



# GPON Service Configuration Guide

P1201-08

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# 1 Introduction

This guide mainly introduces GPON internet service and VOIP service configuration process.

The following image presents a basic topology.

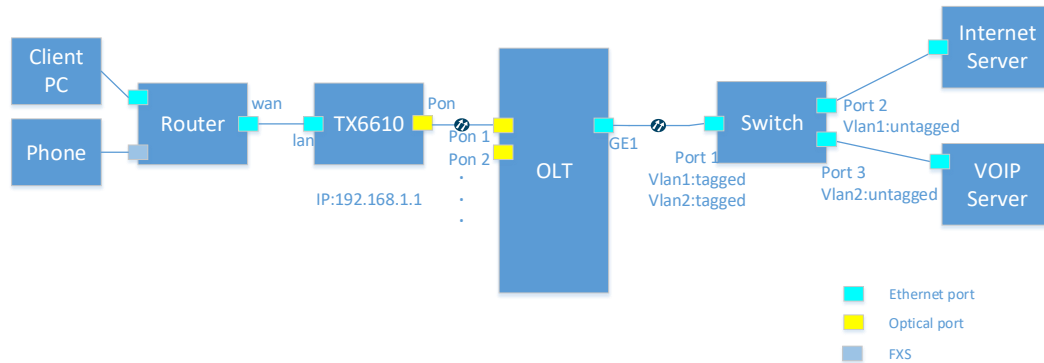


Figure 1 Topology

## 2 Data Plan

### 2.1 OLT Data Plan

Main Data Plan List	
Configure Items	Data
OLT Port Config	GE1: VLAN 100 trunk mode, VLAN 200 trunk mode Native VLAN: 1
DBA Profile (upload bandwidth control)	Profile number: 1
ONT Line Profile	Profile ID: 1 T-CONT ID: 1 Internet GEM Port ID: 1      Mapping Vlan: 100 Voice GEM Port ID: 2      Mapping Vlan: 200
ONT Srvprofile	Profile ID:1 ONT Port Capability: adaptive
Bridge ONT Port Config	LAN1: VLAN 100, VLAN 200

## 2.2 Switch Data Plan

<b>Switch Port Config</b>	<b>Port1:</b> VLAN 100 tagged, VLAN 200 tagged <b>Port2:</b> VLAN 100 untagged <b>Port3:</b> VLAN 200 untagged
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## 2.3 Router Data Plan

<b>Router Config</b>	<b>WAN1:</b> VLAN 100 <b>WAN2:</b> VLAN 200
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## 3 CLI Configuration

You can finish the complete configuration by the following three steps:

1. Configure the OLT.
2. Configure the switch.
3. Configure the DUT(TX6610 and Router).

## 3.1 Configure the OLT

### 3.1.1 Configuration Procedure

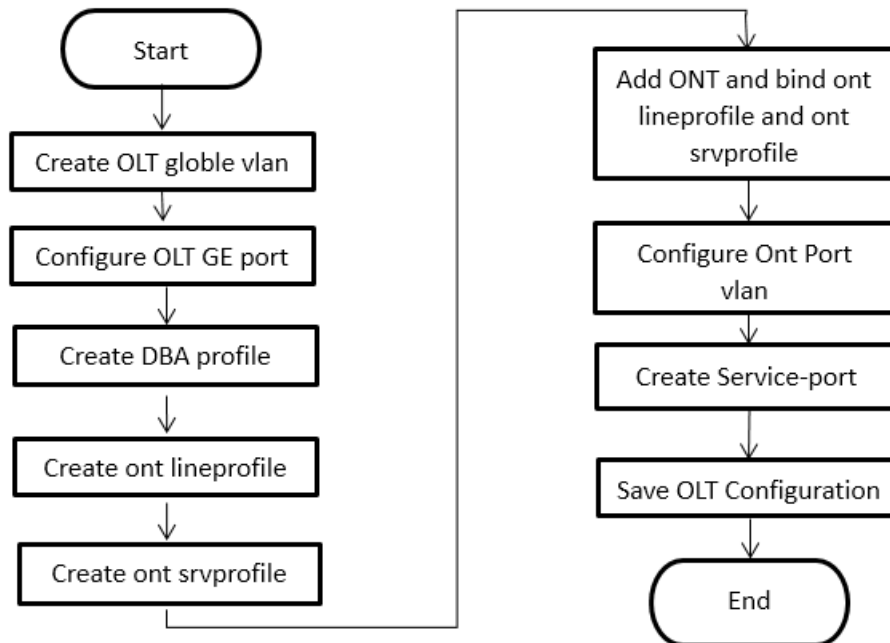


Figure 2 Configuration Procedure

### 3.1.2 Configure OLT

You can follow the steps below to configure OLT.

#### 1. Configure OLT global vlan

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

#### 2. Configure OLT GE port service vlan

```
OLT(config)# interface ge 0/0
OLT(config-interface-ge-0/0)# vlan mode 1-2 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)# exit
```

#### 3. Configure DBA profile

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

```
OLT(dba-profile-1)# type3 assure 102400 max 204800  
OLT(dba-profile-1)# commit  
OLT(dba-profile-1)# exit
```

#### 4. Create ONT lineprofile

```
OLT(config)# ont-lineprofile gpon profile-id 1  
OLT(config-ont-lineprofile-1)# tcont 1 dba-profile-id 1  
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 mapping 1 1 vlan 100  
OLT(config-ont-lineprofile-1)# gem mapping 2 1 vlan 200  
OLT(config-ont-lineprofile-1)# commit  
OLT(config-ont-lineprofile-1)# exit
```

#### 5. Create ONT Srvprofile

```
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
```

#### 6. Add ONT and bind ont lineprofile and ont srvprofile

```
OLT(config)# interface gpon 0/0  
OLT(config-interface-gpon-0/0)# ont authmode all manual  
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. Here is the TX6610's SN.  
OLT(config-interface-gpon-0/0)# ont add 1 1 sn-auth TPLGB34F0C16 ont-lineprofile-id 1 ont-srvprofile-id 1
```

#### 7. Configure ONT port 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)# ont port native-vlan 1 1 eth 1 vlan 200  
OLT(config-interface-gpon-0/0)# exit
```

## 8. Create service-port

