

Chapter 4: Basic Service



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Chapter 4 Basic Service

Basic services include VLAN, management IP, Layer2 multicast, STP, LACP and other functions.

4.1 VLAN CONFIGURATION

VLAN configuration can create VLANs and bind ports

4.1.1 Static VLAN

1. Click Config->Basic Service->VLAN Configuration->Static VLAN
2. This page can add, modify, delete, and add description information for VLANs.

The screenshot displays the 'Static VLAN' configuration page. On the left is a sidebar with a tree view containing: System Management, Port Management, Basic Service (expanded), VLAN Configuration (expanded), Static VLAN (selected), VLAN Port, IP and Route Config..., Multicast, STP Configuration, LACP Configuration, MAC Configuration, and SNMP Configuration. The main panel is titled 'VLAN Create And Delete' and features a form with a label 'VLAN(8,9,11-15)' and an input field. Below the form are 'Refresh', 'Create', and 'Delete' buttons. A section titled 'VLAN Information' contains a table with the following data:

VLAN	Status	Member Ports	Static Tag Ports	Static Untag Ports	Dynamic Tag Ports
1	static				
100	static	e0/0/1-e0/0/4,gpon0/2/1-gpon0/2/8	gpon0/2/1-gpon0/2/8	e0/0/1-e0/0/4	
200	static	e0/1/1-e0/1/4,gpon0/2/1-gpon0/2/8	gpon0/2/1-gpon0/2/8	e0/1/1-e0/1/4	

Figure 4-1

4.1.2 VLAN Port

1. Click Config->Basic Service->VLAN Configuration->VLAN Port.
2. This page configures the default VLAN and mode of the port.

Port VLAN Settings

Port:

PVID(1-4094):

Mode:

Tag VLAN(8,9,11-15):

Untag VLAN(8,9,11-15):

Port VLAN Information

Port	PVID(1-4094)	Mode	Tag Vlan List	Utag Vlan List
e0/0/1	100	hybrid		100
e0/0/2	100	hybrid		100
e0/0/3	100	hybrid		100
e0/0/4	100	hybrid		100
e0/1/1	200	hybrid		200
e0/1/2	200	hybrid		200
e0/1/3	200	hybrid		200
e0/1/4	200	hybrid		200
gpon0/2/1	200	hybrid	100,200	
gpon0/2/2	200	hybrid	100,200	
gpon0/2/3	200	hybrid	100,200	
gpon0/2/4	200	hybrid	100,200	
gpon0/2/5	200	hybrid	100,200	

Figure 4-2

4.2 IP and Route Configuration

IP and route configuration include VLAN interface and static route.

4.2.1 MGMT IP Configuration

1. Click Config->Basic Service->IP and Route Configuration->MGMT IP Configuration.
2. This page configures the management IP of the OLT. The default management IP is 192.168.168.1.

MGMT IP Address Configuration

IP Address:

Mask:

Figure 4-3

4.2.2 VLAN IP Configuration

1. Click Config->Basic Service->IP and Route Configuration->VLAN IP Configuration.
2. This page can add, modify and delete VLAN interface.

The screenshot shows a web-based configuration interface. On the left is a navigation menu with the following items: System Management, Port Management, Basic Service (expanded), VLAN Configuration (expanded), Static VLAN, VLAN Port, IP and Route Configuration (expanded), MGMT IP Configuration, VLAN IP Configuration (highlighted), Static Route Configuration, and Multicast. The main content area is titled 'VLAN IP' and contains a form with the following fields: Interface Name (dropdown menu showing 'IF-100'), VLAN ID (text input with '100'), IP address (text input with '10.1.1.50'), and Subnet mask (text input with '255.255.255.0'). Below the form are four buttons: Refresh, New, Apply, and Delete.

Figure 4-4

4.2.3 Static Route Configuration

1. Click Config->Basic Service->IP and Route Configuration->Static Route Configuration
2. This page displays, adds and deletes static routes.

