for OLT and ONU according to two types ONU.

### 6.1 Data Plan

Main Data Plan List	
Configure Item	Data
OLT Port Config	<b>Ge5:</b> VLAN 100 access mode <b>Ge6:</b> VLAN 200 access mode <b>Ge7:</b> VLAN 300 access mode <b>PON1:</b> VLAN 100, VLAN 200, VLAN 300 trunk mode
DBA Profile (upload bandwidth control)	<b>Profile number:</b> 1 <b>DBA type:</b> Type3 <b>Assure bandwidth:</b> 8Mbit/s <b>Max bandwidth:</b> 20Mbit/s
ONU Lineprofile	<b>Profile ID:</b> 1 <b>LLID:</b> 1
ONU Srvprofile	<b>Profile ID:</b> 1 <b>ONU Port Capability:</b> 4 ETH Port, 1 POTS Port
Bridge ONU 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 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
  
```

### 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 5、6、7 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 5-7 access
OLT(config-interface-ge-0/0)# vlan access 5 100
OLT(config-interface-ge-0/0)# vlan access 6 200
OLT(config-interface-ge-0/0)# vlan access 7 300
OLT(config-interface-ge-0/0)# exit
  
```

#### Configure GE 5、6、7 port vlan mode is trunk:

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 5-7 trunk
OLT(config-interface-ge-0/0)# vlan trunk 5 100
OLT(config-interface-ge-0/0)# vlan trunk 6 200
OLT(config-interface-ge-0/0)#vlan trunk 7 300
OLT(config-interface-ge-0/0)# exit
```

#### Configure GE 5、6、7 port vlan mode is hybrid:

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 5-7 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 5 tagged 100
OLT(config-interface-ge-0/0)# vlan hybrid 6 tagged 200
OLT(config-interface-ge-0/0)# vlan hybrid 7 tagged 300
OLT(config-interface-ge-0/0)# exit
```

### 6.3.3 Configure OLT PON Port Service Vlan

We can config PON port vlan mode as access, hybrid and trunk, according to our network plan configure different mode; if message from ONU is untag, we can config PON port vlan mode is access or hybrid untag mode; if message from ONU is tag, we can config PON port vlan mode is trunk or hybrid tag mode; configure way as follows.

#### Configure PON1 port vlan mode is access:

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 access
OLT(config-interface-epon-0/0)# vlan access 1 100
OLT(config-interface-epon-0/0)# exit
```

#### Configure PON1 port vlan mode is trunk: (PON port is trunk mode in this document) :

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 trunk
OLT(config-interface-epon-0/0)# vlan trunk 1 100,200,300
OLT(config-interface-epon-0/0)# exit
```

#### Configure PON1 port vlan mode is hybrid:

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# vlan mode 1 hybrid
OLT(config-interface-epon-0/0)# vlan hybrid 1 tagged 100,200,300
OLT(config-interface-epon-0/0)# exit
```

### 6.3.4 Configure OLT Multicast Service

#### Configure IGMP and multicast-vlan 200

```
OLT(config)# igmp mode snooping
OLT(config)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp program add program-index 1 ip 224.3.3.3
OLT(config-multicast-vlan-200)# igmp router-port ge 0/0/6
OLT(config-multicast-vlan-200)# btv
OLT(config-btv)# igmp user add user-index 1 pon 0/0/2 ont 2 vlan 1000 no-auth
OLT(config-btv)# multicast-vlan 200
OLT(config-multicast-vlan-200)# igmp member user-index 1
OLT(config-multicast-vlan-200)# exit
```



#### NOTE:

**igmp program add program-index** command is used to create multicast program table. Only the program table in the multicast vlan, the user can watch the program. Create multicast program table can use **igmp program add program-index <1-2000> batch** command to batch add program or use **igmp program add program-index <1-2000> ip** command to add program single.

## 6.4 Create ONU Profile

EPON ONU profile include DBA-profile,ont-lineprofile,ont-srvprofile.

- DBA profile:DBA profile describes the EPON flow parameters,the LLID bind DBA profile to distribute bandwidth dynamically,and increases utilization of uplink bandwidth.
- ont-lineprofile:ont-lineprofile describes the bind relationship of LLID and DBA profile,FEC mode,QOS mode and so on.
- ont-srvprofile:ont-srvprofile provides a service configuration channel for ONU manage by oam.such as ONU port vlan configure,ONU igmp configure.

### 6.4.1 Create ONU 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 ONU schedule, we need to select the appropriate bandwidth type and bandwidth size according to the service type and onu users number. The summation of fixed bandwidth (fix) and guarantee bandwidth (assure) not surpass the total bandwidth of PON port.

### 6.4.2 Create ONU Lineprofile

Create EPON ONU lineprofile,number is 1,bind to DBA profile 1:

```
OLT(config)# ont-lineprofile epon profile-id 1
OLT(config-epon-lineprofile-1)# llid 1 dba-profile-id 1
OLT(config-epon-lineprofile-1)# commit
OLT(config-epon-lineprofile-1)# exit
```

### 6.4.3 Create ONU Srvprofile

Create EPON ONU **srvprofile**,number is 1,configure ONU ETH port number is 4,POTS port number is 2:

```
OLT(config)# ont-srvprofile epon profile-id 1
OLT(config-epon-srvprofile-1)# ont-port eth 4 pots 2
OLT(config-epon-srvprofile-1)# commit
OLT(config-epon-srvprofile-1)# exit
//finish config,use commit command to make parameter effect
```

## 6.5 Add ONU Manually

### 1. Modify PON port ONU authentication method is manually registered with MAC.

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)# ont authmode 1 mac
```

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

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

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

```
OLT(config-interface-epon-0/0)# ont add 1 1 mac-auth E0:67:B3:12:05:3E ont-lineprofile-id 1 ont-srvprofile-id 1
Add pon 1 onu 1 successfully.
OLT(config-interface-epon-0/0)# ont add 1 2 mac-auth E0:67:B3:09:f0:21 ont-lineprofile-id 1 ont-srvprofile-id 1
Add pon 1 onu 2 successfully.
```

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

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

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

## 6.6 Check ONU Registration Status

After adding ONU, use **show ont info** command to query the online status of ONU, 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-epon-0/0)# show ont info 1 all
```

F/S P	ONT MAC ID	Control flag	Run state	Config state	Match state	Desc
0/0 1 1	E0:67:B3:09:F0:21	active	online	success	match	
0/0 1 2	E0:67:B3:12:05:3E	active	online	success	match	

```
Total: 2, online 2
```

#### When the ONU configuration status is failed, ONU cannot up:

- If the "Control flag" is "deactive", we need to use ont activate command to activate ONU in EPON mode.
- If the ONU 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 ONU "config state" is "failed", it means ONU's configuration is not applicable to some configuration of srvprofile, we need to capture packet on the ONU and analyze onu not accept which configuration.
- If the ONU "Match state" is "Mismatch", it shows that onu srvprofile capability(port number) don't Match ONU practical capability, we can use **show ont capability** and **show ont config - capability** to contrast ONU practical ability and onu srvprofile capability.

## 6.7 Configure Bridge ONU (SFU) Service

### 6.7.1 Configure Bridge ONU(SFU) Internet Service

#### premise condition of ONU 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
- OLT have configured PON port vlan
- ONU 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(note : If we configure onu port vlan in srvprofile and discrete mode,the discrete configuration priority is higher than the profile configuration,when ONU port discrete configuration vlan is transparent,will apply profile configuration),#4.5 show the discrete configuration, profile config is introduced as follows we can according to our network plan configure different vlan mode,configure way as follows:

#### Configure ONU port vlan mode is tag(access) (ONU port vlan mode is tag in this document):

```
OLT(config)# ont-srvprofile epon profile-id 1
```

```
OLT(config-epon-srvprofile-1)# port native-vlan eth 1 100
```



```
OLT(config-epon-srvprofile-1)# commit
```

```
OLT(config-epon-srvprofile-1)# exit
```

#### Configure ONU port vlan mode is transparent:

```
OLT(config)# ont-srvprofile epon profile-id 1
```

```
OLT(config-epon-srvprofile-1)# port vlan eth 1 transparent
```

```
OLT(config-epon-srvprofile-1)# commit
```

```
OLT(config-epon-srvprofile-1)# exit
```

#### Configure ONU port vlan mode is trunk:

```
OLT(config)# ont-srvprofile epon profile-id 1
```

```
OLT(config-epon-srvprofile-1)# port vlan eth 1 100
```

```
OLT(config-epon-srvprofile-1)# commit
```

```
OLT(config-epon-srvprofile-1)# exit
```

## 6.7.2 Configure Bridge ONU(SFU) IPTV Service

### Premise condition of ONU 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
- OLT have configured PON port IPTV vlan
- ONU have registered and bind to lineprofile and srvprofile

we can configure SFU IPTV service in srvprofile mode or discrete mode(note: if we configure onu iptv service in srvprofile and discrete mode,the discrete configuration priority is higher than the profile configuration,when ONU 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:

### Configure ONU port multicast mode ,multicast vlan,process mode of multicast vlan

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

```
OLT(config-interface-epon-0/0)#ont multicast-mode 1 1 igmp-snooping
```

```
OLT(config-interface-epon-0/0)# exit
```

```
OLT(config)# ont-srvprofile epon profile-id 11
```

```
OLT(config-epon-srvprofile-11)# port eth 1 multicast-tagstrip untag
```

```
OLT(config-epon-srvprofile-11)# port multicast-vlan eth 1 200
```

```
OLT(config-epon-srvprofile-11)# commit
```

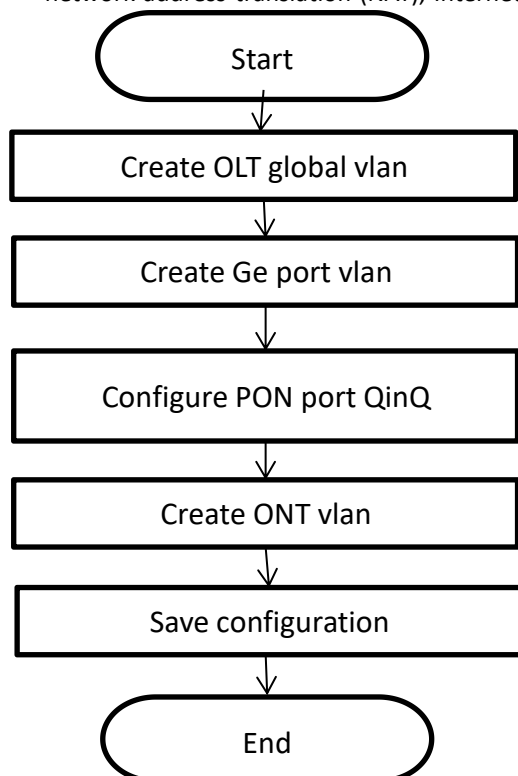
```
OLT(config-epon-srvprofile-11)# exit
```

----end

## 6.8 Gateway ONU (HGU) Service Configure Introduction

Gateway ONU(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 ONU



have route function, so we need configure onu wan and lan in onu web or TR069 server,not need configure ONU port in OLT, OLT don't support configure ONU route wan, specific configure way can refer to the previous discrete configuration method and the ONU user manual.

## 7 Configure OLT QinQ Service

### 7.1 Data Plan

Main Data Plan List	
Configure Iteam	Data
VLAN	<b>SVLAN 400</b> : QinQ service outer vlan <b>CVLAN 100-200</b> :QinQ service inner vlan
OLT Port Configure	<b>Ge8</b> : VLAN 400 Hybrid mode <b>PON2</b> : VLAN 400 Hybrid mode
Bridge ONT Port Configure	<b>LAN 3</b> : VLAN 100
Gateway ONT Port Configure	<b>LAN 3</b> : VLAN 100

### 7.2 Configure Processes

## 7.3 Configure OLT

### 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 8 hybrid
OLT(config-interface-ge-0/0)# vlan hybrid 8 tagged 400
OLT(config-interface-ge-0/0)# exit
```

### Configure PON port QinQ outer vlan and PON port QinQ:

```
OLT(config)# interface epon 0/0
OLT(config-interface-epon-0/0)#vlan mode 2 hybrid
OLT(config-interface-epon-0/0)#vlan hybrid 2 tagged 400
OLT(config-interface-epon-0/0)# vlan qinq 2 cvlan-range 1000 2000 400
OLT(config-interface-epon-0/0)# exit
```

## 8 Common Command Description

Command	Description
interface epon 0/0	Enter OLT PON board (Apply to box OLT FD1204S、FD1208S、FD1216S all default is 0/0)
OLT(config)# interface epon 0/ <SlotID> Example: OLT(config)# interface epon 0/1 ---Enter slot 1	Enter OLT PON board (apply to Plug-in card OLT FD8000-L116)
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 ONU register status in PON port
show ont info 0/0 <Port ID> <ONT ID>	View ONU details information
show ont autofind <Port ID>	View autofind but unregistered ONU in PON port(The premise is we need to enter the PON board mode)
show ont optical-info <Port ID> <ONT ID>	View ONU optical information
show ont port state <Port ID> <ONT ID> eth <ONT Port ID>	View ONU port status(The premise is we need to enter the PON board mode)

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

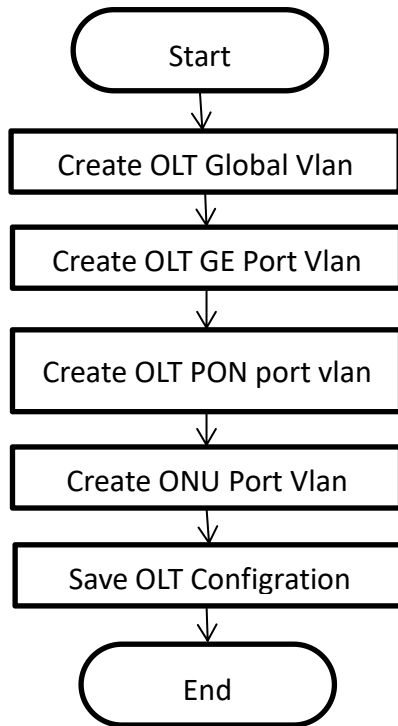
### ---EMS Method

This section mainly introduct New 4Port/8Port/16Port/Plug-in 16Port OLT internet service and multicast service in discrete mode in FTTH environment.The following will introduce the service configuration way for OLT and ONU according to the bridge ONU(SFU).

