Contents

DHCPv6 commands

Common DHCPv6 commands

display ipv6 dhcp duid

Use **display ipv6 dhcp duid** to display the DUID of the local device.

Syntax

display ipv6 dhcp duid

Views

Any view

Predefined user roles

network-admin

network-operator

Usage guidelines

A DHCP unique identifier (DUID) uniquely identifies a DHCPv6 device (DHCPv6 client, server, or relay agent). A DHCPv6 device adds its DUID in a sent packet.

Examples

Display the DUID of the local device.

```
<Sysname> display ipv6 dhcp duid
The DUID of this device: 0003-0001-00e0-fc00-5552.
```

ipv6 dhcp dscp

Use **ipv6 dhcp dscp** to set the DSCP value for the DHCPv6 packets sent by the DHCPv6 server or the DHCPv6 relay agent.

Use **undo ipv6 dhcp dscp** to restore the default.

Syntax

ipv6 dhcp dscp *dscp-value*

undo ipv6 dhcp dscp

Default

The DSCP value in DHCPv6 packets is 56.

Views

System view

Predefined user roles

network-admin

Parameters

dscp-value: Specifies the DSCP value for DHCPv6 packets, in the range of 0 to 63.

Usage guidelines

The DSCP value of a packet specifies the priority level of the packet and affects the transmission priority of the packet. A bigger DSCP value represents a higher priority.

Examples

\# Set the DSCP value to 30 for DHCPv6 packets sent by the DHCPv6 server or the DHCPv6 relay agent.

```
<Sysname> system-view
[Sysname] ipv6 dhcp dscp 30
```

ipv6 dhcp select

Use **ipv6 dhcp select** to enable the DHCPv6 server or DHCPv6 relay agent on an interface.

Use **undo ipv6 dhcp select** to restore the default.

Syntax

ipv6 dhcp select { **relay** | **server** }

undo ipv6 dhcp select

Default

An interface discards DHCPv6 packets from DHCPv6 clients.

Views

Interface view

Predefined user roles

network-admin

Parameters

relay: Enables the DHCPv6 relay agent on the interface.

server: Enables the DHCPv6 server on the interface.

Usage guidelines

Before changing the DHCPv6 server mode to the DHCPv6 relay agent mode on an interface, use the following commands to remove IPv6 address/prefix bindings:

- **reset ipv6 dhcp server ip-in-use**
- **reset ipv6 dhcp server pd-in-use**

Examples

\# Enable the DHCPv6 server on VLAN-interface 10.

```
<Sysname> system-view
[Sysname] interface vlan-interface 10
[Sysname-Vlan-interface10] ipv6 dhcp select server
```

\# Enable the DHCPv6 relay agent on VLAN-interface 20.

```
<Sysname> system-view
[Sysname] interface vlan-interface 20
[Sysname-Vlan-interface20] ipv6 dhcp select relay
```

Related commands

- **display ipv6 dhcp relay server-address**
- **display ipv6 dhcp server**

DHCPv6 server commands

The term "interface" in this section refers to VLAN interfaces.

address range

Use **address range** to specify a non-temporary IPv6 address range in a DHCPv6 address pool for dynamic allocation.

Use **undo address range** to remove the non-temporary IPv6 address range in the address pool.

Syntax

address range *start-ipv6-address end-ipv6-address* [**preferred-lifetime** *preferred-lifetime* **valid-lifetime** *valid-lifetime*]

undo address range

Default

No non-temporary IPv6 address range is configured.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

start-ipv6-address: Specifies the start IPv6 address.

end-ipv6-address: Specifies the end IPv6 address.

preferred-lifetime *preferred-lifetime*: Specifies the preferred lifetime for the non-temporary IPv6 addresses. The value range is 60 to 4294967295 seconds, and the default is 604800 seconds (7 days).

valid-lifetime *valid-lifetime*: Specifies the valid lifetime for the non-temporary IPv6 addresses. The value range is 60 to 4294967295 seconds, and the default is 2592000 seconds (30 days). The valid lifetime cannot be shorter than the preferred lifetime.

Usage guidelines

If you do not specify a non-temporary IPv6 address range, all unicast addresses on the subnet specified by the **network** command in address pool view are assignable. If you specify a non-temporary IPv6 address range, only the IPv6 addresses in the specified IPv6 address range are assignable.

You can specify only one non-temporary IPv6 address range in an address pool. If you use the **address range** command multiple times, the most recent configuration takes effect.

The non-temporary IPv6 address range specified by the **address range** command must be on the subnet specified by the **network** command.

Examples

Configure a non-temporary IPv6 address range from 3ffe:501:ffff:100::10 through 3ffe:501:ffff:100::31 in address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] network 3ffe:501:ffff:100::/64
[Sysname-dhcp6-pool-1] address range 3ffe:501:ffff:100::10 3ffe:501:ffff:100::31
```

Related commands

- **display ipv6 dhcp pool**
- **network**
- **temporary address range**

display ipv6 dhcp pool

Use **display ipv6 dhcp pool** to display information about a DHCPv6 address pool.

Syntax

display ipv6 dhcp pool [*pool-name*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

pool-name: Displays information about the specified DHCPv6 address pool. The pool name is a case-insensitive string of 1 to 63 characters. If you do not specify a DHCPv6 address pool, this command displays information about all DHCPv6 address pools.

Examples

Display information about DHCPv6 address pool 1.

```
<Sysname> display ipv6 dhcp pool 1
DHCPv6 pool: 1
  Network: 3FFE:501:FFFF:100::/64
    Preferred lifetime 604800, valid lifetime 2592000
  Prefix pool: 1
    Preferred lifetime 24000, valid lifetime 36000
  Addresses:
    Range: from 3FFE:501:FFFF:100::1
           to 3FFE:501:FFFF:100::99
    Preferred lifetime 70480, valid lifetime 200000
    Total address number: 153
    Available: 153
    In-use: 0
  Temporary addresses:
    Range: from 3FFE:501:FFFF:100::200
           to 3FFE:501:FFFF:100::210
    Preferred lifetime 60480, valid lifetime 259200
    Total address number: 17
    Available: 17
    In-use: 0
  Static bindings:
    DUID: 0003000100e0fc000001
    IAID: 0000003f
    Prefix: 3FFE:501:FFFF:200::/64
```

```
      Preferred lifetime 604800, valid lifetime 2592000
    DUID: 0003000100e0fc00cff1
    IAID: 00000001
    Address: 3FFE:501:FFFF:2001::1/64
      Preferred lifetime 604800, valid lifetime 2592000
  DNS server addresses:
    2::2
  Domain name:
    aaa.com
  SIP server addresses:
    5::1
  SIP server domain names:
    bbb.com
```

Table 1 Command output

Field	Description
DHCPv6 pool	Name of the DHCPv6 address pool.
Network	IPv6 subnet for dynamic IPv6 address allocation.
Prefix pool	Prefix pool referenced by the address pool.
Preferred lifetime	Preferred lifetime in seconds.
valid lifetime	Valid lifetime in seconds.
Addresses	Non-temporary IPv6 address range.
Range	IPv6 address range for dynamic allocation.
Total address number	Total number of IPv6 addresses.
Available	Total number of available IPv6 addresses.
In-use	Total number of assigned IPv6 addresses.
Temporary addresses	Temporary IPv6 address range for dynamic allocation.
Static bindings	Static bindings configured in the address pool.
DUID	Client DUID.
IAID	Client IAID. If no IAID is configured, this field displays **Not configured**.
Prefix	IPv6 address prefix.
Address	Static IPv6 address.
DNS server addresses	DNS server address.
Domain name	Domain name.
SIP server addresses	SIP server address.
SIP server domain names	Domain name of the SIP server.

display ipv6 dhcp prefix-pool

Use **display ipv6 dhcp prefix-pool** to display information about a prefix pool.

Syntax

display ipv6 dhcp prefix-pool [*prefix-pool-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

prefix-pool-number: Displays detailed information about a prefix pool specified by its number in the range of 1 to 128. If you do not specify a prefix pool, this command displays brief information about all prefix pools.

Examples

Display brief information about all prefix pools.