The screenshot shows a web-based configuration interface. On the left is a navigation menu with the following items: System Management, Port Management, Basic Service (expanded), VLAN Configuration (expanded), Static VLAN, VLAN Port, IP and Route Configuration (expanded), MGMT IP Configuration, VLAN IP Configuration, and Static Route Configuration (highlighted). The main content area is titled 'Static Route' and contains a form with the following fields: Destination IP, Subnet mask, and Next hop, each with a text input field. Below the form is an 'Add' button. Underneath is a 'Static Route Table' section with a table header: DestIP, Subnet mask, Next hop, and Operation. Below the table is a 'Refresh' button.

Figure 4-5

4.3 Multicast

4.3.1 Multicast Configuration

1. Click Config->Basic Service->Multicast->Multicast Configuration.
2. This page can add, modify and delete static multicast groups.

The screenshot shows a web-based configuration interface for Multicast. On the left is a navigation menu with categories like System Management, Port Management, Basic Service, and Multicast. The 'Multicast Configuration' option is selected. The main content area is titled 'Multicast Add And Delete' and contains a table for adding and deleting static multicast groups. The table has three columns: VLAN, MAC Address, and Port. Below the table are 'Refresh', 'Add', and 'Delete' buttons. A 'Multicast Information' section is also visible, containing a table with columns for VLAN, MAC, Static Ports, IGMP Ports, Dynamic Ports, and Delete.

VLAN	MAC Address	Port(such as e0/0/1-e0/0/2,e0/0/4,e0/1/1)
1	01:00:5e:H:H:H	

Refresh Add Delete

Multicast Information

VLAN	MAC	Static Ports	IGMP Ports	Dynamic Ports	Delete
------	-----	--------------	------------	---------------	--------

Figure 4-6

4.3.2 IGMP Configuration

1. Click Config->Basic Service->Multicast->IGMP Configuration.
2. This page configures IGMP snooping.

System Management	Igmp-snooping Enable	enable
Port Management	Apply	
Basic Service	Advance Settings	
VLAN Configuration	IGMP-Snooping Report-suppression	enable
Static VLAN	Max Response Time (1-100 seconds)	10
VLAN Port	Host Aging Time (10-1000000 seconds)	300
IP and Route Config...	IGMP-Snooping Route-report Forward	disable
MGMT IP Configuration	Router Port Timeout (10-1000000 seconds)	300
VLAN IP Configuration	Router Port Age	enable
Static Route Configuration	Denied VLAN	<input type="text"/> Add Delete (VLAN ID range : 1~4094,input vlan list such as 8,9,11-15)
Multicast	Denied VLAN List	
Multicast Configuration	Default Group Policy	permit
IGMP Configuration	IGMP-Snooping Querier	disable
STP Configuration	Querier VLAN	<input type="text"/> Add Delete (VLAN ID range : 1~4094,input vlan list such as 8,9,11-15)
LACP Configuration	Querier VLAN List	1
MAC Configuration	Querier Source IP	1.1.1.1
SNMP Configuration	Max Query Respond Time (1-25 seconds)	10
DHCP Configuration	Query Interval (1-30000 seconds)	60
	Igmp Version	2
	Refresh Modify	

Figure 4-7

4.4 STP Configuration

STP (Spanning Tree Protocol) is a part of the IEEE 802.1D bridge protocol. The standard STP implementation can eliminate network broadcast storms caused by network cyclic connections, eliminate cyclic connections caused by mistakes or accidents, and also provide network services. Possibility of backup connection.

4.4.1 Global Configuration

1. Click Config->Basic Service->Stp Configuration->Global Configuration.
2. This page configures the global STP and displays STP status.

