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Chapter 1 VLAN Configuration

1.1 Creating VLANs in Batches

To improve efficiency, you can create VLANs in batches by performing the operations listed in [Table 1-1](#).

Table 1-1 Create VLANs in batches

Operation	Command	Description
Enter system view	system-view	—
Create VLANs by specifying a VLAN ID range	vlan { <i>vlan-id1 to vlan-id2</i> all }	Required

1.2 Protocol-Based VLAN Configuration

1.2.1 Introduction to Protocol-Based VLAN

Comparing with port-based VLANs, protocol-based VLANs operate in a different way. After you configure protocol-based VLANs for a switch, the switch inserts tags automatically in the received untagged packets according to the protocols with which the packets are encapsulated. This enables packets of specific protocols to be transmitted in corresponding VLANs. For ease of network management and maintenance, you can associate services with specific VLANs by configuring protocol-based VLANs.

1.2.2 Configuring Protocol-Based VLANs

The following section describes protocol-based VLAN configuration tasks:

- [Creating a VLAN protocol type](#)
- [Associating a port with a protocol-based VLAN](#)

I. Creating a VLAN protocol type

[Table 1-2](#) lists the operations to create a VLAN protocol type.

Table 1-2 Create a VLAN protocol type

Operation	Command	Description
Enter system view	system-view	—
Enter VLAN view	vlan <i>vlan-id</i>	Required

Operation	Command	Description
Create a VLAN protocol type	protocol-vlan [<i>protocol-index</i>] { at ip ipx { ethernetii llc raw / snap } mode { ethernetii etype <i>etype-id</i> llc { dsap <i>dsap-id</i> [ssap <i>ssap-id</i>] ssap <i>ssap-id</i> } snap etype <i>etype-id</i> }}	Required



Caution:

- As the **mode llc dsap ff ssap ff** and **ipx raw** keywords result in the same packet format, the **ipx raw** keyword takes precedence over the **mode llc dsap ff ssap ff** keyword, and the system stops matching the subsequent keywords if the **ipx raw** keyword does not match, executing the **protocol-vlan** command in the form of **mode llc dsap ff ssap ff** does not take effect.
- If you set the *dsap-id* and *ssap-id* arguments to AA or FF, the packet encapsulation type will be **snap** instead of **llc**.

II. Associating a port with a protocol-based VLAN

Use the following commands to associate ports with protocol VLANs.

Table 1-3 Associate ports with protocol-based VLANs

Operation	Command	Description
Enter system view	system-view	—
Enter port view	interface <i>interface-type</i> <i>interface-number</i>	Required
Associate the port with a specified protocol-based VLAN	port hybrid protocol-vlan vlan <i>vlan-id</i> { <i>protocol-index</i> [to <i>protocol-end</i>] all }	Required



Caution:

Before associate a port with a protocol-based VLAN, make sure the port is a hybrid port, and the port belongs to the protocol-based VLAN.

1.2.3 Displaying the Information about Protocol-Based VLANs

You can check the information about specified protocol-based VLANs by executing the **display** command in any view.

Table 1-4 Display the information about specified protocol-based VLANs

Operation	Command	Description
Display the protocol-related information and protocol indexes configured for specified VLANs	display protocol-vlan vlan { <i>vlan-id</i> [to <i>vlan-id</i>] all }	You can execute the display command in any view
Display the protocol-related information and protocol indexes configured for specified ports	display protocol-vlan interface { <i>interface-type</i> <i>interface-number</i> [to <i>interface-type</i> <i>interface-number</i>] all }	

1.3 Voice VLAN Configuration

1.3.1 Introduction to Voice VLAN

Voice VLANs are VLANs configured specially for voice data stream. By adding the ports with voice devices attached to voice VLANs, you can perform QoS-related configuration for voice data, ensuring the transmission priority of voice data stream and voice quality.

S5600 series Ethernet switches determine whether a received packet is a voice packet by checking its source MAC address. Voice packets can also be identified by organizationally unique identifier (OUI) addresses. You can also configure an OUI address for a voice packet or specify to use the default OUI address.

