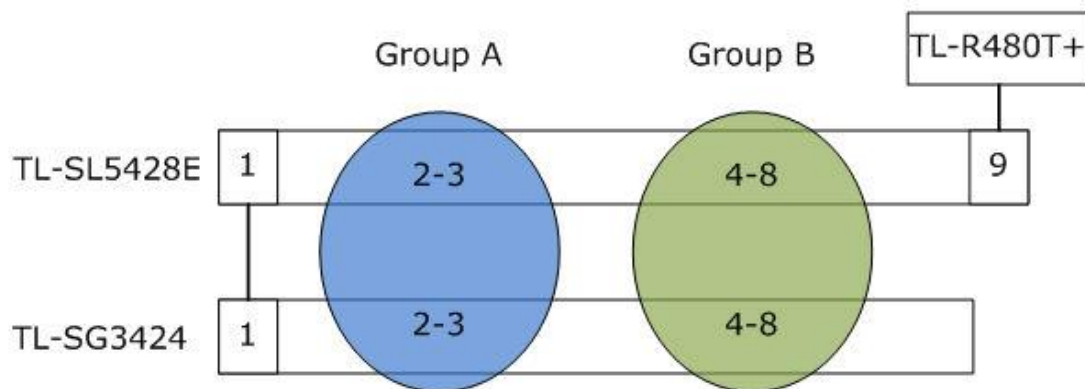


## How to configure 802.1Q tag VLAN on L2 Managed Switches

A Virtual Local Area Network (VLAN) is a network topology configured according to a logical scheme rather than the physical layout. Hosts in the same VLAN communicate with each other as if they are in a LAN. However, hosts in different VLANs cannot communicate with each other directly.

Now let's learn how to configure the tag VLAN on L2 Managed Switches by the following example:

### Network Topology:



### Here we take TL-SG5428E and TL-SG3424 as an example.

Connects to TL-SG3424 with an Ethernet cable in port 1. TL-SL5428E connects to the Internet via TL-R480T+ in port 9.

The computers of Group A connect to port 2-3 of TL-SL5428E and port 2-3 of TL-SG3424. The Group B connects to port 4-8 of them.

### Purpose:

- 1 The computers from Group A can communicate with each other.
- 2 The computers from Group B can communicate with each other.
- 3 The computers of Group A and Group B can't communicate with each other.
- 4 Both the Group A and Group B can go to Internet through TL-R480T+

### VLAN Configuration parameters:

	VLAN 100	VLAN 101	VLAN 102
TL-SL5428E	1-3,9	1,4-9	1-9
TL-SG3424	1-3	1,4-8	1-8

To achieve Purpose 1, we create the VLAN whose VLAN ID is 100.

To achieve Purpose 2, we create the VLAN whose VLAN ID is 101

By setting VLAN 100 and 101, we have achieved Purpose 3.

To achieve Purpose 4, we create the VLAN whose VLAN ID is 102.

Switch	TL-SL5428E				TL-SG3424			
Port	1	2-3	4-8	9	1	2-3	4-8	
Link Type	TRUNK	GENERAL	GENERAL	GENERAL	TRUNK	GENERAL	GENERAL	
Egress Rule	TAG	UNTAG	UNTAG	UNTAG	TAG	UNTAG	UNTAG	
PVID	1	100	101	102	1	100	101	

The table above shows other parameters.

