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FiberstoreOS

IP Service Command Line Reference

Contents

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 *VRF-NAME*	IP address in four-part dotted decimal format corresponding to the local data-link address
IP-ADDRESS	Virtual Routing and Forwarding (VRF) instance. The vrf-name argument is the name of the VRF table
HARDWARE-ADDRESS	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 send 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

SECONDS	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

SECONDS	Time (in seconds) that an entry remains in the ARP cache , the range is <1, 2147483>

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 *VRF-NAME*	(Optional) Refreshes only the ARP table entries for the specified Virtual Private Network (VPN) routing and forwarding (VRF) instance
INTERFACE-NAME	(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 keywords 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 *VRF-NAME*	(Optional) Refreshes only the ARP table entries for the specified Virtual Private Network (VPN) routing and forwarding (VRF) instance
VRF-NAME	(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 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* |)

vrf *VRF-NAME*|	(Optional) Displays the entries under the Virtual Private Network (VPN) routing and forwarding (VRF) instance specified by the *vrf-name* argument
INTERFACE-NAME	(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 keywords.

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

1.7 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 *VRF-NAME*	(Optional) Displays the entries under the Virtual Private Network (VPN) routing and forwarding (VRF) instance specified by the *vrf-name* 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,  Dyamic:0, Interface:1)
ARP Pkt Received is: 0
ARP Pkt Send number is: 1
ARP Pkt Dicard number is: 0
```

Related Commands

arp

1.8 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.

Command Syntax

debug arp (**vrf** *VRF-NAME* |)

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

Command Mode

Privileged EXEC

Usage

Use this command to debug ARP packets received and send; also for debug ARP entry creating, updating and deleting.

Examples

The following is sample output from the debug arp command:

Switch# debug arp

```
 Sep  7 03:34:08 SWITCH ARP-7: IP ARP: creating entry for IP address: 7.7.7.7, hw: e64d.0445.df00
Sep  7 03:34:08 SWITCH ARP-7: IP ARP: send req src 7.7.7.7 e64d.0445.df00, dst 7.7.7.7 eth-0-1
```

Related Commands

show debugging arp

1.9 show debugging arp

To display the debugging status of ARP, use the show debugging arp command in EXEC mode.

Command Syntax

show debugging arp (**vrf** *VRF-NAME* |)

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

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the debugging status of ARP.

Examples

The following is sample output from the show debugging arp command:

Switch# show debugging arp