Note:

An OUI address is a globally unique identifier assigned to a vendor by IEEE. It forms the first 24 bits of a MAC address.

A voice VLAN can operate in two modes: automatic mode and manual mode. You can configure the operation mode for a voice VLAN according to data stream passing through the ports of the voice VLAN.

- When a voice VLAN operates in the automatic mode, the switch learns source MAC addresses from untagged packets sent by IP phones (an IP phone sends untagged packets when powered on) and adds the port with the IP phones

attached to the voice VLAN. A port in a voice VLAN ages if the corresponding OUI address is not updated when the aging time expires.

- When a voice VLAN operates in the manual mode, you need to execute related commands to add a port to the voice VLAN or remove a port from the voice VLAN.

As for tagged packets sent by IP phones, a switch only forwards them (rather than learns the MAC addresses) regardless of the voice VLAN operation mode.

Voice VLAN packets can be forwarded by trunk ports and hybrid ports. You can enable a trunk port or a hybrid port to forward voice and service packets simultaneously by enabling the voice VLAN function for it.

As multiple types of IP phones exist, you need to match port mode with types of voice stream sent by IP phones, as listed in [Table 1-5](#).

Table 1-5 Port modes and types of voice stream types

Port voice VLAN mode	Voice stream type	Port type	Supported or not
Automatic mode	Tagged voice stream	Access	Not supported
		Trunk	Supported Make sure the default VLAN of the port exists and is not a voice VLAN. And the access port permits the packets of the default VLAN.
		Hybrid	Supported Make sure the default VLAN of the port exists and is in the list of the tagged VLANs whose packets are permitted by the access port.
	Untagged voice stream	Access	Not supported, because the default VLAN of the port must be a voice VLAN and the access port is in the voice VLAN. To do so, you can also add the port to the voice VLAN manually.
		Trunk	
		Hybrid	
Manual mode	Tagged voice stream	Access	Not supported
		Trunk	Supported Make sure the default VLAN of the port exists and is not a voice VLAN. And the access port permits the packets of the default VLAN.
		Hybrid	Supported Make sure the default VLAN of the port exists and is in the list of the tagged VLANs whose packets are permitted by the access port.
	Untagged voice stream	Access	Supported Make sure the default VLAN of the port is a voice VLAN.
		Trunk	Supported Make sure the default VLAN of the port is a voice VLAN and the port permits the packets of the VLAN.
		Hybrid	Supported Make sure the default VLAN of the port is a voice VLAN and is in the list of untagged VLANs whose packets are permitted by the port.

1.3.2 Configuring the Voice VLAN Function

I. Configuration Prerequisites

- Create the corresponding VLAN before configuring a voice VLAN.
- VLAN 1 is the default VLAN and do not need to be created. But VLAN 1 does not support the voice VLAN function.

II. Configuring a voice VLAN to operate in automatic mode

Table 1-6 Configure a voice VLAN to operate in automatic mode

Operation	Command	Description
Enter system view	system-view	—
Enter port view	interface <i>interface-type</i> <i>interface-number</i>	Required
Enable the voice VLAN function for the port	voice vlan enable	Required By default, the voice VLAN function is disabled.
Set the voice VLAN operation mode to automatic mode	voice vlan mode auto	Optional The default voice VLAN operation mode is automatic mode.
Quit to system view	quit	—
Set an OUI address that can be identified by the voice VLAN	voice vlan mac-address <i>oui mask oui-mask</i> [description <i>string</i>]	Optional If you do not set the OUI address, the default OUI address is used.
Enable the voice VLAN security mode	voice vlan security enable	Optional By default, the voice VLAN security mode is enabled.
Set the aging time for the voice VLAN	voice vlan aging <i>minutes</i>	Optional The default aging time is 1,440 minutes.
Enable the voice VLAN function globally	voice vlan <i>vlan-id</i> enable	Required