The screenshot displays a network configuration page for STP (Spanning Tree Protocol). The left sidebar contains a navigation menu with the following items: System Management, Port Management, Basic Service, VLAN Configuration, Static VLAN, VLAN Port, IP and Route Config..., Multicast, Multicast Configuration, IGMP Configuration, STP Configuration, Global Configuration (highlighted), Port Configuration, LACP Configuration, MAC Configuration, and SNMP Configuration. The main content area is divided into three sections: Global STP Settings, Bridge Settings, and STP Status. In the Global STP Settings section, the STP State is set to 'enable'. The Bridge Settings section includes input fields for Priority (0-61440, in steps of 4096) with a value of 32768, Hello Time (1-10 sec.) with a value of 2, Forward Delay (4-30 sec.) with a value of 15, and Max Age (6-40 sec.) with a value of 20. The STP Status section shows the Bridge ID as 32768 00:88:88:55:66:77, Root Bridge ID as 32768 00:88:88:55:66:77, Root Port as 0, Path Cost To Root Bridge as 0, and STP Topology Changes Count as 0. A note at the bottom of the STP Status section reads: 'Notes: 2 * (Forward Delay - 1) >= Max Age >= 2 * (Hello Time + 1)'. There are 'Apply', 'Modify', and 'Refresh' buttons available for each section.

Figure 4-8

4.4.2 Port Configuration

1. Click Config->Basic Service->STP Configuration->Port Configuration.
2. This page configures the STP status, path cost, and priority. The priority of the port must be an integer multiple of 16.

System Management	Port STP Settings					
Port Management	Port	STP State	Port Role	Path Cost (1-200000000)	Priority (0-240)	Port State
Basic Service	gpon0/2/2	disable	disabledPort	200000	128	forwarding
VLAN Configuration	Refresh Modify					
Static VLAN	e0/0/1	enable	designatedPort	200000	128	DOWN
VLAN Port	e0/0/2	enable	designatedPort	200000	128	DOWN
IP and Route Config...	e0/0/3	enable	designatedPort	200000	128	DOWN
Multicast	e0/0/4	enable	designatedPort	200000	128	DOWN
Multicast Configuration	e0/1/1	enable	designatedPort	200000	128	DOWN
IGMP Configuration	e0/1/2	enable	designatedPort	200000	128	DOWN
STP Configuration	e0/1/3	enable	designatedPort	200000	128	DOWN
Global Configuration	e0/1/4	enable	designatedPort	200000	128	DOWN
Port Configuration	gpon0/2/1	disable	disabledPort	200000	128	forwarding
LACP Configuration	gpon0/2/2	disable	disabledPort	200000	128	forwarding
	gpon0/2/3	disable	disabledPort	200000	128	forwarding
	gpon0/2/4	disable	disabledPort	200000	128	forwarding
	gpon0/2/5	disable	disabledPort	200000	128	forwarding
	gpon0/2/6	disable	disabledPort	200000	128	forwarding
	gpon0/2/7	disable	disabledPort	200000	128	forwarding
	gpon0/2/8	disable	disabledPort	200000	128	forwarding

Figure 4-9

4.5 LACP Configuration

LACP is the aggregation of multiple ports together to form an aggregation group to achieve traffic load sharing among member ports. When a link is unavailable, the link traffic will automatically switch to another link to ensure uninterrupted business traffic. An aggregation group is like a port.

4.5.1 Status Display

1. Click Config->Basic Service->LACP Configuration->Status Display.
2. This page displays LACP configuration information.

System Management	Link Aggregation Status				
Port Management	Criteria	src-mac			
Basic Service	Group ID	Enabled Ports	Synchronized Ports	Aggregator ID	Status
VLAN Configuration	T0	-	-	-	-
Static VLAN	T1	-	-	-	-
VLAN Port	T2	-	-	-	-
IP and Route Config...	T3	-	-	-	-
Multicast	T4	-	-	-	-
Multicast Configuration	T5	-	-	-	-
IGMP Configuration	T6	-	-	-	-
STP Configuration	T7	-	-	-	-
LACP Configuration					
Status Display					

Figure 4-10

4.5.2 LACP Configuration

1. Click Config->Basic Service->LACP Configuration->LACP Configuration
2. This page configures LACP. Only ports with the same VLAN can be configured in the same group.

