03-MAC Address

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1 MAC Address Table

clear collision-mac-address-table

Syntax	**clear collision-mac-address-table**
Parameter	none
Default	none
Mode	Admin Mode
Usage	If enable the function of the hash collision mac table that issued ffp (**mac-address-table avoid-collision**), the mac cannot be cleared.
Example	Clear the hash collision mac table. Switch#clear collision-mac-address-table

clear mac-address-table dynamic

Syntax	**clear mac-address-table dynamic [address <*mac-addr*>] [vlan <*vlan-id*>] [interface [ethernet | portchannel] <*interface-name*>]**	
Parameter	**<*mac-addr*>**	MAC address will be deleted
	<*vlan-id*>	Vlan id
	<*interface-name*>	port name for forwarding the MAC packets
Default	None	
Mode	Admin mode.	
Usage	Delete all dynamic address entries which exist in MAC address table, except application, system entries. MAC address entries can be classified according to different sources, the types are as follows: DYNAMIC, STATIC, APPLICATION, SYSTEM. DYNAMIC is the dynamic MAC address entries learned by switch, it can be aged by switch automatically.	
Example	Delete all dynamic MAC Switch#clear mac-address-table dynamic	

mac-address-learning enable | disable

Syntax	**mac-address-learning (enable | disable) (vlan <vlan-id> | interface ethernet <interface-name>)**	
Parameter	**enable**	Enable MAC learning through port
	disable	Disable MAC learning through port
	<vlan-id>	VLAN ID,range:1-4094
	<interface-name>	Port name
Default	all port auto learning mac address	

Mode	Global mode
Usage	After disabling the MAC address learning function of the port, the port will not be able to automatically learn the MAC address, and the user can manage it by statically adding the MAC address.
Example	Disable the MAC learning function of port 8 Switch#config Switch(config)#mac-address-learning disable interface ethernet 1/0/8

mac-address-table aging-time

Syntax	**mac-address-table aging-time <0 | aging-time>** **no mac-address-table aging-time**	
Parameter	**0**	0 to disable aging.
	aging-time	aging-time seconds, range from 10 to 1000000;
Default	Default aging-time is 300 seconds.	
Mode	Global Mode.	
Usage	If no destination address of the packets is same with the address entry in aging-time, the address entry will get aged. The user had better set the aging-time according to the network condition, it usually use the default value.	
Example	Set the aging-time to 600 seconds. Switch#config Switch(config)#mac-address-table aging-time 600	

mac-address-table static | blackhole

Syntax	**mac-address-table {static | blackhole} address <mac-addr> vlan <vlan-id> [interface ethernet <interface-name>] | [source | destination | both]** **no mac-address-table {static | blackhole | dynamic} [address <mac-addr>] [vlan <vlan-id>] [interface ethernet <interface-name>]**	
Parameter	**static**	static entries
	blackhole	filter entries, which is for discarding frames from specific MAC address, it can filter source address, destination address or the both. When choose the filter entries, blackhole address can't based on port, and not configure to interface;
	dynamic	dynamic address entries
	<mac-addr>	MAC address to be added or deleted
	<vlan-id>	vlan number
	<interface-name>	name of the port transmitting the MAC data packet

	source	based on source address filter
	destination	based on destination address filter
	both	based on source address and destination address filter, the default is both
Default	When VLAN interface is configured and is up, the system will generate a static address mapping entry of which the inherent MAC address corresponds to the VLAN number.	
Mode	Global Mode	
Usage	In certain special applications or when the switch is unable to dynamically learn the MAC address, users can use this command to manually establish mapping relation between the MAC address and port and VLAN. no mac-address-table command is for deleting all dynamic, static, filter MAC address entries existing in the switch MAC address list, except application, system entries. MAC address entries can be classified according to the different source, the types are as follows: DYNAMIC, STATIC, APPLICATION, SYSTEM. DYNAMIC is the dynamic MAC address entries learned by switch, it can be aged by switch automatically. STATIC is the static MAC address entries (including blackhole entries) added by user. APPLICATION is the static MAC address entries added by application protocol (such as dot1x, security port…). SYSTEM is the additive static MAC address entries according to VLAN interface. When adding STATIC entries, it can cover the conflictive DYNAMIC, except APPLICATION, SYSTEM entries. After configure the static multicast MAC by this command, the multicast MAC traffic will be forwarded to the specified port of the specified VLAN.	
Example	Port 1/0/1 belongs to VLAN200, and establishes address mapping with MAC address 00-03-0f-f0-00-18. Switch#config Switch(config)#mac-address-table static address 00-03-0f-f0-00-18 vlan 200 interface ethernet 1/0/1	

l2-address-table static-multicast address

Syntax	**l2-address-table static-multicast address {<*ip-addr*> |<*mac-addr*>} vlan <*vlan-id*> interface [ethernet <*interface-name*>] | port-channel <port-channel-id>** **no l2-address-table static-multicast (address {<*ip-addr*> |<*mac-addr*>} | vlan <*vlan-id*>) [interface (ethernet <*interface-name*>] | port-channel <port-channel-id>)]**	
Parameter	**<*ip-addr*>**	IP address add or delete IP address
	<*mac-addr*>	add or delete MAC address
	<*interface-name*>	port that transfer MAC data packets
	<port-channel-id>	aggregate port name of transfer MAC data packets
	<*vlan-id*>	VLAN number
Default	When VLAN interface is configured and is up, the system will generate a static address mapping entry of which the inherent MAC address corresponds to the VLAN number	
Mode	Global Mode	

