04-VLAN

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1 VLAN

vlan

Syntax	**vlan WORD** **no vlan**	
Parameter	**WORD**	WORD is the VLAN ID to be created/deleted, valid range is 1 to 4094, connect with ';' and '-'.
Default	Only VLAN1 is set by default.	
Mode	Global Mode	
Usage	VLAN1 is the default VLAN and cannot be configured or deleted by the user. The maximal VLAN number is 4094. It should be noted that dynamic VLANs learnt by GVRP cannot be deleted by this command.	
Example	Create VLAN100 and enter the configuration mode for VLAN 100.Display the status for the current VLAN; Switch#config Switch(config)#vlan 100 Switch#show vlan VLAN Name Type Media Ports ---- ---------- ---------- --------- ---------- 1 default Static ENET Ethernet1/0/2 Ethernet1/0/3 Ethernet1/0/4 Ethernet1/0/5 Ethernet1/0/6 Ethernet1/0/7 Ethernet1/0/8 Ethernet1/0/9 Ethernet1/0/10 Ethernet1/0/11 Ethernet1/0/12 Ethernet1/0/13 Ethernet1/0/14 Ethernet1/0/15 Ethernet1/0/16 Ethernet1/0/17 Ethernet1/0/18 Ethernet1/0/19 Ethernet1/0/20 Ethernet1/0/21 Ethernet1/0/22 Ethernet1/0/23 Ethernet1/0/24 Ethernet1/0/25 Ethernet1/0/26 Ethernet1/0/27 Ethernet1/0/28 100 VLAN0100 Static ENET Switch#	

name (vlan)

Syntax	**name NAME** **no name**	
Parameter	**NAME**	specified name string.
Default	The default VLAN name is vlanXXX, where xxx is VID.	

Mode	VLAN Configuration Mode.
Usage	The switch can specify names for different VLANs, making it easier for users to identify and manage VLANs.
Example	Specify the name of VLAN100 as 100 Switch#config Switch(config)# vlan 100 Switch(config-vlan100)#name 100 Switch# show vlan VLAN Name Type Media Ports ---- ---------- ---------- --------- ---------- 1 default Static ENET Ethernet1/0/2 Ethernet1/0/3 Ethernet1/0/4 Ethernet1/0/5 Ethernet1/0/6 Ethernet1/0/7 Ethernet1/0/8 Ethernet1/0/9 Ethernet1/0/10 Ethernet1/0/11 Ethernet1/0/12 Ethernet1/0/13 Ethernet1/0/14 Ethernet1/0/15 Ethernet1/0/16 Ethernet1/0/17 Ethernet1/0/18 Ethernet1/0/19 Ethernet1/0/20 Ethernet1/0/21 Ethernet1/0/22 Ethernet1/0/23 Ethernet1/0/24 Ethernet1/0/25 Ethernet1/0/26 Ethernet1/0/27 Ethernet1/0/28 100 100 Static ENET Switch#

switchport interface

Syntax	**switchport interface [ethernet | portchannel] [<interface-name | interface-list>]** **no switchport interface [ethernet | portchannel] [<interface-name | interface-list>]**	
Parameter	**ethernet**	Ethernet port to be added
	portchannel	link-aggregation port to be added
	interface-name	port name, such as e1/0/1. If this option is selected, ethernet or portchannel should not be.
	interface-list	port list to be added or deleted, ";" and "-" are supported, for example: ethernet1/0/1;3;4-7;8.
Default	A newly created VLAN contains no port by default.	
Mode	VLAN Mode	
Usage	Access ports are normal ports and can join a VLAN, but a port can only join one VLAN for a time.	
Example	Assign Ethernet port 1，3，4-7 of VLAN100.	

Switch#config
Switch(config)#vlan 100
Switch(config-vlan100)#switchport interface ethernet 1/0/1;3;4-7
Set the port Ethernet1/0/1 access vlan 100 successfully
Set the port Ethernet1/0/3 access vlan 100 successfully
Set the port Ethernet1/0/4 access vlan 100 successfully
Set the port Ethernet1/0/5 access vlan 100 successfully
Set the port Ethernet1/0/6 access vlan 100 successfully
Set the port Ethernet1/0/7 access vlan 100 successfully
Switch#show vlan

VLAN	Name	Type	Media	Ports	
1	default	Static	ENET	Ethernet1/0/2	Ethernet1/0/8
				Ethernet1/0/9	Ethernet1/0/10
				Ethernet1/0/11	Ethernet1/0/12
				Ethernet1/0/13	Ethernet1/0/14
				Ethernet1/0/15	Ethernet1/0/16
				Ethernet1/0/17	Ethernet1/0/18
				Ethernet1/0/19	Ethernet1/0/20
				Ethernet1/0/21	Ethernet1/0/22
				Ethernet1/0/23	Ethernet1/0/24
				Ethernet1/0/25	Ethernet1/0/26
				Ethernet1/0/27	Ethernet1/0/28
100	VLAN0100	Static	ENET	Ethernet1/0/1	Ethernet1/0/3
				Ethernet1/0/4	Ethernet1/0/5
				Ethernet1/0/6	Ethernet1/0/7

Switch#

switchport forbidden vlan

Syntax	**switchport forbidden vlan (WORD | all | add WORD | except WORD | remove WORD)**	
Parameter	**WORD**	add the vlanList as forbidden vlan and cover the previous configuration
	all	set all VLANs as forbidden vlan
	add WORD	add vlanList to the current forbidden vlanList
	except WORD	set all VLANs as forbidden vlan except vlanList
	Remove WORD	remove vlan specified by vlanList from current forbidden vlanList
Default	Forbidden vlanList is empty	
Mode	Port mode	
Usage	Tag the corresponding position for forbidden vlanList and clear allow vlanList flags in ports. A port leaves these VLANs if it joins them statically, and it sends message to GVRP module to enable corresponding registered machine of the port to enter forbidden mode.	
	show running-config display current setting	

Example	Port quits the corresponding VLAN and the corresponding registered machine of GVRP to enter forbidden mode. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#switchport mode hybrid Switch(config-if-ethernet1/0/1)#switchport forbidden vlan all Set the port Ethernet1/0/1 mode Hybrid successfully Switch#show running-config ! no service password-encryption ! hostname Switch sysLocation Default sysContact Default ! username admin privilege 15 password 0 admin ! authentication line console login local ! ! ! ! snmp-server enable ! ! ! ! ! ! ! ! ! vlan 1;100 ! Interface Ethernet1/0/1 switchport mode hybrid switchport forbidden vlan 1-4094 ! Interface Ethernet1/0/2 ! Interface Ethernet1/0/3 switchport mode trunk switchport trunk native vlan 100 ! Interface Ethernet1/0/4 ! Interface Ethernet1/0/5 !