```
<Sysname> display ipv6 dhcp prefix-pool
Prefix-pool Prefix                              Available In-use Static
1           5::/64                              64        0      0
```

Display detailed information about prefix pool 1.

```
<Sysname> display ipv6 dhcp prefix-pool 1
Prefix: 5::/64
Assigned length: 70
Total prefix number: 64
Available: 64
In-use: 0
Static: 0
```

Table 2 Command output

Field	Description
Prefix-pool	Prefix pool number.
Prefix	Prefix specified in the prefix pool.
Available	Number of available prefixes.
In-use	Number of assigned prefixes.
Static	Number of statically bound prefixes.
Assigned length	Length of assigned prefixes.
Total prefix number	Number of prefixes.

display ipv6 dhcp server

Use **display ipv6 dhcp server** to display DHCPv6 server configuration information.

Syntax

display ipv6 dhcp server [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface *interface-type interface-number*: Displays DHCPv6 server configuration information for the specified interface. If you do not specify an interface, this command displays DHCPv6 server configuration information for all interfaces.

Examples

Display DHCPv6 server configuration information for all interfaces.

```
<Sysname> display ipv6 dhcp server
Interface          Pool
Vlan-interface2    1
Vlan-interface3    global
```

Display DHCPv6 server configuration information for the interface VLAN-interface 2.

```
<Sysname> display ipv6 dhcp server interface vlan-interface 2
Using pool: 1
Preference value: 0
Allow-hint: Enabled
Rapid-commit: Disabled
```

Table 3 Command output

Field	Description
Interface	Interface enabled with DHCPv6 server.
Pool	Address pool applied to the interface. If no address pool is applied to the interface, **global** is displayed. The DHCPv6 server selects a global address pool to assign a prefix, an address, and other configuration parameters to a client.
Using pool	Address pool applied to the interface. If no address pool is applied to the interface, **global** is displayed. The DHCPv6 server selects a global address pool to assign a prefix, an address, and other configuration parameters to a client.
Preference value	Server preference in the DHCPv6 Advertise message. The value range is 0 to 255. The bigger the value is, the higher preference the server has.
Allow-hint	Indicates whether desired address/prefix assignment is enabled.
Rapid-commit	Indicates whether rapid address/prefix assignment is enabled.

display ipv6 dhcp server conflict

Use **display ipv6 dhcp server conflict** to display information about IPv6 address conflicts.

Syntax

display ipv6 dhcp server conflict [**address** *ipv6-address*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

address *ipv6-address*: Displays conflict information for the specified IPv6 address. If you do not specify an IPv6 address, this command displays information about all IPv6 address conflicts.

Usage guidelines

The DHCPv6 server creates IP address conflict information in the following conditions:

- The DHCPv6 client sends a DECLINE packet to the DHCPv6 server to inform the server of an IPv6 address conflict.
- The DHCPv6 server discovers that the only assignable address in the address pool is its own IPv6 address.

Examples

Display information about all address conflicts.

```
<Sysname> display ipv6 dhcp server conflict
IPv6 address                          Detect time
2001::1                               Apr 25 16:57:20 2007
1::1:2                                Apr 25 17:00:10 2007
```

Table 4 Command output

Field	Description
IPv6 address	Conflicted IPv6 address.
Detect time	Time when the conflict was discovered.

Related commands

reset ipv6 dhcp server conflict

display ipv6 dhcp server expired

Use **display ipv6 dhcp server expired** to display lease expiration information.

Syntax

display ipv6 dhcp server expired [**address** *ipv6-address* | **pool** *pool-name*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

address *ipv6-address*: Displays lease expiration information for the specified IPv6 address.

pool *pool-name*: Displays lease expiration information for the address pool specified by its name, a case-insensitive string of 1 to 63 characters.

Usage guidelines

If you do not specify any parameters, this command displays lease expiration information for all IPv6 address pools.

DHCPv6 assigns the expired IPv6 addresses to DHCPv6 clients when all available addresses have been assigned.

Examples

Display all lease expiration information.
```
<Sysname> display ipv6 dhcp server expired
IPv6 address           DUID                          Lease expiration
2001:3eff:fe80:4caa:   3030-3066-2e65-3230-302e-     Apr 25 17:10:47 2007
37ee:7::1              3130-3234-2d45-7468-6572-
                       6e65-7430-2f31
```

Table 5 Command output

Field	Description
IPv6 address	Expired IPv6 address.
DUID	Client DUID bound to the expired IPv6 address.
Lease expiration	Time when the lease expired.

Related commands

reset ipv6 dhcp server expired

display ipv6 dhcp server ip-in-use

Use **display ipv6 dhcp server ip-in-use** to display binding information for assigned IPv6 addresses.

Syntax

display ipv6 dhcp server ip-in-use [**address** *ipv6-address* | **pool** *pool-name*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

address *ipv6-address*: Displays binding information for the specified IPv6 address.

pool *pool-name*: Displays binding information for the IPv6 address pool specified by its name, a case-insensitive string of 1 to 63 characters.

Usage guidelines

If you do not specify any parameters, this command displays binding information for all assigned IPv6 addresses.

Examples

Display binding information for all assigned IPv6 address.
```
<Sysname> display ipv6 dhcp server ip-in-use
Pool: 1
 IPv6 address                            Type     Lease expiration
 2:1::1                                  Auto(O)  Jul 10 19:45:01 2008
Pool: 2
 IPv6 address                            Type     Lease expiration
 1:1::2                                  Static(F) Not available
```

```
Pool: 3
 IPv6 address                                         Type     Lease expiration
 1:2::1f1                                             Static(O) Oct  9 09:23:31 2008
```

Display binding information for all assigned IPv6 addresses for the specified DHCPv6 address pool.

```
<Sysname> display ipv6 dhcp server ip-in-use pool 1
Pool: 1
 IPv6 address                                         Type     Lease expiration
 2:1::1                                               Auto(O)  Jul 10 22:22:22 2008
 3:1::2                                               Static(C) Jan  1 11:11:11 2008
```

Display binding information for the specified IPv6 address.