### 9.1 Data Plan

Main Data Plan List	
Configuration Item	Data
VLAN Data	<b>VLAN 110:</b> Internet Service <b>VLAN 120:</b> IPTV Service
OLT Port Setting	<b>Ge5:</b> VLAN 110 access mode <b>Ge6:</b> VLAN 120 access mode <b>PON5:</b> VLAN 110, VLAN 120 trunk mode
ONU Register ID	<b>Bridge ONU ID: 9</b>
Bridge ONU Port config	<b>LAN 1:</b> VLAN 110 <b>LAN 2:</b> VLAN 120

### 9.2 Configuration Guide



## 9.3 Configure OLT Service

### 9.3.1 Configure OLT Global Vlan

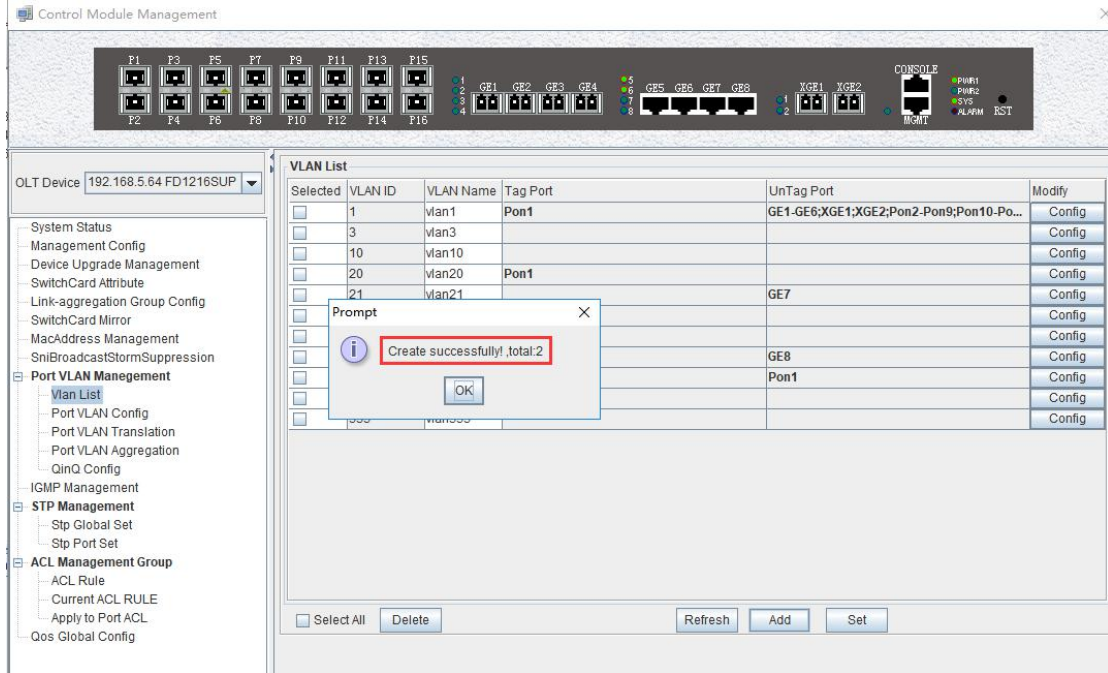
Click **“Switch Control Card --> Vlan list”** to query the created Vlan.

If the created vlan cannot meet the requirements, vlan can be created by clicking the **Vlan List**. According to the data planning, we create vlan110 and vlan120 firstly:

The screenshot shows the 'Vlan List' configuration window with the following table:

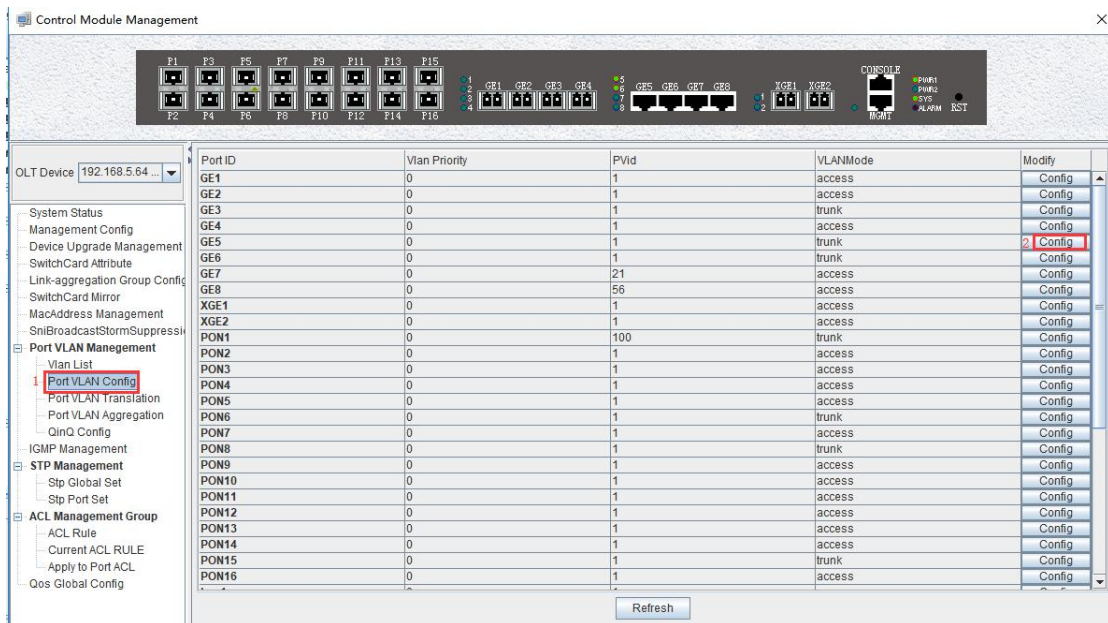
Selected	VLAN ID	VLAN Name	Tag Port	UnTag Port	Modify
<input type="checkbox"/>	1	vlan1	Pon1	GE1-GE6;XGE1;XGE2;Pon2-Pon9;Pon10-Po...	Config
<input type="checkbox"/>	3	vlan3			Config
<input type="checkbox"/>	10	vlan10			Config
<input type="checkbox"/>	20	vlan20		GE7	Config
<input type="checkbox"/>	21	vlan21			Config
<input type="checkbox"/>	29	vlan29		GE8	Config
<input type="checkbox"/>	55	vlan55			Config
<input type="checkbox"/>	56	vlan56			Config
<input type="checkbox"/>	100	vlan100			Config
<input type="checkbox"/>	331	vlan331		Pon1	Config
<input type="checkbox"/>	555	vlan555			Config

An 'Add Vlan' dialog box is open, showing 'VLAN ID' with the values '110,120' and '4' entered. The dialog also includes a 'Like as 1,2 or 3-6...' prompt and 'OK' and 'Cancel' buttons.

