



Omada GPON Test Lab 2



tp-link Omada GPON Test Lab 2 User Guide

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tp-link Omada GPON Test Lab 2



Specifications

- Product Name: GPON Test lab 2 Guide
- Brand: Ot-link
- Test Lab: Lab2 – Create a Basic L2 Network with VLANs
- Supported VLANs: 10, 20, 1 (default VLAN)
- DHCP Pools:
 - VLAN 10: 192.168.10.1/24
 - VLAN 20: 192.168.20.1/24
 - Default VLAN: 192.168.0.1/24 (gateway default)

Product Usage Instructions

Configuration Steps:

1. Create Network VLAN 10 and VLAN 20.
 - Staff_Network:
 - Guest_Network:
2. Configure OLT:
 1. Create S_VLAN 10 & VLAN 20
 - VLAN 10:
 - VLAN 20:
 2. Config Line Profile:
 - Create a T-cont profile

FAQ

- **Q: How do I verify the network configuration after setup?**

- A: Connect a device to Staff_SSID and Guest_SSID to check if the IP addresses are assigned correctly.

- **Q: What should I do if the service ports are not active?**

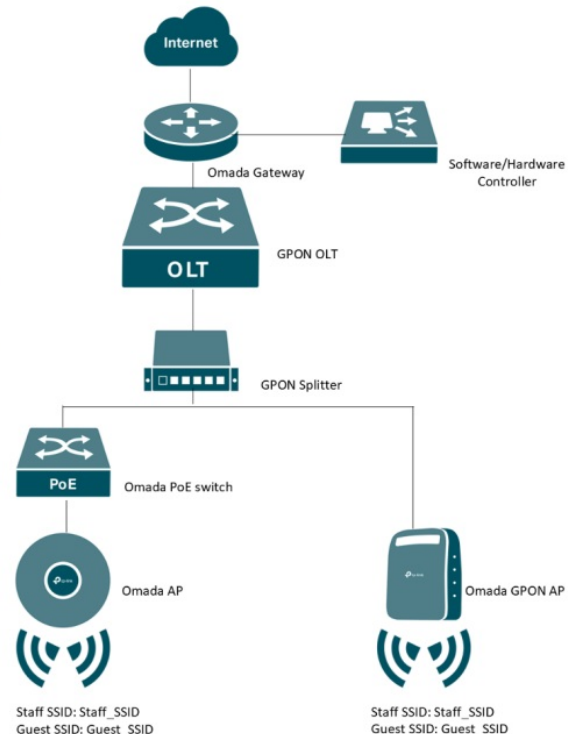
- A: Deactivate and activate the ONU again, then ensure all service ports are active.

Lab 2: Create a Basic L2 Network with VLANs

Usage	VLAN ID	DHCP Pool
Staff	10	192.168.10.1/24
Guest	20	192.168.20.1/24
Management VLAN	1 (default VLAN)	192.168.0.1/24 (gateway default)

Test Items:

- ❖ Create Network for VLAN 10 & VLAN 20 and create the corresponding DHCP pool.
- ❖ Configure the GPON OLT on the Omada Controller
- ❖ Check the connectivity and test the performance



Lab 2: Create a Basic L2 Network with VLANs

VLAN Plan:

Usage	VLAN ID	DHCP Pool	Note
Staff	10	192.168.10.1/24	
Guest	20	192.168.20.1/24	
Management VLAN	1 (default VLAN)	192.168.0.1/24 (gateway default)	

Port Plan:

Device	Ports	VLAN config	Note
Gateway	ports connected to the OLT uplink	VLAN 10 - tagged VLAN 20 - Tagged	VLAN 1 keeps as default PVID =1 as default
OLT	uplink ports connected to the Gateway	VLAN 10 - tagged VLAN 20 - tagged	VLAN 1 keeps as default PVID =1 as default
PoE switch	uplink ports connected to the OLT	VLAN 10- tagged VLAN 20- tagged	VLAN 1 keeps as default PVID=1 as default
PoE switch	downlink ports connected to the AP	VLAN 10- tagged VLAN 20- tagged	VLAN 1 keeps as default PVID=1 as default
PoE switch	downlink ports connected to the staffs	VLAN 10- untagged PVID =10	optional
PoE switch	downlink ports connected to the guests	VLAN 20- untagged PVID =20	optional

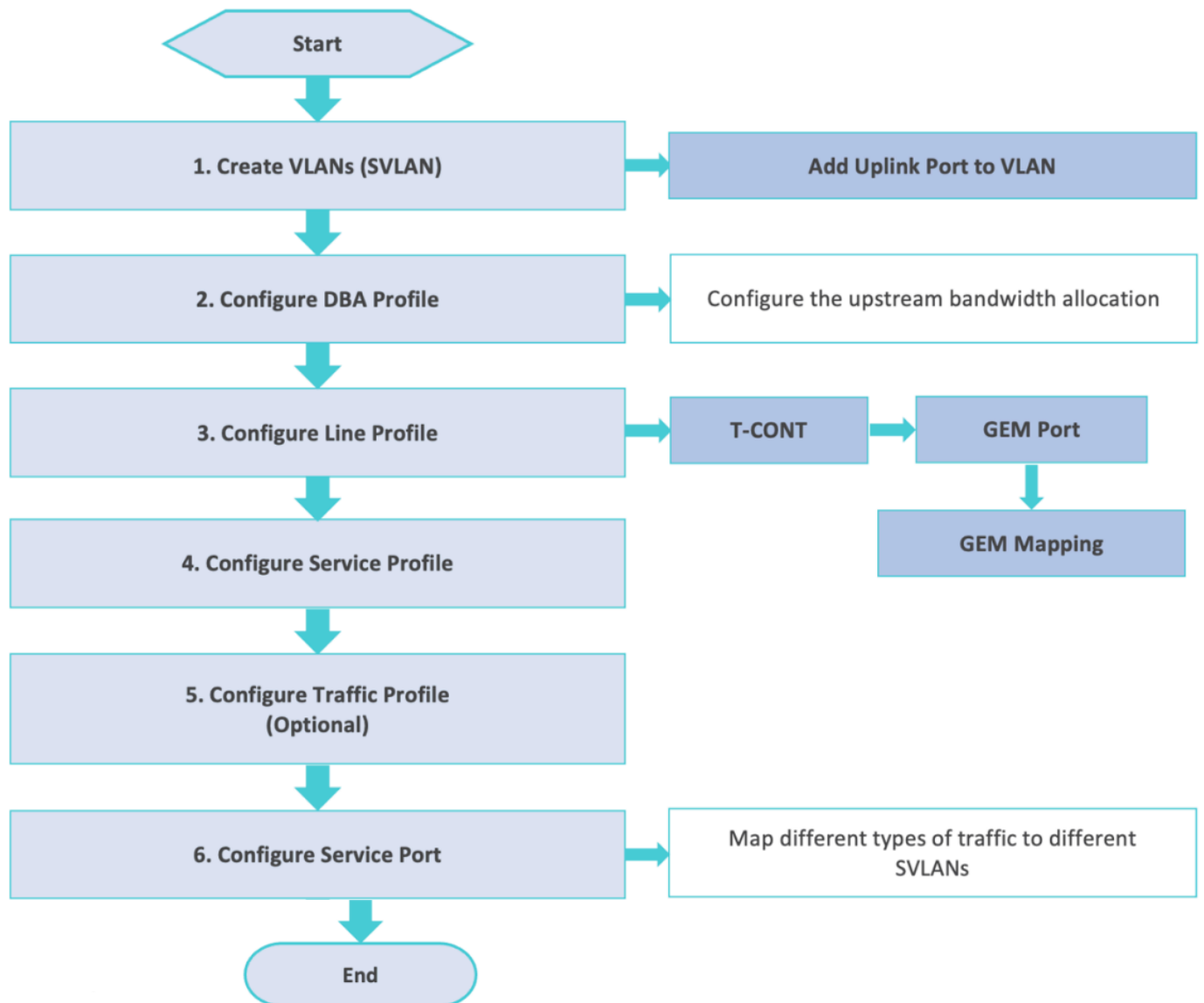
SSID Plan:

SSID	VLAN ID	Encryption	Port
Staff_SSID	10	WPA2-PSK	N/A
Guest_SSID	20	Open	Voucher + Form

GPON Config, Plan

Service	T-Cont	Gem port	DBA profile	Service Profile	Traffic Profile	S-VLAN ID	C-VLAN	Note
Staff network	T-cont 1	GEM 1	Default	Default	N/A	10	10	GEM Mapping mode: VLAN based VLAN mode: transparent
Guest	T-cont 1	Gem 2	Default	Default	N/A	20	20	GEM Mapping mode: VLAN based VLAN mode: transparent
Management VLAN	T-Cont 1	Gem 3	Default	Default	N/A	1	N/A	GEM Mapping mode: VLAN based VLAN mode: Default

Configuration Steps for OLT Service



Configuration Steps

1. Create Network VLAN 10 and VLAN 20.

Staff_Network:

Site Settings

Site

Wired Networks

Internet

LAN

Wireless Networks

Network Security

Transmission

VPN

Profiles

Authentication

Services

CLI Configuration

Networks

Switch Profile

Switch Settings

Create New LAN

Name:

Purpose: ☒ Interface ☐ VLAN

LAN Interfaces: ☒ WAN/LAN1 ☒ WAN/LAN2 ☒ LAN1 ☒ LAN2

VLAN Type: ☒ Single ☐ Multiple

VLAN: (1-4090) ⓘ

Gateway/Subnet: / ⓘ [Update DHCP Range](#)

Gateway IP	192.168.10.1
Network Broadcast IP	192.168.10.255
Network IP Count	254
Network IP Range	192.168.10.1 - 192.168.10.254
Network Subnet Mask	255.255.255.0

Domain Name: (Optional)

IGMP Snooping: ☐ Enable ⓘ

MLD Snooping: ⓘ ☐ Enable ⓘ

DHCP Server: ☒ Enable

DHCP Range: -

DNS Server: ☒ Auto ☐ Manual

Lease Time: minutes (2-2880)

Default Gateway: ☒ Auto ☐ Manual

Guest_Network:

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Site Settings | **Networks** | Switch Profile | Switch Settings

Site

Wired Networks

Internet

LAN

Wireless Networks

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CLI Configuration

Create New LAN

Name: Guest_Network

Purpose: ☒ Interface ☐ VLAN

LAN Interfaces: ☒ WAN/LAN1 ☒ WAN/LAN2 ☒ LAN1 ☒ LAN2

VLAN Type: ☒ Single ☐ Multiple

VLAN: 20 (1-4090)

Gateway/Subnet: 192 . 168 . 20 . 1 / 24 [Update DHCP Range](#)

Gateway IP	192.168.20.1
Network Broadcast IP	192.168.20.255
Network IP Count	254
Network IP Range	192.168.20.1 - 192.168.20.254
Network Subnet Mask	255.255.255.0

Domain Name: (Optional)

IGMP Snooping: ☐ Enable

MLD Snooping: ☐ Enable

DHCP Server: ☒ Enable

DHCP Range: 192 . 168 . 20 . 1 - 192 . 168 . 20 . 254

DNS Server: ☒ Auto ☐ Manual

Lease Time: 120 minutes (2-2880)

Default Gateway: ☒ Auto ☐ Manual

Step 2: configure OLT

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Organization: lab 2

Device List | Device Group | Configuration Result

Search Name, SN, IP, Model or Tag

ALL Gateway/Switches OLTs APs

DEVICE NAME	IP ADDRESS	STATUS	MODEL	VERSION
78-8C-B5-F7-81-74	192.168.0.1	CONNECTED	ER805 v2.0	2.2.4
9C-53-22-73-2E-0E	192.168.0.103	CONNECTED	SG2210P v5.20	5.20.0
1C-81-B4-3D-06-FE	192.168.0.102	CONNECTED	EAP650(EU) v1.0	1.0.13
DS-P7001-08_960A...	192.168.0.100	CONNECTED	DS-P7001-08 1.0	1.0.9

Showing 1-4 of 4 records

10 /page

Go to page: [GO](#)

Organization: lab 2

DS-P7001-08_960AA0 [CONNECTED]

XGE 1/0/1-2 GE 1/0/3

PCN 1/0/1-8

Disabled 10/100 Mbps Disconnected 1000 Mbps Connected 10 Gbps

Details Ports Config

General

Name: DS-P7001-08_960AA0

Devices Tags: Please Select...

Longitude: (Optional, -150-180, with a maximum of 16 decimal places.)

Latitude: (Optional, -90-90, with a maximum of 16 decimal places.)

Address: (Optional) [Refresh](#)

[Apply](#) [Cancel](#)