III. Configuring a voice VLAN to operate in manual mode

Table 1-7 Configure a voice VLAN to operate in manual mode

Operation			Command	Description
Enter system view			system-view	—
Enter port view			interface <i>interface-type</i> <i>interface-number</i>	Required
Enable the voice VLAN function for the port			voice vlan enable	Required By default, the voice VLAN function is disabled.
Set voice VLAN operation mode to manual mode			undo voice vlan mode auto	Required The default voice VLAN operation mode is manual mode.
Quit to system view			quit	—
Add a port operating in manual mode to the VLAN	Access port	Enter VLAN view	vlan <i>vlan-id</i>	Required
		Add the port to the VLAN	port <i>interface-type</i> <i>interface-number</i>	
	Trunk or hybrid port	Enter port view	interface <i>interface-type</i> <i>interface-number</i>	
		Add the port to the VLAN	port trunk permit vlan <i>vlan-id</i> port hybrid permit vlan <i>vlan-id</i>	
Quit to system view			quit	—
Set an OUI address that can be identified by the voice VLAN			voice vlan mac-address <i>oui mask oui-mask</i> [description <i>string</i>]	Optional If you do not set the address, the default OUI address is used.
Enable the voice VLAN security mode			voice vlan security enable	Optional By default, the voice VLAN security mode is enabled.

Operation	Command	Description
Set aging time for the voice VLAN	voice vlan aging <i>minutes</i>	Optional default aging time is 1,440 minutes.
Enable the voice VLAN function globally	voice vlan <i>vlan-id</i> enable	Required



Caution:

- You can enable voice VLAN feature for only one VLAN at a moment.
- A port operating in the automatic mode cannot be added to/removed from a voice VLAN.
- When a voice VLAN operates in the security mode, the devices in it only permit packets whose source addresses are the voice OUI addresses that can be identified. Packets whose source addresses cannot be identified, including certain authentication packets (such as 802.1x authentication packets), will be dropped. So, do not transmit both voice data and service data in a voice VLAN. If you have to do so, make sure the voice VLAN do not operate in the security mode.

1.3.3 Voice VLAN Displaying and Debugging

Table 1-8 Display and debug a voice VLAN

Operation	Command	Description
Display voice VLAN configuration	display voice vlan status	You can execute the display command in any view.
Display the currently valid OUI addresses	display voice vlan oui	
Display ports operating in the current voice VLAN	display vlan <i>vlan-id</i>	

1.3.4 Voice VLAN Configuration Example

I. Network requirements

- Create VLAN 3 as a voice VLAN.
- Add/remove GigabitEthernet1/0/3 port to/from the voice VLAN manually.

- Configure the OUI address to be 0011-2200-0000, with the description set to "test".

II. Configuration procedure

Create VLAN 3.

```
[Quidway] vlan 3
```

Add GigabitEthernet1/0/3 port to VLAN 3.

```
[Quidway-vlan3] port GigabitEthernet1/0/3
```

Enable the voice VLAN function for the port and configure the port to operate in manual mode.

```
[Quidway-vlan3] quit
[Quidway] interface GigabitEthernet1/0/3
[Quidway-GigabitEthernet1/0/3] voice vlan enable
[Quidway-GigabitEthernet1/0/3] undo voice vlan mode auto
[Quidway-GigabitEthernet1/0/3] quit
```

Specify the OUI address.

```
[Quidway] voice vlan mac-address 0011-2200-0000 mask ffff-ff00-0000
description test
```

Enable the voice VLAN function globally.

```
[Quidway] voice vlan 3 enable
```

Display the configuration.

```
[Quidway] display voice vlan status
Voice Vlan status: ENABLE
Voice Vlan ID: 3
Voice Vlan security mode: Security
Voice Vlan aging time: 1440 minutes
Current voice vlan enabled port mode:
PORT                MODE
-----
GigabitEthernet1/0/3    MANUAL
```

Remove GigabitEthernet1/0/3 port from the voice VLAN.

```
[Quidway] vlan 3
[Quidway-vlan3] undo port GigabitEthernet1/0/3
```