```
<Sysname> display ipv6 dhcp server ip-in-use address 2:1::3
Pool: 1
Client: FE80::C800:CFF0:FE18:0
Type: Auto(O)
DUID: 00030001CA000C180000
IAID: 0x00030001
  IPv6 address: 2:1::3
  Preferred lifetime 400, valid lifetime 500
  Expires at Jul 10 09:45:01 2008 (288 seconds left)
```

Table 6 Command output

Field	Description
Pool	DHCPv6 address pool.
IPv6 address	IPv6 address assigned.
Type	IPv6 address binding types: • **Static(F)**—Free static binding whose IPv6 address has not been assigned. • **Static(O)**—Offered static binding whose IPv6 address has been selected and sent by the DHCPv6 server in a DHCPv6-OFFER packet to the client. • **Static(C)**—Committed static binding whose IPv6 address has been assigned to the client. • **Auto(O)**—Offered dynamic binding whose IPv6 address has been dynamically selected by the DHCPv6 server and sent in a DHCPv6-OFFER packet to the DHCPv6 client. • **Auto(C)**—Committed dynamic binding, whose IP address has been dynamically assigned to the DHCPv6 client.
Lease-expiration	Time when the lease of the IPv6 address will expire. If the lease expires after the year 2100, this field displays **Expires after 2100**. For an unassigned static binding, this field displays **Not available**.
Client	IPv6 address of the DHCPv6 client. For an unassigned static binding, this field is blank.
DUID	Client DUID.
IAID	Client IAID. For an unassigned static binding without IAID specified, this field displays **N/A**.
Preferred lifetime	Preferred lifetime in seconds of the IPv6 address.
valid lifetime	Valid lifetime in seconds of the IPv6 address.

Field	Description
Expires at	Time when the lease of an IPv6 address will expire. If the lease expires after the year 2100, this field displays **Expires after 2100**.

Related commands

reset ipv6 dhcp server ip-in-use

display ipv6 dhcp server pd-in-use

Use **display ipv6 dhcp server pd-in-use** to display binding information for the assigned IPv6 prefixes.

Syntax

display ipv6 dhcp server pd-in-use [**pool** *pool-name* | **prefix** *prefix*/*prefix-len*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

pool *pool-name*: Displays IPv6 prefix binding information for the DHCPv6 address pool specified by its name, a case-insensitive string of 1 to 63 characters.

prefix *prefix/prefix-len*: Displays binding information for the specified IPv6 prefix. The value range for the prefix length is 1 to 128.

Usage guidelines

If you do not specify any parameters, this command displays all IPv6 prefix binding information.

Examples

Display all IPv6 prefix binding information.

```
<Sysname> display ipv6 dhcp server pd-in-use
Pool: 1
 IPv6 prefix                              Type      Lease expiration
 2:1::/24                                 Auto(O)   Jul 10 19:45:01 2008
Pool: 2
 IPv6 prefix                              Type      Lease expiration
 1:1::/64                                 Static(F) Not available
Pool: 3
 IPv6 prefix                              Type      Lease expiration
 1:2::/64                                 Static(O) Oct  9 09:23:31 2008
```

Display IPv6 prefix binding information for DHCPv6 address pool 1.

```
<Sysname> display ipv6 dhcp server pd-in-use pool 1
Pool: 1
 IPv6 prefix                              Type      Lease expiration
 2:1::/24                                 Auto(O)   Jul 10 22:22:22 2008
 3:1::/64                                 Static(C) Jan  1 11:11:11 2008
```

Display binding information for the IPv6 prefix 2:1::3/24.

```
<Sysname> display ipv6 dhcp server pd-in-use prefix 2:1::3/24
Pool: 1
Client: FE80::C800:CFF:FE18:0
Type: Auto(O)
DUID: 00030001CA000C180000
IAID: 0x00030001
  IPv6 prefix: 2:1::/24
  Preferred lifetime 400, valid lifetime 500
  Expires at Jul 10 09:45:01 2008 (288 seconds left)
```

Table 7 Command output

Field	Description
IPv6 prefix	IPv6 prefix assigned.
Type	Prefix binding types: • **Static(F)**—Free static binding whose IPv6 prefix has not been assigned. • **Static(O)**—Offered static binding whose IPv6 prefix has been selected and sent by the DHCPv6 server in a DHCPv6-OFFER packet to the client. • **Static(C)**—Committed static binding whose IPv6 prefix has been assigned to the client. • **Auto(O)**—Offered dynamic binding whose IPv6 prefix has been dynamically selected by the DHCPv6 server and sent in a DHCPv6-OFFER packet to the DHCPv6 client. • **Auto(C)**—Committed dynamic binding whose IPv6 prefix has been dynamically selected by the DHCPv6 server and sent in a DHCPv6-OFFER packet to the DHCPv6 client.
Pool	Address pool.
Lease-expiration	Time when the lease of the IPv6 prefix will expire. If the lease will expire after the year 2100, this field displays **Expires after 2100**. For an unassigned static binding, this field displays **Not available**.
Client	IPv6 address of the DHCPv6 client. For an unassigned static binding, this field is blank.
DUID	Client DUID.
IAID	Client IAID. For an unassigned static binding without IAID, this field displays **N/A**.
Preferred lifetime	Preferred lifetime in seconds of the IPv6 prefix.
valid lifetime	Valid lifetime in seconds of the IPv6 prefix.
Expires at	Time when the lease of the prefix will expire. If the lease expires after the year 2100, this field displays **Expires after 2100**.

Related commands

> reset ipv6 dhcp server pd-in-use

display ipv6 dhcp server statistics

Use **display ipv6 dhcp server statistics to** display DHCPv6 packet statistics on the DHCPv6 server.

Syntax

display ipv6 dhcp server statistics [**pool** *pool-name*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

pool *pool-name*: Displays DHCPv6 packet statistics for the DHCPv6 address pool specified by its name, a case-insensitive string of 1 to 63 characters. If you do not specify an address pool, this command displays DHCPv6 packet statistics for all address pools.

Examples

Display all DHCPv6 packet statistics on the DHCPv6 server.

```
<Sysname> display ipv6 dhcp server statistics
Bindings:
    Ip-in-use                :  1
    Pd-in-use                :  0
    Expired                  :  0
Conflict                     :  0
Packets received             :  1
    Solicit                  :  1
    Request                  :  0
    Confirm                  :  0
    Renew                    :  0
    Rebind                   :  0
    Release                  :  0
    Decline                  :  0
    Information-request      :  0
    Relay-forward            :  0
Packets dropped              :  0
Packets sent                 :  0
    Advertise                :  0
    Reconfigure              :  0
    Reply                    :  0
    Relay-reply              :  0
```

Table 8 Command output

Field	Description
Bindings	Number of bindings: • **Ip-in-use**—Total number of address bindings. • **Pd-in-use**—Total number of prefix bindings. • **Expired**—Total number of expired address bindings.
Conflict	Total number of conflicted addresses. If statistics about a specific address pool are displayed, this field is not displayed.

Field	Description
Packets received	Number of messages received by the DHCPv6 server. The message types include: • Solicit. • Request. • Confirm. • Renew. • Rebind. • Release. • Decline. • Information-request. • Relay-forward. If statistics about a specific address pool are displayed, this field is not displayed.
Packets dropped	Number of packets discarded. If statistics about a specific address pool are displayed, this field is not displayed.
Packets sent	Number of messages sent by the DHCPv6 server. The message types include: • Advertise. • Reconfigure. • Reply. • Relay-reply. If statistics about a specific address pool are displayed, this field is not displayed.

Related commands

reset ipv6 dhcp server statistics

dns-server

Use **dns-server** to specify a DNS server in a DHCPv6 address pool.

Use **undo dns-server** to remove the specified DNS server from a DHCPv6 address pool.

Syntax

dns-server *ipv6-address*

undo dns-server *ipv6-address*

Default

No DNS server address is specified.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

ipv6-address: Specifies the IPv6 address of a DNS server.

Usage guidelines

You can use the **dns-server** command to specify up to eight DNS servers in an address pool. A DNS server specified earlier has a higher preference.

Examples

> \# Specify the DNS server address 2:2::3 in DHCPv6 address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] dns-server 2:2::3
```

Related commands

> **display ipv6 dhcp pool**

domain-name

> Use **domain-name** to specify a domain name suffix in a DHCPv6 address pool.
>
> Use **undo domain-name** to remove the domain name suffix.