Settings

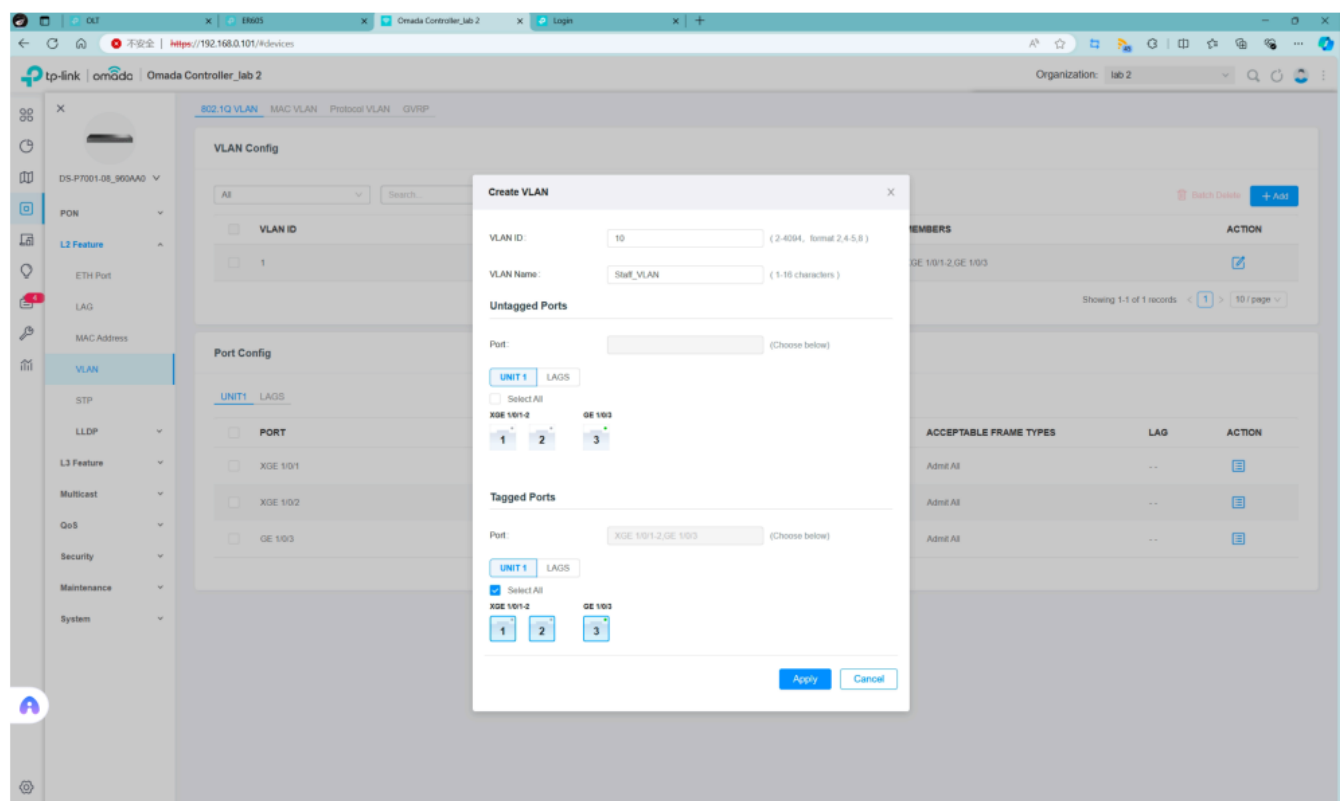
Go to Settings

[Settings](#)

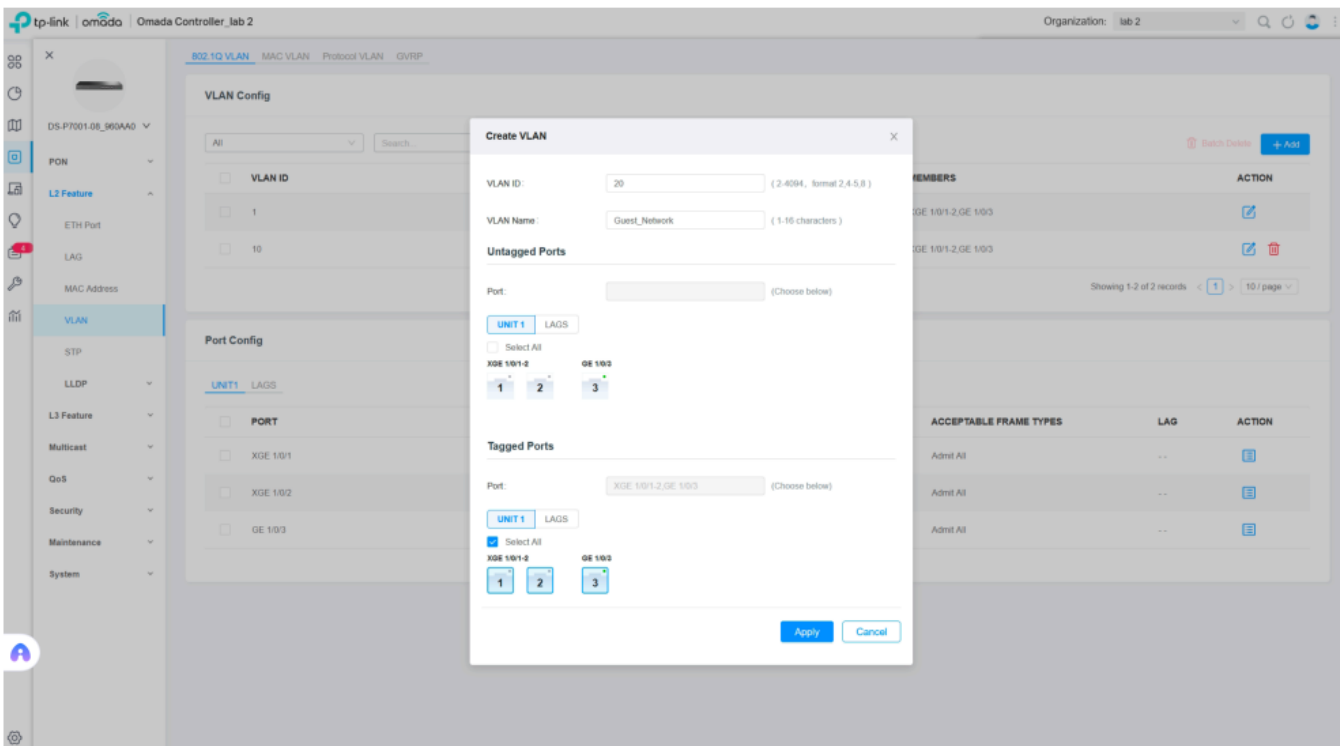
Manage Device

Step 2.1 Create S_VLAN 10 & VLAN 20

VLAN 10:



VLAN 20:



Step 2.2 config Line Profile

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DBA Line Services Traffic

Line Profile Config

All Search

Batch Delete Add

PROFILE ID	PROFILE NAME	UPSTREAM FEC	MAPPING MODE	T-CONT NUMBER	GEM PORT NUMBER	IN USE	ACTION
0	default		VLAN	1	1	In Use	

Showing 1-1 of 1 records < 1 > 10 / page

tp-link | omada | Omada Controller_lab 2 Organization: lab 2

< Back

Create Line Profile

General Config

Profile ID: 1 (1-512)

Profile Name: gpon_lab (1-32 characters)