	Interface Ethernet1/0/6 ! Interface Ethernet1/0/7 ! Interface Ethernet1/0/8 ! Interface Ethernet1/0/9 Switch#

switchport mode

Syntax	**switchport mode (access | hybrid | trunk | tunnel)**	
Parameter	**access**	Access port.
	hybrid	Hybrid port.
	trunk	Trunk port.
	tunnel	Tunnel port.
Default	The port is in Access mode by default.	
Mode	Port Mode.	
Usage	Ports in trunk mode is called Trunk ports. Trunk ports can allow traffic of multiple VLANs to pass through. VLAN in different switches can be interconnected with the Trunk ports. Ports under access mode are called Access ports. An access port can be assigned to one and only one VLAN at a time. Hybrid ports can allow traffic of multiple VLANs to pass through, receive and send the packets of multiple VLANs, used to connect switch, or user's computer. When Hybrid ports and Trunk ports receive the data, the deal way is same, but the deal way is different in sending the data. Because Hybrid ports can allow the packets of multiple VLANs to send with no tag, however, Trunk ports can only allow the packets of the default VLAN to send with no tag. The attribute of ports can not directly convert between Hybrid and Trunk, it must configure to be access at first, then configure to be Hybrid or Trunk. When the Trunk or Hybrid attribute is cancelled, the port attribute restores the default (access) attribute and belongs to vlan1. **show switchport interface** display setting	
Example	Set port 1 to hybrid mode. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# switchport mode hybrid Set the port Ethernet1/0/1 mode Hybrid successfully Switch(config-if-ethernet1/0/1)#show switchport interface ethernet 1/0/1 Ethernet1/0/1 Type :Universal Mode :Hybrid Port VID :1 Switch(config-if-ethernet1/0/1)#	

switchport hybrid native vlan

Syntax	**switchport hybrid native vlan <vlan-id>** **no switchport hybrid native vlan**	
Parameter	**<vlan-id>**	VLAN ID (e.g. 100), PVID of Hybrid port.
Default	The default PVID of Hybrid port is 1.	
Mode	Port Mode.	
Usage	When an untagged frame enters a Hybrid port, it will be added a tag of the native PVID which is set by this command, and is forwarded to the native VLAN. **show switchport interface** display setting。	
Example	Set the native vlan to 100 for a Hybrid port. Switch#config Switch(config) # interface ethernet 1/0/2 Switch(config-if-ethernet1/0/2)#switchport mode hybrid Switch(config-if-ethernet1/0/2)#switchport hybrid native vlan 100 Switch# show switchport interface ethernet 1/0/2 Ethernet1/0/2 Type :Universal Mode :Hybrid Port VID :100 Switch#	

switchport hybrid allowed vlan

Syntax	**switchport hybrid allowed vlan (WORD | all | add WORD | except WORD | remove WORD) (tag | untag)** **no switchport hybrid allowed vlan**	
Parameter	**WORD**	Set vlan List to allowed vlan, and the late configuration will cover the previous configuration;
	all	Set all VLANs to allowed vlan;
	add WORD	Add vlanList to the existent allowed vlanList;
	except WORD	Set all VLANs to allowed vlan except the configured vlanList;
	Remove WORD	Delete the specific VLAN of vlanList from the existent allow vlanList;
	tag	Join the specific VLAN with tag mode;
	untag	Join the specific VLAN with untag mode.
Default	Deny all VLAN traffic to pass.	
Mode	Port Mode.	
Usage	The user can use this command to set the VLANs whose traffic allowed to pass through the Hybrid port, traffic of VLANs not included are prohibited. The difference between tag and untag mode by setting allowed vlan: set VLAN to untag mode, the frame sent via hybrid port without VLAN tag; set VLAN to tag mode, the frame sent via hybrid port with	

	corresponding VLAN tag. The same VLAN can not be allowed with tag and untag mode by a Hybrid port at the same time. If configure the tag (or untag) allowed VLAN to untag (or tag) allowed VLAN, the last configuration will cover the previous. **show switchport interface** display setting。
Example	Set hybrid port allowed vlan 1,100 with tag mode Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#switchport mode hybrid Set the port Ethernet1/0/1 mode Hybrid successfully Switch(config-if-ethernet1/0/1)#switchport hybrid allowed vlan 1;100 tag set the Hybrid port Ethernet1/0/1 tag allowed vlan successfully Switch#show switchport interface ethernet 1/0/1 Ethernet1/0/1 Type :Universal Mode :Hybrid Port VID :1 Hybrid tag allowed Vlan: 1;100 Switch#

switchport access vlan

Syntax	**switchport access vlan <valn-id>** **no switchport access vlan**
Parameter	**< valn-id >** VLAN ID (e.g. 100),valid range is 1 to 4094.
Default	All ports belong to VLAN1 by default.
Mode	Port Mode.
Usage	Only ports in Access mode can join specified VLANs, and an Access port can only join one VLAN at a time. The "**no switchport access vlan**" command deletes the current port from the specified VLAN, and the port will be partitioned to VLAN1. show switchport interface display setting
Example	Add some Access port to VLAN100. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#switchport mode access Set the port Ethernet1/0/1 mode Access successfully Switch(config-if-ethernet1/0/1)# switchport access vlan 100 Set the port Ethernet1/0/1 access vlan 100 successfully Switch#show switchport interface ethernet 1/0/1 Ethernet1/0/1 Type :Universal Mode :Access Port VID :100

	Switch#

switchport trunk allowed vlan

Syntax	**switchport trunk allowed vlan (WORD | all | add WORD | except WORD | remove WORD) (tag | untag)** **no switchport trunk allowed vlan**	
Parameter	**WORD**	specified VIDs ,the range from 1 to 4094;
	all	all VIDs
	add WORD	add assigned VIDs behind allow vlan;
	except WORD	all VID add to allow vlan except assigned VIDs;
	Remove WORD	delete assigned allow vlan from allow vlan list.
Default	Trunk port allows all VLAN traffic by default.	
Mode	Port Mode.	
Usage	The user can use this command to set the VLAN traffic allowed to passthrough the Trunk port; traffic of VLANs not included are prohibited. **show switchport interface** display setting.	
Example	Set Trunk port to allow traffic of VLAN1, 3-5 Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# switchport trunk allowed vlan 1;3-5 set the trunk port Ethernet1/0/1 allowed vlan successfully. Switch#show switchport interface ethernet 1/0/1 Ethernet1/0/1 Type :Universal Mode :Trunk Port VID :1 Trunk allowed Vlan: 1;3-5 Switch#	

switchport trunk native vlan

Syntax	**switchport trunk native vlan <*vlan-id*>** **no switchport trunk allowed vlan**	
Parameter	**<vlan-id>**	PVID for Trunk port.
Default	The default PVID of Trunk port is 1.	
Mode	Port Mode.	
Usage	PVID concept is defined in 802.1Q. PVID in Trunk port is used to tag untagged frames. When an untagged frame enters a Trunk port, the port will tag the untagged frame with the native PVID set with this commands for VLAN forwarding. **show switchport interface** display setting	
Example	Set the native VLAN for a Trunk port to 100.	