```
ARP debugging status:
  ARP packet debugging is on
```

Related Commands

debug arp

1.10 proxy-arp enable

The switch uses proxy ARP to help hosts determine MAC addresses of hosts on other networks or subnets. To enable proxy Address Resolution Protocol (ARP) on an interface, use the proxy-arp enable command in interface configuration mode. To disable proxy ARP on the interface, use the no form of this command.

Command Syntax

proxy-arp enable

no proxy-arp enable

Command Mode

Interface Configuration

Default

Proxy ARP is disabled by default.

Usage

When proxy ARP is disabled, a device will respond to ARP requests received on its interface only if the target IP address is the same as its IP address.

Examples

The following example enables proxy ARP on interface eth-0-1:

Switch(config)#interface eth-0-1

Switch(config-if)#no switchport

Switch(config-if)#no shutdown

Switch(config-if)#ip address 1.1.1.1/24

Switch(config-if)# proxy-arp enable

Related Commands

local-proxy-arp enable

1.11 local-proxy-arp enable

The local proxy ARP feature allow the L3 Device to response ARP request which's ARP Target address is in the same subnet the ARP request comes from(No Routing is required). To enable local proxy Address Resolution Protocol (ARP) on an interface, use the local-proxy-arp enable command in interface configuration mode. To disable proxy ARP on the interface, use the no form of this command.

Command Syntax

local-proxy-arp enable

no local-proxy-arp enable

Command Mode

Interface Configuration

Default

Local proxy ARP is disabled by default.

Usage

Internet Control Message Protocol (ICMP) redirects are disabled on interfaces where the local proxy ARP feature is enabled. The main condition we need to enable local ARP proxy is that the switch enables port isolate.

Examples

The following example enables local proxy ARP on interface eth-0-1:

Switch(config)# interface eth-0-1

Switch(config-if)# no switchport

Switch(config-if)# no shutdown

Switch(config-if)# ip address 1.1.1.1/24

Switch(config-if)# local-proxy-arp enable

Related Commands

proxy-arp enable

1.12 gratuitous-arp-learning enable

To enable the gratuitous Address Resolution Protocol (ARP) control on the router, use the gratuitous-arp-learning enable command in global configuration mode. To disable the ARP control, use the no form of this command.

Command Syntax

gratuitous-arp-learning enable

no gratuitous-arp-learning enable

Command Mode

Global Configuration

Default

Gratuitous ARP learning is disabled by default.

Usage

None.

Examples

The following example enables gratuitous ARP learning on interface eth-0-1:

Switch(config)# gratuitous-arp-learning enable

Related Commands

show ip arp summary

2 DHCP Client Commands

2.1 ip address dhcp

To acquire an IP address from Dynamic Host Configuration Protocol(DHCP), use the ip address dhcp command in interface configuration mode. To disable the function, use the no form of this command.

Command Syntax

ip address dhcp

no ip address dhcp

Command Mode

Interface Configuration

Default

DHCP Client is not enabled on interface.

Usage

Once this command was enable on an UP interface, it will acquire IP address immediately, otherwise the DHCP function of the interface will be in SUSPEND status. The no ip address dhcp command will send a DHCPRELEASE message to server and remove any IP address.

Examples

The following example shows how to enable dhcp client function:

Switch(config-if)# ip address dhcp

The following example shows how to disable dhcp client function:

Switch(config-if)# no ip address dhcp

Related Commands

dhcp client request

dhcp client client-id

dhcp client class-id

dhcp client lease

dhcp client hostname

management ip address dhcp

show dhcp client

2.2 management ip address dhcp

To acquire an IP address for management interface from by DHCP, use the management IP address dhcp command in global configuration mode. To disable the function, use the no form of this command.

Command Syntax

management ip address dhcp

no management ip address dhcp

Command Mode

Global Configuration

Default

DHCP Client is not enabled on management interface.

Usage

Use this command like IP address dhcp.

Examples

The following example shows how to enable dhcp client function on management interface:

Switch(config-if)# management ip address dhcp

The following example shows how to disable dhcp client function on management interface:

Switch(config-if)# no management ip address dhcp

Related Commands

show dhcp client

2.3 dhcp client request

To request configuration parameters by DHCP, use the dhcp client request command in interface configuration mode. To cancel the request, use the no form of this command.

Command Syntax

dhcp client request (**router** | **static-route** | **classless-static-route** | **classless-static-route-ms** | **tftp-server-address** | **dns-nameserver** | **domain-name** | **netbios-nameserver** | **vendor-specific** | **)**

no dhcp client request (**router** | **static-route** | **classless-static-route** | **classless-static-route-ms** | **tftp-server-address** | **dns-nameserver** | **domain-name** | **netbios-nameserver** | **vendor-specific** |)

router	Default router option (3)
static-route	Static route option (33)
classless-static-route	Classless static route option (121)
classless-static-route-ms	Microsoft classless static route option (249)
tftp-server-address	TFTP server ip address option (150)
dns-nameserver	DNS name server option (6)
domain-name	Domain name option (15)
netbios-nameserver	Netbios name server option (44)
vendor-specific	Vendor specific option (43)

Command Mode

Interface Configuration

Default

static-route, classless-static-route, classless-static-route-ms, tftp-server-address and router is requested as default.

Usage

Use this command to request configuration form DHCP server. It can be typed many times with each option or one time with all options wanted. Note that when Option 249 coexist with option 121 then the option 121 should have high priority and option 249 should be ignored. when option 121 or option 249 coexist with option 33 then the option 33 should be ignored. This command should be

issued before ip address dhcp command. If you issued ip address dhcp before, this command will take effect after next ip address dhcp command.

Examples

The following example shows how to request dhcp option static-route and tftp-server-address:

Switch(config-if)# dhcp client request static-route tftp-server-address

The following example shows how to request dhcp option router:

Switch(config-if)# dhcp client request router

The following example shows how to cancel request of dhcp option router:

Switch(config-if)# no dhcp client request router

Related Commands

ip address dhcp

2.4 dhcp client client-id