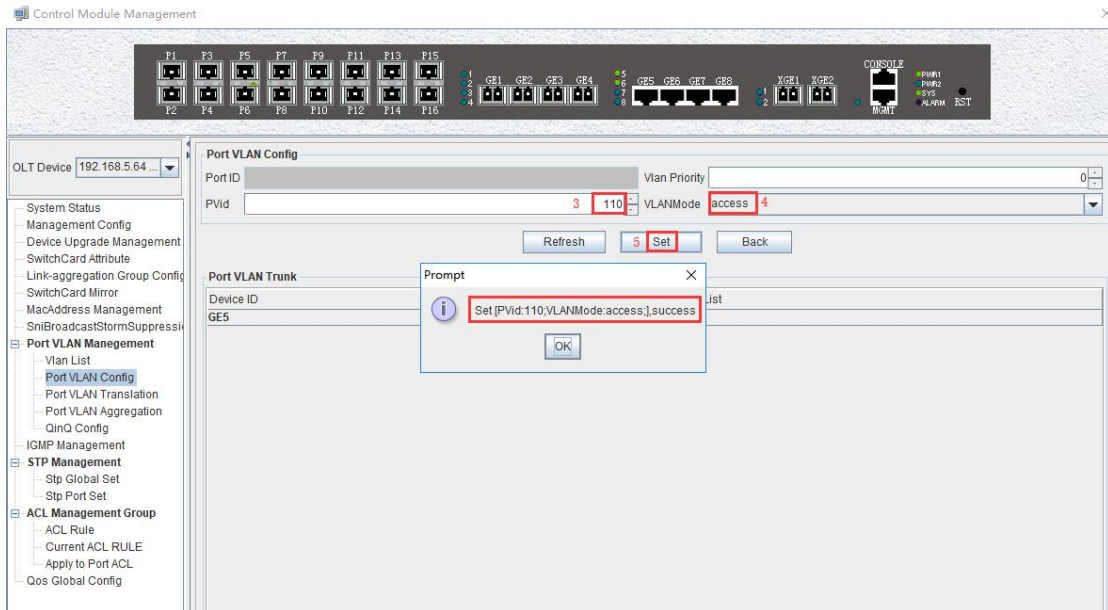


### 9.3.2 Configure OLT GE Port Service Vlan

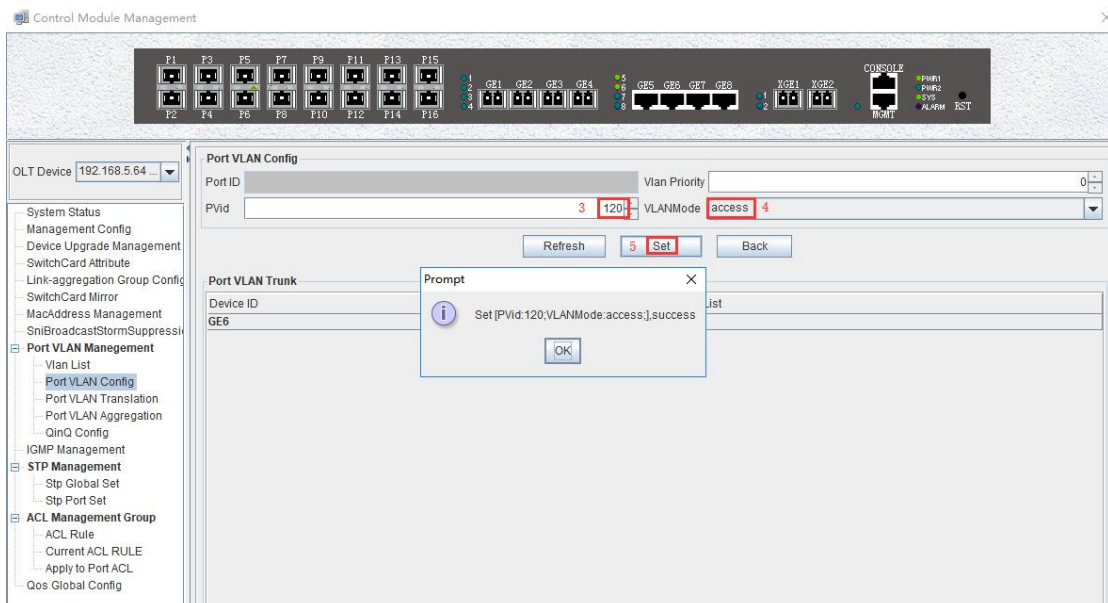
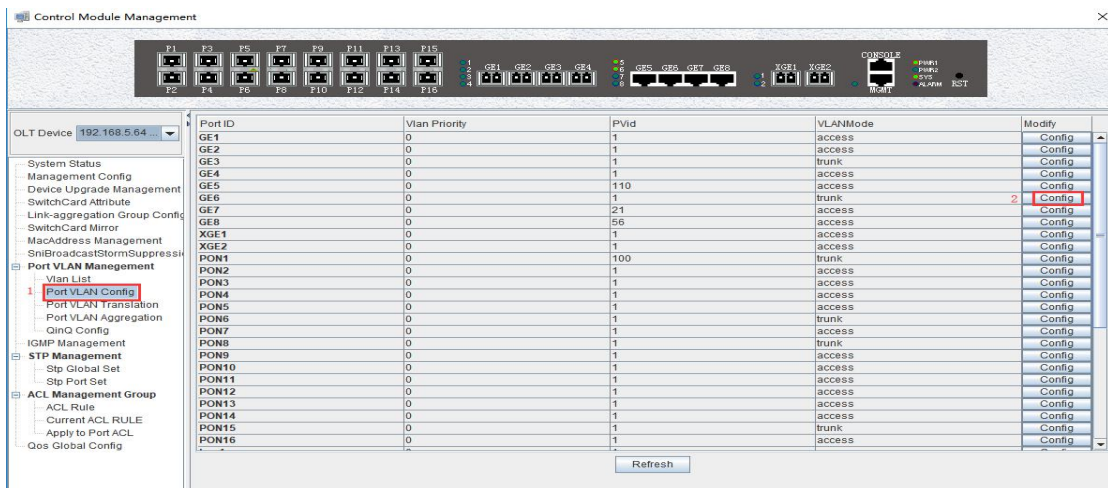
1. Click "Switch Control Card --> Port VLAN Config", and then configure GE 5 port vlan mode is access and add the vlan 110 to the ge5 port :





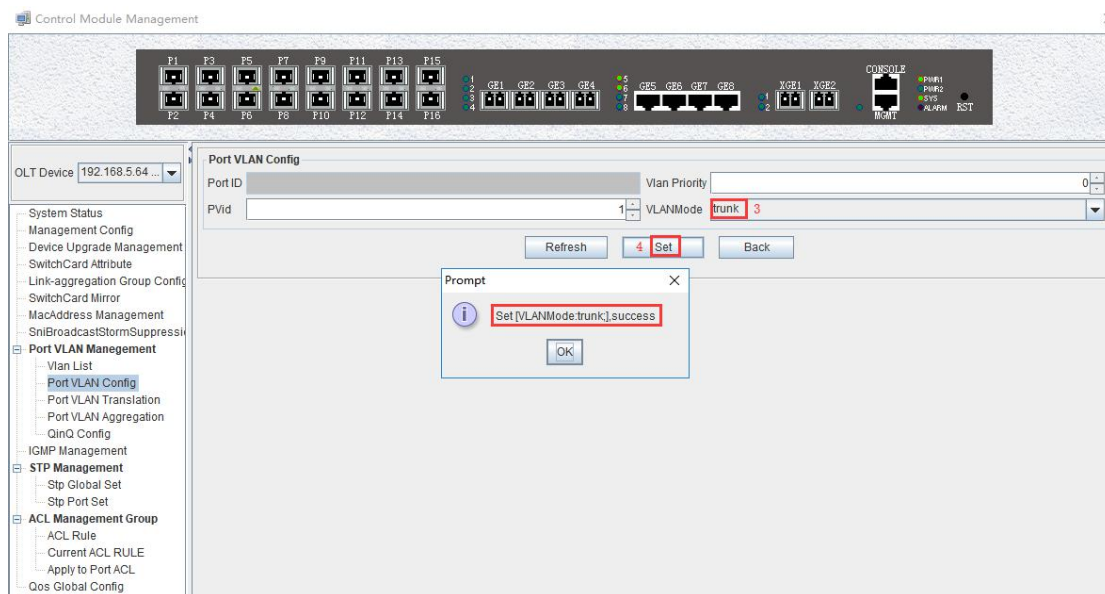
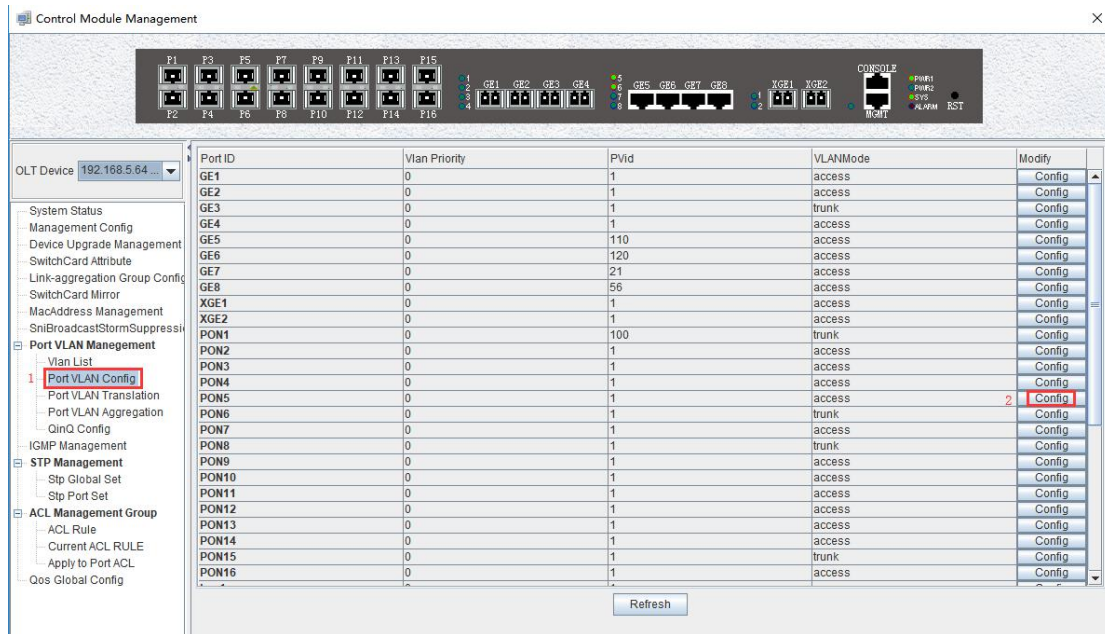


2. Click “Switch Control Card --> Port VLAN Config”, and then configure GE 6 port vlan mode is access and add the vlan 120 to the ge6 port :



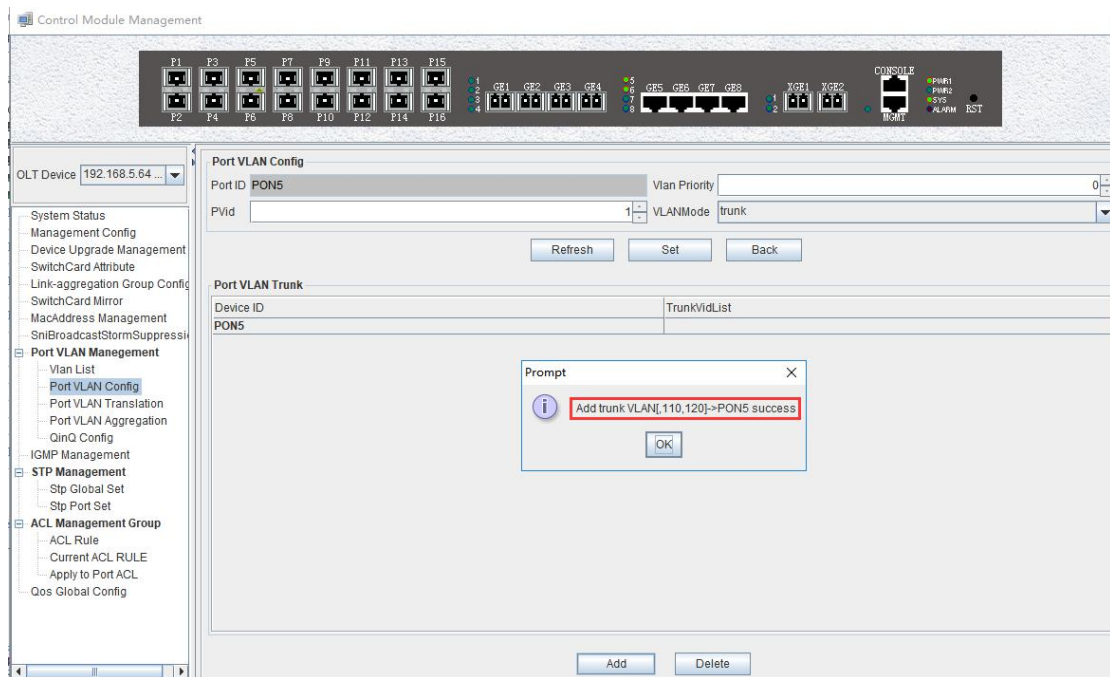
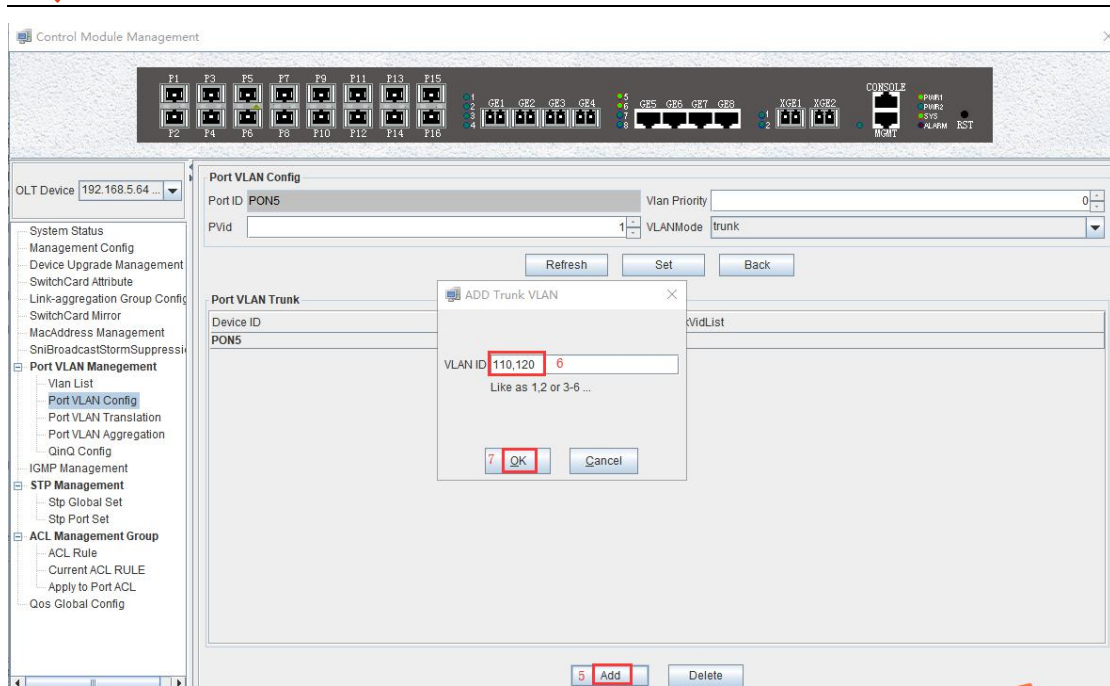
### 9.3.3 Configure OLT PON Port Service Vlan