**Now, let's start to configure Switch TL-SL5428E:**

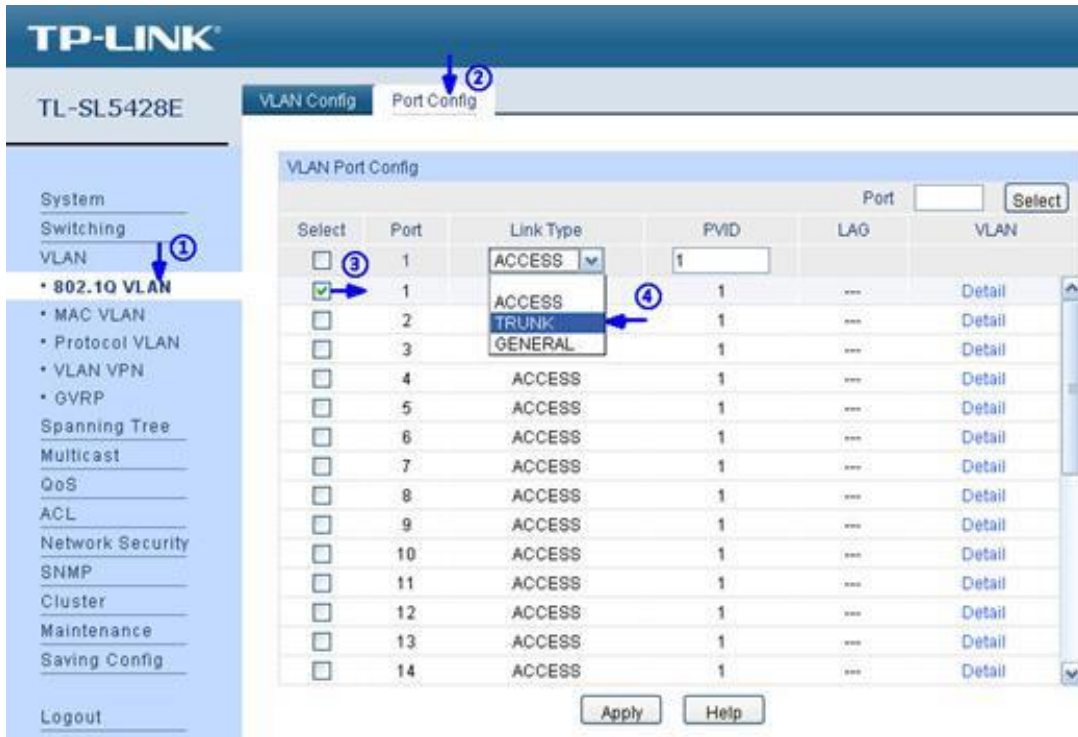
**PART I: Defining Link Type of ports:**

**TRUNK:** The trunk port can be added in in multiple VLANs and used to connect the cascaded network device, i.e. switch to switch. The default egress rule is TAG.

**GENERAL:** The general port can also be added in multiple VLANs. The default egress rule is UNTAG(Computers usually only accept untagged frames.).

**ACCESS:** The ACCESS port can be added in a single VLAN ID.

We can define the Link Type according to the second table. To take the port 1 as an example:



We can configure the rest ports in the same way .Finally, we get a table like this:

**TP-LINK**

TL-SL5428E    VLAN Config    Port Config

System  
Switching  
VLAN  
  • 802.1Q VLAN  
  • MAC VLAN  
  • Protocol VLAN  
  • VLAN VPN  
  • GVRP  
Spanning Tree  
Multicast  
ACL  
Network Security  
SNMP  
Cluster  
Maintenance  
Saving Config  
Logout

VLAN Port Config

Port

Select	Port	Link Type	PVID	LAG	VLAN
<input type="checkbox"/>		ACCESS	<input type="text"/>		
<input type="checkbox"/>	1	TRUNK	1	---	Detail
<input type="checkbox"/>	2	GENERAL	1	---	Detail
<input type="checkbox"/>	3	GENERAL	1	---	Detail
<input type="checkbox"/>	4	GENERAL	1	---	Detail
<input type="checkbox"/>	5	GENERAL	1	---	Detail
<input type="checkbox"/>	6	GENERAL	1	---	Detail
<input type="checkbox"/>	7	GENERAL	1	---	Detail
<input type="checkbox"/>	8	GENERAL	1	---	Detail
<input type="checkbox"/>	9	GENERAL	1	---	Detail
<input type="checkbox"/>	10	ACCESS	1	---	Detail
<input type="checkbox"/>	11	ACCESS	1	---	Detail
<input type="checkbox"/>	12	ACCESS	1	---	Detail
<input type="checkbox"/>	13	ACCESS	1	---	Detail
<input type="checkbox"/>	14	ACCESS	1	---	Detail

**Part II: Create VLANs:**

According to the first table, we need 3 vlans: VLAN100, VLAN101, VLAN102.

Please go to 802.1Q VLAN->VLAN Config and click Create button. In the new pop-up window, we can create a new VLAN like this:

**TP-LINK**  
TL-SL5428E

VLAN Config Port Config

VLAN Create

① Create a VLAN with VLAN ID 100 for Group A

VLAN ID: 100 (2-4094)

Name: GroupA (16 characters maximum)

VLAN Members

② Assign ports to VLAN 100

Select	Port	Link Type	Egress Rule	LAG
<input checked="" type="checkbox"/>	1	TRUNK	TAG	---
<input checked="" type="checkbox"/>	2	GENERAL	UNTAG	---
<input checked="" type="checkbox"/>	3	GENERAL	UNTAG	---
<input type="checkbox"/>	4	GENERAL	UNTAG	---
<input type="checkbox"/>	5	GENERAL	UNTAG	---
<input type="checkbox"/>	6	GENERAL	UNTAG	---
<input type="checkbox"/>	7	GENERAL	UNTAG	---
<input type="checkbox"/>	8	GENERAL	UNTAG	---
<input checked="" type="checkbox"/>	9	GENERAL	UNTAG	---
<input type="checkbox"/>	10	ACCESS	UNTAG	---
<input type="checkbox"/>	11	ACCESS	UNTAG	---
<input type="checkbox"/>	12	ACCESS	UNTAG	---
<input type="checkbox"/>	13	ACCESS	UNTAG	---
<input type="checkbox"/>	14	ACCESS	UNTAG	---

③ Define Egress Rules here

④ Click Apply

Note:  
Link Type can be changed in Page 'Port Config'.