Upstream FEC: ☐

OMCC Encrypt: ☐

Mapping Mode: VLAN

Apply Cancel

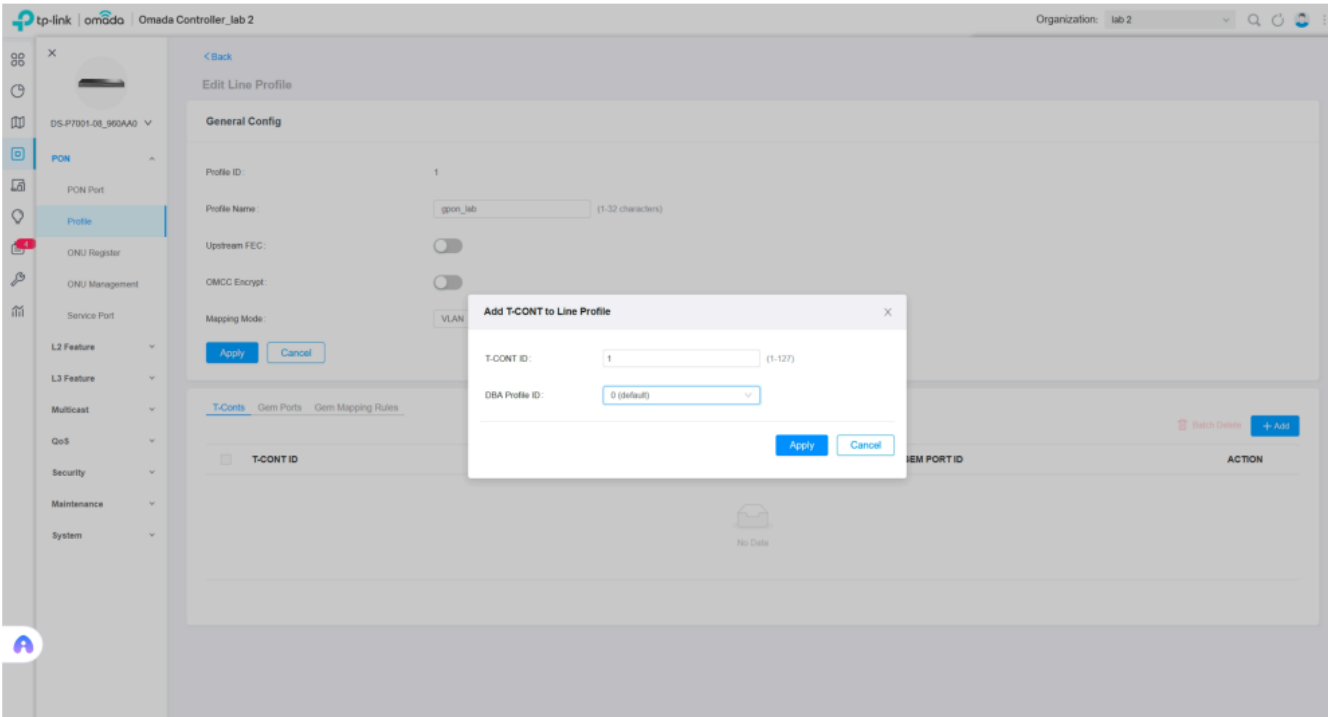
T-Conts Gem Ports Gem Mapping Rules

Batch Delete Add

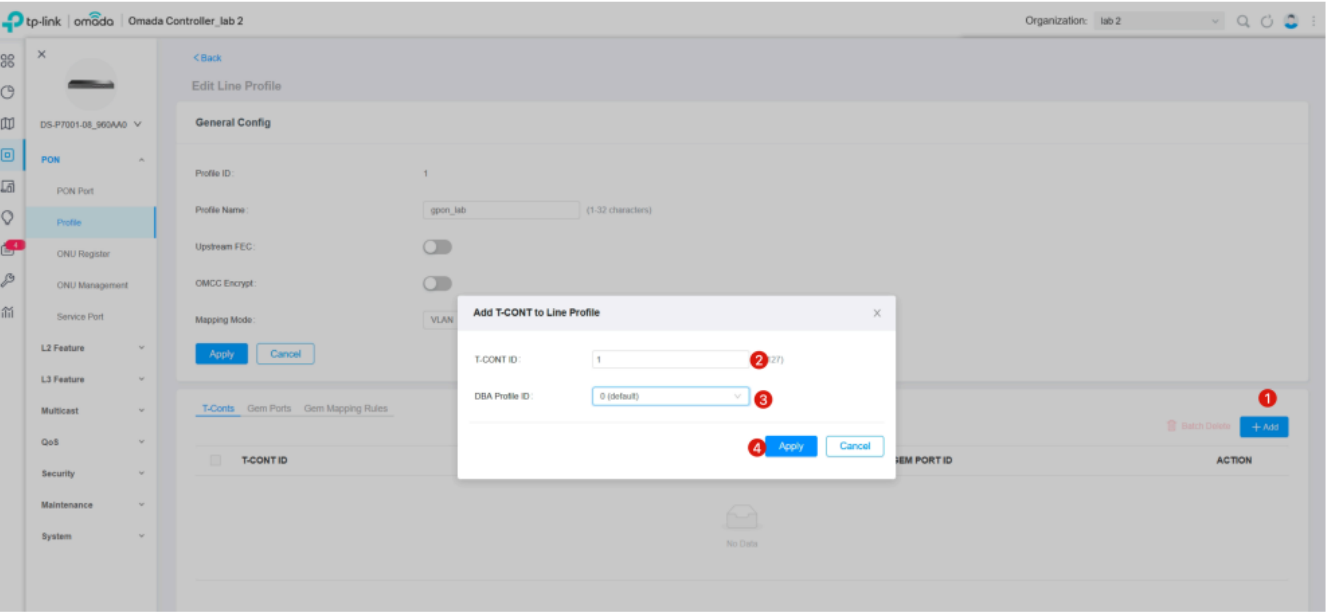
T-CONT ID	DBA PROFILE ID	GEM PORT ID	ACTION
-----------	----------------	-------------	--------

You should finish General Config first before configuring T-CONTs, GEM Ports, and GEM Mapping Rules.

