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1 ARP Commands

1.1 arp

To add a permanent entry in the Address Resolution Protocol (ARP) cache, use the `arp` command in global configuration mode. To remove an entry from the ARP cache, use the `no` form of this command.

Command Syntax

arp (**vrf** *VRF-NAME* |) *IP-ADDRESS* *HARDWARE-ADDRESS*

no arp (**vrf** *VRF-NAME* |) *IP-ADDRESS*

vrf <i>VRF-NAME</i>	IP address in four-part dotted decimal format corresponding to the local data-link address
<i>IP-ADDRESS</i>	Virtual Routing and Forwarding (VRF) instance. The <i>vrf-name</i> argument is the name of the VRF table
<i>HARDWARE-ADDRESS</i>	Local data-link address (a 48-bit address)

Command Mode

Global Configuration

Default

No entries are permanently installed in the ARP cache.

Usage

Because most hosts support dynamic resolution, you generally need not specify static ARP cache entries.

To remove all none static entries from the ARP cache, use the clear arp-cache privileged EXEC command.

Examples

The following is an example of a static ARP entry for a typical Ethernet host:

```
Switch(config)# arp 10.31.7.19 0800.0900.1834
```

Related Commands

clear arp-cache

1.2 arp retry-interval

When an interface requests a mapping for an address not in the cache, system will send ARP request message on the associated network requesting the address mapping. Usually, 3 request messages will be sent until the system got a response. To configure the ARP request delay interval between 2 messages, use arp retry-interval command in interface configuration mode. To restore the default value, use the no form of this command

Command Syntax

arp retry-interval *SECONDS*

no arp retry-interval

<i>SECONDS</i>	Time (in seconds) that an ARP request delay to interface, the range is <0,3>
----------------	--

Command Mode

Interface Configuration

Default

1 second

Usage

This command is ignored when issued on interfaces that do not use ARP. The show interface EXEC command displays the ARP retry interval value. The value as seen in the following example from the show interface command:

ARP timeout 01:00:00, ARP retry interval 1s

Examples

The following example sets the ARP retry interval to 3 seconds:

```
Switch(config)# interface eth-0-1
```

```
Switch(config-if)# no switchport
```

```
Switch(config-if)# arp retry-interval 3
```

Related Commands

show interface

1.3 arp timeout

To configure how long a dynamically learned IP address and its corresponding Media Control Access (MAC) address remain in the Address Resolution Protocol (ARP) cache, use the arp timeout command in interface configuration mode. To restore the default value, use the no form of this command.

Command Syntax

arp timeout *SECONDS*

no arp timeout

<i>SECONDS</i>	Time (in seconds) that an entry remains in the ARP cache, range is form 1 to .
----------------	--

Command Mode

Interface Configuration

Default

3600 seconds (1 hour)

Usage

This command is ignored when issued on interfaces that do not use ARP. The show interface EXEC command displays the ARP timeout value. The value as seen in the following example from the show interface command:

ARP timeout 01:00:00, ARP retry interval 1s

Examples

The following example sets the ARP timeout to 1200 seconds to allow entries to time out more quickly than the default:

```
Switch(config)# interface eth-0-1
```

```
Switch(config-if)# no switchport
```

```
Switch(config-if)# arp timeout 1200
```

Related Commands

show interface

1.4 clear arp-cache

To refresh dynamically created entries from the Address Resolution Protocol (ARP) cache, use the clear arp-cache command in privileged EXEC mode.

Command Syntax

clear arp-cache ((vrf *VRF-NAME*) interface *INTERFACE-NAME* |)

vrf <i>VRF-NAME</i>	(Optional) Refreshes only the ARP table entries for the specified Virtual Private Network (VPN) routing and forwarding (VRF) instance
<i>INTERFACE-NAME</i>	(Optional) Refreshes only the ARP table entries associated with this interface

Command Mode

Privileged EXEC

Default

No default behavior or values.

Usage

This command updates the dynamically learned IP address and MAC address mapping information in the ARP table to ensure the validity of those entries. If the refresh operation encounters any stale entries (dynamic ARP entries that have expired but have not yet been aged out by an internal, timer-driven process), those entries are aged out of the ARP table immediately as opposed to at the next refresh interval.

Use this command without any arguments or `all` to refresh all ARP cache entries for all enabled interfaces.