To specify a client-id used by DHCP server and client for identifying a client, use the dhcp client client-id command in interface configuration mode. To remove this configuration, use the no form of this command.

Command Syntax

dhcp client client-id (**ascii** *WORD* | **hex** *HEX-STRING* | *IFVLAN* | *IFAGG* | *IFPHYSICAL*)

no dhcp client client-id

ascii	ASCII type
WORD	Client-ID as ascii string
hex	Hex type
HEX-STRING	Class-ID in hex string
IFVLAN	Vlan interface's name
IFAGG	Aggregation interface's name
IFPHYSICAL	Physical interface's name

Command Mode

Interface Configuration

Default

The default client-id, format of which is like "switch-HWADDR-IFNAME", will be used.

Usage

This command should be issued before ip address dhcp command.

Examples

The following example shows how to specify a client-id for a interface:

Switch(config-if)# dhcp client client-id ascii switch-client

The following example shows how to delete client-id set before:

Switch(config-if)# no dhcp client client-id

Related Commands

ip address dhcp

2.5 dhcp client class-id

To specify a class-id for DHCP server and client, use the dhcp client class-id command in interface configuration mode. To remove this configuration, use the no form of this command.

Command Syntax

dhcp client class-id (*WORD* | **hex** *HEX-STRING*)

no dhcp client class-id

WORD	Client-ID as ascii string
hex	Hex type
HEX-STRING	Class-ID in hex string

Command Mode

Interface Configuration

Default

No class-id is set.

Usage

Class-id used by DHCP clients to optionally identify the type and configuration of a DHCP client. Vendors and sites may choose to define specific class identifiers to convey particular configuration or other identification information about a client. This command should be issued before ip address dhcp command.

Examples

The following example shows how to specify class-id for a interface:

Switch(config-if)# dhcp client class-id switch

The following example shows how to delete class-id set before::

Switch(config-if)# no dhcp client class-id

Related Commands

ip address dhcp

2.6 dhcp client lease

To configure the duration of the lease for an IP address request by DHCP client, use the dhcp client lease command in interface configuration mode. To remove the configuration, use the no form of this command.

Command Syntax

dhcp client lease *DAYS* (*HOURS* (*MINUTES*|) |)

DAYS	The number of days in lease
HOURS	The number of hours in the lease.
MINUTES	The number of minutes in the lease

Command Mode

Interface Configuration

Default

No lease is requested by client.

Usage

Use this command to specify the lease wanted by client, DHCP server may accept this request or ignore it.

Examples

The following example shows how to specify lease 20 minutes for dhcp client:

Switch(config-if)# dhcp client lease 0 0 20

The following example shows how to remove the lease set before:

Switch(config-if)# no dhcp client lease

Related Commands

ip address dhcp

2.7 dhcp client hostname

To specify or modify the hostname sent in the DHCP message; use the dhcp client hostname command in interface configuration mode. To remove the hostname, use the no form of this command.

Command Syntax

dhcp client hostname *WORD*

no dhcp client hostname

WORD	Host name

Command Mode

Interface Configuration

Default

The host name in system will be used.

Usage

This command should be issued before ip address dhcp command.

Examples

The following example shows how to specify name of the host:

Switch(config-if)# dhcp client hostname switch

The following example shows how to remove the last set:

Switch(config-if)# no dhcp client hostname

Related Commands

ip address dhcp

2.8 dhcp client default-router distance

To specify the default router distance for the routes leased from DHCP server, use the dhcp client default-router distance command in global configuration mode. To remove the configuration, use the no form of this command.

Command Syntax

dhcp client default-router distance *METRIC*

no dhcp client default-router distance

METRIC	The default metric of routes , the range is 1~255

Command Mode

Global Configuration

Default

The default value for the default metric is 254.

Usage

None

Examples

The following example shows how to enable dhcp client function on management interface:

Switch(config)# dhcp client default-router distance 233

The following example shows how to use the default value of default route metric:

Switch(config)# no dhcp client default-router distance

Related Commands

ip address dhcp

2.9 dhcp client broadcast-flag

To specify the broadcast-flag in the DHCP message, use the dhcp client broadcast-flag command in global configuration mode. To remove this configuration, use the no form of this command.

Command Syntax

dhcp client broadcast-flag

no dhcp client broadcast-flag

Command Mode

Global Configuration

Default

Broadcast-flag will be set in DHCP message sent by client for request IP address.

Usage

This flag tell DHCP server that client can't receive unicast IP datagrams until been configured with an IP address. Thus server or relay agent will broadcast any messages to the client on the client's subnet.

Examples

The following example shows how to set broadcast-flag:

Switch(config)# dhcp client broadcast-flag

The following example shows how to delete broadcast-flag:

Switch(config)# no dhcp client broadcast-flag

Related Commands

ip address dhcp

2.10 debug dhcp client

Use this command to turn on the debug switches of dhcp client module.

To restore the default, use the **no** form of this command

Command Syntax

debug dhcp client (events | error | dump | packet | all)

no debug dhcp client (events | error | dump | packet | all)

events	Client events
error	Error DHCP message
packet	DHCP message fields
dump	Dump message in hex format
all	Turn all debugging on

Command Mode

Privileged EXEC

Default

None

Usage

Use command “terminal monitor ” to make debug messages print on the VTY immediately.

Use command “show logging buffer” to check the debug messages in the logging buffer.

Examples

The following is sample to open dhcp client debug switches:

Switch# debug dhcp client all

Related Commands

terminal monitor

show logging buffer

2.11 show dhcp client

To show information of dhcp client on one or all interfaces, use the show dhcp client command in privileged EXEC mode.

Command Syntax

show dhcp client (**management** | *IFVLAN* | *IFAGG* | *IFPHYSICAL* |) (**verbose**|)

management	Management interface
IFVLAN	Vlan interface's name
IFAGG	Aggregation interface's name
IFPHYSICAL	Physical interface's name
verbose	DHCP client verbose information

Command Mode

Privileged EXEC

Default

None

Usage

To see more detail information, add verbose at the last of command

Examples

The following example shows how to display DHCP client information on all interfaces:

Switch(config-if)# show dhcp client verbose