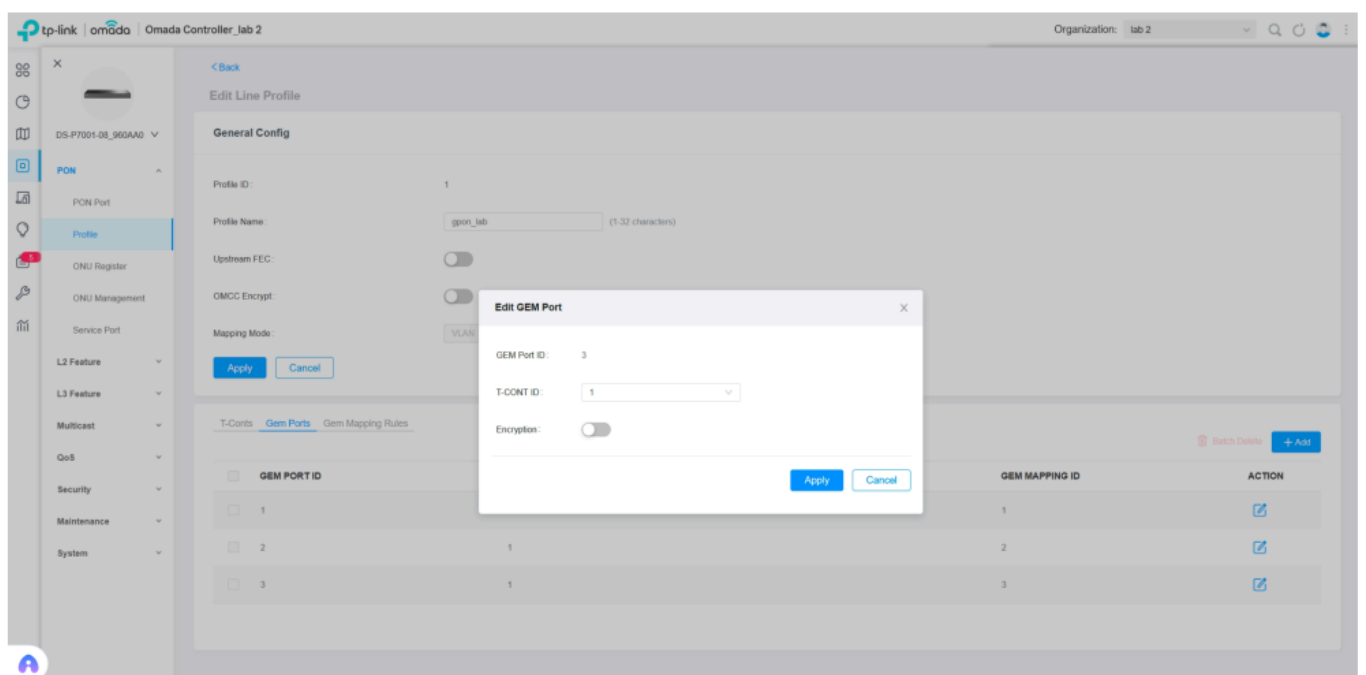
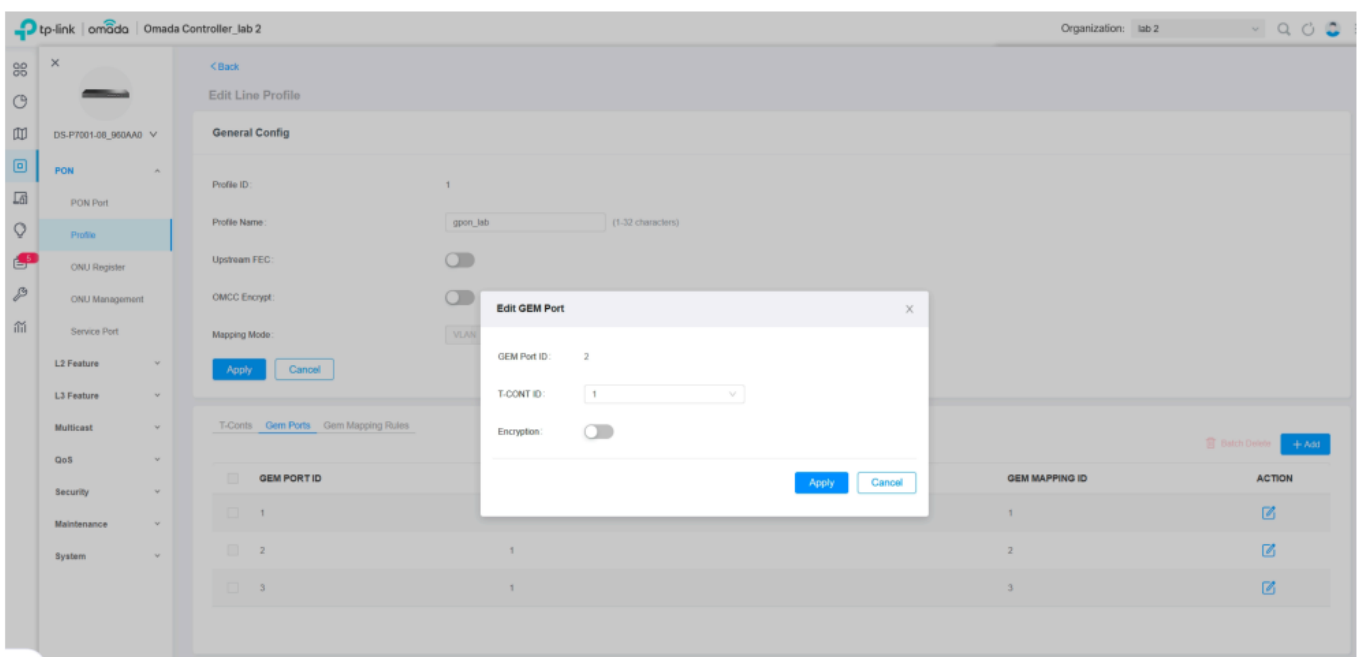
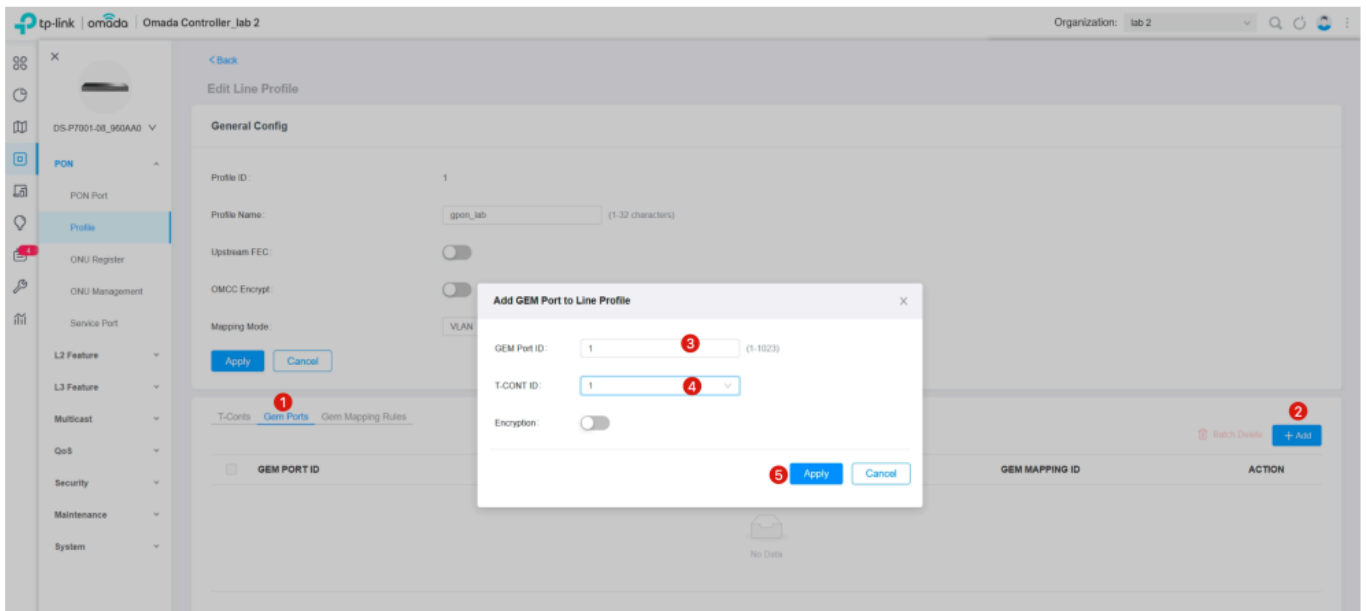
create a T-cont profile