Port	Group ID	LACP Mode
e0/0/1	none	none
e0/0/2	none	none
e0/0/3	none	none
e0/0/4	none	none
e0/1/1	none	none
e0/1/2	none	none
e0/1/3	none	none
e0/1/4	none	none

Figure 4-11

4.5.3 Protocol Control

1. Click Config->Basic Service->LACP Configuration->Protocol Control.
2. This page activates the LACP group and configures the port priority.

System Management	▼
Port Management	▼
Basic Service	▲
VLAN Configuration	▲
Static VLAN	
VLAN Port	
IP and Route Config...	▼
Multicast	▼
STP Configuration	▼
LACP Configuration	▲
Status Display	
LACP Configuration	
Protocol Control	
MAC Configuration	▼
SNMP Configuration	▼
DHCP Configuration	▼
Advanced Service	▼
ONT Management	▼

Link Aggregation Control Protocol	
System Priority	<input type="text" value="32768"/>
Group ID	LACP Active
T0	<input checked="" type="checkbox"/>
T1	<input type="checkbox"/>
T2	<input type="checkbox"/>
T3	<input type="checkbox"/>
T4	<input type="checkbox"/>
T5	<input type="checkbox"/>
T6	<input type="checkbox"/>
T7	<input type="checkbox"/>
Port	Port Priority
*	<input type="text"/>
e0/0/1	<input type="text" value="128"/>
e0/0/2	<input type="text" value="128"/>
e0/0/3	<input type="text" value="128"/>
e0/0/4	<input type="text" value="128"/>
e0/1/1	<input type="text" value="128"/>
e0/1/2	<input type="text" value="128"/>
e0/1/3	<input type="text" value="128"/>
e0/1/4	<input type="text" value="128"/>
gpon0/2/1	<input type="text" value="128"/>

Figure 4-12

4.6 MAC Configuration

MAC configuration is used to add and delete port-MAC bind.

4.6.1 Port Binding Display

1. Click Config->Basic Service->MAC Configuration->Port Binding Display.
2. This page displays port-MAC binding status information.

System Management	Port-MAC Binding Outline			
Port Management	Port	Port-MAC Binding	Port	Port-MAC Binding
Basic Service	e0/0/1	disable	e0/0/2	disable
VLAN Configuration	e0/0/3	disable	e0/0/4	disable
Static VLAN	e0/1/1	disable	e0/1/2	disable
VLAN Port	e0/1/3	disable	e0/1/4	disable
IP and Route Config...	gpon0/2/1	disable	gpon0/2/2	disable
Multicast	gpon0/2/3	disable	gpon0/2/4	disable
STP Configuration	gpon0/2/5	disable	gpon0/2/6	disable
LACP Configuration	gpon0/2/7	disable	gpon0/2/8	disable
Status Display				
LACP Configuration				
Protocol Control				
MAC Configuration				
Port Binding Display				

Figure 4-13

4.6.2 Port Binding Configuration

1. Click Config->Basic Service->MAC Configuration->Port Binding Configuration
2. This page can configure port-MAC binding

IGMP Configuration	Port Selection																								
STP Configuration	e0/0/1																								
Global Configuration	Port-MAC Binding Settings e0/0/1																								
STP/RSTP Port Configu...	Port-MAC Binding Enable <input type="checkbox"/>																								
LACP Configuration	Modify																								
Status Display	Add Static Port-MAC Entry (use current port)																								
LACP Configuration	MAC Address (H:H:H:H:H:H) <input type="text"/>																								
Protocol Control	VLAN ID <input type="text"/>																								
MAC Configuration	Add																								
Port Binding Display	Port-MAC Entries Of Current Port																								
Port Binding Configuration	Refresh																								
SNMP Configuration	<table border="1"> <thead> <tr> <th>Index</th> <th>MAC Address</th> <th>VLAN ID</th> <th>Port</th> <th>Status</th> <th>Delete</th> <th>Index</th> <th>MAC Address</th> <th>VLAN ID</th> <th>Port</th> <th>Status</th> <th>Delete</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Index	MAC Address	VLAN ID	Port	Status	Delete	Index	MAC Address	VLAN ID	Port	Status	Delete												
Index	MAC Address	VLAN ID	Port	Status	Delete	Index	MAC Address	VLAN ID	Port	Status	Delete														
DHCP Configuration																									