1. Click “Switch Control Card --> Port VLAN Config --> Config”, and then config PON5 port vlan mode is trunk:



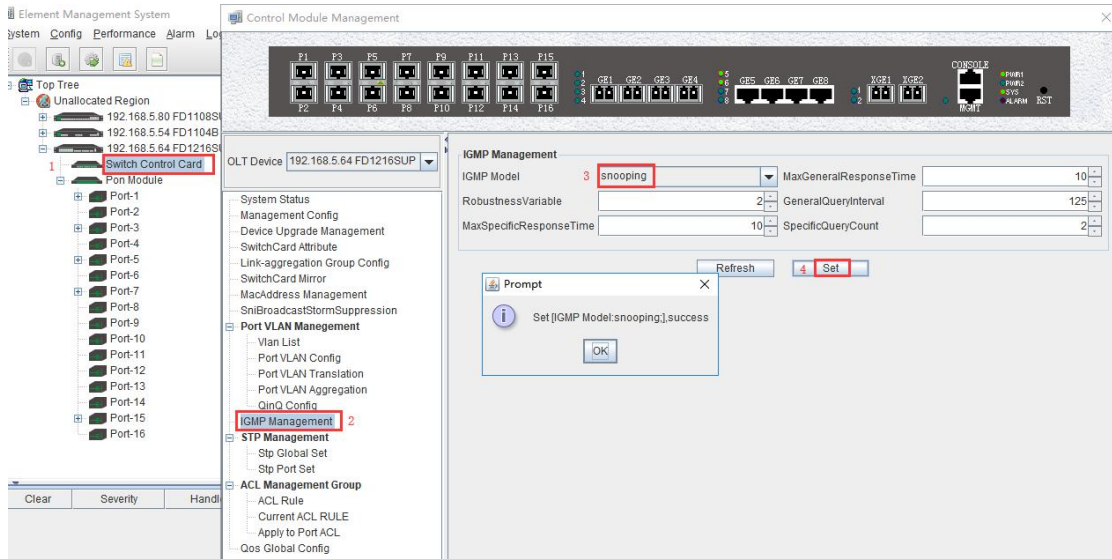
2. Click “Switch Control Card --> Port VLAN Config --> Config -->Add”, and then add the vlan 110 and vlan 120 to pon 5 port:



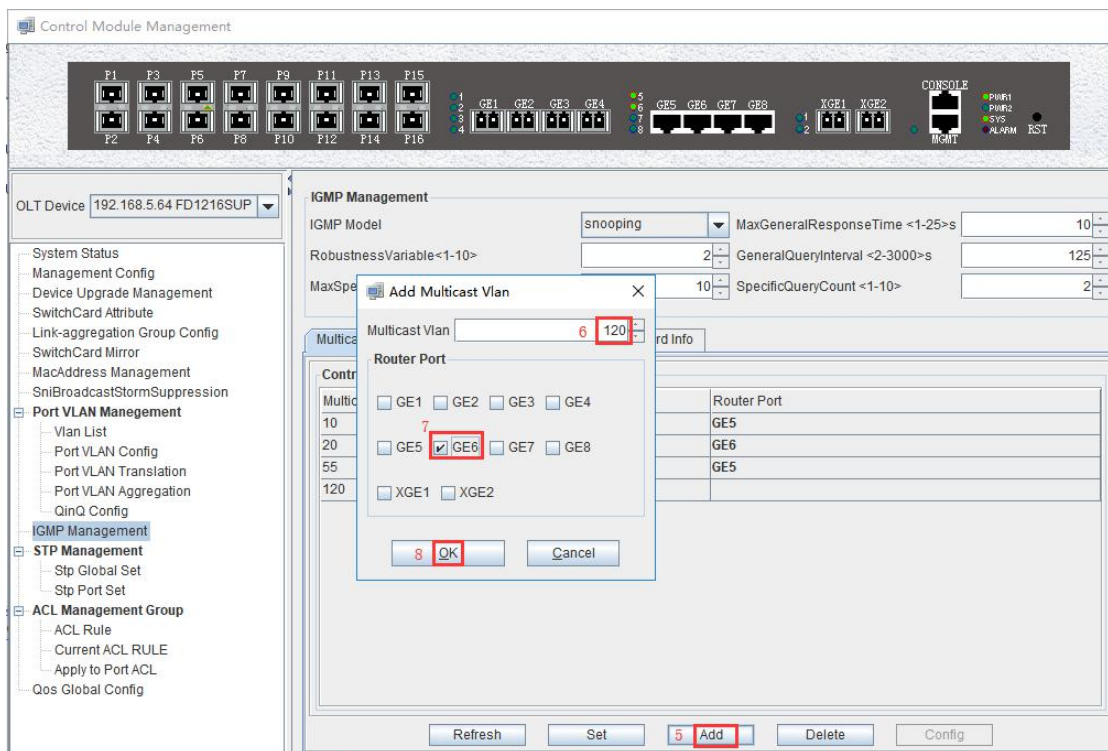


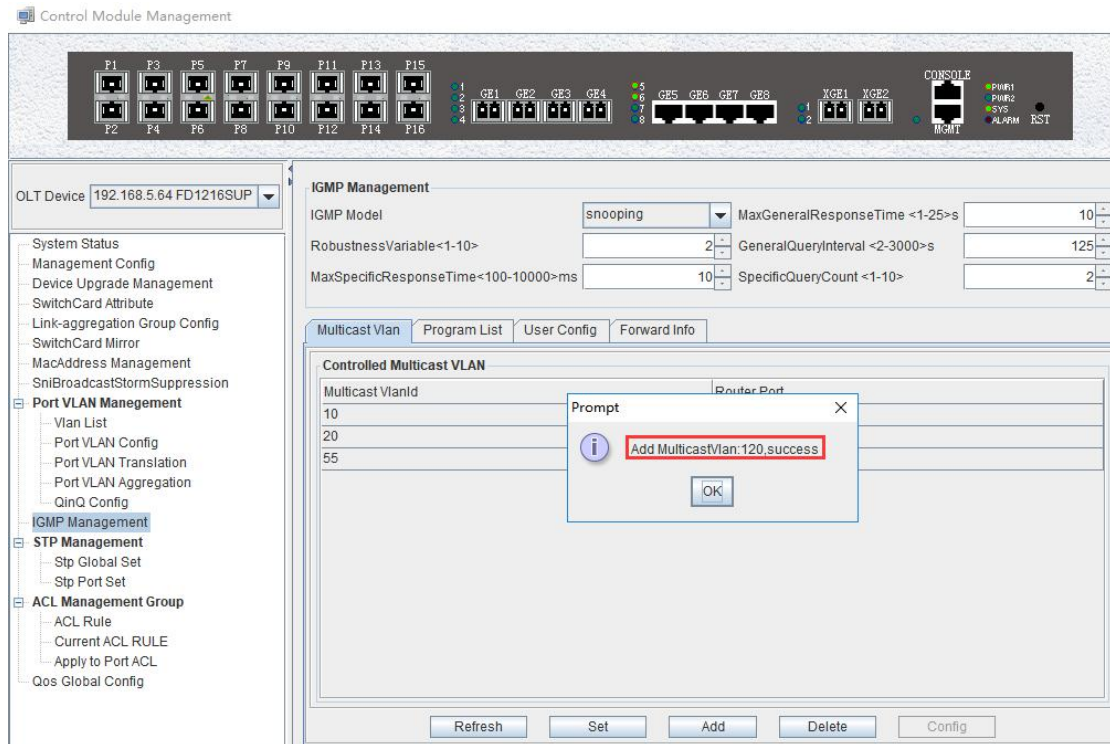
### 9.3.4 Configure OLT Multicast Service

1. Click "Switch Control Card --> IGMP Management", and then configure IGMP mode is snooping:

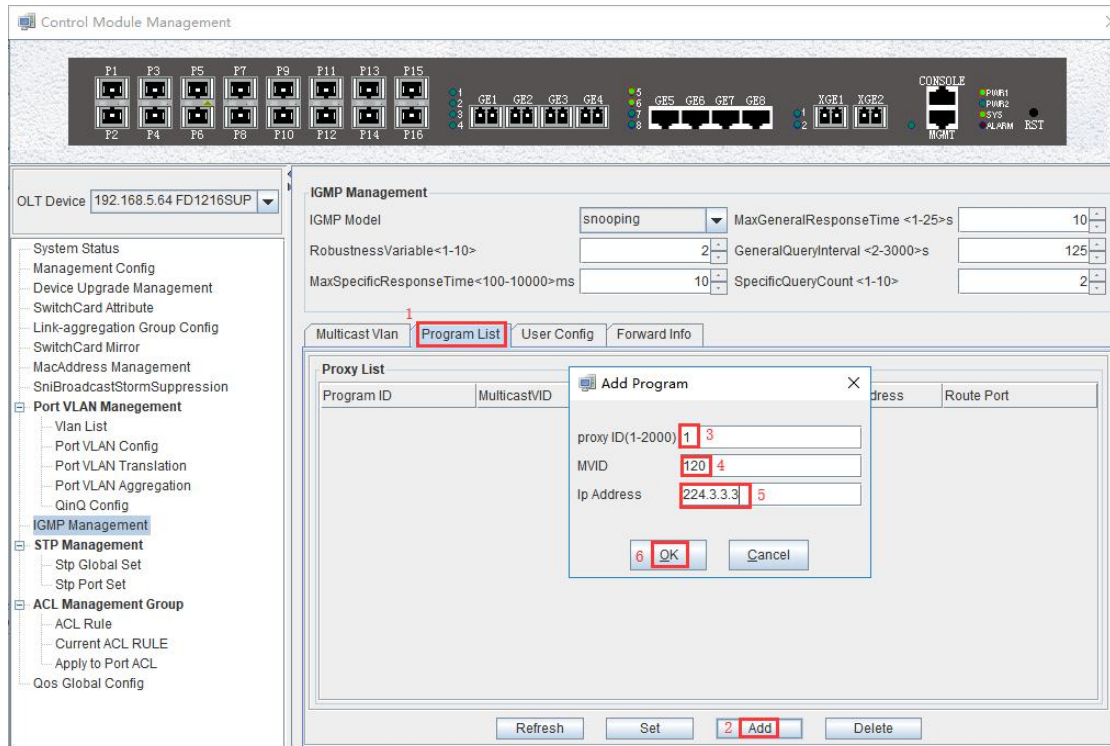


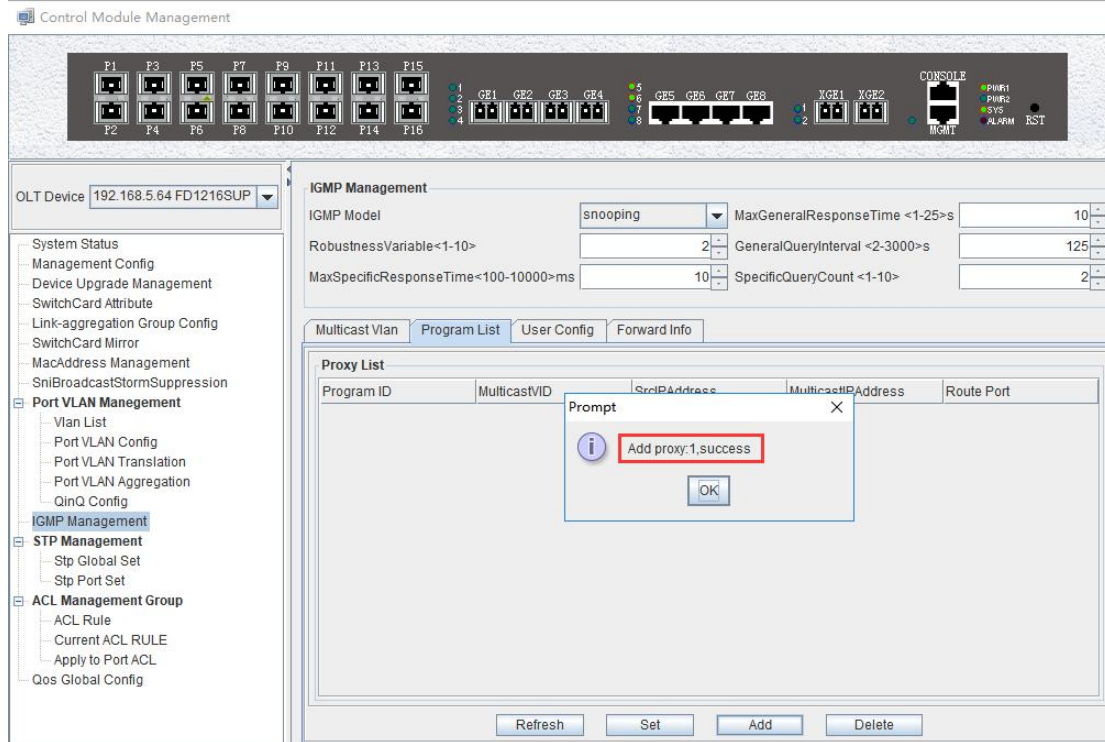
- Click "Switch Control Card --> IGMP Management -->Add", and then configure IGMP router port is GE6 and multicast vlan is 120:





3. Click “Switch Control Card --> IGMP Management -->Program List”, and then configure IGMP program id is 1 ,multicast vlan is 120 and multicast address is 224.3.3.3:





## 9.4 Configure Bridge ONU(SFU) Service

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

### 9.4.1 Configure Bridge Onu(SFU) Internet Service

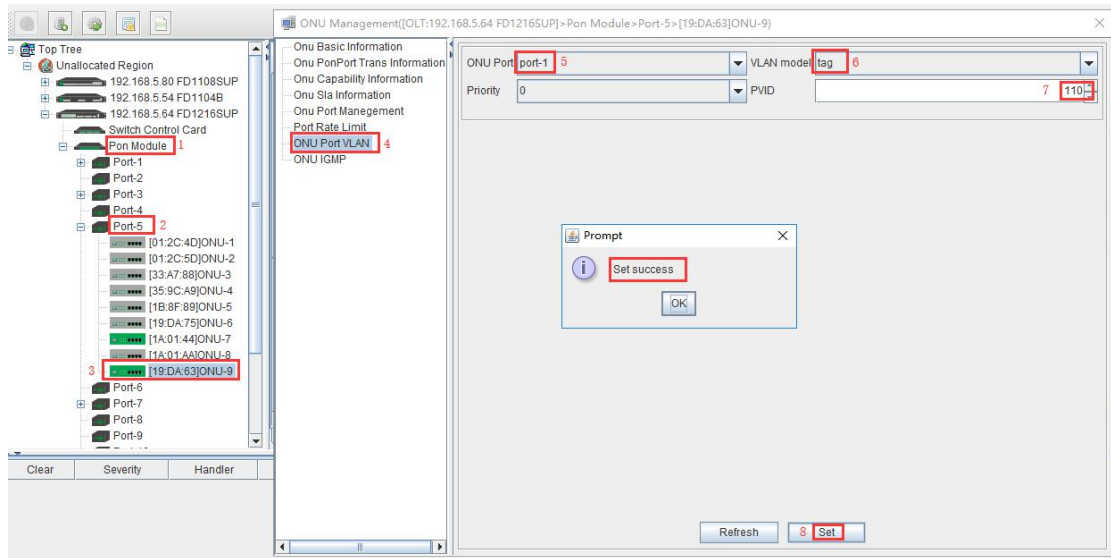
**Premise condition of ONU to open internet service:**

- OLT connect to uplink device and open internet service
- OLT have created vlan for internet service
- OLT have configured GE port vlan
- OLT have configured PON port vlan
- ONU 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 onu vlan is configured by OLT, config way as follows:

1. Click "Pon Module --> Port-5 --> ONU ID9 --> ONU Port VLAN", and then configure ONU9 eth1 vlan mode is tag(access):





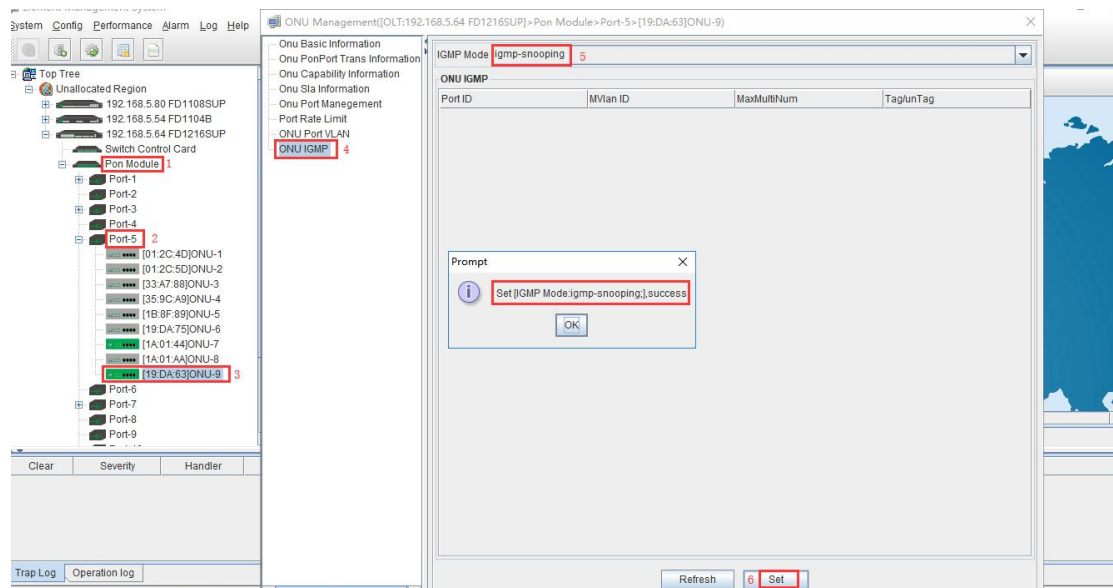
## 9.4.2 Configure Bridge Onu(SFU) Multicast Service

### Premise Condition

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

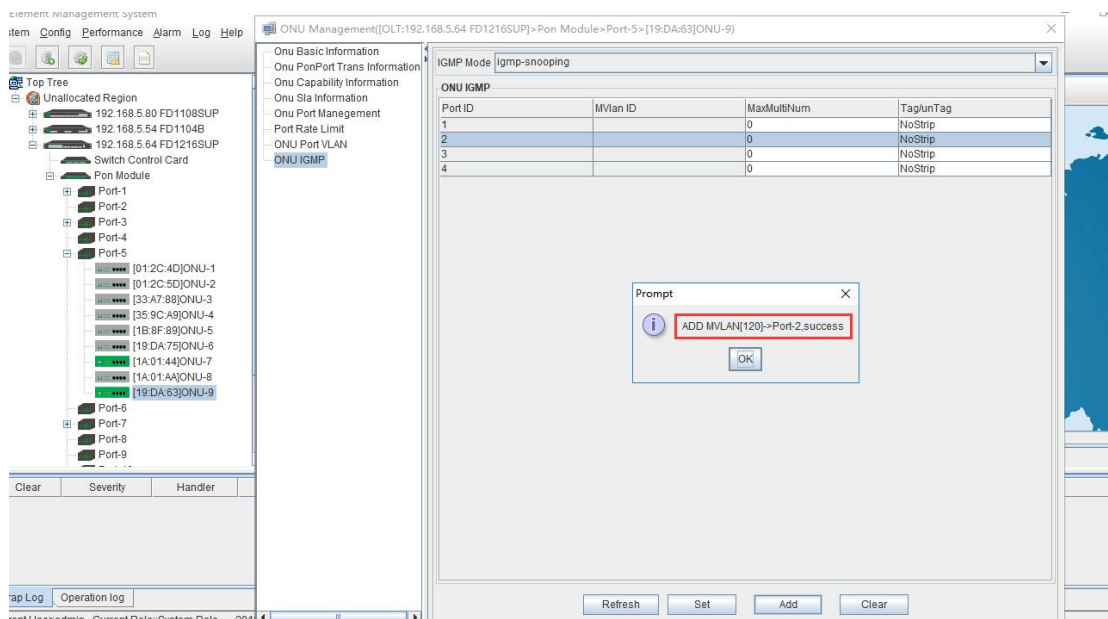
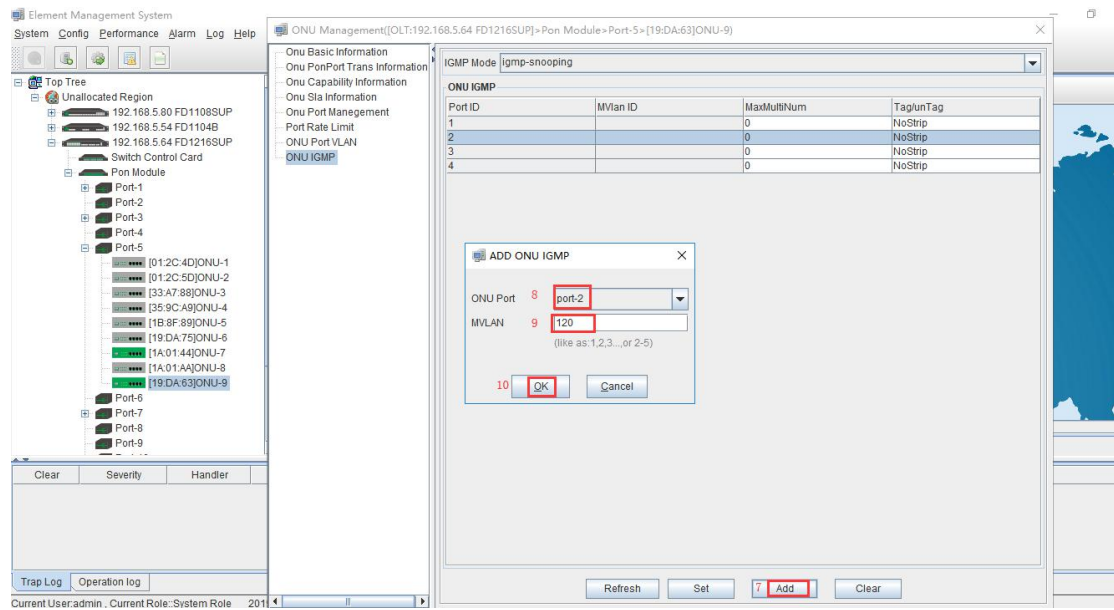
In OLT discrete mode, we need enter OLT to config ONU multicast service, configure way as follows:

1. Click “Pon Module --> Port-5 --> ONU ID 9 --> ONU IGMP”, and then config ONU9 multicast vlan mode is snooping:

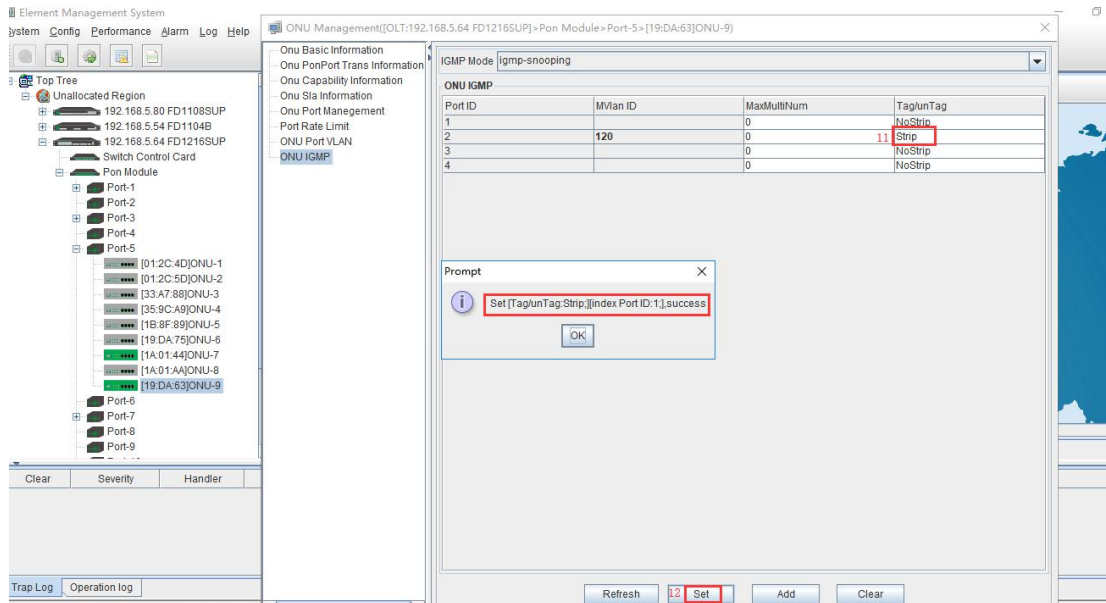


2. Click “Pon Module --> Port-5 --> ONU ID 9 --> ONU IGMP -->Add”, and then config ONU9 eth2

vlan is 120:



3. Click "Pon Module --> Port-5 --> ONU ID 9 --> ONU IGMP -->Set", and then config multicast vlan mode is strip:



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

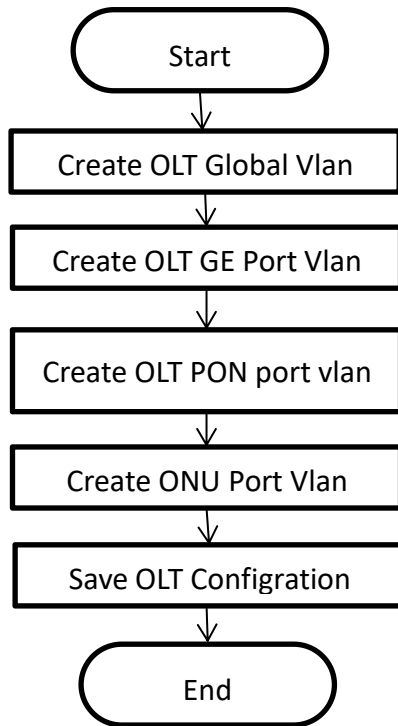
### ---WEB Method

This section mainly introduces New 4Port/8Port/16Port/Plug-in 16Port OLT internet service and multicast service in discrete mode in FTTH environment. The following will introduce the service configuration way for OLT and ONU according to the bridge ONU(SFU).