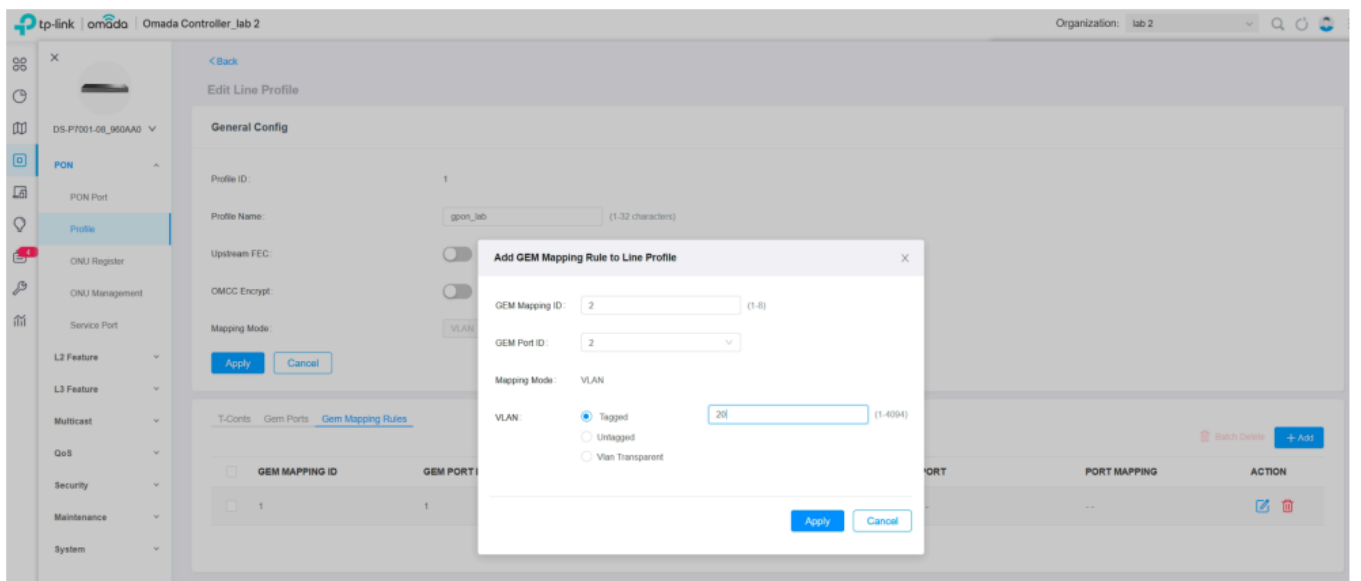
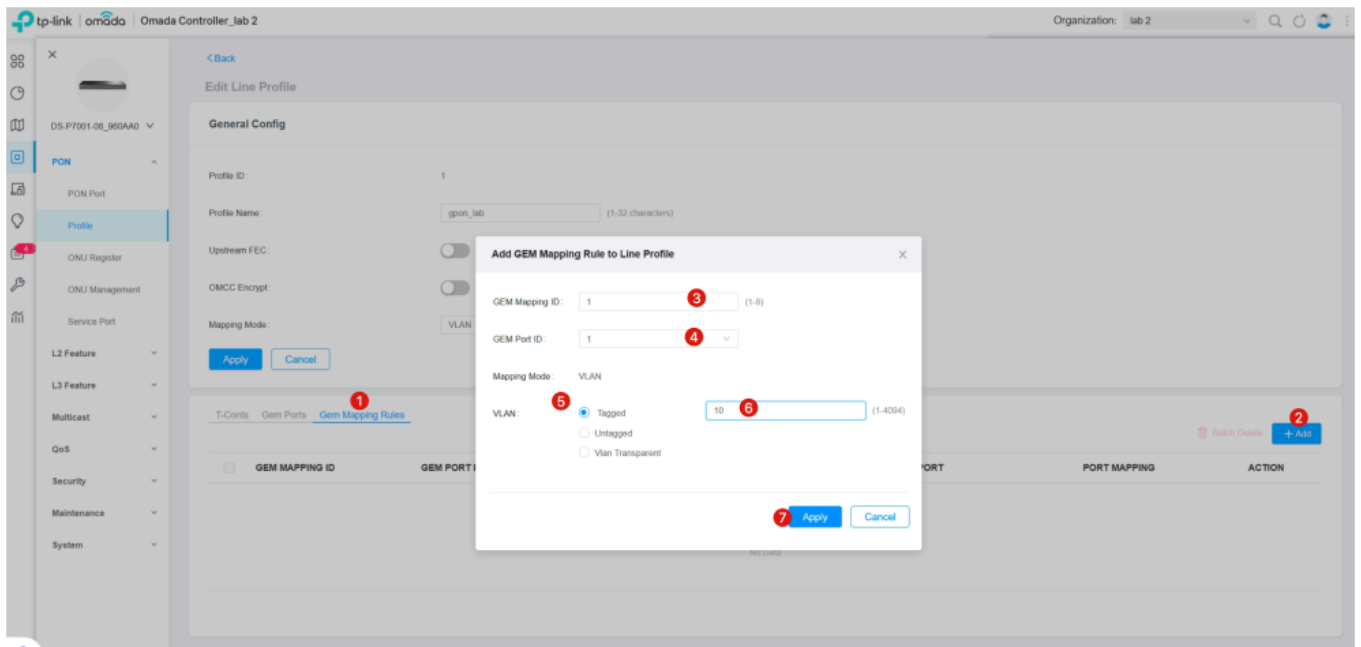
create a T-cont



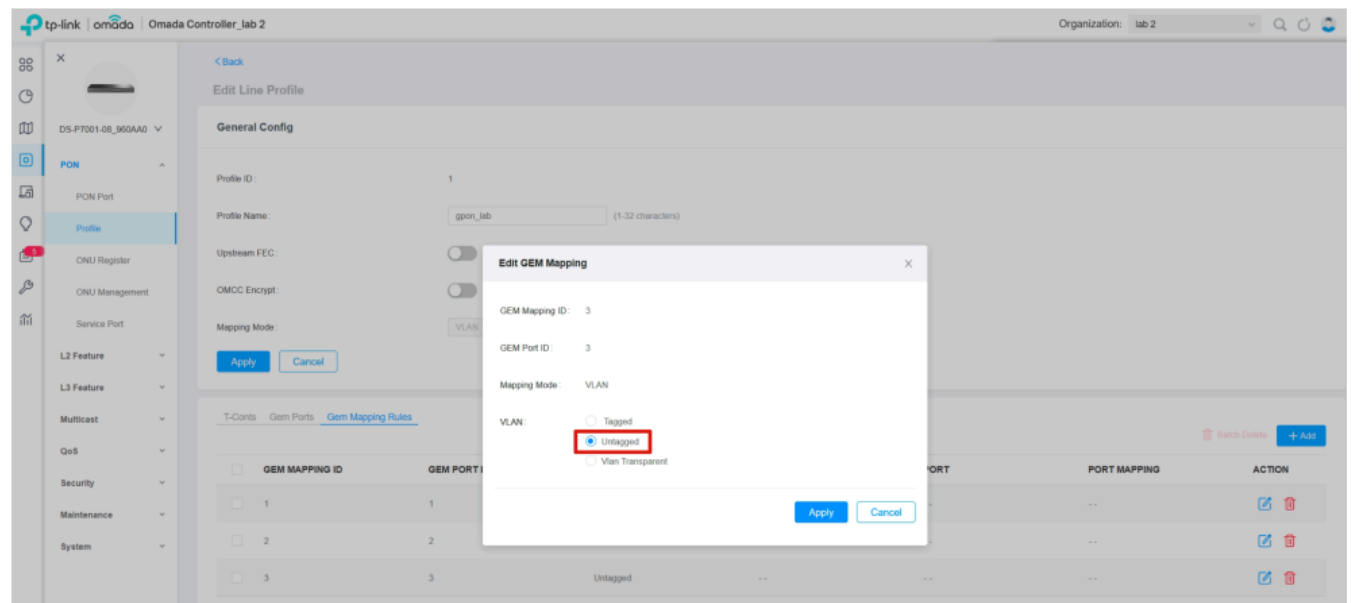
create a two GEM port, GEM port 1 for VLAN 10, and GEM port 2 for VLAN 20, GEM port 3 for VLAN 1



create the GEM mapping rule. Map GEM port 1 to VLAN 10, map GEM port 2 to VLAN 20, map GEM port 3 to VLAN 1

