1 Global IP-MAC Address Binding Commands

Command	Function
address-bind	Configure a global IP-Media Access Control (MAC) address binding policy.
address-bind binding-filter logging	Enable address binding log filtering.
address-bind install	Enable the IP-MAC address binding function.
address-bind ipv6-mode	Configure the IPv6 address binding mode.
address-bind uplink	Configure a port as an excluded port for address binding.
show address-bind	Display the global IP-MAC address binding policy.
show address-bind uplink	Display excluded ports for address binding.

1.1 address-bind

Function

Run the **address-bind** command to configure a global IP-Media Access Control (MAC) address binding policy.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No IP-MAC address binding policy is configured by default.

Syntax

address-bind { *ipv4-address mac-address* | *ipv6-address mac-address* }

no address-bind { *ipv4-address mac-address* | *ipv6-address mac-address* }

default address-bind { *ipv4-address mac-address* | *ipv6-address mac-address* }

Parameter Description

ipv4-address mac-address: IPv4-MAC address binding.

ipv6-address mac-address: IPv6-MAC address binding.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures a global IPv4-MAC address binding policy with the IPv4 address being 192.168.5.1 and the MAC address being 00d0.f800.0001.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# address-bind 192.168.5.1 00d0.f800.0001
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.2 address-bind binding-filter logging

Function

Run the **address-bind binding-filter logging** command to enable address binding log filtering.

Run the **no** form of this command to disable this feature.

Run the **default** form of this command to restore the default configuration.

Address binding log filtering is disabled by default.

Syntax

address-bind binding-filter logging [**rate-limit** *rate*]

no address-bind binding-filter logging

default address-bind binding-filter logging

Parameter Description

rate-limit *rate*: Specifies the rate for printing global IPv4-MAC address binding logs, in pieces per minutes. The value range is from 1 to 120. The default value is **10**. If this parameter is not specified, address binding log filtering is enabled.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After the address binding log filtering function is enabled, the device prints alert logs for IP packets that do not contain bound IP address and MAC address.

When the printing rate of address binding logs exceeds the configured rate, the number of suppressed logs is displayed.

Examples

The following example enables the address binding log filtering function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# address-bind binding-filter logging
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.3 address-bind install

Function

Run the **address-bind install** command to enable the IP-MAC address binding function.

Run the **no** form of this command to disable this feature.

Run the **default** form of this command to restore the default configuration.

The IP-MAC address binding function is disabled by default.

Syntax

address-bind install

no address-**bind install**

default address-bind install

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After IP-MAC address binding is enabled, the device forwards packets based on the IP-MAC address binding policy.

Before enabling this function, you need to run the **address-bind** command to configure a global IP-MAC address binding policy or run the **address-bind uplink** command to configure the port on the device used to connect to the user host as an excluded port. Otherwise, the connection may be interrupted.

Examples

The following example enables the IP-MAC address binding function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# address-bind 192.168.5.1 00d0.f800.0001
Hostname(config)# address-bind install
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

● **address-bind**

● **address-bind uplink**

1.4 address-bind ipv6-mode

Function

Run the **address-bind ipv6-mode** command to configure the IPv6 address binding mode.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The default IPv6 address binding mode is the strict mode.

Syntax

address-bind ipv6-mode { **compatible** | **loose** | **strict** }

no address-**bind ipv6**-**mode**

default address-bind ipv6-mode

Parameter Description

compatible: Specifies the compatible mode.

loose: Specifies the loose mode.

strict: Specifies the strict mode.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Table 1-1 describes the forwarding rules in different IPv6 address binding modes.

Table 1-1Forwarding Rules

Binding Mode	IPv4 Packet Forwarding Rule	IPv6 Packet Forwarding Rule
Strict	Packets matching the IPv4-MAC address binding conditions are forwarded.	Packets matching the IPv6-MAC address binding conditions are forwarded.
Loose	Packets matching the IPv4-MAC address binding conditions are forwarded.	● If IPv6-MAC address binding is configured, packets matching the IPv6-MAC address binding conditions are forwarded.

Binding Mode	IPv4 Packet Forwarding Rule	IPv6 Packet Forwarding Rule
		● If IPv6-MAC address binding is not configured, all IPv6 packets are forwarded.
Compatible	Packets matching the IPv4-MAC address binding conditions are forwarded.	● IPv6 packets are forwarded if they contain MAC addresses matching the MAC address in the IPv4-MAC address binding policy. ● Packets matching the IPv6-MAC address binding conditions are forwarded.

Examples

The following example sets the IPv6 address binding mode to the compatible mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# address-bind ipv6-mode compatible
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.5 address-bind uplink

Function

Run the **address-bind uplink** command to configure a port as an excluded port for address binding.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No port is configured as an excluded port for address binding by default.

Syntax

address-bind uplink *interface-type interface-number*

no address-bind uplink *interface-type interface-number*

default address-bind uplink *interface-type interface-number*

Parameter Description

interface-type interface-number: Type and number of a port configured as an excluded port. The port types include switching ports and layer 2 (L2) aggregation ports (APs).

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures GigabitEthernet 0/1 as an excluded port for address binding.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# address-bind uplink gigabitethernet 0/1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.6 show address-bind

Function

Run the **show address-bind** command to display the global IP-MAC address binding policy.

Syntax

show address-bind

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the global IP-MAC address binding policy.

```
Hostname> enable
Hostname# show address-bind
Total Bind Addresses in System : 2
IpAddress          BindingMacAddr
192.168.5.1        00d0.f800.0001
1:1::1             00d0.f800.0002
```

Table 1-1Output Fields of the show address-bind Command

Field	Description
Total Bind Addresses in System	Number of global IPv4-MAC address bindings configured on the device
IpAddress	Bound IP address
BindingMacAddr	Bound MAC address

Notifications

N/A

Platform Description

N/A

Related Commands

- **address-bind**

1.7 show address-bind uplink

Function

Run the **show address-bind uplink** command to display excluded ports for address binding.

Syntax

show address-bind uplink

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays excluded ports for address binding.

```
Hostname> enable
Hostname# show address-bind uplink
Port      State
Gi0/1      Enabled
Default    Disabled
```

Table 1-1Output Fields of the show address-bind uplink Command

Field	Description
Port	Excluded port. No port is an excluded port by default.
State	Whether a port is an excluded port. **Enabled** indicates that a port is an excluded port, and **Disabled** indicates that a port is not an excluded port.

Notifications

N/A

Platform Description

N/A

Related Commands

- **address-bind uplink**