### 10.1 Data Plan

Main Data Plan List	
Configuration Item	Data
VLAN Data	<b>VLAN 110:</b> Internet Service <b>VLAN 120:</b> IPTV Service
OLT Port Setting	<b>Ge5:</b> VLAN 110 access mode <b>Ge6:</b> VLAN 120 access mode <b>PON5:</b> VLAN 110, VLAN 120 trunk mode
ONU Register ID	<b>Bridge ONU ID: 9</b>
Bridge ONU Port config	<b>LAN 1:</b> VLAN 110 <b>LAN 2:</b> VLAN 120

### 10.2 Configuration Guide



## 10.3 Configure OLT Service

### 10.3.1 Configure OLT Global Vlan

Click the “Main Board --> Vlan-->Vlan Config” to query the created Vlan.

If the created vlan cannot meet the requirements, vlan can be created by clicking the “VLAN --> Vlan Config “. According to the data planning, we create vlan110 and vlan120 firstly:

xPON OLT | Version : V1.0.1 | Language: English | Exit

Topology | OLT | Main Board | VLAN | VlanConfig

OLT

- Main Board 1
- Switching Board
- PON Board
  - pon0/0/1
  - pon0/0/2
  - pon0/0/3
  - pon0/0/4
  - pon0/0/5
  - pon0/0/6
  - pon0/0/7
  - pon0/0/8
  - pon0/0/9
  - pon0/0/10
  - pon0/0/11
  - pon0/0/12
  - pon0/0/13
  - pon0/0/14
  - pon0/0/15
  - pon0/0/16

- SystemInfo
- ManagementInterface
- QoS
- ACL
- IGMP
- VLAN 2
  - VlanGlobalInfo
  - VlanConfig 3
  - PortVlanTranslation
  - QinQ
  - OltPortVlan
- Perf

Vlan	VlanName	TaggedPort	UntaggedPort	Vlan-Edit
1	vlan1		GE1 GE2 GE3 GE4 GE5 GE6 XGE1 XGE2 PON1 PON2 PON3 PON4 PON5 PON6 PON7 PON8 PON9 PON10 PON11 PON12 PON13 PON14 PON15 PON16 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8	
<input type="checkbox"/>	10	vlan10	PON5	Edit
<input type="checkbox"/>	20	vlan20	PON1	Edit
<input type="checkbox"/>	21	vlan21		Edit
<input type="checkbox"/>	55	vlan55	GE5 PON15	Edit
<input type="checkbox"/>	56	vlan56	PON15	Edit
<input type="checkbox"/>	100	vlan100	GE3 PON15	Edit

EachPage 50 Entries Delete Add 刷新



xPON OLT | Version : V1.0.1 | Language: English | Exit

Topology | OLT | Main Board | VLAN | **VlanConfig**

SystemInfo  
ManagementInterface  
QoS  
ACL  
IGMP  
VLAN  
VlanGlobalInfo  
VlanConfig  
PortVlanTranslation  
QinQ  
OltPortVlan  
Perf

Vlan ID: 5 110

taggedPort				untaggedPort			
<input type="checkbox"/> GE1	<input type="checkbox"/> GE2	<input type="checkbox"/> GE3	<input type="checkbox"/> GE4	<input type="checkbox"/> GE1	<input type="checkbox"/> GE2	<input type="checkbox"/> GE3	<input type="checkbox"/> GE4
<input type="checkbox"/> GE5	<input type="checkbox"/> GE6	<input type="checkbox"/> GE7	<input type="checkbox"/> GE8	<input type="checkbox"/> GE5	<input type="checkbox"/> GE6	<input type="checkbox"/> GE7	<input type="checkbox"/> GE8
<input type="checkbox"/> XGE1	<input type="checkbox"/> XGE2	<input type="checkbox"/> PON1	<input type="checkbox"/> PON2	<input type="checkbox"/> XGE1	<input type="checkbox"/> XGE2	<input type="checkbox"/> PON1	<input type="checkbox"/> PON2
<input type="checkbox"/> PON3	<input type="checkbox"/> PON4	<input type="checkbox"/> PON5	<input type="checkbox"/> PON6	<input type="checkbox"/> PON3	<input type="checkbox"/> PON4	<input type="checkbox"/> PON5	<input type="checkbox"/> PON6
<input type="checkbox"/> PON7	<input type="checkbox"/> PON8	<input type="checkbox"/> PON9	<input type="checkbox"/> PON10	<input type="checkbox"/> PON7	<input type="checkbox"/> PON8	<input type="checkbox"/> PON9	<input type="checkbox"/> PON10
<input type="checkbox"/> PON11	<input type="checkbox"/> PON12	<input type="checkbox"/> PON13	<input type="checkbox"/> PON14	<input type="checkbox"/> PON11	<input type="checkbox"/> PON12	<input type="checkbox"/> PON13	<input type="checkbox"/> PON14
<input type="checkbox"/> PON15	<input type="checkbox"/> PON16	<input type="checkbox"/> LAG1	<input type="checkbox"/> LAG2	<input type="checkbox"/> PON15	<input type="checkbox"/> PON16	<input type="checkbox"/> LAG1	<input type="checkbox"/> LAG2
<input type="checkbox"/> LAG3	<input type="checkbox"/> LAG4	<input type="checkbox"/> LAG5	<input type="checkbox"/> LAG6	<input type="checkbox"/> LAG3	<input type="checkbox"/> LAG4	<input type="checkbox"/> LAG5	<input type="checkbox"/> LAG6
<input type="checkbox"/> LAG7	<input type="checkbox"/> LAG8	<input type="checkbox"/> LAG9	<input type="checkbox"/> LAG10	<input type="checkbox"/> LAG7	<input type="checkbox"/> LAG8	<input type="checkbox"/> LAG9	<input type="checkbox"/> LAG10

6 ok return

attention: The Port can be configured for tag ports only for it's Vlan mode is Trunk or Hybrid.

xPON OLT | Version : V1.0.1 | Language: English | Exit

Topology | OLT | Main Board | VLAN | **VlanConfig**

SystemInfo  
ManagementInterface  
QoS  
ACL  
IGMP  
VLAN  
VlanGlobalInfo  
VlanConfig  
PortVlanTranslation  
QinQ  
OltPortVlan  
Perf

Vlan ID: 5 110

<input type="checkbox"/>	Vlan	VlanName	TaggedPort	UntaggedPort	Vlan-Edit
<input type="checkbox"/>	1	vlan1		GE1 GE2 GE3 GE4 GE5 GE6 XGE1 XGE2 PON1 PON2 PON3 PON4 PON5 PON6 PON7 PON8 PON9 PON10 PON11 PON12 PON13 PON14 PON15 PON16 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8	
<input type="checkbox"/>	10	vlan10	PON5		Edit
<input type="checkbox"/>	20	vlan20	PON1		Edit
<input type="checkbox"/>	21	vlan21		GE7	Edit
<input type="checkbox"/>	55	vlan55	GE5 PON15		Edit
<input type="checkbox"/>	56	vlan56	PON15	GE8	Edit
<input type="checkbox"/>	100	vlan100	GE3 PON15		Edit
<input type="checkbox"/>	110	vlan110			Edit

EachPage 50 Entries Delete Add 刷新

xPON OLT | Version : V1.0.1 | Language: English | Exit

Topology | OLT | Main Board | VLAN | **VlanConfig**

SystemInfo  
ManagementInterface  
QoS  
ACL  
IGMP  
VLAN  
VlanGlobalInfo  
VlanConfig  
PortVlanTranslation  
QinQ  
OltPortVlan  
Perf

Vlan ID: 5 120

taggedPort				untaggedPort			
<input type="checkbox"/> GE1	<input type="checkbox"/> GE2	<input type="checkbox"/> GE3	<input type="checkbox"/> GE4	<input type="checkbox"/> GE1	<input type="checkbox"/> GE2	<input type="checkbox"/> GE3	<input type="checkbox"/> GE4
<input type="checkbox"/> GE5	<input type="checkbox"/> GE6	<input type="checkbox"/> GE7	<input type="checkbox"/> GE8	<input type="checkbox"/> GE5	<input type="checkbox"/> GE6	<input type="checkbox"/> GE7	<input type="checkbox"/> GE8
<input type="checkbox"/> XGE1	<input type="checkbox"/> XGE2	<input type="checkbox"/> PON1	<input type="checkbox"/> PON2	<input type="checkbox"/> XGE1	<input type="checkbox"/> XGE2	<input type="checkbox"/> PON1	<input type="checkbox"/> PON2
<input type="checkbox"/> PON3	<input type="checkbox"/> PON4	<input type="checkbox"/> PON5	<input type="checkbox"/> PON6	<input type="checkbox"/> PON3	<input type="checkbox"/> PON4	<input type="checkbox"/> PON5	<input type="checkbox"/> PON6
<input type="checkbox"/> PON7	<input type="checkbox"/> PON8	<input type="checkbox"/> PON9	<input type="checkbox"/> PON10	<input type="checkbox"/> PON7	<input type="checkbox"/> PON8	<input type="checkbox"/> PON9	<input type="checkbox"/> PON10
<input type="checkbox"/> PON11	<input type="checkbox"/> PON12	<input type="checkbox"/> PON13	<input type="checkbox"/> PON14	<input type="checkbox"/> PON11	<input type="checkbox"/> PON12	<input type="checkbox"/> PON13	<input type="checkbox"/> PON14
<input type="checkbox"/> PON15	<input type="checkbox"/> PON16	<input type="checkbox"/> LAG1	<input type="checkbox"/> LAG2	<input type="checkbox"/> PON15	<input type="checkbox"/> PON16	<input type="checkbox"/> LAG1	<input type="checkbox"/> LAG2
<input type="checkbox"/> LAG3	<input type="checkbox"/> LAG4	<input type="checkbox"/> LAG5	<input type="checkbox"/> LAG6	<input type="checkbox"/> LAG3	<input type="checkbox"/> LAG4	<input type="checkbox"/> LAG5	<input type="checkbox"/> LAG6
<input type="checkbox"/> LAG7	<input type="checkbox"/> LAG8	<input type="checkbox"/> LAG9	<input type="checkbox"/> LAG10	<input type="checkbox"/> LAG7	<input type="checkbox"/> LAG8	<input type="checkbox"/> LAG9	<input type="checkbox"/> LAG10

6 ok return

attention: The Port can be configured for tag ports only for it's Vlan mode is Trunk or Hybrid.

### 10.3.2 Configure OLT GE Port Service Vlan

1. Click "Main Board --> VLAN --> OLT Port Vlan", and then config GE 5 port vlan mode is access, vlan id is 110 :

xPON OLT | Version : V1.0.1 | Language: English | Exit

**Topology** | OLT | Main Board | VLAN | OltPortVlan

OLT  
Main Board 1  
Switching Board  
PON Board  
pon0/0/1  
pon0/0/2  
pon0/0/3  
pon0/0/4  
pon0/0/5  
pon0/0/6  
pon0/0/7  
pon0/0/8  
pon0/0/9  
pon0/0/10  
pon0/0/11  
pon0/0/12  
pon0/0/13  
pon0/0/14  
pon0/0/15  
pon0/0/16

SystemInfo  
ManagementInterface  
QoS  
ACL  
IGMP  
VLAN 2  
VlanGlobalInfo  
VlanConfig  
PortVlanTranslation  
QinQ  
OltPortVlan 3  
Perf

DeviceIndex	TagPriority	PortVlanPVID	PortVlanMode	Oper
GE1	0	1	Access	Submit
GE2	0	1	Access	Submit
GE3	0	1	Trunk	Submit
GE4	0	1	Access	Submit
GE5	0	110	Access	Submit
GE6	0	1	Access	Submit
GE7	0	21	Access	Submit
GE8	0	56	Access	Submit
XGE1	0	1	Access	Submit
XGE2	0	1	Access	Submit
PON1	0	1	Trunk	Submit
PON2	0	1	Access	Submit
PON3	0	1	Access	Submit

2. Click “Main Board--> VLAN --> OLT Port Vlan” ,and config GE 6 port vlan mode is access, vlan id is 120 :

xPON OLT | Version : V1.0.1 | Language: English | Exit

**Topology** | OLT | Main Board | VLAN | OltPortVlan

OLT  
Main Board 1  
Switching Board  
PON Board  
pon0/0/1  
pon0/0/2  
pon0/0/3  
pon0/0/4  
pon0/0/5  
pon0/0/6  
pon0/0/7  
pon0/0/8  
pon0/0/9  
pon0/0/10  
pon0/0/11  
pon0/0/12  
pon0/0/13  
pon0/0/14  
pon0/0/15  
pon0/0/16