```
OLT(config)# traffic-profile profile-id 1 profile-name 100M cir 102400 pir 102400 cbs 20000 pbs 20000
OLT(config)# service-port 1 vlan 100 gpon 0/0 port 1 ont 1 gemport 1 multi-service user-vlan 100 tag-action transparent inbound name 100M outbound name 100M
OLT(config)# service-port 2 vlan 200 gpon 0/0 port 1 ont 1 gemport 2 multi-service user-vlan 200 tag-action transparent inbound name 100M outbound name 100M
```

## 3.2 Configure the Switch

As the data from OLT GE1 port are tagged, generally, server don't accept data with a tag, you can use switch to deliver different types of data to a certain server.

According to the data flow, you can configure the switch by two steps:

- Add port into vlan
- Set port pvid

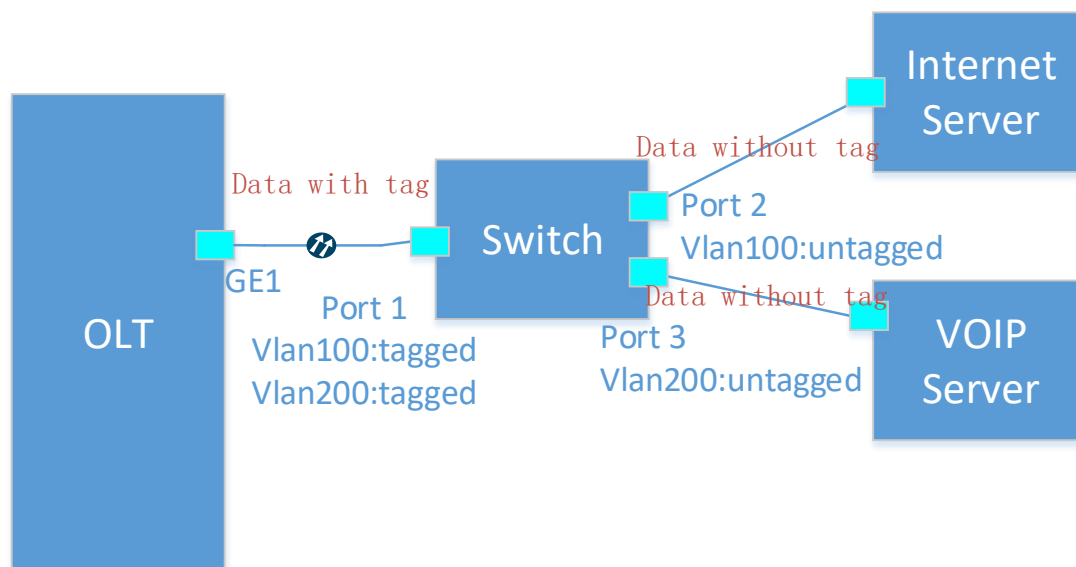


Figure 3 Date Flow

### 3.2.1 Add Port into Vlan

1. Create vlan 100, add port 1 and port 2 into vlan 100, while port 1 is in tagged port, port 2 in untagged port.
2. Create vlan 200, add port 1 and port 3 into vlan 200, while port 1 in tagged port, port 3 in untagged port.

### **3.2.2 Set Port pvid**

1. Set port 2 pvid as 100.
2. Set port 3 pvid as 200.

### **3.3 Configure the DUT (TX6610 and Router)**

1. Set TX6610 control mode as Control by OLT.