```
DHCP client informations:
============================================================
vlan1 DHCP client information:
  Current state: SELECT
```

```
  Transaction ID: 0x3ac1c1c7
============================================================
eth-0-1 DHCP client information:
  Current state: SELECT
  Transaction ID: 0x2fd3f55b
```

Related Commands

ip address dhcp

2.12 show dhcp client statistics

To show statistics of DHCP client, use the show dhcp client statistics command in privileged EXEC mode.

Command Syntax

show dhcp client statistics

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the status of DHCP client, like DHCP packets counter.

Examples

The following example shows how to display DHCP packets statistics:

Switch# show dhcp client statistics

```
DHCP client packet statistics:
============================================================
DHCP OFFERS    received: 0
DHCP ACKs      received: 0
DHCP NAKs      received: 0
DHCP Others    received: 0
DHCP DISCOVER      sent: 0
DHCP DECLINE       sent: 0
DHCP RELEASE       sent: 0
DHCP REQUEST       sent: 0
DHCP packet send failed: 0
```

Related Commands

ip address dhcp

2.13 clear dhcp client statistics

To clear statistics of dhcp client, use the clear dhcp client statistics command in privileged EXEC mode.

Command Syntax

clear dhcp client statistics

Command Mode

Privileged EXEC

Default

None

Usage

This command will clear DHCP packet counter.

Examples

The following example shows how to clear statistics:

Switch# clear dhcp client statistics

Related Commands

ip address dhcp

show dhcp client statistics

3 DHCP Relay Commands

3.1 dhcp relay

To enable the DHCP relay service, use the dhcp relay command in global configuration mode. To disable this function, use the no form of this command.

Command Syntax

dhcp relay

no dhcp relay

Command Mode

Global Configuration

Default

DHCP relay is disabled.

Usage

The DHCP service must be enabled with the dhcp service command before DHCP relay service can be used.

Examples

The following example shows how to enable DHCP relay agent:

Switch(config)# dhcp relay

Related Commands

service dhcp

3.2 dhcp-server (global)

To create a DHCP server group, use the dhcp-server command in global configuration mode. To remove a DHCP server group, use the no form of this command.

Command Syntax

dhcp-server *NUMBER SERVER-LIST*

no dhcp-server *NUMBER* (*SERVER-LIST* |)

NUMBER	Number of the DHCP server group. The range is from 1 to 16
SERVER-LIST	The IP address list of the DHCP server. The range in number of the servers in a list is 1 to 8

Command Mode

Global Configuration

Default

No DHCP server group is defined.

Usage

This command is used to specify the remote DHCP server.

Examples

The following example shows how to configure dhcp-server group globally:

Switch(config)# dhcp-server 1 1.1.1.1 2.2.2.2 3.3.3.3

Related Commands

service dhcp

dhcp-server (interface)

3.3 dhcp-server (interface)

To select a DHCP server group for an interface, use the dhcp-server command in interface configuration mode. To remove this DHCP server group from the interface, use the no form of this command.

Command Syntax

dhcp-server *NUMBER*

no dhcp-server

NUMBER	Number of the DHCP server group. The range is from 1 to 16

Command Mode

Interface Configuration

Default

No DHCP server group is configured for the interface.

Usage

This command is used to specify DHCP server group which is configed by the command dhcp-server in global mode.

Examples

The following example shows how to configure dhcp-server group for interface:

Switch(config-if)# dhcp-server 1

Related Commands

service dhcp

3.4 dhcp relay information check

To enable validation of relay agent information option in forwarded reply messages, use the dhcp relay information check command in global configuration mode. To disable an information check, use the no form of this command.

Command Syntax

dhcp relay information check

no dhcp relay information check

Command Mode

Global Configuration

Default

The validation of relay agent information is enabled. Invalid messages are dropped.

Usage

None

Examples

The following example shows how to enable validation of relay agent information:

Switch(config)# dhcp relay information check

Related Commands

dhcp relay information option

3.5 dhcp relay information option

To enable the system to insert a DHCP relay agent information option in forwarded request messages to a DHCP server, use the dhcp relay information option command in global configuration mode. To disable inserting relay information, use the no form of this command.

Command Syntax

dhcp relay information option

no dhcp relay information option

Command Mode

Global Configuration

Default

No relay agent information is inserted.

Usage

The dhcp relay information option command automatically adds the circuit identifier suboption and the remote ID suboption to the DHCP relay agent information option (also called option 82).

Examples

The following example shows how to enable inserting of dhcp relay information option.

Switch(config)# dhcp relay information option

Related Commands

dhcp relay information check

dhcp relay information policy

3.6 dhcp relay information policy

To configure the information reforwarding policy for a DHCP relay agent (what a relay agent should do if a message already contains relay information), use the dhcp relay information policy command in global configuration. To restore the default relay information policy, use the no form of this command.