Syntax

> **domain-name** *domain-name*
>
> **undo domain-name**

Default

> No domain name suffix is specified.

Views

> DHCPv6 address pool view

Predefined user roles

> network-admin

Parameters

> *domain-name*: Specifies a domain name suffix, a case-insensitive string of 1 to 50 characters.

Usage guidelines

> You can configure only one domain name suffix in an address pool.
>
> If you use the **domain-name** command multiple times, the most recent configuration takes effect.

Examples

> \# Specify the domain name **aaa.com** in DHCPv6 address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] domain-name aaa.com
```

Related commands

> **display ipv6 dhcp pool**

ipv6 dhcp pool

> Use **ipv6 dhcp pool** to create a DHCPv6 address pool and enter its view.
>
> Use **undo ipv6 dhcp pool** to remove the specified DHCPv6 address pool.

Syntax

> **ipv6 dhcp pool** *pool-name*
>
> **undo ipv6 dhcp pool** *pool-name*

Default

No DHCPv6 address pool is configured.

Views

System view

Predefined user roles

network-admin

Parameters

pool-name: Specifies a name for the DHCPv6 address pool, a case-insensitive string of 1 to 63 characters.

Usage guidelines

You can also use this command to enter the view of an existing DHCPv6 address pool.

A DHCPv6 address pool stores IPv6 address/prefix and other configuration parameters to be assigned to DHCPv6 clients.

When you remove a DHCPv6 address pool, binding information for the assigned IPv6 addresses and prefixes in the address pool is also removed.

Examples

Create a DHCPv6 address pool named **pool1** and enter its view.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool pool1
[Sysname-dhcp6-pool-pool1]
```

Related commands

- **display ipv6 dhcp pool**
- **ipv6 dhcp server apply pool**

ipv6 dhcp prefix-pool

Use **ipv6 dhcp prefix-pool** to create a prefix pool, specify the prefix/prefix length for the pool, and specify the assigned prefix length.

Use **undo ipv6 dhcp prefix-pool** to remove the specified prefix pool.

Syntax

ipv6 dhcp prefix-pool *prefix-pool-number* **prefix** *prefix/prefix-len* **assign-len** *assign-len*

undo ipv6 dhcp prefix-pool *prefix-pool-number*

Default

No prefix pool is configured.

Views

System view

Predefined user roles

network-admin

Parameters

prefix-pool-number: Specifies a prefix pool number in the range of 1 to 128.

prefix *prefix/prefix-len*: Specifies a prefix/prefix length for the pool. The value range for the *prefix-len* argument is 1 to 128.

assign-len *assign-len*: Specifies the assigned prefix length. The value range is 1 to 128, and the value must be greater than or equal to *prefix-len.* The difference between *assign-len* and *prefix-len* must be no more than 16.

Usage guidelines

Different prefix pools cannot overlap.

You cannot modify an existing prefix pool. To change the prefix pool settings, you must delete the prefix pool first.

Removing a prefix pool clears all prefix bindings from the prefix pool.

Examples

Create prefix pool named **1**, and specify the prefix 2001:0410::/32 with assigned prefix length being 42. Prefix pool 1 contains 1024 prefixes from 2001:0410::/42 to 2001:0410:FFC0::/42.

```
<Sysname> system-view
[Sysname] ipv6 dhcp prefix-pool 1 prefix 2001:0410::/32 assign-len 42
```

Related commands

- **display ipv6 dhcp prefix-pool**
- **prefix-pool**

ipv6 dhcp server

Use **ipv6 dhcp server** to configure global address assignment on an interface. The server on the interface uses a global address pool to assign configuration information to a client.

Use **undo ipv6 dhcp server** to restore the default.

Syntax

ipv6 dhcp server { **allow-hint** | **preference** *preference-value* | **rapid-commit** } *

undo ipv6 dhcp server

Default

The server does not support desired address/prefix assignment or rapid address/prefix assignment. The server preference is set to 0.

Views

Interface view

Predefined user roles

network-admin

Parameters

allow-hint: Enables desired address/prefix assignment.

preference *preference-value*: Specifies the server preference in Advertise messages, in the range of 0 to 255. The default value is 0. A greater value specifies a higher preference.

rapid-commit: Enables rapid address/prefix assignment involving two messages.

Usage guidelines

The **allow-hint** keyword enables the server to assign the desired address or prefix to the requesting client. If the desired address or prefix is not included in any global address pool, or is already assigned to another client, the server assigns the client a free address or a prefix. If the **allow-hint** keyword is not specified, the server ignores the desired address or prefix, and selects an address or prefix from a global address pool.

If you use the **ipv6 dhcp server** and **ipv6 dhcp server apply pool** commands on the same interface, the **ipv6 dhcp server apply pool** command takes effect.

Examples

Configure global address assignment on the interface VLAN-interface 2. Use the desired address/prefix assignment and rapid address/prefix assignment, and set the server preference to the highest 255.

```
<Sysname> system-view
[Sysname] interface vlan-interface 2
[Sysname-Vlan-interface2] ipv6 dhcp server allow-hint preference 255 rapid-commit
```

Related commands

- **display ipv6 dhcp server**
- **ipv6 dhcp select**

ipv6 dhcp server apply pool

Use **ipv6 dhcp server apply pool** to apply a DHCPv6 address pool to an interface.

Use **undo ipv6 dhcp server apply pool** to remove the DHCPv6 address pool from the interface.

Syntax

ipv6 dhcp server apply pool *pool-name* [**allow-hint** | **preference** *preference-value* | **rapid-commit**] *

undo ipv6 dhcp server apply pool

Default

No address pool is applied to an interface.

Views

Interface view

Predefined user roles

network-admin

Parameters

pool-name: Specifies a DHCPv6 address pool by its name, a case-insensitive string of 1 to 63 characters.

allow-hint: Enables desired address/prefix assignment.

preference *preference-value*: Specifies the server preference in Advertise messages, in the range of 0 to 255. The default value is 0. A greater value specifies a higher preference.

rapid-commit: Enables rapid address/prefix assignment involving two messages.

Usage guidelines

Upon receiving a DHCPv6 request, the DHCPv6 server selects an IPv6 address or prefix from the address pool applied to the receiving interface. If no address pool is applied, the server selects an IPv6 address or prefix from a global address pool that matches the IPv6 address of the receiving interface or the DHCPv6 relay agent.

The **allow-hint** keyword enables the server to assign the desired address or prefix to the client. If the desired address or prefix does not exist or is already assigned to another client, the server assigns a free address or prefix. If **allow-hint** is not specified, the server ignores the desired address or prefix, and assigns a free address or prefix.

Only one address pool can be applied to an interface. If you use the command multiple times, the most recent configuration takes effect.