	Switch#config Switch(config)#interface ethernet 1/0/3 Switch(config-if-ethernet1/0/3)# switchport trunk native vlan 100 Set the port Ethernet1/0/3 native vlan 100 successfully Switch#show switchport interface ethernet 1/0/3 Ethernet1/0/3 Type :Universal Mode :Trunk Port VID :100 Trunk allowed Vlan: 1-4094 Switch#

switchport mode trunk allow-null

Syntax	**switchport mode trunk allow-null**
Parameter	none
Default	access mode.
Mode	Port mode
Usage	Configure the port as trunk, enable it to leave all VLANs and clear allow-list. **show switchport interface** display setting
Example	Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# switchport mode trunk allow-null Set the port Ethernet1/0/1 mode Trunk successfully Switch#show switchport interface ethernet 1/0/1 Ethernet1/0/1 Type :Universal Mode :Trunk Port VID :1 switchport mode trunk allow-null Switch#

vlan ingress enable

Syntax	**vlan ingress enable** **no vlan ingress enable**
Parameter	none
Default	Enable VLAN ingress filtering function.
Mode	Port Mode.
Usage	After VLAN ingress filtering is enabled on the port, when the system receives data it will

	check source port first, and forwards the data to the destination port if it is the VLAN member port, or else drop the data. **show running-config** display setting
Example	Disable VLAN ingress rules on the port. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# no vlan ingress enable Switch# show running-config ! no service password-encryption ! hostname Switch sysLocation Default sysContact Default ! username admin privilege 15 password 0 admin ! authentication line console login local ! ! ! ! snmp-server enable ! ! ! ! ! ! ! ! ! vlan 1 ! Interface Ethernet1/0/1 no vlan ingress enable ! Interface Ethernet1/0/2 Switch#

vlan-translation enable

Syntax	**vlan-translation enable** **no vlan-translation enable**
Parameter	none
Default	VLAN translation has not been enabled on the port by default.

Mode	Port Mode.
Usage	vlan-translation and dot1q-tunnel are mutually exclusive, it is recommended to enable vlan-translation on trunk port and manually disable port filtering. **show vlan-translation** display setting
Example	Enable VLAN translation function on port1. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# vlan-translation enable Switch# show vlan-translation Interface Ethernet1/0/1: vlan-translation is enable, miss drop is not set Switch#

vlan-translation

Syntax	**vlan-translation <old-valn-id> to <new-vlan-id> {in | out}** **no vlan-translation <old-valn-id> {in | out}**	
Parameter	**old-valn-id**	original VLAN ID
	new-vlan-id	translated VLAN ID
	in	ingress translation
	out	outgress translation.
Default	There is no VLAN translation relation.	
Mode	Port Mode.	
Usage	The command is for configuring the translation relation of the VLAN translation function. The data packets will be matched according to the configured translation relations, and its VLAN ID will be changed to the one in the configured item once matched, while forward the packets of the original VLAN if not match. This command cannot be used with dot1q-tunnel enable at the same time. **show vlan-translation** display setting	
Example	Move the VLAN100 data entered from the port1 to VLAN2 after ingress translation. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# vlan-translation enable Switch(config-if-ethernet1/0/1)#vlan-translation 100 to 2 in Switch# show vlan-translation Interface Ethernet1/0/1: vlan-translation is enable, miss drop is not set vlan-translation 100 to 2 in Switch#	

vlan-translation miss drop

Syntax	**vlan-translation miss drop {in|out|both}**

	no vlan-translation miss drop {in|out|both}	
Parameter	**in**	entrance
	out	export
	both	two-way
Default	Not miss drop when translation failed.	
Mode	Port Mode.	
Usage	During translate the mapping relation between original VID and present VID, if not configure related translation, the default is not packets miss. After using the command, it will miss data packets when translation failed. **show vlan-translation** display setting	
Example	set port 1 translation failed and miss packets in entrance. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# vlan-translation enable Switch(config-if-ethernet1/0/1)#vlan-translation miss drop in Switch# show vlan-translation Interface Ethernet1/0/1: vlan-translation is enable, miss drop is set in Switch#	

dot1q-tunnel enable

Syntax	**dot1q-tunnel enable** **no dot1q-tunnel enable**
Parameter	none
Default	Dot1q-tunnel function disabled on the port by default.
Mode	Port Mode.
Usage	After enabling dot1q-tunnel on the port, data packets without VLAN tag (referred to as tag) will be packed with a tag when entering through the port; those with tag will be packed with an external tag. The TPID in the tag is the global configuration TPID. it default value is 0x8100, and the VLAN ID is the VLAN ID the port belongs to. Data packets with double tags will be forwarded according to MAC address and external tag, till the external tag is removed when transmitted outside from the access port. Since the length of the data packet may be over sized when packed with external tag, it is recommended to use this command associating the Jumbo function. Normally this command is used on access ports. This command can not be used when vlan-translation enabled. **show dot1q-tunnel** display setting
Example	Join port1 into VLAN3, enable dot1q-tunnel function. Switch#config Switch(config)#vlan 3 Switch(config-vlan3)#switchport interface ethernet 1/0/1 Switch(config-vlan3)#exit

	Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# dot1q-tunnel enable Switch# show dot1q-tunnel Interface Ethernet1/0/1: dot1q-tunnel is enable Switch#

dot1q-tunnel selective enable

Syntax	**dot1q-tunnel selective enable** **no dot1q-tunnel selective enable**
Parameter	none
Default	Do not enable selective QinQ.
Mode	Port mode
Usage	Enable selective QinQ command should associates with hybrid mode, and it should not be used with dot1q-tunnel enable synchronously. **show running-config** display setting
Example	Enable dot1q-tunnel selective enable of port1. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# dot1q-tunnel selective enable Switch# show running-config ! no service password-encryption ! hostname Switch sysLocation Default sysContact Default ! username admin privilege 15 password 0 admin ! authentication line console login local ! ! ! ! snmp-server enable ! ! ! ! ! ! !

	! ! vlan 1;3 ! Interface Ethernet1/0/1 dot1q-tunnel selective enable ! Interface Ethernet1/0/2 ! Interface Ethernet1/0/3 ! Switch#

dot1q-tunnel selective s-vlan

Syntax	**dot1q-tunnel selective s-vlan <s-vlan> c-vlan <c-vid-list>** **no dot1q-tunnel selective s-vlan <s-vlan> c-vlan <c-vid-list>**	
Parameter	**<s-vlan>**	SP VLAN ID
	<c-vid-list>	range of user's VLAN ID.
Default	There is no mapping relation.	
Mode	Port mode	
Usage	This command is used to configure the mapping relation for selective QinQ. If packets match the mapping relation, they will be tagged with SP vlan tag as the outer VLAN tag. **show running-config** display setting	
Example	Packets of VLAN 3 through VLAN 5 are tagged with the tag of VLAN 1 as the outer VLAN tag on Ethernet1/0/1. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)# dot1q-tunnel selective s-vlan 1 c-vlan 3-5 Switch(config-if-Ethernet1/0/1)# dot1q-tunnel selective enable Switch# show running-config ! no service password-encryption ! hostname Switch sysLocation Default sysContact Default ! username admin privilege 15 password 0 admin ! authentication line console login local ! ! ! ! snmp-server enable	