Command Syntax

dhcp relay information policy (**drop | keep | replace**)

no dhcp relay information policy

drop	Directs the DHCP relay agent to discard messages with existing relay information if the relay information option is already present
keep	Indicates that existing information is left unchanged on the DHCP relay agent
replace	Indicates that existing information is overwritten on the DHCP relay agent

Command Mode

Global Configuration

Default

The DHCP relay won't changed existing relay information.

Usage

A DHCP relay agent may receive a message from another DHCP relay agent that already contains relay information. By default, this message will be forwarded with the relay information from the previous relay agent untouched.

Examples

The following example shows how to configure policy of dhcp relay information Switch(config)# dhcp relay information policy drop

Related Commands

dhcp relay information option

dhcp relay information policy

3.7 dhcp relay information trust-all

To configure all interfaces as trusted sources of the DHCP relay agent information option, use the dhcp relay information trust-all command in global configuration mode. To restore these interfaces to their default behavior, use the no form of this command.

Command Syntax

dhcp relay information trust-all

no dhcp relay information trust-all

Command Mode

Global Configuration

Default

All interfaces on the switch are considered untrusted.

Usage

By default, if the gateway address is set to all zeros in the DHCP packet and the relay information option is already present in the packet, the DHCP relay agent will discard the packet. If the dhcp relay information trust-all command is configured globally, the DHCP relay agent will not discard the

packet even if the gateway address is set to all zeros. Instead, the received DHCPDISCOVER or DHCPREQUEST messages will be forwarded to the addresses configured by the dhcp-server command as in normal DHCP relay operation.

Examples

The following example shows how to configure dhcp relay information trust globally:

Switch(config)# dhcp relay information trust-all

Related Commands

dhcp relay information trusted

3.8 dhcp relay information trusted

To configure an interface as a trusted source of DHCP relay agent information option, use the dhcp relay information trusted command in interface configuration mode. To restore the interface to the default behavior, use the no form of the command.

Command Syntax

dhcp relay information trusted

no dhcp relay information trusted

Command Mode

Interface Configuration

Default

All interfaces on the router are considered untrusted.

Usage

By default, if the gateway address is set to all zeros in the DHCP packet and the relay information option is already present in the packet, the DHCP relay agent will discard the packet. If the dhcp relay information trusted command is configured globally, the DHCP relay agent will not discard the packet even if the gateway address is set to all zeros. Instead, the received DHCPDISCOVER or DHCPREQUEST messages will be forwarded to the addresses configured by the dhcp-server command as in normal DHCP relay operation.

Examples

The following example shows how to configure an interface as trusted source of dhcp relay information:

Switch(config-if)# dhcp relay information trusted

Related Commands

dhcp relay information trust-all

3.9 service dhcp

To enable the Dynamic Host Configuration Protocol (DHCP) snooping and relay agent features on your router, use the service dhcp command in global configuration mode. To disable the DHCP snooping and relay agent features, use the no form of this command.

Command Syntax

service dhcp enable

service dhcp disable

Command Mode

Global Configuration

Default

DHCP service is disabled globally.

Usage

Only the main DHCP service is enabled by the service dhcp command, can other DHCP services be used, such as dhcp relay or dhcp snooping.

Examples

The following example shows how to enable DHCP service globally:

Switch(config)# service dhcp enable

Related Commands

dhcp relay

dhcp snooping

3.10 debug dhcp relay

Use this command to turn on the debug switches of dhcp relay module.

To restore the default, use the **no** form of this command

Command Syntax

debug dhcp relay (**events** | **error** | **dump** | **packet** | **all**)

no debug dhcp relay (**events** | **error** | **dump** | **packet** | **all**)

events	Relay events
error	Error DHCP message
packet	DHCP message fields
dump	Dump message in hex format
all	Turn all debugging on

Command Mode

Privileged EXEC

Default

None

Usage

Use command “terminal monitor ” to make debug messages print on the VTY immediately.

Use command “show logging buffer” to check the debug messages in the logging buffer.

Examples

The following is sample to open dhcp relay debug switches:

Switch# debug dhcp relay all

Related Commands

terminal monitor

show logging buffer

3.11 show dhcp-server

To display the DHCP server groups, use the show dhcp-server command in privileged EXEC mode.

Command Syntax

show dhcp-server

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display all the DHCP server groups configured with command dhcp-server in global mode.

Examples

The following example shows how to display dhcp-server group information:

Switch# show dhcp-server