Figure 4-14

4.7 SNMP Configuration

SNMP (Simple Network Management Protocol) is a network management standard based on the TCP/IP protocol suite, and is a standard protocol for managing network nodes in an IP network.

4.7.1 Community Configuration

1. Click Config->Basic Service->MAC Configuration->Port Binding Configuration
2. This page configures the SNMP community name (the default is iso).

ID	Name (1-20 characters)	Access Privilege	Status	View (0-32 characters)
1	test	Read-only	Active	iso
1	test	Read-only	Active	iso

Figure 4-15

4.7.2 Trap Configuration

1. Click Config->Basic Service->SNMP Configuration->Trap Configuration
2. This page configures the Trap.

ID (support max 8 entries)	Trap Target IP Address	Community (1-20 characters)	SNMP Version
1	1.1.1.2	test	v2
1	1.1.1.2	test	v2

Figure 4-16

4.8 DHCP Configuration

4.8.1 DHCP Snooping

1. Click Config->Basic Service->DHCP Configuration->DHCP Snooping->DHCP snooping Setting
2. This page configures DHCP snooping, option82, trust port, etc. After enabling DHCP snooping, the trust port must be configured.

DHCP Snooping Trust Port Settings

Dhcp-snooping Enable:

Option82 Control:

[Refresh](#) [Modify](#)

Port	Trust
e0/0/1	<input checked="" type="checkbox"/>
e0/0/2	<input checked="" type="checkbox"/>
e0/0/3	<input type="checkbox"/>
e0/0/4	<input type="checkbox"/>
e0/1/1	<input type="checkbox"/>
e0/1/2	<input type="checkbox"/>
e0/1/3	<input type="checkbox"/>
e0/1/4	<input type="checkbox"/>
gpon0/2/1	<input type="checkbox"/>
gpon0/2/2	<input type="checkbox"/>
gpon0/2/3	<input type="checkbox"/>
gpon0/2/4	<input type="checkbox"/>
gpon0/2/5	<input type="checkbox"/>
gpon0/2/6	<input type="checkbox"/>
gpon0/2/7	<input type="checkbox"/>
gpon0/2/8	<input type="checkbox"/>

[Refresh](#) [Apply](#)

Figure 4-17

4.8.2 IP-Mac Binding

1. Click Config->Basic Service->DHCP Configuration->IP-Mac Binding.
2. This page configures the IP and MAC binding function, this function needs to be used with DHCP snooping.