2. Set two new wan connections, one is set with vlan 100 which is used for Internet service and the other with vlan 200 used for VOIP service.



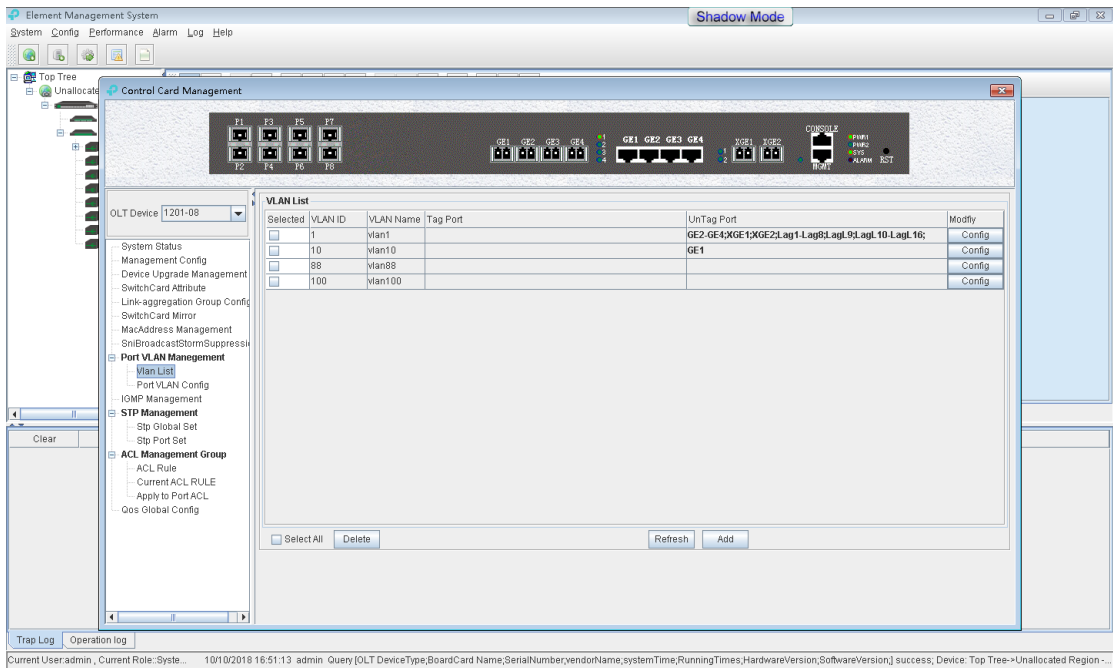
# 4 EMS Configuration

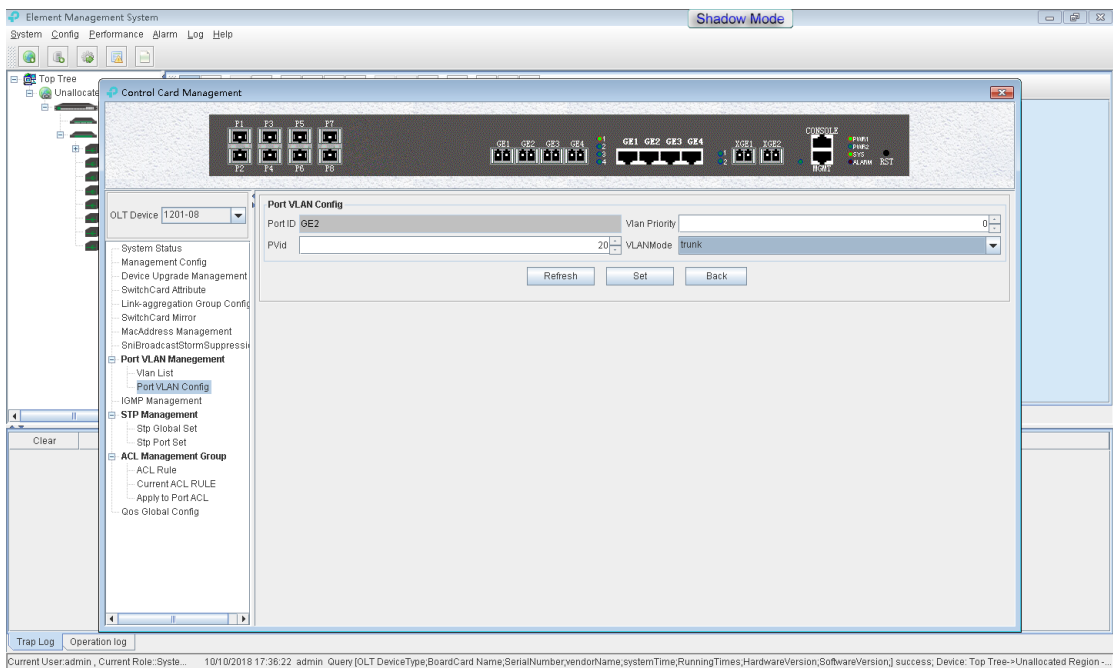
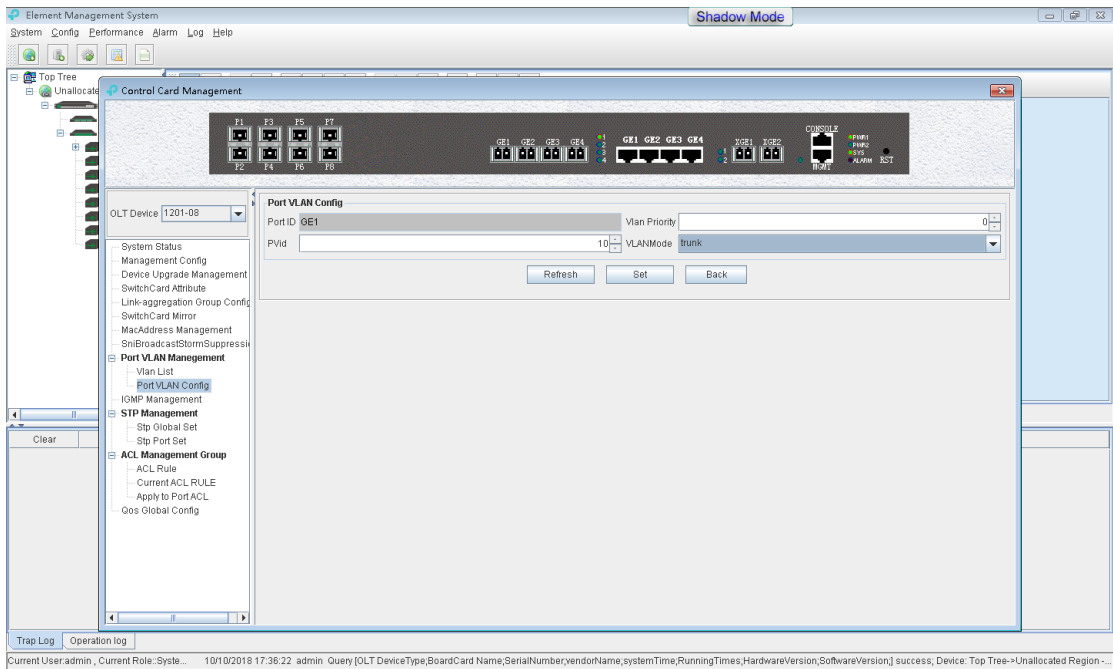
This configuration is applicable to DUT of TX-W6961N, TX-6610 and XR500v. It is provided as a reference document in order to resolve EMS configuration issues.

The testing work has been performed in our lab, we have achieved the network connection of “configure OLT with EMS and connect ONU” process.

## 4.1 Configure VLAN ID

Create two Vlan id, Vlan 10 for Internet and Vlan 20 for VoIP, and set the Vlan mode as “TRUNK”.