```
DHCP server group information:
==============================================================
group 1 ip address list:
    [1] 1.1.1.1
    [2] 2.2.2.2
    [3] 3.3.3.3
    [4] 4.4.4.4
    [5] 5.5.5.5
    [6] 6.6.6.6
    [7] 7.7.7.7
    [8] 8.8.8.8
```

Related Commands

dhcp-server (global)

3.12 show dhcp relay interfaces

To display to which dhcp-server group the interface belongs, use the show dhcp relay interfaces command in privileged EXEC mode.

Command Syntax

show dhcp relay interfaces

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display the interface which is confined DHCP relay.

Examples

The following example shows how to display dhcp relay interfaces information:

Switch# show dhcp relay interfaces

```
List of DHCP relay enabled interface(s):
DHCP relay service status: enabled
Interface Name          DHCP server group
=============================================================
eth-0-1                 1
```

Related Commands

show dhcp-server

3.13 show dhcp relay information config

To display the DHCP relay information configurations, use the show dhcp relay information config command in privileged EXEC mode.

Command Syntax

show dhcp relay information config

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display the configuration of DHCP relay.

Examples

The following example shows how to display dhcp relay configuration :

Switch# show dhcp relay information config

```
DHCP relay agent information configuration:
============================================================
no dhcp relay information option
dhcp relay information check
dhcp relay information policy keep
```

Related Commands

dhcp relay information option

3.14 show dhcp relay information trusted-sources

To display all interfaces configured to be a trusted source for the DHCP relay information option, use the show dhcp relay information trusted-sources command in privileged EXEC mode.

Command Syntax

show dhcp relay information trusted-sources

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display all interfaces configured to be a trusted source for DHCP relay.

Examples

The following exsample shows how to display dhcp relay information trusted-sources:

Switch# show dhcp relay information trusted-sources