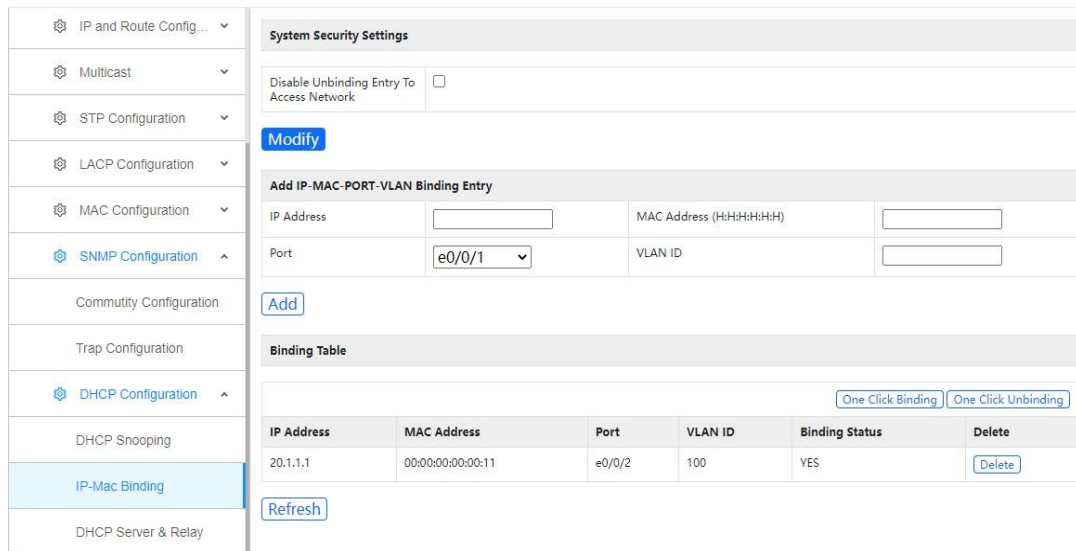


Figure 4-18

4.8.3 DHCP Server & Relay

1. Click Config->Basic Service->DHCP configuration->DHCP Server & Relay
2. This page configures DHCP server and relay.

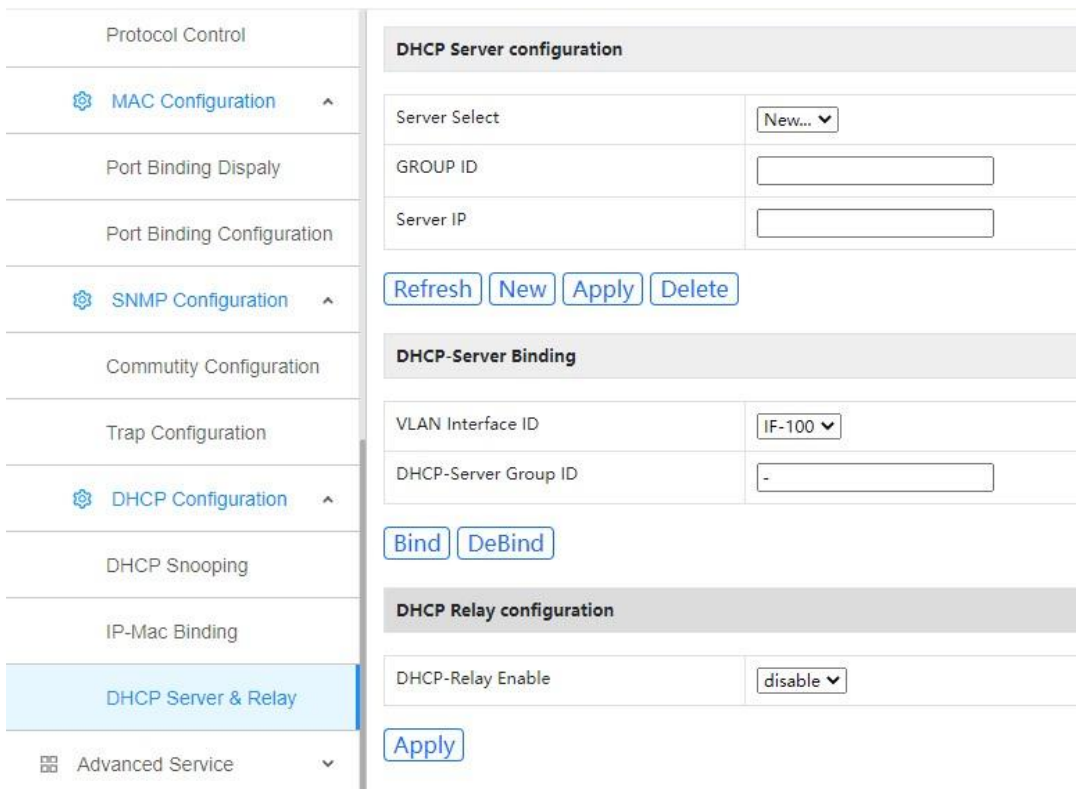


Figure 4-19