A non-existing address pool can be applied to an interface, but the server cannot assign any prefix, address, or other configuration information from the address pool until the address pool is created.

Examples

Apply address pool 1 to VLAN-interface 2, configure the address pool to support desired address/prefix assignment and address/prefix rapid assignment, and set the preference to 255.

```
<Sysname> system-view
[Sysname] interface vlan-interface 2
[Sysname-Vlan-interface2] ipv6 dhcp server apply pool 1 allow-hint preference 255
rapid-commit
```

Related commands

- **display ipv6 dhcp server**
- **ipv6 dhcp pool**
- **ipv6 dhcp select**

ipv6 dhcp server forbidden-address

Use **ipv6 dhcp server forbidden-address** to exclude specified IPv6 addresses from dynamic allocation.

Use **undo ipv6 dhcp server forbidden-address** to remove the configuration.

Syntax

ipv6 dhcp server forbidden-address *start-ipv6-address* [*end-ipv6-address*]

undo ipv6 dhcp server forbidden-address *start-ipv6-address* [*end-ipv6-address*]

Default

Except for the DHCPv6 server address, all IPv6 addresses in a DHCPv6 address pool are assignable.

Views

System view

Predefined user roles

network-admin

Parameters

start-ipv6-address: Specifies the start IPv6 address.

end-ipv6-address: Specifies the end IPv6 address, which cannot be lower than *start-ipv6-address*. If you do not specify an end IPv6 address, only the start IPv6 address is excluded from dynamic allocation. If you specify an end IPv6 address, the IP addresses from *start-ipv6-address* to *end-ipv6-address* are all excluded from dynamic allocation.

Usage guidelines

You can exclude multiple IP address ranges from dynamic allocation.

The IPv6 addresses of some devices such as the gateway and FTP server cannot be assigned to clients. Use this command to exclude such addresses from dynamic allocation.

If the excluded IPv6 address is in a static binding, the address can still be assigned to the client.

The address or address range specified in the **undo** form of the command must be the same as the address or address range specified in the command. To remove an IP address that has been specified as part of an address range, you must remove the entire address range.

Examples

Exclude IPv6 addresses of 2001:10:110::1 through 2001:10:110::20 from dynamic assignment.

```
<Sysname> system-view
[Sysname] ipv6 dhcp server forbidden-address 2001:10:110::1 2001:10:110::20
```

Related commands

- **ipv6 dhcp server forbidden-prefix**

- **static-bind**

ipv6 dhcp server forbidden-prefix

Use **ipv6 dhcp server forbidden-prefix** to exclude specific IPv6 prefixes from dynamic allocation.

Use **undo ipv6 dhcp server forbidden-prefix** to remove the configuration.

Syntax

ipv6 dhcp server forbidden-prefix *start-prefix*/*prefix-len* [*end-prefix*/*prefix-len*]

undo ipv6 dhcp server forbidden-prefix *start-prefix*/*prefix-len* [*end-prefix*/*prefix-len*]

Default

No IPv6 prefixes in the DHCPv6 prefix pool are excluded from dynamic allocation.

Views

System view

Predefined user roles

network-admin

Parameters

start-prefix/prefix-len: Specifies the start IPv6 prefix. The *prefix-len* argument specifies the prefix length in the range of 1 to 128.

end-prefix/prefix-len: Specifies the end IPv6 prefix. The *prefix-len* argument specifies the prefix length, ranging from 1 to 128. The value for *end-prefix* cannot be lower than that for *start-prefix*. If you do not specify this argument, only the *start-prefix/prefix-len* is excluded from dynamic allocation. If you specify this argument, the prefixes from *start-prefix/prefix-len* to *end-prefix/prefix-len* are all excluded.

Usage guidelines

You can exclude multiple IPv6 prefix ranges from dynamic allocation.

If the excluded IPv6 prefix is in a static binding, the prefix can still be assigned to the client.

The prefix or prefix range specified in the **undo** form of the command must be the same as the prefix or prefix range specified in the command. To remove a prefix that has been specified as part of a prefix range, you must remove the entire prefix range.

Examples

Exclude IPv6 prefixes from 2001:3e11::/32 through 2001:3eff::/32 from dynamic allocation.

```
<Sysname> system-view
[Sysname] ipv6 dhcp server forbidden-prefix 2001:3e11::/32 2001:3eff::/32
```

Related commands

- **ipv6 dhcp server forbidden-address**

- **static-bind**

network

Use **network** to specify an IPv6 subnet for dynamic allocation in a DHCPv6 address pool.

Use **undo network** to remove the specified IPv6 subnet.

Syntax

network *prefix/prefix-length* [**preferred-lifetime** *preferred-lifetime* **valid-lifetime** *valid-lifetime*]

undo network

Default

No IPv6 subnet is specified in an address pool.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

prefix/prefix-length: Specifies the IPv6 subnet for dynamic allocation. The value range for *prefix-length* is 1 to 128.

preferred-lifetime *preferred-lifetime*: Specifies the preferred lifetime. The value range is 60 to 4294967295 seconds, and the default is 604800 seconds (7 days).

valid-lifetime *valid-lifetime*: Specifies the valid lifetime. The value range is 60 to 4294967295 seconds, and the default is 2592000 seconds (30 days). The valid lifetime must be longer than or equal to the preferred lifetime.

Usage guidelines

You can specify only one subnet for a DHCPv6 address pool. If you use the **network** command multiple times, the most recent configuration takes effect.

Modifying or removing the **network** configuration removes assigned addresses in the current address pool.

Examples

Specify the subnet 3ffe:501:ffff:100::/64 in DHCPv6 address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] network 3ffe:501:ffff:100::/64
```

Related commands

- **address range**
- **display ipv6 dhcp pool**
- **temporary address range**

option

Use **option** to configure a self-defined DHCPv6 option in a DHCPv6 address pool.

Use **undo option** to remove a self-defined DHCPv6 option from a DHCPv6 address pool.

Syntax

option *code* **hex** *hex-string*

          undo option *code*

Default

No self-defined DHCPv6 option is configured in a DHCPv6 address pool.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

code: Specifies a number for the self-defined option, in the range of 21 to 65535, excluding 25 through 26, 37 through 40, and 43 through 48.

hex *hex-string*: Specifies the content of the option, a hexadecimal string of even numbers from 2 to 256.

Usage guidelines

The DHCPv6 server fills the self-defined option with the specified hexadecimal string and sends it in a response to the client.

If you use the **option** command multiple times with the same *code* specified, the most recent configuration takes effect.

You can self-define options for the following purposes:

- Add newly released options.
- Add options for which the vendor defines the contents, for example, Option 43.
- Add options for which the CLI does not provide a dedicated configuration command like **dns-server**. For example, you can use the **option 31 hex 00c80000000000000000000000000001** command to define the NTP server address 200::1 for DHCP clients.

If a DHCPv6 option is specified by both the dedicated command and the **option** command, the DHCPv6 server preferentially assigns the content specified by the dedicated command. For example, if a DNS server address is specified by the **dns-server** command and the **option 23** command, the server uses the address specified by **dns-server** command.

Examples

\# Configure Option 23 that specifies a DNS server address 2001:f3e0::1 in DHCPv6 address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] option 23 hex 2001f3e0000000000000000000000001
```

Related commands

- **display ipv6 dhcp pool**
- **dns-server**
- **domain-name**
- **sip-server**

prefix-pool

Use **prefix-pool** to apply a prefix pool to a DHCPv6 address pool, so the DHCPv6 server can dynamically select a prefix from the prefix pool for a client.