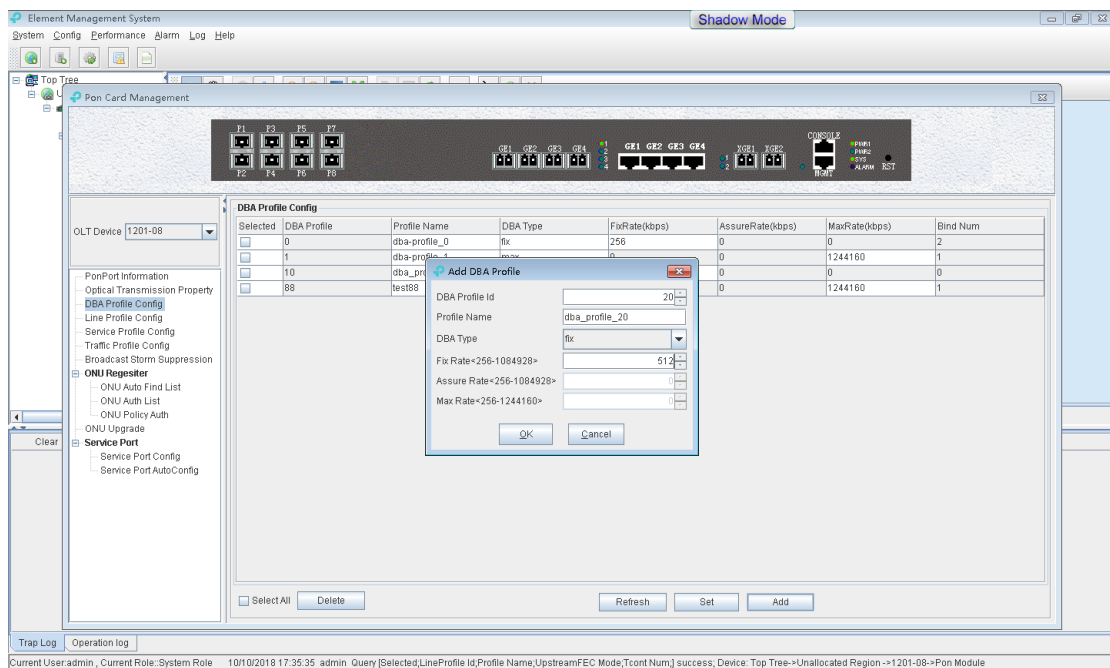
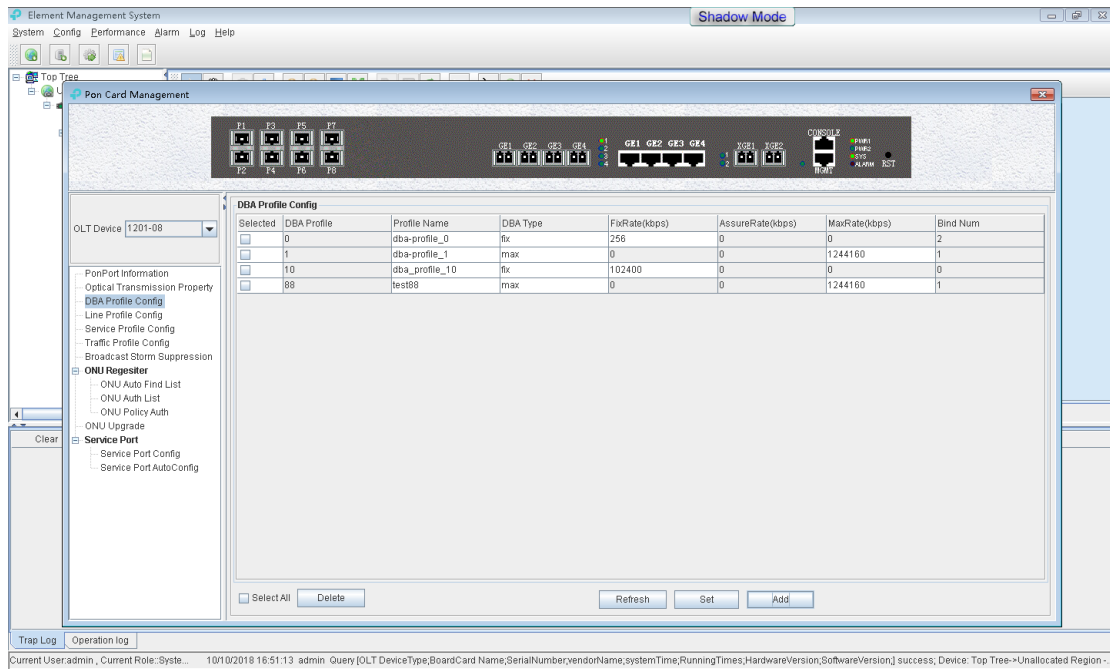




## 4.2 Configure PON Module

### 4.2.1 Configure DBA profile

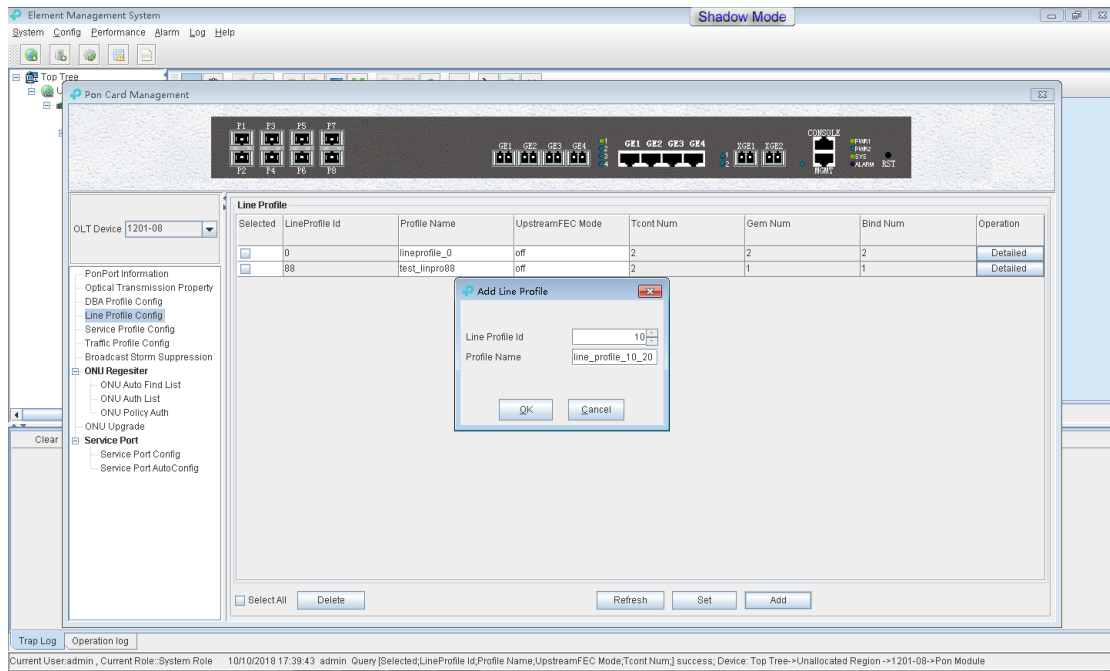
In the “DBA Profile Config” window, click “Add” button, and the “Add DBA Profile” dialog box will appear. Add two dba profiles, id 10 set as fix type for 100M up/down rate, id 20 set as fix 512kb.



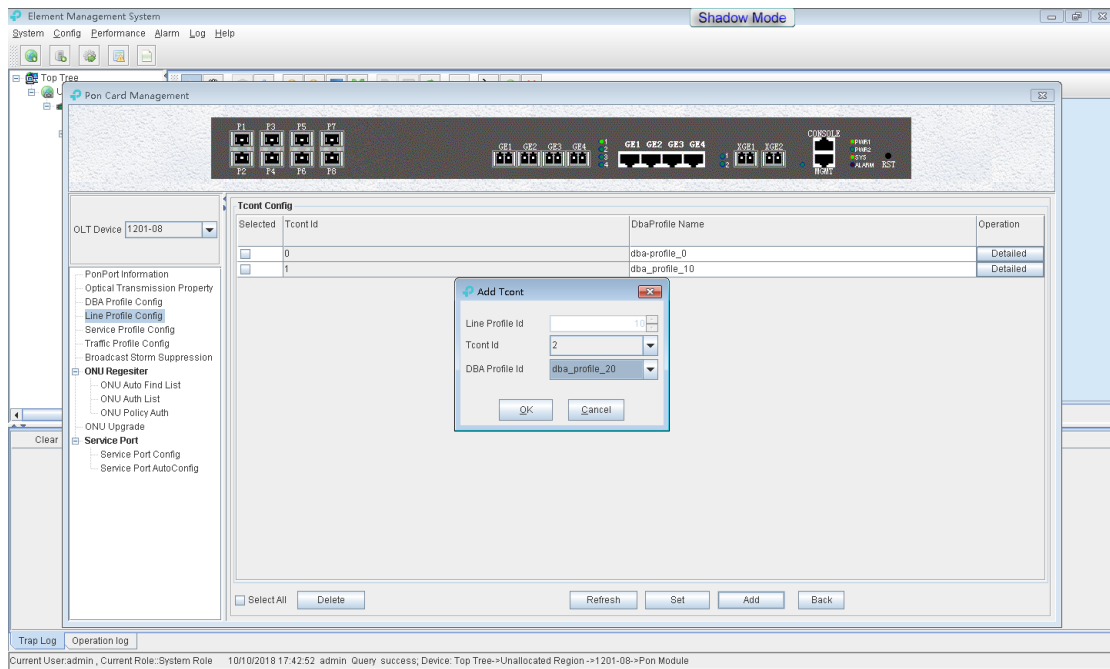
## 4.2.2 Configure ONT Line Profile

1. In "Line Profile Config" window, click the "Add" button and the "Add Line Profile" dialog box will appear. Input customized Line Profile ID, Profile Name and click "OK".