	! ! ! ! ! ! ! ! ! vlan 1;3 ! Interface Ethernet1/0/1 dot1q-tunnel selective s-vlan 1 c-vlan 3-5 dot1q-tunnel selective enable ! Interface Ethernet1/0/2 ! Interface Ethernet1/0/3 ! Interface Ethernet1/0/4 ! Interface Ethernet1/0/5 ! Interface Ethernet1/0/6 Switch#

garp timer join

Syntax	**garp timer join <200-500>**
Parameter	**<200-500>** millisecond
Default	200 ms
Mode	Global mode
Usage	Check whether the value satisfy the range. If so, modify the value of garp timer to the specified value, otherwise return a configuration error. **show garp timer** display setting
Example	Set the value of garp join timer as 210ms. Switch#config Switch(config)# garp timer join 210 Switch#show garp timer GARP join timer value is : 210 (ms) GARP leave timer value is : 600 (ms) GARP leaveall timer value is : 10000 (ms) Switch#

garp timer leave

Syntax	**garp timer leave <500-1200>**
Parameter	**<500-1200>** millisecond
Default	600ms
Mode	Global mode
Usage	Check whether the value satisfy the range. If so, modify the value of garp timer to the specified value, otherwise return a configuration error. **show garp timer** display setting
Example	Set the value of garp leave timer as 700ms. Switch#config Switch(config)#garp time leave 700 Switch#show garp timer GARP join timer value is : 210 (ms) GARP leave timer value is : 700 (ms) GARP leaveall timer value is : 10000 (ms) Switch#

garp timer leaveall

Syntax	**garp timer leaveall <5000-60000>**
Parameter	**<500-60000>** millisecond
Default	10000ms
Mode	Global mode
Usage	Check whether the value satisfy the range. If so, modify the value of garp leaveAll timer to the specified value, otherwise return a configuration error. **show garp timer** display setting
Example	Set the value of garp leaveAll as 20000ms. Switch#config Switch(config)#garp time leaveall 20000 Switch(config)#show garp timer GARP join timer value is : 210 (ms) GARP leave timer value is : 700 (ms) GARP leaveall timer value is : 20000 (ms) Switch#

no garp timer

Syntax	**no garp timer (join | leave | leaveall)**
Parameter	**join** join timer

	leave	leave timer
	leaveall	leaveAll timer
Default	200 | 600 | 10000 milliseconds for join | leave | leaveall timer respectively.	
Mode	Global mode	
Usage	Check whether the default value satisfy the range. If so, modify the value of garp join | leave | leaveAll timer to the default value, otherwise return a configuration error. **show garp timer join** display setting	
Example	Restore garp timer join to the default value. Switch#config Switch(config)# no garp timer join Switch(config)# show garp timer join GARP join timer value is : 200 (ms) Switch#	

gvrp(Global)

Syntax	**gvrp** **no gvrp**
Parameter	none
Default	Disabled.
Mode	Global mode
Usage	Enable GVRP function globally and only in this way GVRP module can work normally. **show running-config** display setting
Example	Enable GVRP function globally. Switch#config Switch(config)#gvrp Switch(config)#show running-config ! no service password-encryption ! hostname Switch sysLocation Default sysContact Default ! username admin privilege 15 password 0 admin ! authentication line console login local ! ! ! ! snmp-server enable !

	! ! ! ! ! ! ! ! vlan 1 ! gvrp ! Interface Ethernet1/0/1 Switch#

gvrp(Port)

Syntax	**gvrp** **no gvrp**
Parameter	none
Default	Disabled
Mode	Port mode
Usage	GVRP function can only be enabled on trunk and hybrid ports, and enabling GVRP will return an error on access port. After GVRP enabled on port, this port will be added to GVRP (i.e. adding corresponding state machine to GVRP of the port). **show gvrp port-member** display setting
Example	Enable GVRP of port. Switch#config Switch(config)# interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#switchport mode hybrid Set the port Ethernet1/0/1 mode Hybrid successfully Switch(config-if-ethernet1/0/1)#gvrp Switch#show gvrp port-member Ports which were enabled gvrp included: Ethernet1/0/1 Switch#

private-vlan

Syntax	**private-vlan {primary | isolated | community}** **no private-vlan**	
Parameter	**primary**	set current VLAN to Primary VLAN
	isolated	set current VLAN to Isolated VLAN
	community	set current VLAN to Community VLAN
Default	Private VLAN is not configured by default.	

Mode	VLAN mode
Usage	There are three Private VLANs: **Primary** VLAN, **Isolated** VLAN and **Community** VLAN. Ports in Primary there are three Private VLANs: Primary VLAN, Isolated VLAN and Community VLAN can communicate with ports of Isolated VLAN and Community VLAN related to this Primary VLAN; Ports in Isolated VLAN are isolated between each other and only communicate with ports in Primary VLAN they related to; ports in Community VLAN can communicate both with each other and with Primary VLAN ports they related to; there is no communication between ports in Community VLAN and port in Isolated VLAN. Only VLANs containing empty Ethernet ports can be set to Private VLAN, and only the Private VLANs configured with associated private relationships can set the Access Ethernet ports their member ports. Normal VLAN will clear its Ethernet ports when set to Private VLAN. It is to be noted Private VLAN messages will not be transmitted by GVRP. **show vlan private-vlan** display setting
Example	Set VLAN100, 200, 300 to private vlans, with respectively primary, Isolated, Community types. Switch#config Switch(config)#vlan 100;200;300 Switch(config)#vlan 100 Switch(config-vlan100)#private-vlan primary Note:This will remove all the access ports from vlan 100 Switch(config-vlan100)#vlan 200 Switch(config-vlan200)#private-vlan isolated Note:This will remove all the access ports from vlan 200 Switch(config-vlan200)#vlan 300 Switch(config-vlan300)#private-vlan community Note:This will remove all the access ports from vlan 300 Switch# show vlan private-vlan VLAN Name Type Asso VLAN Ports ---- ---------- ---------- --------- ---------- 100 VLAN0100 Primary 200 VLAN0200 Isolate 300 VLAN0300 Community Switch#

private-vlan association

Syntax	**private-vlan association <secondary-vlan-list>** **no private-vlan association**	
Parameter	**<secondary-vlan-list>**	Sets Secondary VLAN list which is associated to Primary VLAN. There are two types of Secondary VLAN: Isolated VLAN and Community VLAN. Users can set multiple Secondary VLANs by ';'.
Default	There is no Private VLAN association by default.	

Mode	VLAN Mode.
Usage	This command can only used for Private VLAN. The ports in Secondary VLANs which are associated to Primary VLAN can communicate to the ports in Primary VLAN. Before setting Private VLAN association, three types of Private VLANs should have no member ports; the Private VLAN with Private VLAN association can't be deleted. When users delete Private VLAN association, all the member ports in the Private VLANs whose association is deleted are removed from the Private VLANs. **show vlan private-vlan** display setting
Example	Associate Isolated VLAN200 and Community VLAN300 to Primary VLAN100. Switch#config Switch(config)# vlan 100 Switch(config-vlan100)#private-vlan association 200;300 Set vlan 100 associated vlan successfully Switch(config-vlan100)#show vlan private-vlan VLAN Name Type Asso VLAN Ports ---- ----------- ---------- --------- ---------- 100 VLAN0100 Primary 200 300 200 VLAN0200 Isolate 100 300 VLAN0300 Community 100 Switch#

show dot1q-tunnel

Syntax	**Show dot1q-tunnel**
Parameter	none
Default	None.
Mode	Admin and Configuration Mode.
Usage	This command is used for displaying the information of the ports at dot1q-tunnel state.
Example	Display current dot1q-tunnel state. Switch#show dot1q-tunnel Interface Ethernet1/0/1: dot1q-tunnel is enable Switch#

show garp timer

Syntax	**Show garp timer [join | leave | leaveall]**	
Parameter	**join**	join timer
	leave	leave timer
	leaveall	leaveAll timer