Examples

The following example shows how to refresh all dynamically learned ARP cache entries for all enabled interfaces:

```
Switch# clear arp-cache
```

Related Commands

show ip arp

1.5 clear ip arp

To refresh the specific dynamically created entry from the Address Resolution Protocol (ARP) cache, use the `clear ip arp` command in privileged EXEC mode.

Command Syntax

clear ip arp (**vrf** *VRF-NAME* |) *IP-ADDRESS*

vrf <i>VRF-NAME</i>	(Optional) Refreshes only the ARP table entries for the specified Virtual Private Network (VPN) routing and forwarding (VRF) instance
<i>VRF-NAME</i>	(Optional) Refreshes only the ARP table entries associated with this IP address

Command Mode

Privileged EXEC

Default

No default behavior or values.

Usage

This command updates the specific dynamically learned IP address and MAC address mapping information in the ARP table. If the refresh operation encounters any stale entries (dynamic ARP entries that have expired but have not yet been aged out by an internal, timer-driven process), the entry is aged out of the ARP table immediately as opposed to at the next refresh interval.

Examples

The following example shows how to refresh the dynamically learned ARP entries 10.10.10.10.

```
Switch# clear ip arp 10.10.10.10
```

Related Commands

show ip arp

1.6 clear ip arp statistics

To clear ARP packets statistics processed by system, use the clear ip arp statistics command in privileged EXEC mode.

Command Syntax

clear ip arp (vrf *VRF-NAME* |) statistics

vrf <i>VRF-NAME</i>	(Optional) Clear ARP statistics for the specified Virtual Private Network (VPN) routing and forwarding (VRF) instance
----------------------------	---

Command Mode

Privileged EXEC

Default

No default behavior or values.

Usage

This command ARP packets statistics.

Examples

The following example shows how to clear ARP packets statistics.

```
Switch# clear ip arp statistics
```

Related Commands

show ip arp summary

1.7 show ip arp

To display the entries in the Address Resolution Protocol (ARP) table, use the show ip arp command in privileged EXEC mode.

Command Syntax

show ip arp ((*vrf VRF-NAME*)) **interface** *INTERFACE-NAME*)

<i>vrf VRF-NAME</i>	(Optional) Displays the entries under the Virtual Private Network (VPN) routing and forwarding (VRF) instance specified by the <i>vrf-name</i> argument
<i>INTERFACE-NAME</i>	(Optional) Refreshes only the ARP table entries associated with this interface

Command Mode

Privileged EXEC

Default

None

Usage

To display all entries in the ARP cache, use this command without any arguments or

.

Examples

The following is sample output from the **show ip arp** command:

Switch# show ip arp

Protocol	Address	Age (min)	Hardware Addr	Interface
Internet	1.1.1.1	-	7cb5.0157.0c00	eth-0-1
Internet	2.2.2.1	-	7cb5.0157.0c00	eth-0-2
Internet	3.3.3.1	-	7cb5.0157.0c00	eth-0-3
Internet	10.0.20.1	-	7cb5.0157.0c00	eth-0-10
Internet	10.0.20.254	-	0000.5e00.0101	eth-0-10

Related Commands

arp

1.8 show ip arp summary

To display the total number of Address Resolution Protocol (ARP) table entries, the number of ARP table entries for each ARP entry mode, and the number of ARP table entries for each interface on the router, use the show ip arp summary command in privileged EXEC mode.

Command Syntax

show ip arp (vrf *VRF-NAME* |) summary

vrf <i>VRF-NAME</i>	(Optional) Displays the entries under the Virtual Private Network (VPN) routing and forwarding (VRF) instance specified by the <i>vrf-name</i> argument
----------------------------	---

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display high-level statistics about the ARP table entries:

Examples

The following is sample output from the show ip arp summary command:

```
Switch# show ip arp summary
```

```
Gratuitous ARP learning is disabled
2 IP ARP entries, with 0 of them incomplete
(Static:1, Dynamic:0, Interface:1)
ARP Pkt Received is: 0
ARP Pkt Sent number is: 1
ARP Pkt Discard number is: 0
```

Related Commands

arp

1.9 debug arp

To turn on the ARP debug, use debugs arp command in EXEC mode. To turn off the ARP debug, use the no form of this command.

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