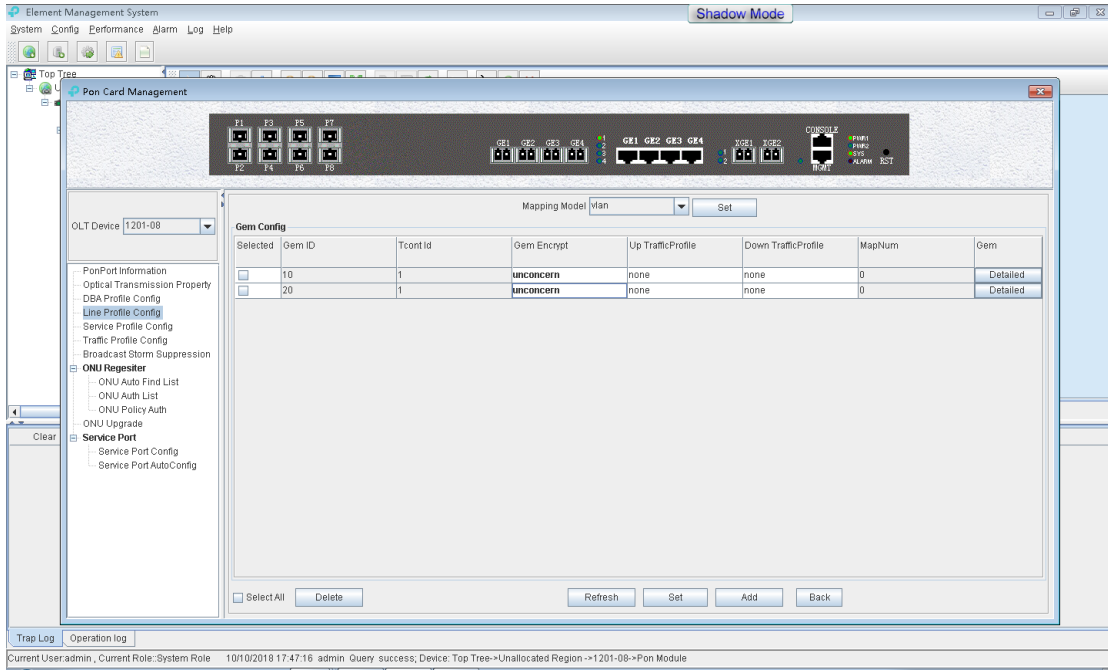
Only one Line profile is available.



- Configure two T-contents which are separately bound to the previous DBA profile.  
T-cont id 1 is bound to dba profile 10, T-cont id 2 is bound to dba\_profile 20.

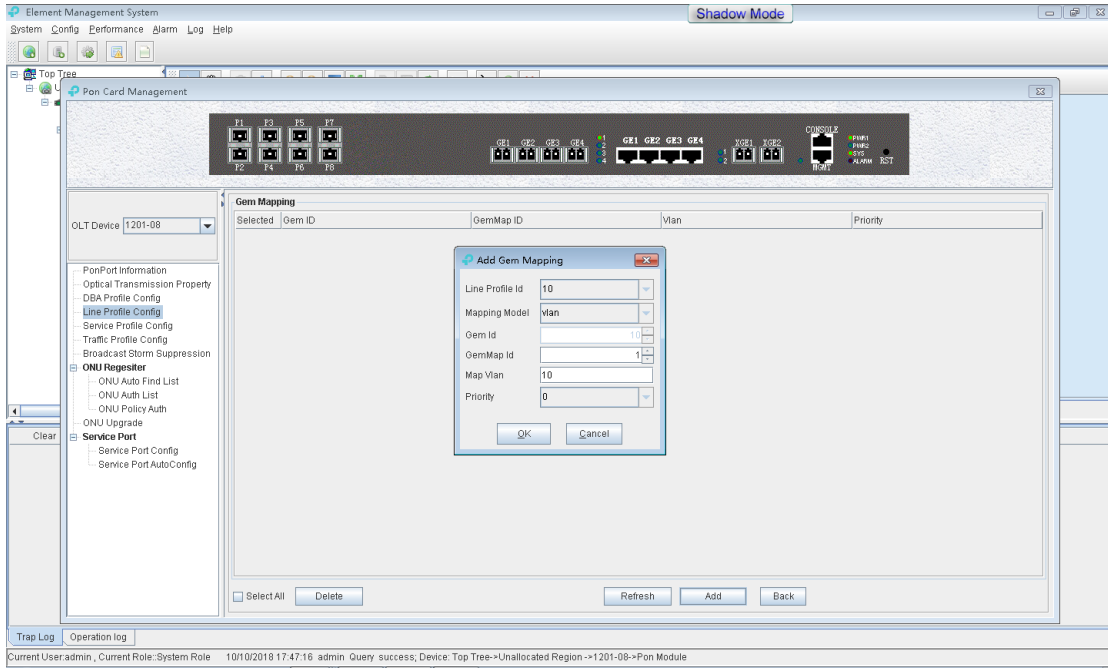


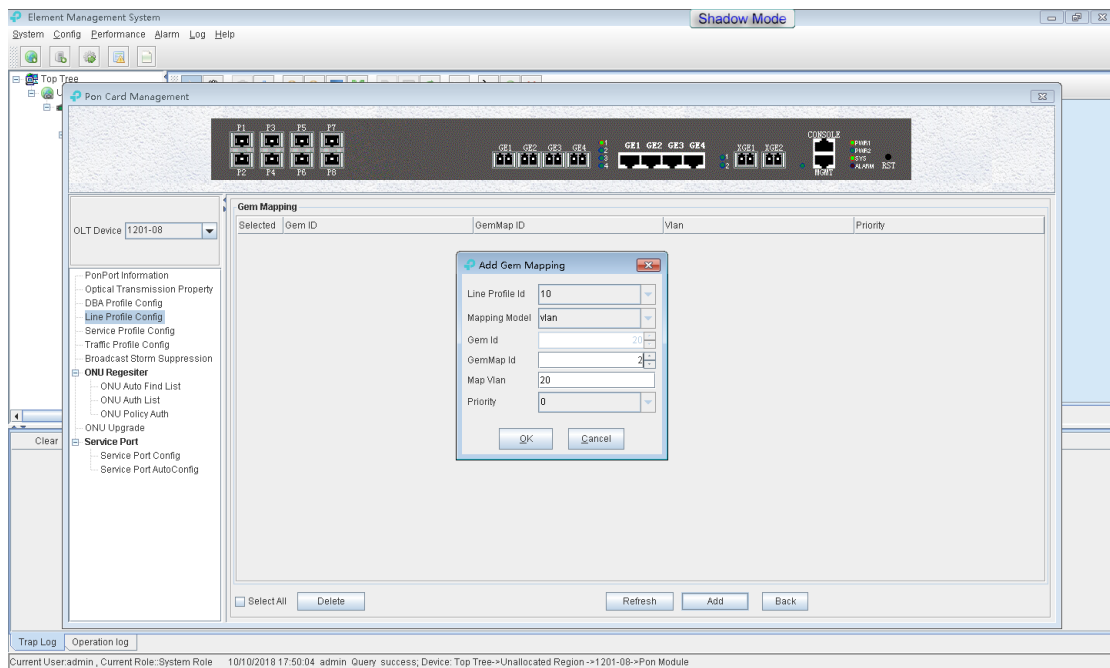
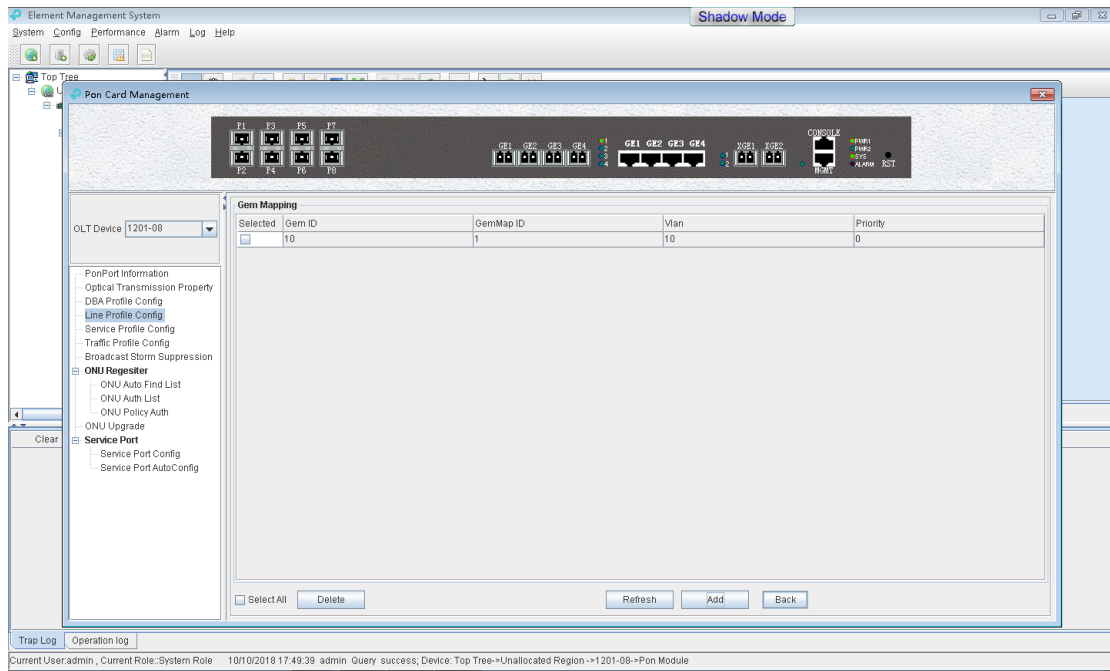
- Create gem port  
Two gem ports are required.



4. Create gem mapping

Each of the two Gem ports maps a Vlan.

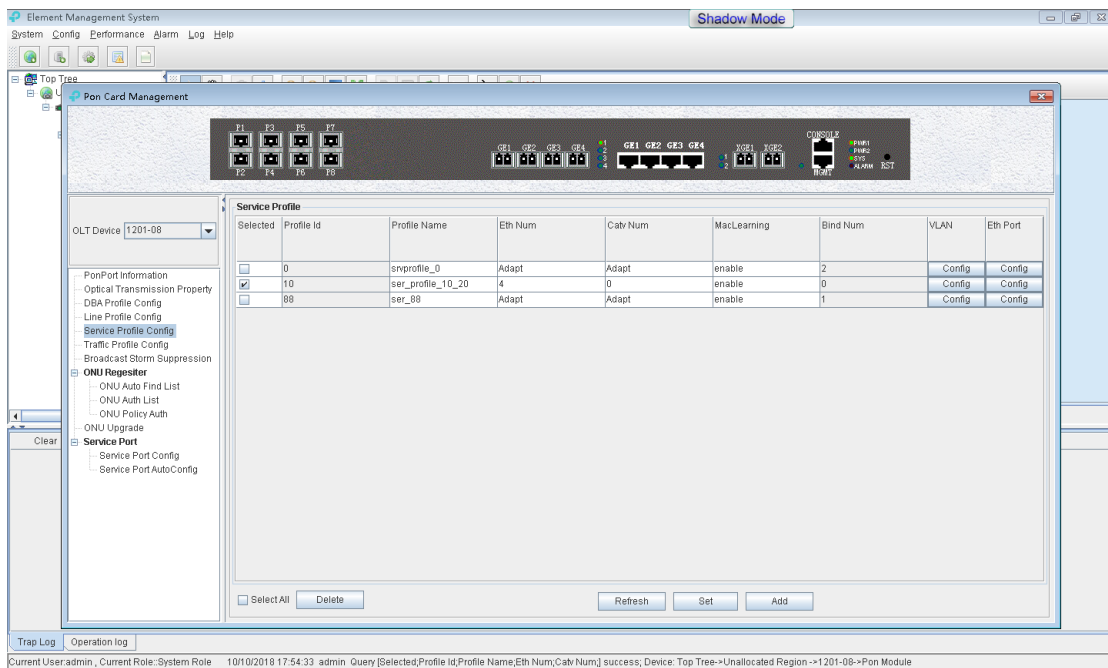




### 4.2.3 Configure ONT SrvProfile

In "Line Profile Config" window, click "Add" button and a "Add Line Profile" dialog box will appear. Input customized Line Profile ID, Profile Name and click "OK".