Chapter 2 VLAN Configuration Commands

2.1 Configuration Commands for Creating VLANs in Batches

2.1.1 **vlan to**

Syntax

```
vlan { vlan-id1 to vlan-id2 | all }  
undo vlan { vlan-id1 to vlan-id2 | all }
```

View

System view

Parameter

vlan-id1: Start VLAN ID of the VLAN ID range. This argument ranges from 1 to 4094.

to: Identifies a VLAN ID range.

vlan-id2: End VLAN ID of the VLAN ID range. This argument ranges from 1 to 4,094 and cannot be smaller than the *vlan-id1* argument.

all: Specifies to create all VLANs.

Description

Use the **vlan to** command to create multiple VLANs simultaneously.

Use the **undo vlan to** command to remove multiple VLANs simultaneously.

Note that VLAN 1 is the default VLAN and cannot be removed.

Example

Create multiple VLANs with their VLAN IDs ranging from 4 through 100.

```
<Quidway> system-view  
System View: return to User View with Ctrl+Z.  
[Quidway] vlan 4 to 100  
Please wait..... Done.
```

2.2 Configuration Commands for Protocol-based VLAN

2.2.1 display protocol-vlan interface

Syntax

display protocol-vlan interface { { *interface-type interface-number* [**to** *interface-type interface-number*] } | **all** }

View

Any view

Parameter

{ *interface-type interface-number* [**to** *interface-type interface-number*] }: Ranges of Ports, the protocol-related information about which is to be displayed. The **to** keyword specifies a port number range. If you do not specify this keyword, this argument specifies a single port. The *interface-type* argument is port type, and *interface-number* is port number.

all: Displays the protocol-related information about all ports.

Description

Use the **display protocol-vlan interface** command to display the protocol information and protocol indexes configured for specified ports.

Example

Display protocol information and protocol index configured for GigabitEthernet1/0/1 and GigabitEthernet1/0/2 ports.

```
<Quidway> display protocol-vlan interface GigabitEthernet1/0/1 to  
GigabitEthernet1/0/2
```

```
Interface: GigabitEthernet1/0/1
```

VLAN ID	Protocol-Index	Protocol-type
50	1	ip
80	2	ip
100	1	ip
100	2	ipx ethernetii

```
Interface: GigabitEthernet1/0/2
```

VLAN ID	Protocol-Index	Protocol-type
50	2	ipx raw
80	1	at

100	3	mode snap etype 0x0abc
100	5	mode llc dsap 0xac ssap 0xbd

2.2.2 display protocol-vlan vlan

Syntax

display protocol-vlan vlan { *vlan-id* [**to** *vlan-id*] | **all** }

View

Any view

Parameter

vlan-id: VLAN ID in the range of 1 to 4,094.

to: Specifies a VLAN ID range. Make sure the *vlan-id* argument to the right of this keyword is larger than or equal to the argument to the left of this keyword.

all: Specifies all VLANs.

Description

Use the **display protocol-vlan vlan** command to display the protocol information and protocol indexes configured for specified VLANs.

Related command: **display vlan**.

Example

Display the protocol information and protocol indexes configured for VLAN 10 through VLAN 20.

```
<Quidway> display protocol-vlan vlan 10 to 20
```

```
VLAN ID: 10
```

```
VLAN Type: Protocol-based VLAN
```

Protocol-Index	Protocol-Type
1	IP
2	IP
3	IPX ETH II
4	AT

```
VLAN ID: 15
```

```
VLAN Type: Protocol-based VLAN
```

Protocol-Index	Protocol-Type
1	ip
2	mode snap etype 0x0abc

2.2.3 port hybrid protocol-vlan vlan

Syntax

```
port hybrid protocol-vlan vlan vlan-id { protocol-index [ to protocol-end ] | all }  
undo port hybrid protocol-vlan vlan vlan-id { protocol-index [ to protocol-end ] | all }
```

View

Ethernet port view

Parameter

vlan-id: VLAN ID in the range of 1 to 4,094.

protocol-index: Beginning protocol index, which ranges from 0 to 4 and must not be bigger than end value of the protocol index.

protocol-end: End protocol index, which ranges from 0 to 4 and must not be smaller than start value of the protocol index.

all: Specifies all protocols.