Default	200|600|10000 milliseconds for join | leave | leaveAll timer respectively.
Mode	Admin mode
Usage	Show the corresponding value of the timer specified in the command.
Example	Show the value of all garp timers currently. Switch# show garp timer GARP join timer value is : 200 (ms) GARP leave timer value is : 600 (ms) GARP leaveall timer value is : 10000 (ms) Switch#

show gvrp fsm information

Syntax	**show gvrp fsm information interface (ethernet | port-channel | IFNAME)**	
Parameter	**ethernet**	physical port
	port-channel	aggregate port
	IFNAME	port name
Default	MT for registered machine and VO for request state machine.	
Mode	Admin mode	
Usage	Show the corresponding state of all registered machines and request state machines.	
Example	Show the state of all state machines. Switch# show gvrp fsm information interface ethernet 1/0/1 VA:Very anxious Active member, AA:Anxious Active member, QA:Quiet Active member VP:Very anxious Passive member, AP:Anxious Passive member, QP:Quiet Passive member VO:Very anxious Observer, AO:Anxious Observer, QO:Quiet Observer LA:Leaving Acitve member, LO:leaving Observer IN:In, LV:Leaving, MT:Empty INR:In Registration fixed, LVR:Leaveing Registration fixed, MTR:Empty Registration fixed INF:In, registration forbidden, LVF:Leaveing, registration forbidden, MTF:Empty, registration forbidden Ethernet1/0/1 gvrp fsm information: Index VLANID Applicant Registrar ----- ------ --------- --------- 1 1 Qa MT Switch#	

show gvrp leaveAll fsm information

Syntax	**show gvrp leaveAll fsm information interface (ethernet | port-channel | IFNAME)**	
Parameter	**ethernet**	physical port
	port-channel	aggregate port
	IFNAME	port name
Default	Passive	
Mode	Admin mode	
Usage	Check the state of leaveAll state machine	
Example	Show the state of leaveAll state machine on port. Switch# show gvrp fsm information interface ethernet 1/0/1 Interface LeaveAll fsm --------- ---------- Ethernet1/0/1 Passive Switch#	

show gvrp leavetimer running information

Syntax	**show gvrp leavetimer running information [vlan <1-4094> |]interface (ethernet | port-channel | IFNAME)**	
Parameter	**<1-4094>**	Vlan tag
	ethernet	physical port
	port-channel	aggregate port
	IFNAME	port name
Default	leavetimer is disabled.	
Mode	Admin mode	
Usage	Show running state and expiration time of each leave timer.	
Example	Show running state and expiration time of each leave timer on current port. Switch# show gvrp leavetimer running information interface ethernet 1/0/1 VLANID running state expired time ------ ---------- ---------- Switch#	

show gvrp port-member

Syntax	**show gvrp [active |] port-member**	
Parameter	active	port is in active state
Default	GVRP is disabled on port.	
Mode	Admin mode	
Usage	Show all ports (enable GVRP) saved in GVRP.	
Example	Show all ports with GVRP enabled. Switch#show gvrp port-member Ports which were enabled gvrp included: Ethernet1/0/1	

	Switch#

show gvrp port registerd vlan

Syntax	**show gvrp port [dynamic | static] registerd vlan interface (Ethernet | port-channel | IFNAME)**	
Parameter	**dynamic**	dynamic registration
	static	static registration
	Ethernet	physical port
	port-channel	aggregate port
	port IFNAME	port name
Default	No dynamic or static registration VLANs on port.	
Mode	Admin mode	
Usage	Show the corresponding VLANs of the registered machines by dynamic or static registration.	
Example	Show all dynamic or static registration VLANs on current port. Switch#show gvrp port registerd vlan interface ethernet 1/0/1 Current port dynamic registerd vlan included: Current port static registerd vlan included: Switch#	

show gvrp timer running information

Syntax	**show gvrp timer (join | leaveall) running information interface (ethernet | port-channel | IFNAME)**	
Parameter	**join**	join timer
	leaveall	leaveAll timer
	Ethernet	physical port
	port-channel	aggregate port
	port IFNAME	port name
Default	Join timer is disabled and leaveAll timer is enabled	
Mode	Admin mode	
Usage	Check running state of join|leaveAll timer on port.	
Example	Show running state and expiration time of each timer. Switch#show gvrp timer join running information interface ethernet 1/0/1 Current port’ s jointimer running state is: UP Current port’ s jointimer expired time is: 0.2 s Switch#	

show gvrp vlan registerd port

Syntax	**show gvrp vlan <1-4094> registerd port**	
Parameter	**<1-4094>**	Vlan tag

Default	No ports with specified VLAN registered.
Mode	admin mode
Usage	none
Example	Show all ports with current VLAN registered. Switch#show gvrp vlan 100 registerd port Ethernet1/0/3（T） Ethernet1/0/4（T） Ethernet1/0/5（T） Ethernet1/0/6（T） Ethernet1/0/7（T） Ethernet1/0/8（T） Ethernet1/0/9（T） Ethernet1/0/10（T） Switch#

show vlan

Syntax	**show vlan [brief | summary] [id <vlan-id>] [name <vlan-name>] [internal usage [id <vlan-id> | name <vlan-name>]]**	
Parameter	**brief**	brief information;
	summary	VLAN statistics
	<vlan-id>	for VLAN ID of the VLAN to display status information, the valid range is 1 to 4094;
	<vlan-name>	is the VLAN name for the VLAN to display status information, valid length is 1 to 11 characters.
Default	none	
Mode	Admin Mode and Configuration Mode.	
Usage	If no ***<vlan-id>*** or ***<vlan-name>*** is specified, then information for all VLANs in the switch will be displayed.	
Example	Display the status for the current VLAN; display statistics for the current VLAN. Switch#show vlan VLAN Name Type Media Ports ---- ------------ ---------- --------- ---------- 1 default Static ENET Ethernet1/0/2 Ethernet1/0/3 Ethernet1/0/4 Ethernet1/0/5 Ethernet1/0/6 Ethernet1/0/7 Ethernet1/0/8 Ethernet1/0/9 Ethernet1/0/10 Ethernet1/0/11 Ethernet1/0/12 Ethernet1/0/13 Ethernet1/0/14 Ethernet1/0/15 Ethernet1/0/16 Ethernet1/0/17 Ethernet1/0/18 Ethernet1/0/19 Ethernet1/0/20 Ethernet1/0/21 Ethernet1/0/22 Ethernet1/0/23 Ethernet1/0/24 Ethernet1/0/25 Ethernet1/0/26 Ethernet1/0/27 Ethernet1/0/28 Switch#show vlan summary The max. Vlan entries: 4094	