Use **undo prefix-pool** to remove the configuration.

Syntax

> **prefix-pool** *prefix-pool-number* [**preferred-lifetime** *preferred-lifetime* **valid-lifetime** *valid-lifetime*]
>
> **undo prefix-pool** *prefix-pool-number*

Default

> No prefix pool is applied to an address pool.

Views

> DHCPv6 address pool view

Predefined user roles

> network-admin

Parameters

> *prefix-pool-number*: Specifies a prefix pool by its number in the range of 1 to 128.
>
> **preferred-lifetime** *preferred-lifetime*: Specifies the preferred lifetime in the range of 60 to 4294967295 seconds. The default value is 604800 seconds (7 days).
>
> **valid-lifetime** *valid-lifetime*: Specifies the valid lifetime in the range of 60 to 4294967295 seconds. The default value is 2592000 seconds (30 days). The valid lifetime must be longer than or equal to the preferred lifetime.

Usage guidelines

> Only one prefix pool can be applied to an address pool.
>
> You can apply a prefix pool that has not been created to an address pool. The setting takes effect after the prefix pool is created.
>
> You cannot modify prefix pools that have been applied. To change the prefix pool for an address pool, you must remove the prefix pool application first.

Examples

> # Apply prefix pool 1 to address pool 1, and use the default preferred lifetime and valid lifetime.
> ```
> <Sysname> system-view
> [Sysname] ipv6 dhcp pool 1
> [Sysname-dhcp6-pool-1] prefix-pool 1
> ```
>
> # Apply prefix pool 2 to address pool 2, and set the preferred lifetime to one day and the valid lifetime to three days.
> ```
> <Sysname> system-view
> [Sysname] ipv6 dhcp pool 2
> [Sysname-dhcp6-pool-2] prefix-pool 2 preferred-lifetime 86400 valid-lifetime 259200
> ```

Related commands

> - **display ipv6 dhcp pool**
> - **ipv6 dhcp prefix-pool**

reset ipv6 dhcp server conflict

> Use **reset ipv6 dhcp server conflict** to clear IPv6 address conflict information.

Syntax

> **reset ipv6 dhcp server conflict** [**address** *ipv6-address*]

Views

> User view

Predefined user roles

network-admin

Parameters

address *ipv6-address*: Clears conflict information for the specified IPv6 address. If you do not specify an IPv6 address, this command clears all IPv6 address conflict information.

Usage guidelines

Address conflicts occur when dynamically assigned IP addresses have been statically configured for other hosts. After the conflicts are resolved, you can use the **reset ipv6 dhcp server conflict** command to clear conflict information so that the conflicted addresses can be assigned to clients.

Examples

Clear all IPv6 address conflict information.

```
<Sysname> reset ipv6 dhcp server conflict
```

Related commands

display ipv6 dhcp server conflict

reset ipv6 dhcp server expired

Use **reset ipv6 dhcp server expired** to clear binding information for lease-expired IPv6 addresses.

Syntax

reset ipv6 dhcp server expired [**address** *ipv6-address* | **pool** *pool-name*]

Views

User view

Predefined user roles

network-admin

Parameters

address *ipv6-address*: Clears binding information for the specified lease-expired IPv6 address.

pool *pool-name*: Clears binding information for lease-expired IPv6 addresses in the address pool specified by its name, a case-insensitive string of 1 to 63 characters.

Usage guidelines

If you do not specify any parameters, this command clears binding information for all lease-expired IPv6 addresses.

Examples

Clear binding information for expired IPv6 address 2001:f3e0::1.

```
<Sysname> reset ipv6 dhcp server expired address 2001:f3e0::1
```

Related commands

display ipv6 dhcp server expired

reset ipv6 dhcp server ip-in-use

Use **reset ipv6 dhcp server ip-in-use** to clear binding information for assigned IPv6 addresses.

Syntax

reset ipv6 dhcp server ip-in-use [**address** *ipv6-address* | **pool** *pool-name*]

Views

    User view

Predefined user roles

    network-admin

Parameters

    address *ipv6-address*: Clears binding information for the assigned IPv6 address.

    pool *pool-name*: Clears binding information for assigned IPv6 addresses in the address pool specified by its name, a case-insensitive string of 1 to 63 characters.

Usage guidelines

    If you do not specify any parameters, this command clears binding information for all IPv6 addresses.

    If you use this command to clear information about an assigned static binding, the static binding becomes an unassigned static binding.

Examples

    # Clear binding information for all assigned IPv6 addresses.

```
<Sysname> reset ipv6 dhcp server ip-in-use
```

    # Clears binding information for assigned IPv6 addresses in DHCPv6 address pool 1.

```
<Sysname> reset ipv6 dhcp server ip-in-use pool 1
```

    # Clears binding information for the assigned IPv6 address 2001:0:0:1::1.

```
<Sysname> reset ipv6 dhcp server ip-in-use address 2001:0:0:1::1
```

Related commands

    display ipv6 dhcp server ip-in-use

reset ipv6 dhcp server pd-in-use

    Use **reset ipv6 dhcp server pd-in-use** to clear binding information for assigned IPv6 prefixes.

Syntax

    reset ipv6 dhcp server pd-in-use [**pool** *pool-name* | **prefix** *prefix*/*prefix-len*]

Views

    User view

Predefined user roles

    network-admin

Parameters

    pool *pool-name*: Clears binding information for assigned IPv6 prefixes in the address pool specified by its name, a case-insensitive string of 1 to 63 characters.

    prefix *prefix/prefix-len*: Clears binding information for the specified IPv6 prefix. The value range for the prefix length is 1 to 128.

Usage guidelines

    If you do not specify any parameters, this command clears binding information for all assigned IPv6 prefixes.

    If you use this command to clear information about an assigned static binding, the static binding becomes an unassigned static binding.

Examples

Clear binding information for all assigned IPv6 prefixes.

```
<Sysname> reset ipv6 dhcp server pd-in-use
```

Clears binding information for assigned IPv6 prefixes in DHCPv6 address pool 1.

```
<Sysname> reset ipv6 dhcp server pd-in-use pool 1
```

Clears binding information for the assigned IPv6 prefix 2001:0:0:1::/64.

```
<Sysname> reset ipv6 dhcp server pd-in-use prefix 2001:0:0:1::/64
```

Related commands

display ipv6 dhcp server pd-in-use

reset ipv6 dhcp server statistics

Use **reset ipv6 dhcp server statistics** to clear DHCPv6 server statistics.

Syntax

reset ipv6 dhcp server statistics

Views

User view

Predefined user roles

network-admin

Examples

Clear DHCPv6 server statistics.

```
<Sysname> reset ipv6 dhcp server statistics
```

Related commands

display ipv6 dhcp server statistics

sip-server

Use **sip-server** to specify the IPv6 address or domain name of a SIP server in the DHCPv6 address pool.

Use **undo sip-server** to remove a SIP server.