Only one srvProfile is required.

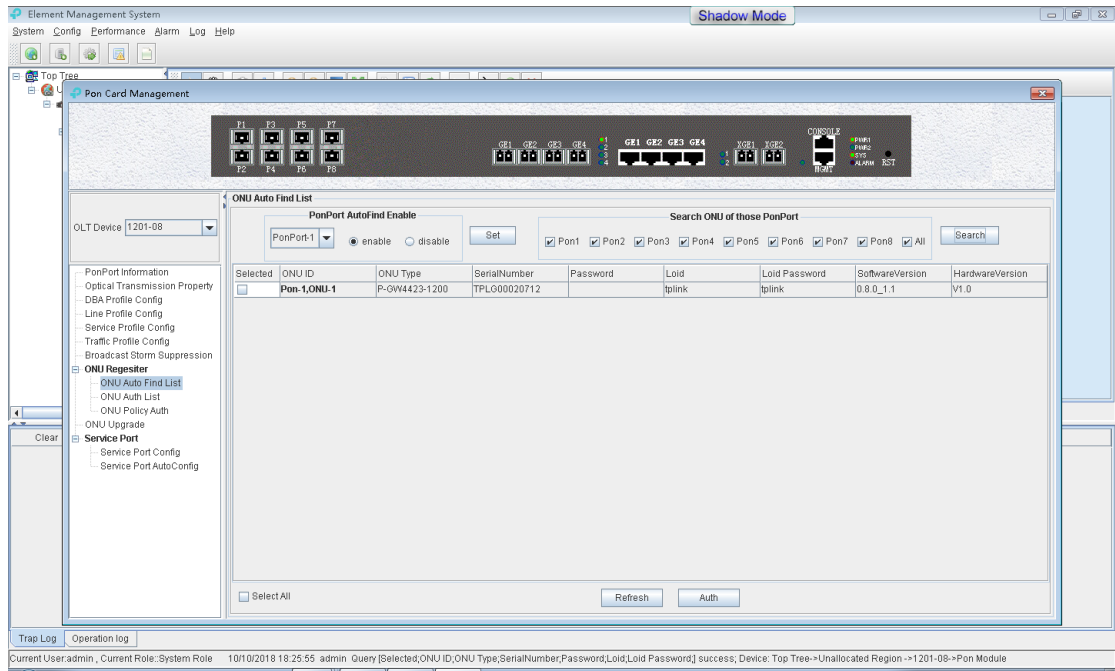


## 4.3 Add an ONT to OLT

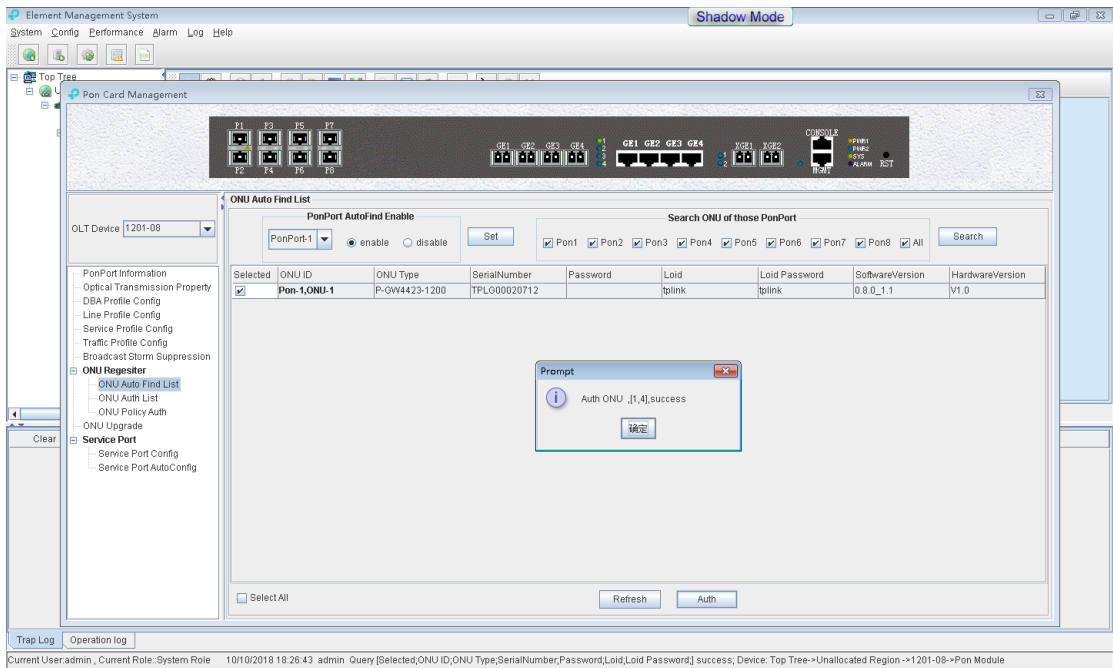
### 4.3.1 Open ONU Auto Discovery and Auth

1. Detect an ONU
  - 1) Enable the automatic find function of PON1 in the "ONU Auto Find List" window.
  - 2) Find ONU at the "Search ONU of those PonPort" section.



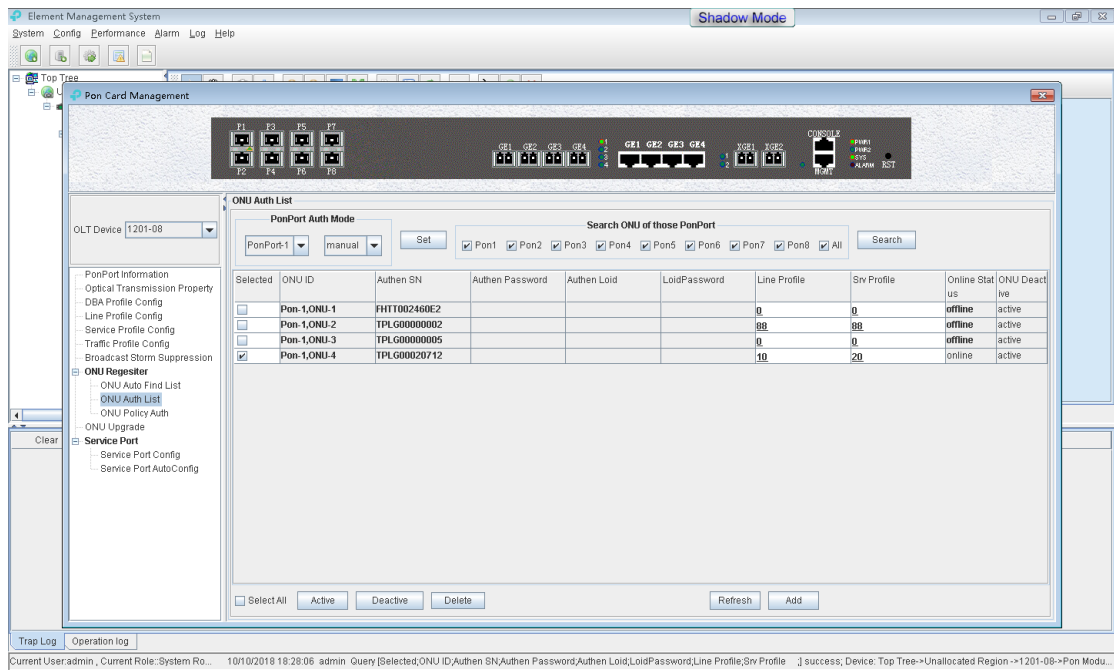


2. Select ONU and click the **"Auth"** button, and select the line and service profile created before.



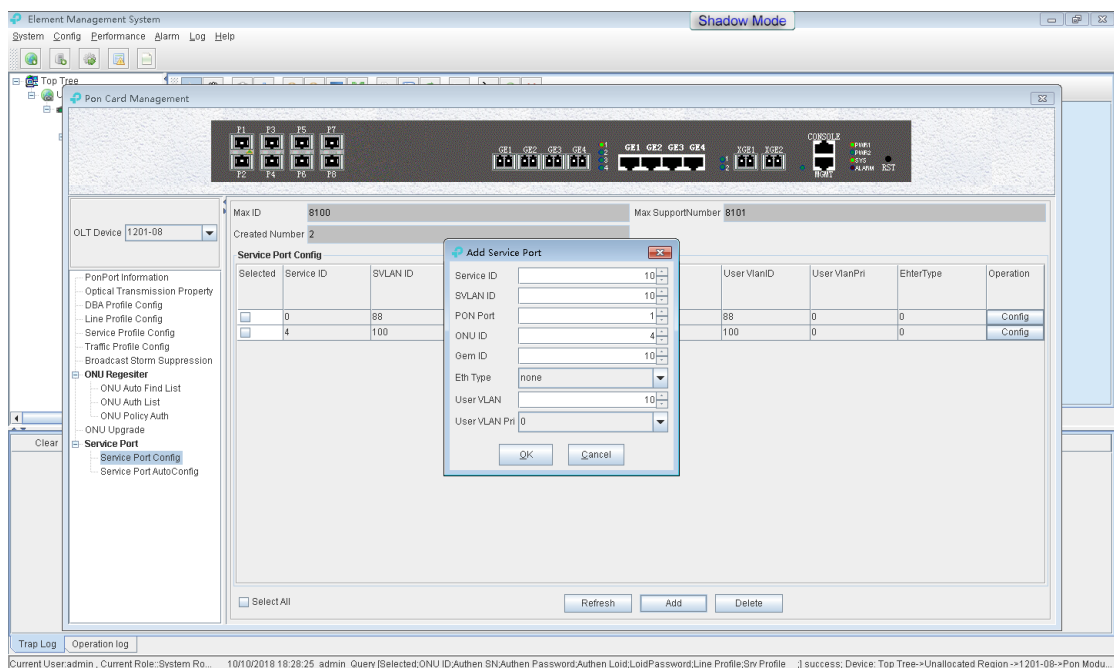


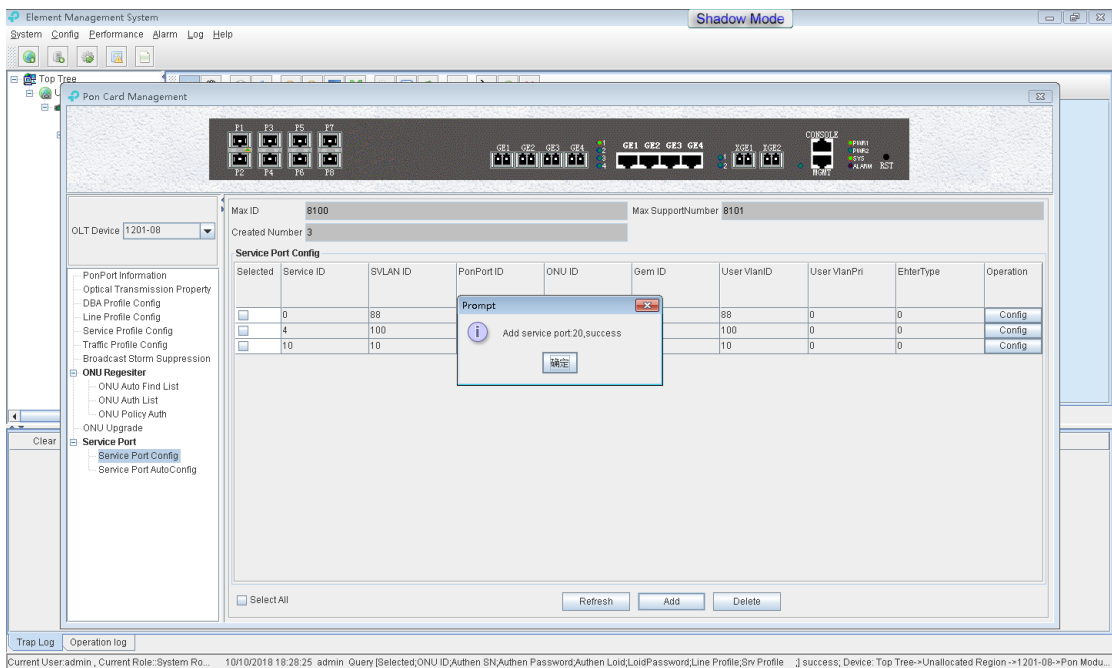