Existing Vlan:
Universal Vlan:
1
Private Vlan:
100 200 300

Total Existing Vlan:4
Switch#

displayed information	Explanation
VLAN	VLAN ID
Name	VLAN name
Type	VLAN type, statically configured or dynamically learned.
Media	VLAN interface type: Ethernet
Ports	Access port within a VLAN

show vlan-translation

Syntax	**show vlan-translation**
Parameter	None
Default	none
Mode	Admin and Configuration Mode.
Usage	Display the information of all the ports at VLAN-translation state.
Example	Display current VLAN translation state information. Switch#show vlan-translation Interface Ethernet1/0/1: vlan-translation is enable, miss drop is not set

vlan-translation n-to-1

Syntax	**vlan-translation n-to-1 <WORD> to <new-vlan-id>** **no vlan-translation n-to-1 <WORD>**	
Parameter	**<WORD>**	original VLAN ID, its range from 1 to 4094, connect them with ';' and '-'. If there are two VLANs with different range are translated into different VLAN ID in the same port, two VLAN ranges should not be superposed.
	<new-vlan-id>	translated VLAN ID,its range from 1 to 4094.
Default	Disable	
Mode	Port mode	
Usage	Multi-to-One VLAN translation is used to network edge to map multiple VLANs to one VLAN of backbone network. When data traffic returns from backbone network to network	

	edge, it will restore VLAN of network edge to implement Multi-to-One VLAN translation and save VLAN resource of backbone network. Note: When using this function, the device must establish the original and the translated VLAN firstly, and enabling the downlink port of this function and the uplink port for connecting backbone network, which must be join in the original and the translated VLAN with tagged mode. This function should not be used with dot1q-tunnel and VLAN translation at the same time Note: Multi-to-One VLAN translation should be enabled after MAC learning. **show vlan-translation n-to-1** display setting。
Example	On Ethernet 1/0/1, translate the data traffic from VLAN with the range between 1 to 5 into VLAN 100, and translate the data traffic (belongs to VLAN with the range between 1 to 5) out from VLAN100 into the corresponding VLAN ID, connect the uplink port of the backbone network as Ethernet 1/0/5. Switch#config Switch(config)#vlan 1;5;100 Switch(config)#vlan 2-4 Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#switchport mode trunk Set the port Ethernet1/0/1 mode Trunk successfully Switch(config-if-ethernet1/0/1)#vlan-translation n-to-1 1-5 to 100 Switch(config-if-ethernet1/0/1)#interface ethernet 1/0/5 Switch(config-if-ethernet1/0/5)#switchport mode trunk Set the port Ethernet1/0/5 mode Trunk successfully Switch#show vlan-translation n-to-1 Ethernet1/0/1: vlan-translation n-to-1 enable vlan-translation n-to-1 1-5 to 100

show vlan-translation n-to-1

Syntax	**show vlan-translation n-to-1 <interface-name>**	
Parameter	**<interface-name>**	Specify the name of the port which will be shown. If there is no parameter, show all port configurations with this function.
Default	There is no Multi-to-One VLAN translation information.	
Mode	Admin mode.	
Usage	If appointed vlan when show, it will display the n-to-1 translation of specified vlan, if not appointed vlan, it will display all n-to-1 information.	
Example	Show all port configurations with Multi-to-One VLAN translation function. Switch#show vlan-translation n-to-1 Ethernet1/0/1: vlan-translation n-to-1 enable vlan-translation n-to-1 1-5 to 100	

dynamic-vlan mac-vlan prefer

Syntax	**dynamic-vlan mac-vlan prefer**

Parameter	None
Default	MAC-based VLAN is preferred by default.
Mode	Global Mode.
Usage	Configure the preference of dynamic-vlan on switch. The default priority sequence is MAC-based VLAN. IP-subnet-based VLAN. Protocol-based VLAN, namely the preferred order when several dynamic VLAN is available. After the IP-subnet-based VLAN is set to be preferred and the user wish to restore to preferring the MAC-based VLAN, please use this command. **show dynamic-vlan prefer** display setting。
Example	Set the MAC-based VLAN preferred. Switch#config Switch(config)#dynamic-vlan mac-vlan prefer Switch#show dynamic-vlan prefer Mac Vlan/Voice Vlan IP Subnet Vlan Protocol Vlan

dynamic-vlan subnet-vlan prefer

Syntax	**dynamic-vlan subnet-vlan prefer**
Parameter	None
Default	MAC-based VLAN is preferred by default.
Mode	Global Mode.
Usage	Configure the preference of dynamic-vlan on switch. The default priority sequence is MAC-based VLAN. IP-subnet-based VLAN. Protocol-based VLAN, namely the preferred order when several dynamic VLAN is available. This command is used to set to preferring the IP-subnet-based VLAN. **show dynamic-vlan prefer** display setting。
Example	Set the IP-subnet-based VLAN preferred. Switch#config Switch(config)#dynamic-vlan subnet-vlan prefer Switch(config)#show dynamic-vlan prefer IP Subnet Vlan Mac Vlan/Voice Vlan Protocol Vlan

mac-vlan vlan

Syntax	**mac-vlan vlan <vlan-id>** **no mac-vlan vlan <vlan-id>**
Parameter	**<vlan-id>** <vlan-id> is the number of the specified VLAN.
Default	No MAC VLAN is configured by default.
Mode	Global Mode.
Usage	Set specified VLAN for MAC VLAN.

	show mac-vlan display setting.
Example	Set VLAN100 to MAC VLAN. Switch#config Switch(config)#mac-vlan vlan 100 Switch#show vlan VLAN Name Type Media Ports ---- ----------- ---------- --------- ---------- 1 default Static ENET Ethernet1/0/1 Ethernet1/0/2 Ethernet1/0/3 Ethernet1/0/4 Ethernet1/0/5 Ethernet1/0/6 Ethernet1/0/7 Ethernet1/0/8 Ethernet1/0/9 Ethernet1/0/10 Ethernet1/0/11 Ethernet1/0/12 Ethernet1/0/13 Ethernet1/0/14 Ethernet1/0/15 Ethernet1/0/16 Ethernet1/0/17 Ethernet1/0/18 Ethernet1/0/19 Ethernet1/0/20 Ethernet1/0/21 Ethernet1/0/22 Ethernet1/0/23 Ethernet1/0/24 Ethernet1/0/25 Ethernet1/0/26 Ethernet1/0/27 Ethernet1/0/28 100 VLAN0100 UserDynam ENET

mac-vlan

Syntax	**mac-vlan mac <mac-addrss> <mac-mask> vlan <vlan-id> priority <priority-id>** **no mac-vlan {mac <mac-addrss> <mac-mask>|all}**	
Parameter	**<mac-addrss>/<mac-mask>**	mac-address/mac-mask format:XX-XX-XX-XX-XX-XX
	<vlan-id>	vlan-id is the ID of the VLAN with a valid range of 1~4094
	<priority-id>	priority-id is the level of priority and is used in the VLAN tag with a valid range of 0~7
Default	No MAC address joins the VLAN by default.	
Mode	Global Mode	
Usage	With this command user can add specified MAC address to specified VLAN. If there is a non VLAN label data packet enters from the switch port from the specified MAC address, it will be assigned with specified VLAN ID so sent enter specified VLAN. Their belonging VLAN are the same no matter which port did they enter through. The command does not have any interfere on the VLAN label data packet. **show mac-vlan** display setting	
Example	Add network device of MAC address as 00-03-0f-11-22-33 to VLAN 100. Switch#config Switch(config)#mac-vlan vlan 100 Switch(config)#mac-vlan mac 00-03-0f-11-22-33 ff-ff-ff-ff-ff-ff vlan 100 priority 0 Switch#show mac-vlan Mac-Address Mac-Mask VLAN_ID Priority	