SystemInfo  
ManagementInterface  
QoS  
ACL  
IGMP  
VLAN 2  
VlanGlobalInfo  
VlanConfig  
PortVlanTranslation  
QinQ  
OltPortVlan 3  
Perf

DeviceIndex	TagPriority	PortVlanPVID	PortVlanMode	Oper
GE1	0	1	Access	Submit
GE2	0	1	Access	Submit
GE3	0	1	Trunk	Submit
GE4	0	1	Access	Submit
GE5	0	110	Access	Submit
GE6	0	120	Access	Submit
GE7	0	21	Access	Submit
GE8	0	56	Access	Submit
XGE1	0	1	Access	Submit
XGE2	0	1	Access	Submit
PON1	0	1	Trunk	Submit
PON2	0	1	Access	Submit
PON3	0	1	Access	Submit
PON4	0	1	Access	Submit

### 10.3.3 Configure OLT PON Port Service Vlan

1. Click “Main Board --> VLAN --> OLT Port Vlan” , and then Config PON5 port vlan mode is trunk:

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

**Tree Topology** OLT | Main Board | VLAN | OltPortVlan

- OLT
  - Main Board 1
  - Swap Board
  - PON Board
    - PON Card0/0

SystemInfo ManagementInterface QoS ACL IGMP **VLAN 2** VlanGlobalInfo VlanConfig PortVlanTranslation QinQ OltPortVlan 3 Perf

DeviceIndex	TagPriority	PortVlanPvid	PortVlanMode	Oper
GE0/0/7	0	21	Access	Submit
GE0/0/8	0	56	Access	Submit
XGE0/0/1	0	1	Access	Submit
XGE0/0/2	0	1	Access	Submit
PON0/0/1	0	1	Trunk	Submit
PON0/0/2	0	1	Access	Submit
PON0/0/3	0	1	Access	Submit
PON0/0/4	0	1	Access	Submit
PON0/0/5	0	1	4 Trunk 5	Submit
PON0/0/6	0	1	Trunk	Submit
PON0/0/7	0	1	Access	Submit
PON0/0/8	0	1	Trunk	Submit
PON0/0/9	0	1	Access	Submit
PON0/0/10	0	1	Access	Submit

2. Click "Main Board--> VLAN--> OLT Port Vlan--> (vlan110)Edit", and then add tag vlan 110 to pon 5:

xPON OLT Version: V1.0.1 Language: english Exit

**Topology** OLT | Main Board | VLAN | VlanConfig

- OLT
  - Main Board 1
  - Switching Board
  - PON Board
    - pon0/0/1
    - pon0/0/2
    - pon0/0/3
    - pon0/0/4
    - pon0/0/5
    - pon0/0/6
    - pon0/0/7
    - pon0/0/8
    - pon0/0/9
    - pon0/0/10
    - pon0/0/11
    - pon0/0/12
    - pon0/0/13
    - pon0/0/14
    - pon0/0/15
    - pon0/0/16

SystemInfo ManagementInterface QoS ACL IGMP **VLAN 2** VlanGlobalInfo VlanConfig 3 PortVlanTranslation QinQ OltPortVlan Perf

Vlan	VlanName	TaggedPort	UntaggedPort	Vlan-Edit
1	vlan1		GE1 GE2 GE3 GE4 XGE1 XGE2 PON1 PON2 PON3 PON4 PON5 PON6 PON7 PON8 PON9 PON10 PON11 PON12 PON13 PON14 PON15 PON16 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8 LAG1 LAG2 LAG3 LAG4 LAG5 LAG6 LAG7 LAG8	
<input type="checkbox"/>	10	vlan10	PON5	Edit
<input type="checkbox"/>	20	vlan20	PON1	Edit
<input type="checkbox"/>	21	vlan21		Edit
<input type="checkbox"/>	55	vlan55	PON15	Edit
<input type="checkbox"/>	56	vlan56	PON15	Edit
<input type="checkbox"/>	100	vlan100	GE3 PON15	Edit
<input type="checkbox"/>	110	vlan110		4 Edit
<input type="checkbox"/>	120	vlan120		Edit

xPON OLT Version: V1.0.1 Language: english Exit

**Topology** OLT | Main Board | VLAN | VlanConfig

Vlan ID: 110

5 taggedPort untaggedPort

GE1  GE2  GE3  GE4  GE5  GE6  GE7  GE8  GE5  GE6  GE7  GE8

XGE1  XGE2  PON1  PON2  XGE1  XGE2  PON1  PON2

PON3  PON4  PON5  PON6  PON3  PON4  PON5  PON6

PON7  PON8  PON9  PON10  PON7  PON8  PON9  PON10

PON11  PON12  PON13  PON14  PON11  PON12  PON13  PON14

PON15  PON16  LAG1  LAG2  PON15  PON16  LAG1  LAG2

LAG3  LAG4  LAG5  LAG6  LAG3  LAG4  LAG5  LAG6

LAG7  LAG8  LAG9  LAG10  LAG7  LAG8  LAG9  LAG10

7 ok refresh return

attention: The Port can be configured for tag ports only for it's Vlan mode is Trunk or Hybrid.

3. Click "Main Board--> VLAN--> OLT Port Vlan--> (vlan120)Edit", and then add tag vlan 120 to pon 5:

Vlan	VlanName	TaggedPort	UntaggedPort	Vlan-Edit	
1	*vlan1*		GE0/0/1 GE0/0/2 GE0/0/3 GE0/0/4 XGE0/0/1 XGE0/0/2 PON0/0/1 PON0/0/2 PON0/0/3 PON0/0/4 PON0/0/5 PON0/0/6 PON0/0/7 PON0/0/8 PON0/0/9 PON0/0/10 PON0/0/11 PON0/0/12 PON0/0/13 PON0/0/14 PON0/0/15 PON0/0/16 Lag1 Lag2 Lag3 Lag4 Lag5 Lag6 Lag7 Lag8 Lag9 Lag10 Lag11 Lag12 Lag13 Lag14 Lag15 Lag16		
10	*vlan10*	PON0/0/5 PON0/0/7		Edit	
20	*vlan20*			Edit	
21	*vlan21*			Edit	
55	*vlan55*	PON0/0/15		Edit	
56	*vlan56*	PON0/0/15		Edit	
100	*vlan100*	GE0/0/3 PON0/0/15		Edit	
110	*vlan110*	PON0/0/5	GE0/0/5	Edit	
120	*vlan120*		GE0/0/6	Edit	

xPON OLT | Version: V1.1.0\_181125 | Current Online User Number:1(User Number Limit:10) | Lang English | Exit

Vlan ID: 5 120

taggedPort	untaggedPort
<input type="checkbox"/> GE0/0/1 <input type="checkbox"/> GE0/0/2 <input type="checkbox"/> GE0/0/3 <input type="checkbox"/> GE0/0/4	<input type="checkbox"/> GE0/0/1 <input type="checkbox"/> GE0/0/2 <input type="checkbox"/> GE0/0/3 <input type="checkbox"/> GE0/0/4
<input type="checkbox"/> GE0/0/5 <input type="checkbox"/> GE0/0/6 <input type="checkbox"/> GE0/0/7 <input type="checkbox"/> GE0/0/8	<input type="checkbox"/> GE0/0/5 <input checked="" type="checkbox"/> GE0/0/6 <input type="checkbox"/> GE0/0/7 <input type="checkbox"/> GE0/0/8
<input type="checkbox"/> XGE0/0/1 <input type="checkbox"/> XGE0/0/2 <input type="checkbox"/> PON0/0/1 <input type="checkbox"/> PON0/0/2	<input type="checkbox"/> XGE0/0/1 <input type="checkbox"/> XGE0/0/2 <input type="checkbox"/> PON0/0/1 <input type="checkbox"/> PON0/0/2
<input type="checkbox"/> PON0/0/3 <input type="checkbox"/> PON0/0/4 <input checked="" type="checkbox"/> PON0/0/5 <input type="checkbox"/> PON0/0/6	<input type="checkbox"/> PON0/0/3 <input type="checkbox"/> PON0/0/4 <input type="checkbox"/> PON0/0/5 <input type="checkbox"/> PON0/0/6
<input type="checkbox"/> PON0/0/7 <input type="checkbox"/> PON0/0/8 <input type="checkbox"/> PON0/0/9 <input type="checkbox"/> PON0/0/10	<input type="checkbox"/> PON0/0/7 <input type="checkbox"/> PON0/0/8 <input type="checkbox"/> PON0/0/9 <input type="checkbox"/> PON0/0/10
<input type="checkbox"/> PON0/0/11 <input type="checkbox"/> PON0/0/12 <input type="checkbox"/> PON0/0/13 <input type="checkbox"/> PON0/0/14	<input type="checkbox"/> PON0/0/11 <input type="checkbox"/> PON0/0/12 <input type="checkbox"/> PON0/0/13 <input type="checkbox"/> PON0/0/14
<input type="checkbox"/> PON0/0/15 <input type="checkbox"/> PON0/0/16 <input type="checkbox"/> Lag1 <input type="checkbox"/> Lag2	<input type="checkbox"/> PON0/0/15 <input type="checkbox"/> PON0/0/16 <input type="checkbox"/> Lag1 <input type="checkbox"/> Lag2
<input type="checkbox"/> Lag3 <input type="checkbox"/> Lag4 <input type="checkbox"/> Lag5 <input type="checkbox"/> Lag6	<input type="checkbox"/> Lag3 <input type="checkbox"/> Lag4 <input type="checkbox"/> Lag5 <input type="checkbox"/> Lag6
<input type="checkbox"/> Lag7 <input type="checkbox"/> Lag8 <input type="checkbox"/> Lag9 <input type="checkbox"/> Lag10	<input type="checkbox"/> Lag7 <input type="checkbox"/> Lag8 <input type="checkbox"/> Lag9 <input type="checkbox"/> Lag10
<input type="checkbox"/> Lag11 <input type="checkbox"/> Lag12 <input type="checkbox"/> Lag13 <input type="checkbox"/> Lag14	<input type="checkbox"/> Lag11 <input type="checkbox"/> Lag12 <input type="checkbox"/> Lag13 <input type="checkbox"/> Lag14
<input type="checkbox"/> Lag15 <input type="checkbox"/> Lag16	<input type="checkbox"/> Lag15 <input type="checkbox"/> Lag16

ok refresh return

### 10.3.4 Configure OLT Multicast Service

1. Click "Main Board --> IGMP --> IGMP Global Config", and then config IGMP mode is snooping:

xPON OLT | Version : V1.0.1 | Language: English | Exit

Topology | OLT | Main Board | IGMP | IGMP Global Config

SystemInfo ManagementInterface QoS ACL IGMP **IGMP** VLAN Perf

IGMP Global Config

Multicast Vlan Manage Multicast Program IP Ma Controlled Multicast Pac Controlled Multicast Use Multicast Forward Info