Usage	In certain special applications or when the switch is unable to dynamically learn the MAC address, users can use this command to manually establish mapping relation between the MAC address and port and VLAN. After configure the static multicast MAC by this command, the multicast MAC traffic will be forwarded to the specified port of the specified VLAN.
Example	Configure a static multicast ip 232.0.0.1, the egress is ehernet 1/0/1. Switch#config Switch(config)# l2-address-table static-multicast address 232.0.0.1 vlan 200 interface ethernet 1/0/1

show collision-mac-address-table

Syntax	**show collision-mac-address-table**
Parameter	**None**
Default	None
Mode	Global Mode.
Usage	If enable the function of the hash collision mac table that issued ffp (**mac-address-table avoid-collision**), the collision mac which issued ffp use * to sign.
Example	Show the hash collision mac table. Switch#config Switch(config)#show collision-mac-address-table The max number can be recorded is 200 The max number of collision is 0 The current number recorded is 0 MAC Address VLAN Collision-count

show mac-address-table

Syntax	**show mac-address-table [static | blackhole | aging-time <aging-time> | count] [address <mac-addr>] [vlan <vlan-id>] [count] [interface <interface-name>]**	
Parameter	**static**	static entries
	blackhole	filter entries
	<aging-time>	address aging time
	count	entry's number
	<mac-addr>	entry's MAC address
	<vlan-id>	entry's VLAN number
	<interface-name>	entry's interface name
Default	MAC address table is not displayed by default	
Mode	Admin and Configuration Mode.	
Usage	This command can display various classes of MAC address entries. Users can also use **show mac-address-table** to display all the MAC address entries.	
Example	Display all the filter MAC address entries.	

	Switch#show mac-address-table blackhole

show l2-address-table multicast

Syntax	**show l2-address-table multicast ([count] | [vlan <*vlan-id*>])**
Parameter	**<*vlan-id*>** entry's VLAN number,range:1-4094
Default	MAC address table is not displayed by default
Mode	Admin and Configuration Mode.
Usage	This command can display various classes of multicast address entries.
Example	Display all the vlan1 multicast address entries. Switch#show l2-address-table multicast vlan 1 Vlan Address Insert Type Creator Ports ---- ---------- ---------- ---------- ----------

clear mac-notification statistics

Syntax	**clear mac-notification statistics**
Parameter	None
Default	None
Mode	Admin mode
Usage	When this command is used with show command, it is able to check the executive result by show command after executing this command.
Example	Switch#clear mac-notification statistics Switch#

mac-address-table notification

Syntax	**mac-address-table notification** **no mac-address-table notification**
Parameter	none
Default	Disable
Mode	Global Mode
Usage	This command is used with trap switch of snmp. When disabling the MAC address notification, other configuration can be shown, but the function is invalid 。
Example	Enable the MAC address notification. Switch#config Switch(config)#mac-address-table notification Switch(config)#

mac-address-table notification history-size

Syntax	**mac-address-table notification history-size <0-500>** **no mac-address-table notification history-size**	
Parameter	**history-size**	data length of sending the notification, its range from 1 to 500
Default	10	
Mode	Global Mode	
Usage	After the global switch is disabled, this command is also able to be configured sequentially.	
Example	Change the maximum history-size to be 256. Switch#config Switch(config)#mac-address-table notification history-size 256	

mac-address-table notification interval

Syntax	**mac-address-table notification interval <1-30>** **no mac-address-table notification interval**	
Parameter	**interval**	interval for sending the notification, unit is second, its range from 0 to 30。
Default	30s	
Mode	Global Mode	
Usage	After the global switch is disabled, this command is also able to be configured sequentially.	
Example	Configure the interval as 30s for sending the MAC address notification Switch#config Switch(config)#mac-address-table notification interval 30	

mac-notification

Syntax	**mac-notification {added | all | removed}** **no mac-notification**	
Parameter	**added**	added MAC address
	all	added and the removed MAC addresses
	removed	removed MAC address
Default	No MAC address notification.	
Mode	Port mode	
Usage	After the global switch is disabled, this command is also able to be configured sequentially.	
Example	Send the trap notification after the MAC address is added to Ethernet 1/0/1. Switch#config Switch(config)#interface ethernet 1/0/1	

	Switch(config-if-ethernet1/0/1)# mac-notification added

show mac-notification summary

Syntax	**show mac-notification summary**
Parameter	**none**
Default	Do not show the summary.
Mode	Admin mode
Usage	With this command, check the configuration of MAC address and the sending status of MAC notification trap.
Example	Switch#show mac-notification summary MAC address notification:enabled MAC address snmp traps:disabled MAC address notification interval = 5 MAC address notification history log size = 10 MAC address added = 0 MAC address removed = 0 MAC address moved = 0 MAC address snmp traps generated = 0

snmp-server enable traps mac-notification

Syntax	**snmp-server enable traps mac-notification** **no snmp-server enable traps mac-notification**
Parameter	none
Default	Disable trap notification globally.
Mode	Global Mode
Usage	This command is used with MAC notification switch. When the switch is disabled, other configuration can be shown, but the function is invalid.
Example	Enable the trap notification of MAC address Switch#config Switch(config)#snmp-server enable traps mac-notification