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	00-03-0f-11-22-33	ff-ff-ff-ff-ff-ff	100	0

protocol-vlan

Syntax	**protocol-vlan mode (ethernetII | snap) etype <etype-id> vlan <vlan-id> [priority <priority-id>]** **protocol-vlan mode llc dsap <dsap-id> ssap <ssap-id> vlan <vlan-id>** **no protocol-vlan (mode ((ethernetII | snap) etype <etype-id>) | all}** **no protocol-vlan mode llc dsap <dsap-id> ssap <ssap-id>**	
Parameter	**<etype-id>**	etype-id is the type of the packet protocol, with a valid range of 1536~65535;
	<vlan-id>	vlan-id is the ID of VLAN, the valid range is 1~4094。
	<priority-id>	priority-id is the priority, the range is 0~7
	<dsap-id>/<ssap-id>	dsap-id is Dsap ID，ssap-id is Ssap ID，the range is 0-255
Default	No protocol joined the VLAN by default	
Mode	Global Mode	
Usage	The command adds specified protocol into specified VLAN. If there is any non VLAN label packet from specified protocol enters through the switch port, it will be assigned with specified VLAN ID and enter the specified VLAN. No matter which port the packets go through, their belonging VLAN is the same. The command will not interfere with VLAN labeled data packets. It is recommended to configure ARP protocol together with the IP protocol or else some application may be affected. **show protocol -vlan** display setting。	
Example	Assign the IP protocol data packet encapsulated by the EthernetII to VLAN200 Switch#config Switch(config)#protocol-vlan mode ethernetII etype 1536 vlan 200 Switch#show protocol-vlan Protocol_Type VLAN_ID Priority ---------- ------- -------- mode ethernetii etype 0x600 200 0 mode ethernetii etype 0x60e 1 7 mode snap etype 0x613 1 1 mode llc dsap 0x1 ssap 0x1 1 0	

show dynamic-vlan prefer

Syntax	**show dynamic-vlan prefer**
Parameter	None
Default	Mac Vlan/Voice Vlan
Mode	Admin Mode and Configuration Mode.
Usage	Display the dynamic VLAN preference.
Example	Display current dynamic VLAN preference. Switch#show dynamic-vlan prefer

	Mac Vlan/Voice Vlan IP Subnet Vlan Protocol Vlan

show mac-vlan interface

Syntax	**show mac-vlan interface**
Parameter	None
Default	None
Mode	Admin Mode and other configuration Mode.
Usage	Display the ports of enabling MAC-based VLAN, the character in the bracket indicate the ports mode, A means Access port, T means Trunk port, H means Hybrid port.
Example	Display the ports of enabling MAC-based VLAN currently. Switch#show mac-vlan Ports ---------- Ethernet1/0/1(A) Ethernet1/0/2(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A)

show protocol-vlan

Syntax	**show protocol-vlan**
Parameter	None
Default	None
Mode	Admin Mode and Configuration Mode
Usage	Display the configuration of Protocol-based VLAN on the switch.
Example	Display the configuration of the current Protocol-based VLAN. Switch#show protocol-vlan Protocol_Type VLAN_ID Priority ---------- ------- -------- mode ethernetii etype 0x600 200 0 mode ethernetii etype 0x60e 1 7

	mode snap etype 0x613	1	1
	mode llc dsap 0x1 ssap 0x1	1	0

show subnet-vlan

Syntax	**show subnet-vlan**
Parameter	None
Default	None
Mode	Admin Mode and other Configuration Mode.
Usage	Display the configuration of the IP-subnet-based VLAN on the switch.
Example	Display the configuration of the current IP-subnet-based VLAN. Switch#show subnet-vlan IP-Address Mask VLAN_ID Priority --- --- --- --- 192.168.5.2 255.255.255.0 100 0

show subnet-vlan interface

Syntax	**show subnet-vlan interface**
Parameter	None
Default	None
Mode	Admin Mode and other Configuration Mode.
Usage	Display the port of enabling IP-subnet-based VLAN, the character in the bracket indicate the ports mode, A means Access port, T means Trunk port, H means Hybrid port.
Example	Display the port of enabling IP-subnet-based VLAN currently. Switch#show subnet-vlan interface Ports --- Ethernet1/0/1(A) Ethernet1/0/2(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A)

subnet-vlan

Syntax	**subnet-vlan ip-address <ipv4-addrss> mask <subnet-mask> vlan <vlan-id> priority <priority-id>** **no subnet-vlan {ip-address <ipv4-addrss> mask <subnet-mask> | all}**	
Parameter	**<ipv4-addrss>**	ipv4-address is the IPv4 address shown in dotted decimal notation; the valid range of each section is 0~255;
	<subnet-mask>	subnet-mask is the subnet mask code shown in dotted decimal notation; the valid range of each section is 0~255;
	<vlan-id>	vlan-id is the VLAN ID with a valid range of 1~4094
	<priority-id>	priority-id is the priority applied in the VLAN tag with a valid range of 0~7;
Default	No IP subnet joined the VLAN by default.	
Mode	Global Mode.	
Usage	This command is used for adding specified IP subnet to specified VLAN. When packet without VLAN label and from the specified IP subnet enters through the switch port, it will be matched with specified VLAN id and enters specified VLAN. These packets will always come to the same VLAN no matter through which port did they enter. This command will not interfere with VLAN labeled data packets. **show subnet-vlan** display setting.	
Example	Add the network equipment with IP subnet of 192.168.1.1/24 to VLAN 300 Switch#config Switch(config)#vlan 300 Switch(config-vlan300)#exit Switch(config)#subnet-vlan ip-address 192.168.1.1 mask 255.255.255.0 vlan 300 priority 0 Switch(config)#show subnet-vlan	

IP-Address	Mask	VLAN_ID	Priority
---	---	---	---
192.168.1.1	255.255.255.0	300	0

switchport mac-vlan enable

Syntax	**switchport mac-vlan enable** **no switchport mac-vlan enable**
Parameter	none
Default	The MAC-base VLAN function is enabled on the port by default.
Mode	Port Mode.
Usage	After adding a MAC address to specified VLAN, the MAC-based VLAN function will be globally enabled. This command can disable the MAC-based VLAN function on specified port to meet special user applications. **show mac-vlan interface** display setting。
Example	Disable the MAC-based VLAN function on port1. Switch#config Switch(config)#interface ethernet 1/0/1 Switch(config-if-ethernet1/0/1)#no switchport mac-vlan enable

	Switch(config-if-ethernet1/0/1)#show mac-vlan interface Ports ---------- Ethernet1/0/2(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A)

switchport subnet-vlan enable

Syntax	**switchport subnet-vlan enable** **no switchport subnet-vlan enable**
Parameter	none
Default	The IP-subnet-based VLAN is enabled on the port by default.
Mode	Port Mode.
Usage	After adding the IP subnet to specified VLAN, the IP-subnet-based VLAN function will be globally enabled. This command can disable the IP-subnet-based VLAN function on specified port to meet special user applications. **show subnet-vlan interface** display setting.
Example	Disable the IP-subnet-based VLAN function on port2. Switch#config Switch(config)# interface ethernet 1/0/2 Switch(config-if-ethernet1/0/2)#no switchport subnet-vlan enable Switch(config-if-ethernet1/0/2)#show subnet-vlan interface Ports ---------- Ethernet1/0/1(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A)

	Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A)

show voice-vlan

Syntax	**show voice-vlan**
Parameter	None
Default	None
Mode	Admin Mode and other Configuration Mode.
Usage	Display Voice VLAN Configuration.
Example	Display the Current Voice VLAN Configuration. Switch#show subnet-vlan IP-Address Mask VLAN_ID Priority ---------- ---------- ------- -------- 192.168.5.2 255.255.255.0 100 0

switchport voice-vlan enable

Syntax	**switchport voice-vlan enable** **no switchport voice-vlan enable**
Parameter	none
Default	Voice VLAN is enabled by default.
Mode	Port Mode.
Usage	When voice equipment is added to the Voice VLAN, the Voice VLAN is enabled globally by default. This command disables Voice VLAN on specified port to meet specified application of the user. **show voice-vlan** display setting。
Example	Disable the Voice VLAN function on port2. Switch#config Switch(config)# interface ethernet 1/0/2 Switch(config-if-ethernet1/0/2)# no switchport voice-vlan enable Switch(config-if-ethernet1/0/2)# show voice-vlan Voice VLAN ID:100 Ports ---------- Ethernet1/0/1(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A)

	Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A) Voice name Mac-Address Mask Priority ---------- ---------- ---------- --------

voice-vlan

Syntax	**voice-vlan mac <mac-address> mask <mac-mask> priority <priority-id> [name <voice-name>]** **no voice-vlan {mac <mac-address> mask <mac-mask> | name <voice-name> | all}**	
Parameter	**<mac-address>**	Mac-address is the voice equipment MAC address, shown in ”xx-xx-xx-xx-xx-xx” format;
	<mac-mask>	mac-mask is the last eight digit of the mask code of the MAC address, the valid values are: 0xff, 0xfe, 0xfc, 0xf8, 0xf0, 0xe0, 0xc0,0x80, 0x0;
	<priority-id>	priority-id is the priority of the voice traffic, the valid range is 0–7;
	<voice-name>	the voice-name is the name of the voice equipment, which is to facilitate the equipment management;
Default	This command will add a specified voice equipment into the Voice VLAN, if a non VLAN labeled data packet from the specified voice equipment enters through the switch port, then no matter through which port the packet enters, it will belongs to Voice VLAN. The command will not interfere with the packets of VLAN labels.	
Mode	Global Mode.	
Usage	This command will add a specified voice equipment into the Voice VLAN, if a non VLAN labeled data packet from the specified voice equipment enters through the switch port, then no matter through which port the packet enters, it will belongs to Voice VLAN. The command will not interfere with the packets of VLAN labels. **show voice-vlan** display setting.	
Example	Add the 256 sets of voice equipments of the R&D department with MAC address ranging from 00-03-0f-11-22-00 to 00-03-0f-11-22-ff to the Voice VLAN. Switch#config Switch(config)#vlan 100 Switch(config-vlan100)#exit Switch(config)#voice-vlan vlan 100 Switch(config)#voice-vlan mac 00-03-0f-11-22-00 mask 0 priority 5 name R&D Switch(config)#show voice-vlan Voice VLAN ID:100 Ports ---------- Ethernet1/0/1(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A)	

	Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A) Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A) Voice name Mac-Address Mask Priority ---------- ---------- ---------- -------- R&D 00-03-0f-11-22-00 00-00-00-00-00-00 5

voice-vlan vlan

Syntax	**voice-vlan vlan <vlan-id>** **no voice-vlan**
Parameter	**<vlan-id>** Vlan id is the number of the specified VLAN.
Default	No Voice VLAN is configured by default.
Mode	Global Mode.
Usage	Set specified VLAN for Voice VLAN, There can be only one Voice VLAN at the same time. The voice VLAN can not be applied concurrently with MAC-based VLAN. **show voice-vlan** display setting**.**
Example	Set VLAN100 to Voice VLAN. Switch#config Switch(config)#vlan 100 Switch(config-vlan100)#exit Switch(config)#voice-vlan vlan 100 Switch(config)#show voice-vlan Voice VLAN ID:100 Ports ---------- Ethernet1/0/1(A) Ethernet1/0/3(A) Ethernet1/0/4(A) Ethernet1/0/5(A) Ethernet1/0/6(A) Ethernet1/0/7(A) Ethernet1/0/8(A) Ethernet1/0/9(A) Ethernet1/0/10(A) Ethernet1/0/11(A) Ethernet1/0/12(A) Ethernet1/0/13(A) Ethernet1/0/14(A) Ethernet1/0/15(A) Ethernet1/0/16(A) Ethernet1/0/17(A) Ethernet1/0/18(A) Ethernet1/0/19(A) Ethernet1/0/20(A) Ethernet1/0/21(A) Ethernet1/0/22(A) Ethernet1/0/23(A)

	Ethernet1/0/24(A) Ethernet1/0/25(A) Ethernet1/0/26(A) Ethernet1/0/27(A) Ethernet1/0/28(A) Voice name Mac-Address Mask Priority ---------- ---------- ---------- ---------

surveillance-vlan mac

Syntax	**surveillance-vlan <mac-address> mask <mac-mask> priority <priority-id> [name < surveillance -name>]** **no surveillance-vlan {mac <mac-address> mask <mac-mask> | name < surveillance -name> | all}**	
Parameter	**<mac-address>**	Mac-address is the MAC address of the surveillance device, displayed in the format "xx-xx-xx-xx-xx-xx";
	<mac-mask>	Mac-mask is the last eight bits of the mask code of the MAC address, and the valid values are: 0xff, 0xfe, 0xfc, 0xf8, 0xf0, 0xe0, 0xc0, 0x80, 0x0;
	<priority-id>	Priority-id is the priority of voice traffic, and the effective range is 0-7;
	< surveillance -name>	Surveillance name is the name of the video recording equipment to facilitate Facility Management.
Default	none	
Mode	Global Mode	
Usage	This command is used to configure survey-vlan mac. To configure this function, you need to configure survey-vlan vlan first, otherwise an error will be reported.	
Example	Configure survey-vlan mac. Switch(config)#surveillance-vlan mac 00-00-00-00-00-01 ff-ff-ff-ff-ff-ff priority 1 name aaa	

surveillance-vlan mode

Syntax	**surveillance-vlan mode [auto | manual]**
Parameter	**Auto** adaptive mode **Manual** Manual mode
Default	Default auto
Mode	Global mode
Usage	This command is used to switch the working mode of survey-vlan
Example	Set the survey-vlan working mode to manual. Switch(config)# surveillance-vlan mode manual

surveillance-vlan vlan

Syntax	**surveillance-vlan vlan <vlan-id>** no **surveillance-vlan all**
Parameter	**<vlan-id> Value 1-4094**
Default	none
Mode	Global mode
Usage	Configure survey-vlan vlan.
Example	Configure survey-vlan vlan 10. Switch(config)#vlan 10 Switch(config-vlan10)#exit Switch(config)#surveillance-vlan vlan 10