Syntax

sip-server { **address** *ipv6-address* | **domain-name** *domain-name* }

undo sip-server { **address** *ipv6-address* | **domain-name** *domain-name* }

Default

No SIP server address or domain name is specified.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

address *ipv6-address*: Specifies the IPv6 address of a SIP server.

domain-name *domain-name*: Specifies the domain name of a SIP server, a case-insensitive string of 1 to 50 characters.

Usage guidelines

You can specify up to eight SIP server addresses and eight SIP server domain names in an address pool. A SIP server that is specified earlier has a higher preference.

Examples

Specify the SIP server address **2:2::4** in DHCPv6 address pool 1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] sip-server address 2:2::4
```

Specify the SIP server domain name **bbb.com** in DHCPv6 address pool 1.

```
[Sysname-dhcp6-pool-1] sip-server domain-name bbb.com
```

Related commands

display ipv6 dhcp pool

static-bind

Use **static-bind** to statically bind a client DUID or client IAID to an IPv6 address or prefix in the DHCPv6 address pool.

Use **undo static-bind** to remove a static binding.

Syntax

static-bind { **address** *ipv6-address*/*addr-prefix-length* | **prefix** *prefix*/*prefix-len* } **duid** *duid* [**iaid** *iaid*] [**preferred-lifetime** *preferred-lifetime* **valid-lifetime** *valid-lifetime*]

undo static-bind { **address** *ipv6-address*/*addr-prefix-length* | **prefix** *prefix*/*prefix-len* }

Default

No static binding is configured in a DHCPv6 address pool.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

address *ipv6-address*/*addr-prefix-length*: Specifies the IPv6 address and prefix length. The value range for the prefix length is 1 to 128.

prefix *prefix*/*prefix-len*: Specifies the prefix and prefix length. The value range for the prefix length is 1 to 128.

duid *duid*: Specifies a client DUID. The value is an even hexadecimal number in the range of 2 to 256.

iaid *iaid*: Specifies a client IAID. The value is a hexadecimal number in the range of 0 to FFFFFFFF. If you do not specify an IAID, the server does not match the client IAID for prefix assignment.

preferred-lifetime *preferred-lifetime*: Specifies the preferred lifetime of the address or prefix. The value range is 60 to 4294967295 seconds, and the default is 604800 seconds (7 days).

valid-lifetime *valid-lifetime*: Specifies the valid lifetime of the address or prefix. The value range is 60 to 4294967295 seconds, and the default is 2592000 seconds (30 days). The valid lifetime cannot be shorter than the preferred lifetime.

Usage guidelines

You can specify multiple static bindings in a DHCPv6 address pool.

An IPv6 address or prefix can be bound to only one DHCPv6 client. You cannot modify bindings that have been created. To change the binding for a DHCPv6 client, you must delete the existing binding first.

Examples

In address pool 1, bind IPv6 address 2001:0410::/35 to the client DUID 0003000100e0fc005552 and IAID A1A1A1A1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] static-bind address 2001:0410::/35 duid 0003000100e0fc005552 iaid
A1A1A1A1
```

In address pool 1, bind prefix 2001:0410::/35 to the client DUID 00030001CA0006A400 and IAID A1A1A1A1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] static-bind prefix 2001:0410::/35 duid 00030001CA0006A400 iaid
A1A1A1A1
```

Related commands

display ipv6 dhcp pool

temporary address range

Use **temporary address range** to configure a temporary IPv6 address range in a DHCPv6 address pool for dynamic allocation.

Use **undo temporary address range** to remove the temporary IPv6 address range from the DHCPv6 address pool.

Syntax

temporary address range *start-ipv6-address* *end-ipv6-address* [**preferred-lifetime** *preferred-lifetime* **valid-lifetime** *valid-lifetime*]

undo temporary address range

Default

No temporary IPv6 address range is configured in an address pool.

Views

DHCPv6 address pool view

Predefined user roles

network-admin

Parameters

start-ipv6-address: Specifies the start IPv6 address.

end-ipv6-address: Specifies the end IPv6 address.

preferred-lifetime *preferred-lifetime*: Specifies the preferred lifetime. The value range is 60 to 4294967295 seconds, and the default is 604800 seconds (7 days).

valid-lifetime *valid-lifetime*: Specifies the valid lifetime. The value range is 60 to 4294967295 seconds, and the default is 2592000 seconds (30 days). The valid lifetime cannot be shorter than the preferred lifetime.

Usage guidelines

If you do not execute the **temporary address range** command, the DHCPv6 server does not support temporary address assignment.

You can configure only one temporary IPv6 address range in an address pool. If you use the command multiple times, the most recent configuration takes effect.

Examples

In DHCPv6 address pool 1, configure a temporary IPv6 address range from 3ffe:501:ffff:100::50 to 3ffe:501:ffff:100::60.

```
<Sysname> system-view
[Sysname] ipv6 dhcp pool 1
[Sysname-dhcp6-pool-1] network 3ffe:501:ffff:100::/64
[Sysname-dhcp6-pool-1] temporary address range 3ffe:501:ffff:100::50
3ffe:501:ffff:100::60
```

Related commands

- **display ipv6 dhcp pool**
- **address range**
- **network**

DHCPv6 relay agent commands

The term "interface" in this section refers to VLAN interfaces.

display ipv6 dhcp relay server-address

Use **display ipv6 dhcp relay server-address** to display DHCPv6 server addresses specified on the DHCPv6 relay agent.

Syntax

display ipv6 dhcp relay server-address [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command displays DHCPv6 server addresses on all interfaces enabled with DHCPv6 relay agent.

Examples

Display DHCPv6 server addresses on all interfaces enabled with DHCPv6 relay agent.

```
<Sysname> display ipv6 dhcp relay server-address
Interface: Vlan-interface2
 Server address                          Outgoing Interface
 2::3
 3::4                                    Vlan-interface4
```

```
Interface: Vlan-interface3
 Server address                            Outgoing Interface
 2::3
 3::4                                      Vlan-interface4
```
Display DHCPv6 server addresses on VLAN-interface 2.
```
<Sysname> display ipv6 dhcp relay server-address interface vlan-interface 2
Interface: Vlan-interface2
 Server address                            Outgoing Interface
 2::3
 3::4                                      Vlan-interface4
```
Table 9 Command output

Field	Description
Server address	DHCPv6 server address specified on the DHCP relay agent.
Outgoing Interface	Output interface of DHCPv6 packets. If no output interface is specified, the device searches the routing table for the output interface.

Related commands

- **ipv6 dhcp relay server-address**
- **ipv6 dhcp select**

display ipv6 dhcp relay statistics

Use **display ipv6 dhcp relay statistics** to display DHCPv6 packet statistics on the DHCPv6 relay agent.

Syntax

display ipv6 dhcp relay statistics [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command displays DHCPv6 packets statistics on all interfaces enabled with DHCPv6 relay agent.

Examples

Display DHCPv6 packet statistics on all interfaces enabled with DHCPv6 relay agent.
```
<Sysname> display ipv6 dhcp relay statistics
Packets dropped          :  4
Packets received         :  14
    Solicit              :  0
    Request              :  0
    Confirm              :  0
```

```
      Renew                   :   0
      Rebind                  :   0
      Release                 :   0
      Decline                 :   0
      Information-request     :   7
      Relay-forward           :   0
      Relay-reply             :   7
Packets sent                  :   14
      Advertise               :   0
      Reconfigure             :   0
      Reply                   :   7
      Relay-forward           :   7
      Relay-reply             :   0
```

Display DHCPv6 packet statistics on the DHCPv6 relay agent on VLAN-interface 2.