IgmpMode: 4 snooping

Max General Response: 10

Time <1-25>(s): Robustness Variable <1-10>: 2

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

Specific Query: 1000

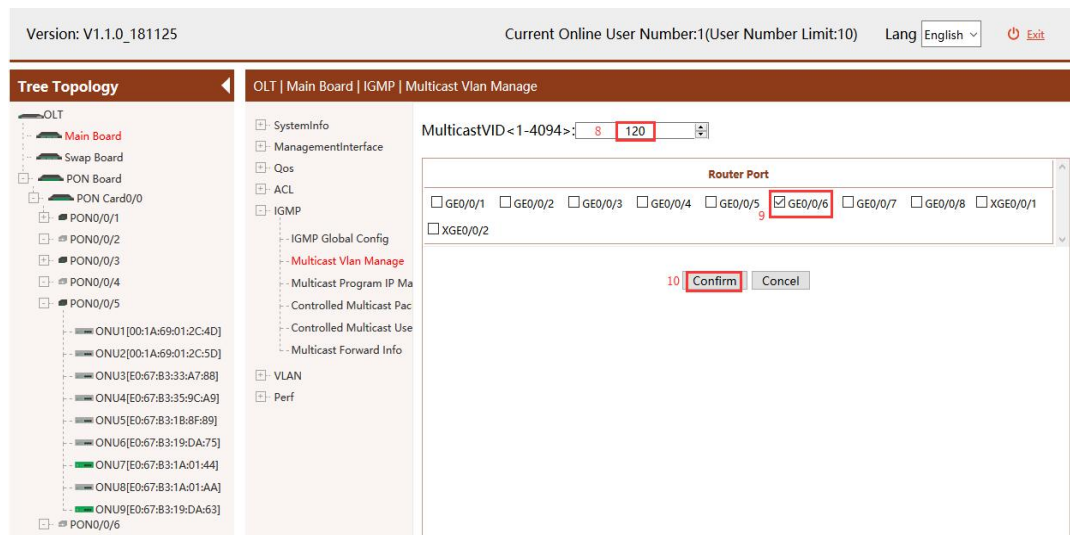
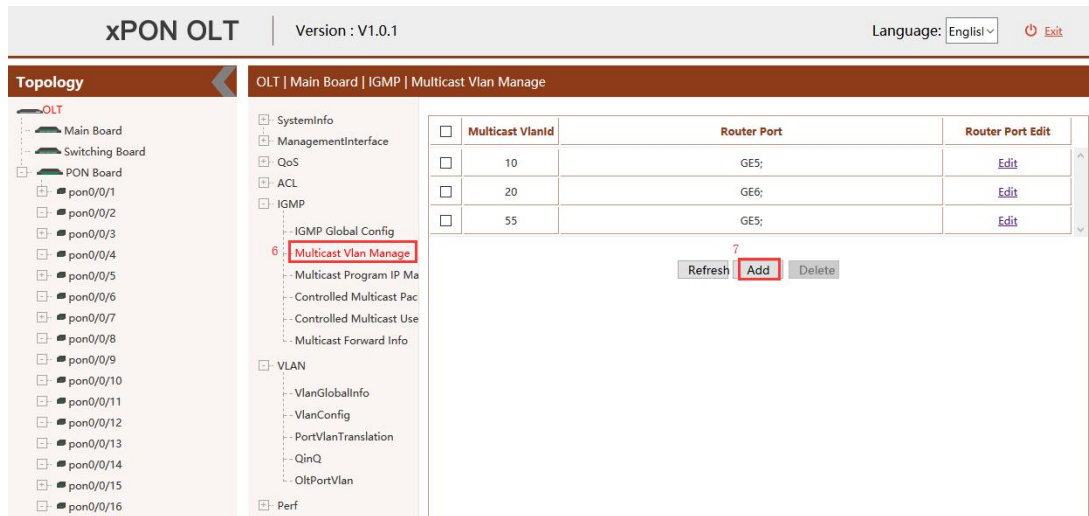
Interval <100-10000>(ms): Specific Query Count <1-10>: 2

IGMP Version : V2

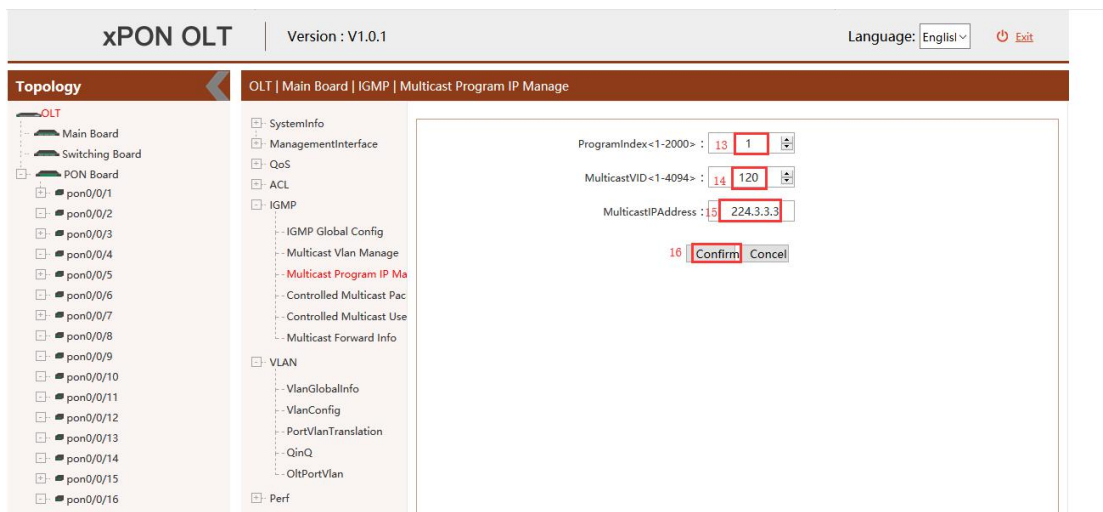
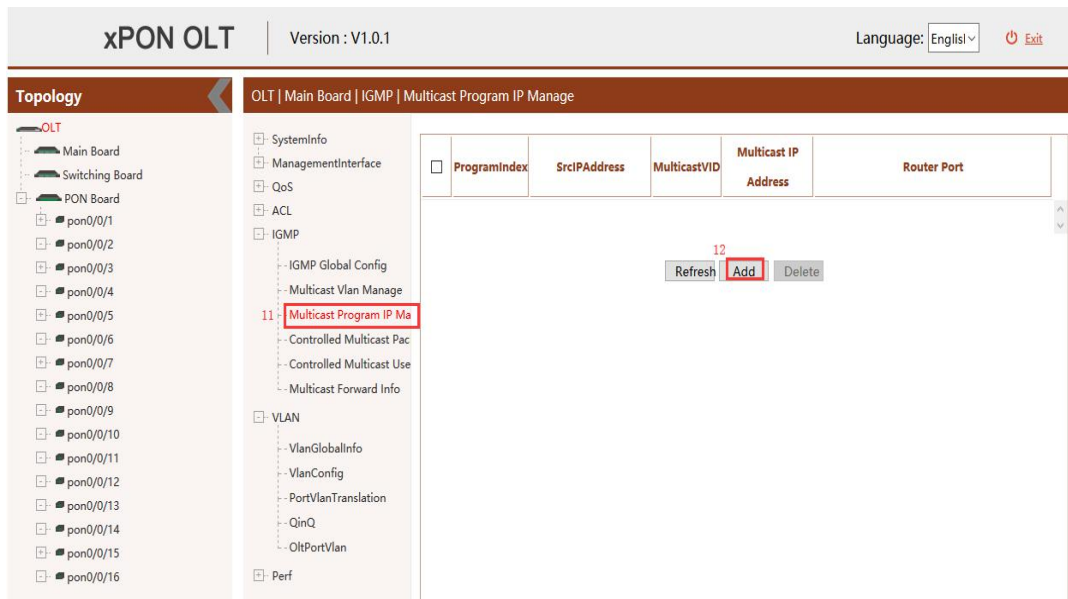
Save Refresh



2. Click “Main Board --> IGMP --> Multicast Vlan Manage --> Add”, and then config multicast-vlan is 120 and IGMP route port is ge6 :



3. Click “Main Board --> IGMP --> Multicast Program IP Manage --> Add”, and then config program id is 1 , multicast-vlan is 120 and program ip is 224.3.3.3 :



## 10.4 Configure Bridge ONU(SFU) Service

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

### 10.4.1 Configure Bridge Onu(SFU) Internet Service

**Premise condition of ONU 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
- OLT have configured PON port vlan
- ONU 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 onu vlan is configured by OLT, config way as follows:

1. Click “PON Control --> PON0/0/5 --> ONU ID 9 --> ONU port --> ONU Port Vlan Table --> Edit”, Config ONU9 eth1 vlan mode is tag(access):

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

Tree Topology OLT | PON Board | PON0/0/5 | ONU 9 | ONU Port | ONU Port Vlan Table

Port	Vlan Mode	Priority	PVID	SVLAN	CVLAN	Edit
1	Transparent	0	0	--	--	6 Edit
2	Transparent	0	0	--	--	Edit
3	Transparent	0	0	--	--	Edit
4	Transparent	0	0	--	--	Edit

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

Tree Topology OLT | PON Board | PON0/0/5 | ONU 9 | ONU Port | ONU Port Vlan Table

Port : 1

Vlan Mode : 7 tag

Priority : 0

PVID : 8 110

9 Confirm Cancel

## 10.4.2 Configure Bridge Onu(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
- OLT have configured PON port vlan
- ONU have registered

In OLT discrete mode,we need enter OLT to config ONU multicast service,configure way as follows:

1. Click “PON Control --> PON0/0/5 --> ONU ID 9 --> ONU IGMP”, Configure ONU9 multicast vlan mode is snooping:

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

Tree Topology OLT | PON Board | PON0/0/5 | ONU 9 | ONU Manage | ONU IGMP

ONU Manage

- ONU Basic Info
- ONU Capability
- ONU Network Config
- Onu Optical Parameter
- ONU Sla List
- ONU IGMP**
- Mac-Address Manage

ONU Port

- ONU Port Config
- ONU Port Rate Limit
- ONU Port Vlan Table

Igmp Mode: Snooping Apply

Port	MVlan ID(at most 8)	Max Multicast Numbers(0-255)	MVlan Tag Strip	operation
<input type="checkbox"/> 1		0	NoStrip	Apply
<input type="checkbox"/> 2		0	NoStrip	Apply
<input type="checkbox"/> 3		0	NoStrip	Apply
<input type="checkbox"/> 4		0	NoStrip	Apply

Refresh Add MVlan ID Delete MVlan ID

2. Click "PON Control --> PON0/0/5 --> ONU ID 9 --> ONU IGMP --> Add Mvlan ID", Configure ONU9 eth2 vlan is 120, and multicast vlan mode is untag:

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

Tree Topology OLT | PON Board | PON0/0/5 | ONU 9 | ONU Manage | ONU IGMP

ONU Manage

- ONU Basic Info
- ONU Capability
- ONU Network Config
- Onu Optical Parameter
- ONU Sla List
- ONU IGMP**
- Mac-Address Manage

ONU Port

- ONU Port Config
- ONU Port Rate Limit
- ONU Port Vlan Table

Igmp Mode: Snooping Apply

Port	MVlan ID(at most 8)	Max Multicast Numbers(0-255)	MVlan Tag Strip	operation
<input type="checkbox"/> 1		0	NoStrip	Apply
<input checked="" type="checkbox"/> 2		0	NoStrip	Apply
<input type="checkbox"/> 3		0	NoStrip	Apply
<input type="checkbox"/> 4		0	NoStrip	Apply

Refresh Add MVlan ID Delete MVlan ID

Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

Tree Topology OLT | PON Board | PON0/0/5 | ONU 9 | ONU Manage | ONU Basic Info

ONU Manage

- ONU Basic Info**
- ONU Capability
- ONU Network Config
- Onu Optical Parameter
- ONU Sla List
- ONU IGMP
- Mac-Address Manage

ONU Port

- ONU Port Config
- ONU Port Rate Limit
- ONU Port Vlan Table

Igmp Mode: Snooping Apply

Port	MVlan ID(at most 8)	Max Multicast Numbers(0-255)	MVlan Tag Strip	operation
<input type="checkbox"/> 1		0	NoStrip	Apply
<input checked="" type="checkbox"/> 2	120	0	NoStrip	Apply
<input type="checkbox"/> 3		0	NoStrip	Apply
<input type="checkbox"/> 4		0	NoStrip	Apply

Refresh Add MVlan ID Delete MVlan ID

MVlanID(1-4094)

120

10 确定 取消



Version: V1.1.0\_181125 Current Online User Number:1(User Number Limit:10) Lang English Exit

**Tree Topology** OLT | PON Board | PON0/0/5 | ONU 9 | ONU Manage | ONU Basic Info

OLT  
Main Board  
Swap Board  
PON Board  
PON Card0/0  
PON0/0/1  
PON0/0/2  
PON0/0/3  
PON0/0/4  
PON0/0/5  
ONU1[00:1A:69:01:2C:4D]  
ONU2[00:1A:69:01:2C:5D]  
ONU3[E0:67:83:33:A7:88]  
ONU4[E0:67:83:35:9C:A9]  
ONU5[E0:67:83:18:8F:89]  
ONU6[E0:67:83:19:DA:75]  
ONU8[E0:67:83:1A:01:AA]  
ONU9[E0:67:83:19:DA:63]  
ONU7[E0:67:83:1A:01:44]  
ONU10[E0:67:83:12:11:C0]

ONU Manage  
ONU Basic Info  
ONU Capability  
ONU Network Config  
Onu Optical Parameter  
ONU Sla List  
ONU IGMP  
Mac-Address Manage  
ONU Port  
ONU Port Config  
ONU Port Rate Limit  
ONU Port Vlan Table

Igmp Mode: Snooping Apply

Port	MVlan ID(at most 8)	Max Multicast Numbers(0-255)	MVlan Tag Strip	operation
<input type="checkbox"/> 1		0	NoStrip	Apply
<input type="checkbox"/> 2	120	0	Strip	Apply
<input type="checkbox"/> 3		0	NoStrip	Apply
<input type="checkbox"/> 4		0	NoStrip	Apply

Refresh Add MVlan ID Delete MVlan ID

## Concluding Remarks

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