```
List of trusted sources of relay agent information option:
============================================================
```

```
All interfaces are trusted source of relay agent information option
```

Related Commands

dhcp relay information trusted

3.15 show dhcp relay statistics

To display the statistics of DHCP packets relayed by the switch, use the show dhcp relay statistics command in privileged EXEC mode.

Command Syntax

show dhcp relay statistics

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display detail DHCP statistics which dealed by the switch.

Examples

The following example shows how to display dhcp relay statistics:

Switch# show dhcp relay statistics

```
DHCP relay packet statistics:
============================================================
Client relayed packets:  101
Server relayed packets:  88

Client error packets:    0
Server error packets:    0
Bogus GIADDR drops:      15
Bad circuit ID packets:  0
Corrupted agent options: 0
Missing agent options:   0
Missing circuit IDs:     0
```

Related Commands

clear dhcp relay statistics

3.16 clear dhcp relay statistics

To clear the statistics of DHCP packets relayed by the switch, use the clear dhcp relay statistics command in privileged EXEC mode.

Command Syntax

clear dhcp relay statistics

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to clear detail DHCP statistics which dealed by the switch.

Examples

The following example shows how to clear dhcp relay statistics:

Switch# clear dhcp relay statistics

Related Commands

show dhcp relay statistics

4 DNS Commands

4.1 ip host

To define static hostname-to-address mappings in the Domain Name System (DNS) hostname cache for a DNS view, use the ip host command in global configuration mode. If the hostname cache does not exist yet, it is automatically created. To remove a hostname-to-address mapping, use the no form of this command.

Command Syntax

ip host *hostname ip-address*

no ip host *hostname*

hostname	Name of the host
ip-address	Associated host IPv4 orIPv6 address

Command Mode

Global Configuration

Default

No static hostname-to-address mapping is added to the DNS hostname cache for a DNS view.

Usage

None

Examples

The following example shows how to add a mapping entry to the global hostname cache and then remove one of those entries from the global hostname cache:

Switch(config)# ip host www.example1.com 192.0.2.141

Related Commands

show ip host

4.2 dns domain

To specify the default domain for a Domain Name System (DNS) view to use to complete unqualified hostnames (names without a dotted-decimal domain name), use the dns domain command in global configuration mode. To remove the specification of the default domain name for a DNS view, use the no form of this command.

Command Syntax

dns domain *domain-name*

no dns domain *domain-name*

domain-name	Name of the domain

Command Mode

Global Configuration

Default

No default domain name is defined for the DNS view.

Usage

None

Examples

The following example shows how to specify the default domain for DNS:

Switch(config)# dns domain www.example1.com

Related Commands

show dns domain

4.3 dns server

To add a name server to the list of Domain Name System (DNS) name servers, use the dns server command in global configuration mode. To remove a DNS name server from the list, use the no form of this command.

Command Syntax

dns server *ip-address*

no dns server *ip-address*

ip-address	IPv4 or IPv6 address of a DNS name server

Command Mode

Global Configuration

Default

No IP address is explicitly added to the list of resolving name servers for this view.

Usage

This command can be entered multiple times to specify a maximum of three resolving name servers. After three resolving name servers have been specified, additional resolving name servers cannot be specified unless an existing entry is removed.

Examples

The following example shows how to specify the DNS server list:

Switch(config)# dns server 10.10.1.1

Switch(config)# dns server 20.20.2.2

Related Commands

show dns server

4.4 show dns

To display configuration information about a Domain Name System (DNS) view, use the show dns command in privileged EXEC mode.

Command Syntax

show dns {domain | server}

domain	Display DNS domain list
server	Display DNS server list

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show dns domain command:

Switch# show dns domain

```
Current DNS domain configuration:
    Domain                Suffix
------------------------------------------------------------
1   domain                domain.com
2   domain                aa.com
```

Related Commands

dns server

dns domain

4.5 show ip host

To display configuration information about a jp host view, use the show ip host command in privileged EXEC mode.

Command Syntax

show ip host

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show ip host command:

Switch# show ip host

```
Current IP host configuration:
    Host                        Address
------------------------------------------------------------------
1    www.sampledomain.com         1.1.1.1
```

Related Commands

ip host