QASA CLI GUIDE

MAC Address

Contents

MAC Address Table

clear collision-mac-address-table

Syntax	bandwidth control <bandwidth> {transmit	receive	both} no bandwidth control
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	Deletes 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, and 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	Admin Mode.
Usage	After disabling the MAC address learning function of the port, the port will not be able to learn the MAC address automatically, 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	Admin 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 be based on port, and not be configured 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	Admin Mode.
Usage	In certain special applications or when the switch is unable to learn the MAC address dynamically, user can use this command to establish mapping relation manually 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, and 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 configuring 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 inherent the MAC address corresponds to the VLAN number.
Mode	Global Mode.
Usage	In certain special applications or when the switch is unable to learn the MAC address dynamically, users can use this command to establish mapping relation between the MAC address and port and VLAN manually. After configuring 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 ethernet 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	Admin 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	Admin 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**