Description

Use the **port hybrid protocol-vlan vlan** command to deliver specified protocol VLANs to a port.

Use the **undo port hybrid protocol-vlan vlan** command to remove the associations between specified protocol-based VLANs and a port.

Note that you can only associate Hybrid ports with protocol-based VLANs at present. Before associate a port with a protocol-based VLAN, make sure the port belongs to the VLAN.

Related command: **display protocol-vlan interface**.

Example

Associate GigabitEthernet1/0/1 port with protocols 0 through 4 of VLAN 3 (assuming that VLAN 3 is a protocol-based VLAN).

```
<Quidway> system-view
```

System View: return to User View with Ctrl+Z.

```
[Quidway] interface GigabitEthernet1/0/1
```

```
[Quidway-GigabitEthernet1/0/1] port hybrid protocol-vlan vlan 3 0 to 4
```

2.2.4 protocol-vlan

Syntax

```
protocol-vlan [ protocol-index ] { at | ip | ipx { ethernetii / llc | raw / snap } | mode  
{ ethernetii etype etype-id | llc { dsap dsap-id [ ssap ssap-id ] | ssap ssap-id } | snap  
etype etype-id }  
undo protocol-vlan { protocol-index [ to protocol-end ] | all }
```

View

VLAN view

Parameter

at: Specifies the VLAN is an AT-based VLAN. (AT stands for AppleTalk.)

ip: Specifies the VLAN is an IP-based VLAN.

ipx: Specifies the VLAN is an IPX-based VLAN. The **ethernetii**, **llc**, **raw** and **snap** keywords specify the four IPX encapsulation types.

mode: Specifies the VLAN is based on other protocols.

ethernetii: Specifies the VLAN is an EthernetII-based VLAN.

etype-id: The Ethernet type of the inbound packets. This argument ranges from 600 to FFFF.

llc: Specifies the VLAN is based on logic link control protocols.

dsap-id: Destination service access point. This argument ranges from 0 to FF.

ssap-id: Source service access point. This argument ranges from 0 to FF.

snap: Specifies the VLAN is a SNAP-based VLAN. (SNAP, short for sub-network access protocol)

etype-id: The Ethernet type of inbound packets. This argument ranges from 600 to FFFF.

protocol-index: Beginning protocol index ranging from 0 to 4. This argument needs to be less than or equal to the end protocol index. If you do not specify this argument, the beginning protocol index will be determined by the system.

protocol-end: End protocol index ranging from 0 to 4. This argument needs to be larger than or equal to the *protocol-index* argument.

all: Specifies all protocol indexes.

Description

Use the **protocol-vlan** command to specify a VLAN is a specified type of protocol-based VLAN.

Use the **undo protocol-vlan** command to cancel the configuration.

Related command: **display protocol-vlan vlan**.

Example

Specify VLAN3 is an IP-based VLAN.

```
<Quidway> system-view
```

System View: return to User View with Ctrl+Z.

```
[Quidway] vlan 3
```

```
[Quidway-vlan3] protocol-vlan ip
```

2.3 Voice VLAN Configuration Commands

2.3.1 display voice vlan oui

Syntax

display voice vlan oui

View

Any view

Parameter

None

Description

Use the **display voice vlan oui** command to display the currently supported OUI addresses and the related information.

Related command: **voice vlan *vlan-id* enable** and **voice vlan enable**.

Example

Display the OUI addresses and the related information of the voice VLAN.

```
<Quidway> display voice vlan oui
```

Oui Address	Mask	Description
00e0-bb00-0000	ffff-ff00-0000	3com phone
0003-6b00-0000	ffff-ff00-0000	Cisco phone
00e0-7500-0000	ffff-ff00-0000	Polycom phone
00d0-1e00-0000	ffff-ff00-0000	Pingtel phone
00aa-bb00-0000	ffff-ff00-0000	ABC

2.3.2 display voice vlan status

Syntax

display voice vlan status

View

Any view

Parameter

None

Description

Use the **display voice vlan status** command to display voice VLAN-related information, including voice VLAN operation mode, port mode (manual mode or automatic mode), and so on.