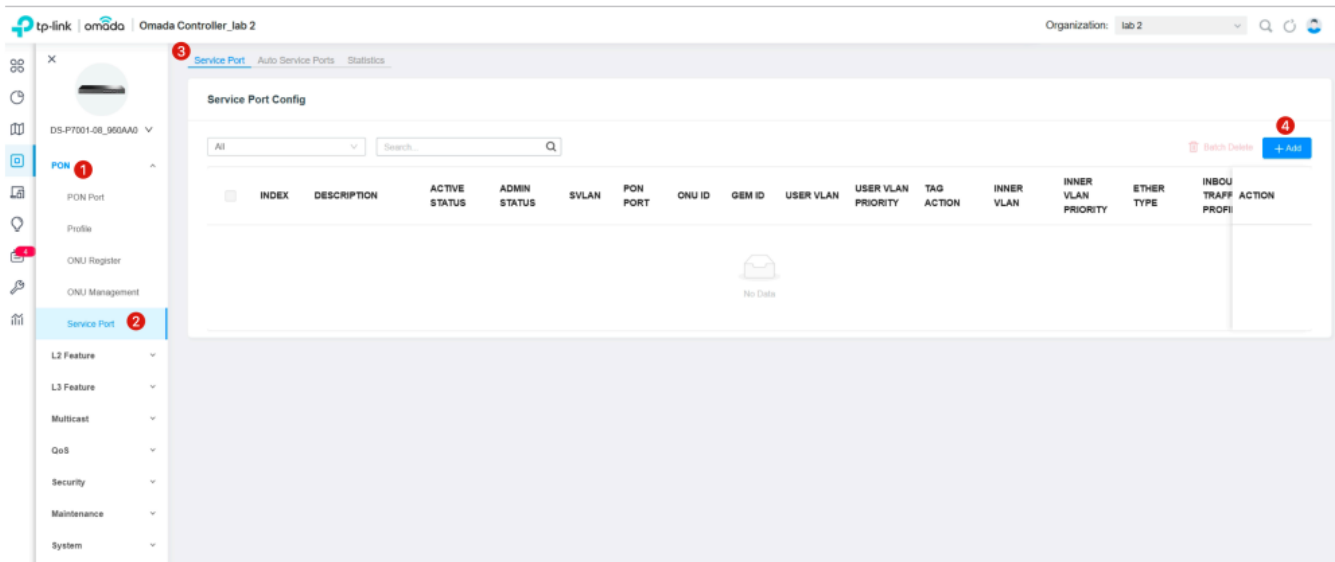


VLAN 1 is untagged in our test, make sure you have selected the untagged option

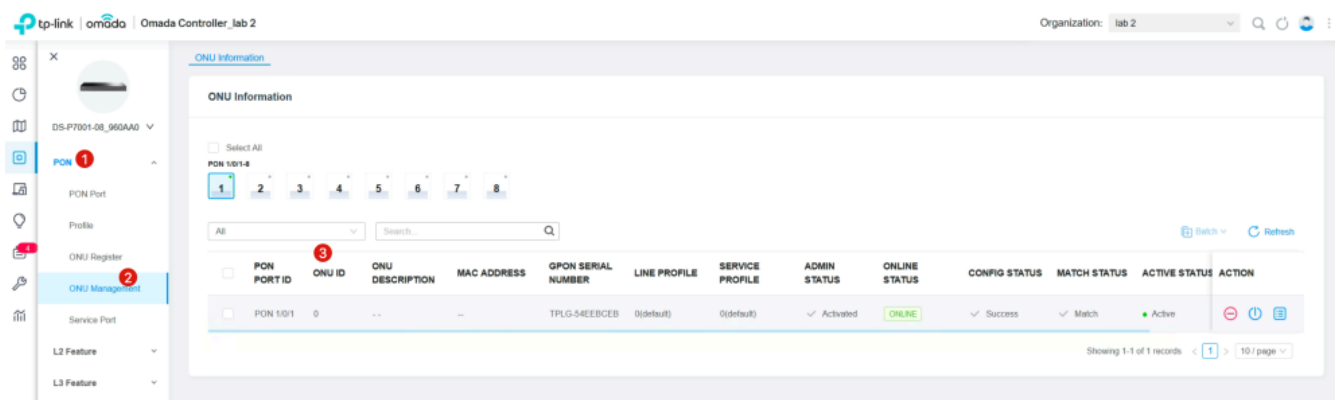


check all the setting above.