Similarly, we can accomplish the configuration of the other 2 VLANs and we will get.

**TP-LINK**  
TL-SL5428E

VLAN Config Port Config

VLAN Table

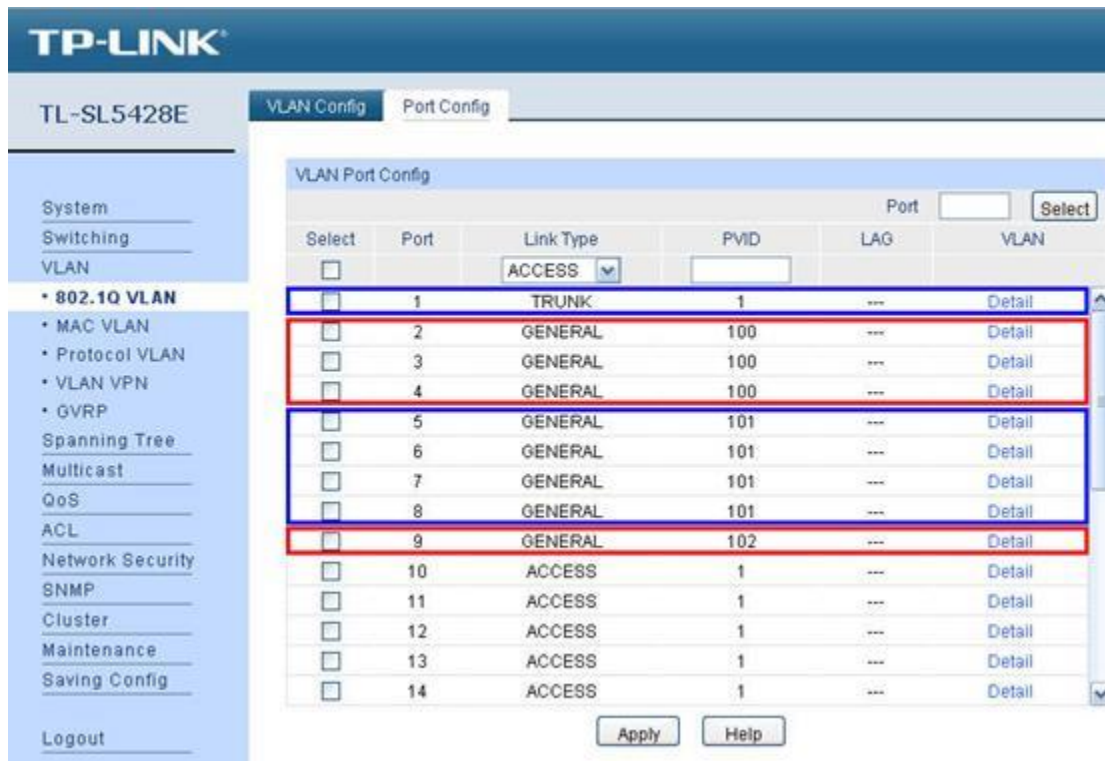
Select	VLAN ID	Name	Members	Operation
<input type="checkbox"/>	1	Default VLAN	1-28	Edit   Detail
<input type="checkbox"/>	100	GroupA	1-3,9	Edit   Detail
<input type="checkbox"/>	101	GroupB	1,4-9	Edit   Detail
<input type="checkbox"/>	102	---	1-9	Edit   Detail

Total VLAN: 4

### Part III: Setting PVID

PVID(Port VLAN ID) is the default VID of the port. When the switch receives an un-VLAN-tagged frames, it will add a VLAN tag to the frame according to the PVID if its received port and forwarding the frames.

For example, the PVID of port 2 is 100. When the port 2 receives a frame from the PC (untagged), the switch will tag the frame with VLAN ID 100 according to the PVID of port 2. So the frame will only be forwarded to the ports of VLAN 100.



We have already accomplished all the settings so far. But don't forget to go to Saving Config to save the settings.

### Configure Switch TL-SG3424

We can configure the TL-SG3424 in the same way according to the Table 1 and Table 2.

Now, the network will work as described in **Purpose**.