Related command: **voice vlan *vlan-id* enable** and **voice vlan enable**.

Example

Display the information about the voice VLAN.

```
[Quidway] display voice vlan status
Voice Vlan status: ENABLE
Voice Vlan ID: 2
Voice Vlan security mode: Security
Voice Vlan aging time: 100 minutes
Current voice vlan enabled port mode:
PORT                                MODE
-----
GigabitEthernet1/0/2                AUTO
GigabitEthernet1/0/3                MANUAL
```

Table 2-1 Description on the fields of the **display voice vlan status** command

Field	Description
Voice Vlan status: ENABLE	The voice VLAN function is enabled globally.
Voice Vlan ID: 2	The voice VLAN function is currently enabled on VLAN 2.
Voice Vlan security mode: Security	The voice VLAN security mode is enabled.
Voice Vlan aging time: 100 minutes	The voice VLAN aging time is 100 minutes.
Current voice vlan enable port mode	The ports with the voice VLAN function enabled



Caution:

display vlan The “Current voice vlan enable port mode” field lists the ports with the voice VLAN function enabled. Note that a port listed in this field may not currently operate in a voice VLAN. To check the ports operating in the current voice VLAN, use the **display vlan** command, which is described in section 2.3.3 “display vlan”.

2.3.3 display vlan

Syntax

display vlan *vlan-id*

View

Any view

Parameter

vlan-id: Voice VLAN ID in the range of 1 to 4,094.

Description

Use the **display vlan** command to display the ports operating in the manual/automatic mode in the current voice VLAN.

Related command: **voice vlan** *vlan-id* **enable**.

Example

Display the ports included in the current voice VLAN, assuming that the current voice VLAN is VLAN 6.

```
<Quidway> dis vlan 6
VLAN ID: 6
VLAN Type: static
Route Interface: not configured
Description: VLAN 0006
Name: VLAN 0006
Tagged   Ports:
    GigabitEthernet1/0/5
Untagged Ports:
    GigabitEthernet1/0/6
```

The output indicates that GigabitEthernet1/0/5 and GigabitEthernet1/0/6 ports are in the current voice VLAN.

2.3.4 voice vlan aging

Syntax

voice vlan aging *minutes*

undo voice vlan aging

View

System view

Parameter

minutes: Aging time (in minutes) to be set for a voice VLAN. This argument ranges from 5 to 43,200 and defaults to 1,440.

Description

Use the **voice vlan aging** command to set the aging time for a voice VLAN.

Use the **undo voice vlan aging** command to restore the default aging time for a voice VLAN.

Related command: **display voice vlan status**.

Example

Set the aging time of the voice VLAN to 100 minutes.

```
<Quidway> system-view
```

```
System View: return to User View with Ctrl+Z.
```

```
[Quidway] voice vlan aging 100
```

2.3.5 voice vlan enable

Syntax

voice vlan enable

undo voice vlan enable

View

Ethernet port view

Parameter

None

Description

Use the **voice vlan enable** command to enable the voice VLAN function for a port.

Use the **undo voice vlan enable** command to disable the voice VLAN function for a port.

The voice VLAN function takes effect on a port only when it is enabled in both system view and port view. Note that the operation to enable the voice VLAN function for a port is independent of that to enable the function globally.

Related command: **display voice vlan status**.