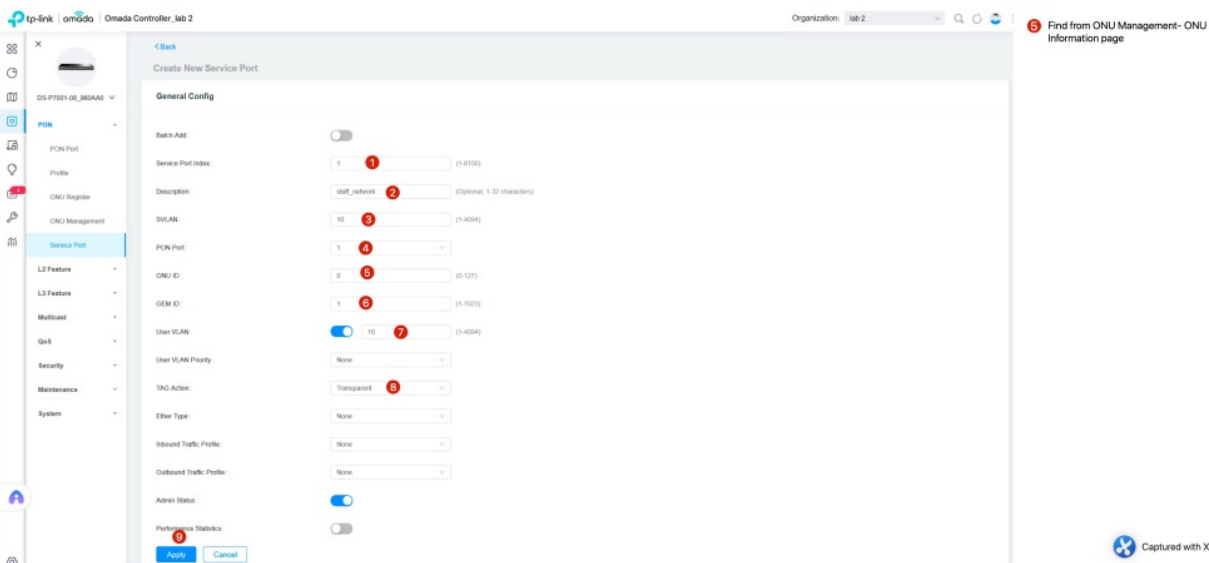
Step 2.3 create the Service Port

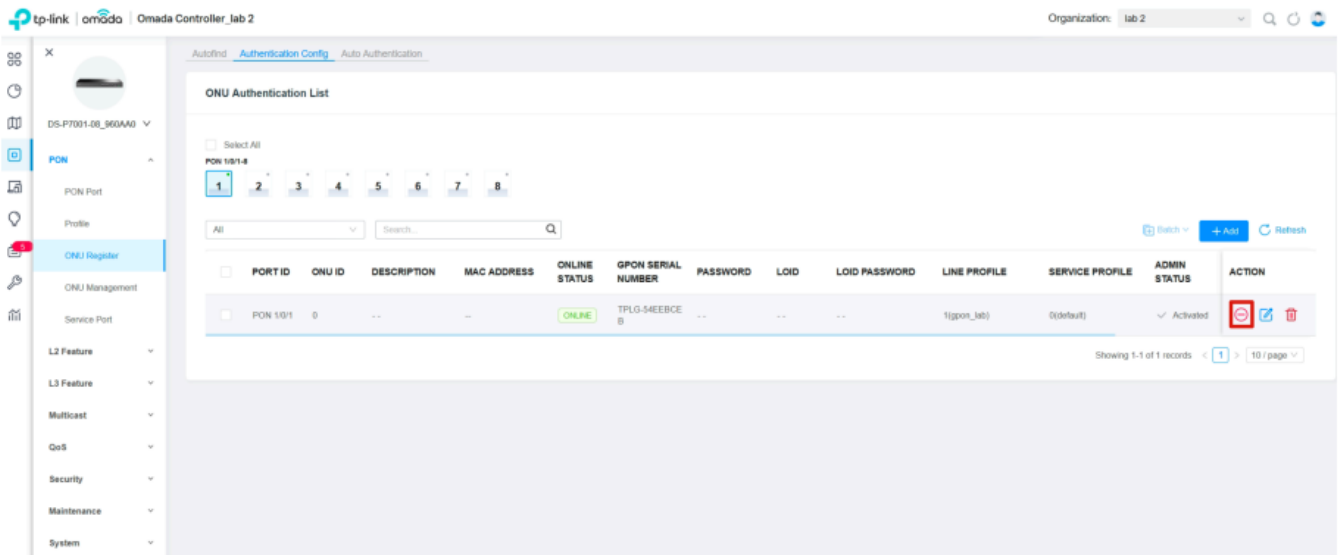


tip: Find the ONU ID, write it down. It will be used for Service Port configuration.

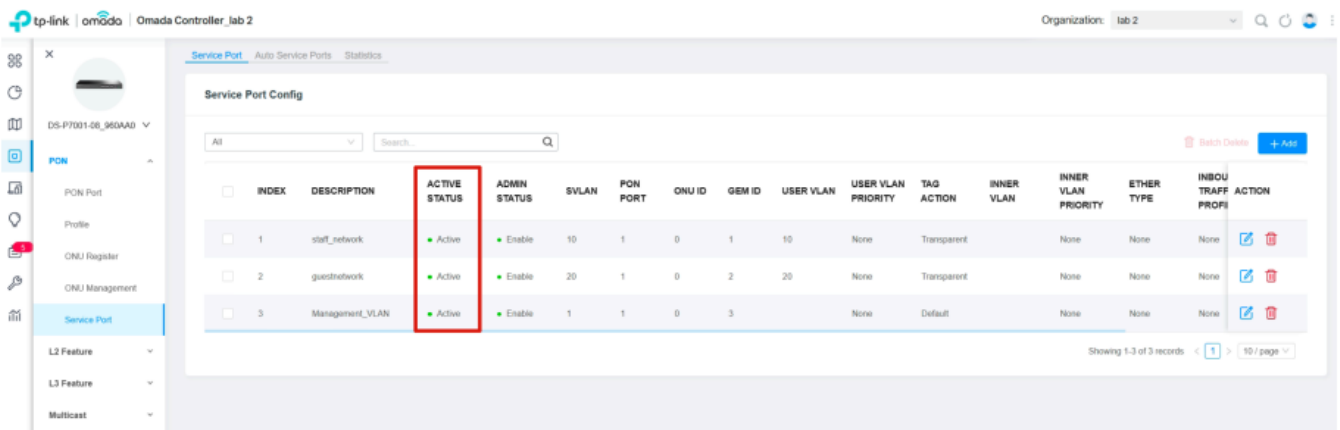


Create service port for staff network: map C-VLAN 10 to S-VLAN 10, tag action – transparent





check the service port, make sure all the service port are Active



Now you can follow the steps above to configure other ONUs.

Step 3. Configure the Switch

create switch profile for Staff_network

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Create New Port Profile

NAME:

PoE:
☒ Keep the Device's Settings
☐ Enable
☐ Disable

Apply to Easy Managed Switch:
☐ Enable

Networks/VLANs

Native Network:

Tagged Networks:

Untagged Networks:

Voice Network:

Advanced Options

Save

Cancel

create Guest_Network switch profile

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Wireless Networks

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CLI Configuration

Networks

Switch Profile

Switch Settings

Create New Port Profile

NAME: Staff_Network 1

PoE:
☒ Keep the Device's Settings
☐ Enable
☐ Disable

Apply to Easy Managed Switch: ☐ Enable

Networks/VLANs

Native Network: Default(1) i

Tagged Networks: Staff_Network(10) x 2 i

Untagged Networks: Default(1) x i

Voice Network: None i

Advanced Options

3

Save Cancel

create Guest_Network switch profile

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Switch Settings

Create New Port Profile

NAME: Guest_Network 1

PoE:
☒ Keep the Device's Settings
☐ Enable
☐ Disable

Apply to Easy Managed Switch: ☐ Enable

Networks/VLANs

Native Network: Default(1) i

Tagged Networks: Guest_Network(20) x 2 i

Untagged Networks: Default(1) x i

Voice Network: None i

Advanced Options

3

Save Cancel

Step 4. bind the Staff_SSID with VLAN 10 and Guest_SSID with VLAN 20.

- Site Settings
- Site
- Wired Networks
- Wireless Networks
- WLAN
- WLAN Optimization
- Network Security
- Transmission
- VPN
- Profiles
- Authentication
- Services
- CLI Configuration

Edit Wireless Network

Network Name (SSID):

Device Type: ☒ EAP ☐ Gateway ⓘ

Band: ☒ 2.4 GHz ☒ 5 GHz ☐ 6 GHz ⓘ

Guest Network: ☐ Enable ⓘ

Security:

Security Key:

☐ Advanced Settings

SSID Broadcast: ☒ Enable

VLAN: ☐ Default ☒ Custom

Add VLAN: ☐ By Network ☒ By VLAN ID ⓘ (1-4094) ⓘ

WPA Mode:

MLO: ☐ Enable ⓘ

⚠ Configuring the VLAN may affect communication links of GPON APs in the network.
[Go to configure OLTs](#)

Site Settings

Site

Wired Networks

Wireless Networks

WLAN

WLAN Optimization

Network Security

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Services

CLI Configuration

Edit Wireless Network

Network Name (SSID):

Device Type: ☒ EAP ☐ Gateway ⓘ

Band: ☒ 2.4 GHz ☒ 5 GHz ☐ 6 GHz ⓘ

Guest Network: ☒ Enable ⓘ

Security:

OWE: ☐ Enable ⓘ

Advanced Settings

SSID Broadcast: ☒ Enable

VLAN: ☐ Default ☒ Custom

Add VLAN: ☐ By Network ☒ By VLAN ID ⓘ (1-4094)


 Configuring the VLAN may affect communication links of GPON APs in the network.
[Go to configure OLTs](#)

MLO: ☐ Enable ⓘ

Client Rate Limit Profile: ⓘ

SSID Rate Limit Profile: ⓘ

WLAN Schedule

802.11 Rate Control

MAC Filter

Multicast/Broadcast Management

Verify the result:

1. connect the phone to the Staff_SSID, check if the phone can get the 192.168.10.x IP address.
2. connect the phone to the Guest_SSID, check if the phone can get the 192.168.20.x IP address.

Documents / Resources



[tp-link Omada GPON Test Lab 2](#) [pdf] User Guide
Omada GPON Test Lab 2, GPON Test Lab 2, Test Lab 2, Lab 2

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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