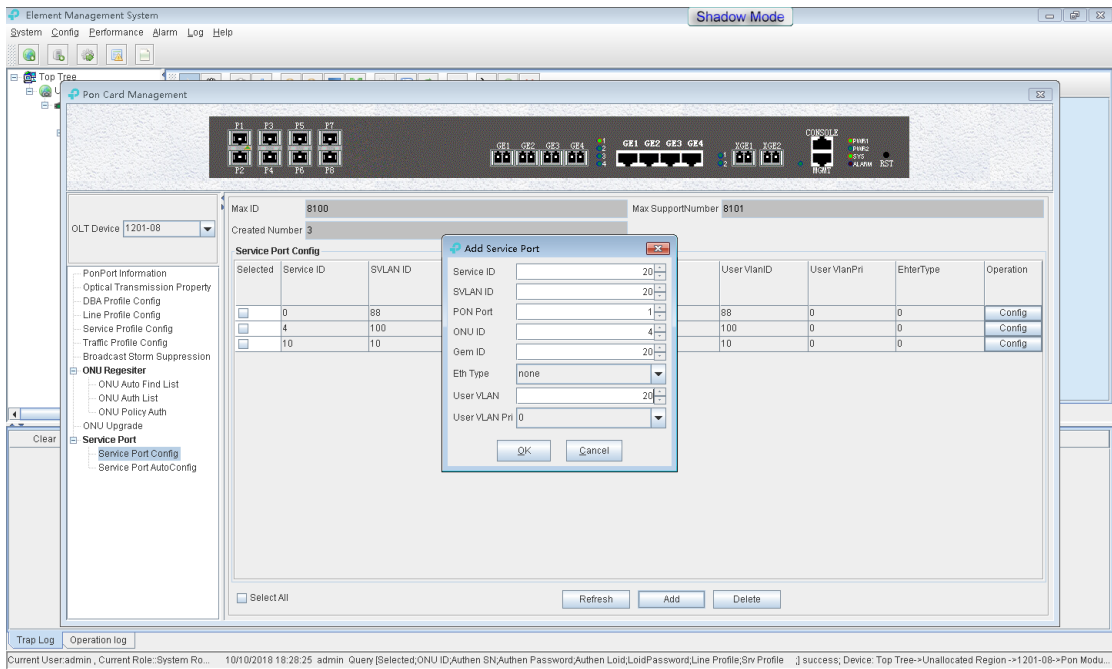
### 3. Check the ONU



### 4.3.2 Configure Service Port

Parameters setting: OUN ID is the same as the ID you checked before. Also, two service ports are required.





## 4.4 DUT Configuration Notice


### Notice 1:

When you finished the configuration of all the EMS operation, you must save the configuration, otherwise the data you set before will be lost and invalid!  
You can click the save config button to save your configuration.

### Notice 2:

When you have two vlans, you must set the mode of the vlan as TRUNK or Hybrid.

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