Example

Enable the voice VLAN function for GigabitEthernet1/0/2 port.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] interface GigabitEthernet1/0/2
[Quidway-GigabitEthernet1/0/2] voice vlan enable
```

2.3.6 voice vlan

Syntax

voice vlan *vlan-id* enable
undo voice vlan enable

View

System view

Parameter

vlan-id: ID of the VLAN for which the voice VLAN function is to be enabled. This argument ranges from 2 to 4,094.

Description

Use the **voice vlan** command to enable the voice VLAN function globally.

Use the **undo voice vlan enable** command to disable the voice VLAN function globally.



Caution:

- Before enabling the voice VLAN function, make sure the VLAN for which the voice VLAN function is to be enabled exists. Otherwise, you will fail to perform the operation.
- To remove a VLAN with the voice VLAN function enabled, you need to disable the voice VLAN function first.
- Only one VLAN can have the voice VLAN function enabled at a time.

Related command: **display voice vlan status**.

Example

Enable the voice VLAN function for VLAN 2.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] vlan 2
[Quidway-vlan2] quit
[Quidway] voice vlan 2 enable
```

With the voice VLAN function enabled for VLAN 2, the following message appears if you enable the voice VLAN function for another VLAN, for example, VLAN 4.

```
[Quidway] voice vlan 4 enable
Can't change voice vlan configuration when other voice vlan is running
```

2.3.7 voice vlan mac-address

Syntax

voice vlan mac-address *oui* **mask** *oui-mask* [**description** *string*]
undo voice vlan mac-address *oui*

View

System view

Parameter

oui: MAC address to be set. You need to provide this argument in the format of H-H-H.

oui-mask: MAC address mask in the format of H-H-H. This argument specifies the valid bits of the MAC address.

string: Description of the MAC address. This argument is a string comprising of 1 to 30 characters.

Description

Use the **voice vlan mac-address** command to set a MAC address used for a voice VLAN to identify voice devices.

Use the **undo voice vlan mac-address** command to remove a MAC address used to identify voice devices.

A switch can use up to 16 MAC addresses to identify voice devices, including the four default MAC addresses (as listed in [Table 2-2](#)). When the number of MAC addresses reaches 16, you will fail to add new MAC addresses..

Table 2-2 Default OUI addresses

Number	OUI	Description
1	00e0-bb00-0000	3com phone
2	0003-6b00-0000	Cisco phone
3	00e0-7500-0000	Polycom phone
4	00d0-1e00-0000	Pingtel phone

Related command: **display voice vlan oui**.

Example

Set 00aa-bb00-0000 as an OUI address, with a description of "ABC".

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] voice vlan mac-address 00aa-bb00-0000 mask ffff-ff00-0000
description ABC
```

2.3.8 voice vlan mode

Syntax

voice vlan mode auto

undo voice vlan mode auto

View

Ethernet port view

Parameter

None

Description

Use the **voice vlan mode auto** command to configure an Ethernet port to operate in the automatic voice VLAN mode.

Use the **undo voice vlan mode auto** command to configure an Ethernet port to operate in the manual voice VLAN mode.

By default, an Ethernet port operates in the automatic voice VLAN mode.

Note that these two commands are valid only before you enable the voice VLAN function globally.

Related command: **display voice vlan status**.

Example

Configure GigabitEthernet1/0/2 port to operate in the manual voice VLAN mode.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] interface GigabitEthernet 1/0/2
[Quidway-GigabitEthernet1/0/2] undo voice vlan mode auto
```

2.3.9 voice vlan security enable

Syntax

voice vlan security enable

undo voice vlan security enable

View

System view

Parameter

None

Description

Use the **voice vlan security enable** command to enable the voice VLAN security mode. In the voice VLAN security mode, the ports in a voice VLAN and with voice devices attached to can only forward voice data. Data packets with their MAC addresses not among the OUI addresses that can be identified by the system will be dropped. This mode has no effects on other VLANs.

Use the **undo voice vlan security enable** command to disable the voice VLAN security mode.

By default, the voice VLAN security mode is enabled.

Note that these two commands are valid only before you enable the voice VLAN function globally.

Related command: **display voice vlan status**.

Example

Disable the voice VLAN security mode.

```
<Quidway> system-view
```

System View: return to User View with Ctrl+Z.

```
[Quidway] undo voice vlan security enable
```