```
<Sysname> display ipv6 dhcp relay statistics interface vlan-interface 2
Packets dropped               :   4
Packets received              :   16
      Solicit                 :   0
      Request                 :   0
      Confirm                 :   0
      Renew                   :   0
      Rebind                  :   0
      Release                 :   0
      Decline                 :   0
      Information-request     :   8
      Relay-forward           :   0
      Relay-reply             :   8
Packets sent                  :   16
      Advertise               :   0
      Reconfigure             :   0
      Reply                   :   8
      Relay-forward           :   8
      Relay-reply             :   0
```

Table 10 Command output

Field	Description
Packets dropped	Number of discarded packets.
Packets received	Number of received packets.
Solicit	Number of received solicit packets.
Request	Number of received request packets.
Confirm	Number of received confirm packets.
Renew	Number of received renew packets.
Rebind	Number of received rebind packets.
Release	Number of received release packets.
Decline	Number of received decline packets.

Field	Description
Information-request	Number of received information request packets.
Relay-forward	Number of received relay-forward packets.
Relay-reply	Number of received relay-reply packets.
Packets sent	Number of sent packets.
Advertise	Number of sent advertise packets.
Reconfigure	Number of sent reconfigure packets.
Reply	Number of sent reply packets.
Relay-forward	Number of sent Relay-forward packets.
Relay-reply	Number of sent Relay-reply packets.

Related commands

> **reset ipv6 dhcp relay statistics**

ipv6 dhcp relay server-address

Use **ipv6 dhcp relay server-address** to specify a DHCPv6 server on the DHCPv6 relay agent.

Use **undo ipv6 dhcp relay server-address** to remove DHCPv6 server addresses.

Syntax

ipv6 dhcp relay server-address *ipv6-address* [**interface** *interface-type interface-number*]

undo ipv6 dhcp relay server-address [*ipv6-address* [**interface** *interface-type interface-number*]]

Default

No DHCPv6 server address is specified on the DHCPv6 relay agent.

Views

Interface view

Predefined user roles

network-admin

Parameters

ipv6-address: Specifies the IPv6 address of a DHCPv6 server.

interface *interface-type interface-number*: Specifies an output interface through which the relay agent forwards the DHCPv6 requests to the DHCPv6 server. If you do not specify an output interface, the relay agent looks up the routing table for an output interface.

Usage guidelines

Upon receiving a request from a DHCPv6 client, the interface encapsulates the request into a Relay-forward message and forwards the message to the specified DHCPv6 server.

You can specify a maximum of eight DHCPv6 servers on an interface. The DHCPv6 relay agent forwards DHCP requests to all the specified DHCPv6 servers.

If the DHCPv6 server address is a link-local address or multicast address, you must specify an output interface. If you do not specify an output interface, DHCPv6 packets might fail to reach the DHCPv6 server.

If you do not specify an IPv6 address, the **undo ipv6 dhcp relay server-address** command removes all DHCPv6 server addresses specified on the interface.

Examples

Enable the DHCPv6 relay agent on VLAN-interface 2 and specify the DHCPv6 server address 2001:1::3.

```
<Sysname> system-view
[Sysname] interface vlan-interface 2
[Sysname-Vlan-interface2] ipv6 dhcp select relay
[Sysname-Vlan-interface2] ipv6 dhcp relay server-address 2001:1::3
```

Related commands

- **display ipv6 dhcp relay server-address**
- **ipv6 dhcp select**

reset ipv6 dhcp relay statistics

Use **reset ipv6 dhcp relay statistics** to clear packets statistics on the DHCPv6 relay agent.

Syntax

reset ipv6 dhcp relay statistics [**interface** *interface-type interface-number*]

Views

User view

Predefined user roles

network-admin

Parameters

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command clears all relay agent statistics.

Examples

Clear packet statistics on the DHCPv6 relay agent.

```
<Sysname> reset ipv6 dhcp relay statistics
```

Related commands

display ipv6 dhcp relay statistics

DHCPv6 client commands

display ipv6 dhcp client

Use **display ipv6 dhcp client** to display DHCPv6 client information.

Syntax

display ipv6 dhcp client [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

> **interface** *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command displays information about all DHCPv6 clients.

Examples

> # Display the DHCPv6 client information on VLAN-interface 2.
>
> ```
> <Sysname> display ipv6 dhcp client interface vlan-interface 2
> Vlan-interface2:
>   Type: Stateful client requesting address
>     State: OPEN
>     IAID: 0x4030000
>     Client DUID: 00030001000fe2ff0000
>     Preferred server:
>       Reachable via address: FE80::223:89FF:FE63:C4BC
>       Server DUID: 0003000100238963c4ba
>     Address: 12:34:56::2
>       Preferred lifetime 86400 sec, valid lifetime 259200 sec
>       T1 43200 sec, T2 69120 sec
>       Will expire on Feb 4 2013 at 15:37:20(288 seconds left)
>     DNS server addresses:
>       2:2::3
>     Domain name:
>       aaa.com
>     SIP server addresses:
>       2:2::4
>     SIP server domain names:
>       bbb.com
>     Options:
>       Code: 88
>         Length: 3 bytes
>         Hex: AABBCC
> ```

Table 11 Command output

Field	Description
Type	Types of DHCPv6 client: • **Stateful client requesting address**—A DHCPv6 client that requests an IPv6 address. • **Stateful client requesting prefix**—A DHCPv6 client that requests an IPv6 prefix. • **Stateless client**—A DHCPv6 client that requests configuration parameters through stateless DHCPv6.

Field	Description
State	Current states of the DHCPv6 client: • **IDLE**—The client is in idle state. • **SOLICIT**—The client is locating a DHCPv6 server. • **REQUEST**—The client is requesting an IPv6 address or prefix. • **OPEN**—The client has obtained an IPv6 address or prefix. • **RENEW**—The client is extending the lease (after T1 and before T2). • **REBIND**—The client is extending the lease (after T2 and before the lease expires). • **RELEASE**—The client is releasing an IPv6 address or prefix. • **DECLINE**—The client is declining an IPv6 address or prefix because of an address or prefix conflict. • **INFO-REQUESTING**—The client is requesting configuration parameters through stateless DHCPv6.
IAID	IA identifier.
Client DUID	DUID of the DHCPv6 client.
Preferred server	Information about the DHCPv6 server selected by the DHCPv6 client.
Reachable via address	Reachable address for the DHCPv6 client. It is the link local address of the DHCPv6 server or DHCPv6 relay agent.
Server DUID	DUID of the DHCPv6 server.
Address	IPv6 address obtained. This field is displayed only when the DHCPv6 client type is **Stateful client requesting address**.
Prefix	IPv6 prefix obtained. This field is displayed only when the DHCPv6 client type is **Stateful client requesting prefix**.
Preferred lifetime	Preferred lifetime in seconds.
valid lifetime	Valid lifetime in seconds.
T1	T1 time value in seconds.
T2	T2 time value in seconds.
Will expire on Feb 4 2013 at 15:37:20 (288 seconds left)	Time when the lease expires and the remaining time of the lease. If the lease expires after the year 2100, this field displays **Will expire after 2100**.
DNS server addresses	IPv6 address of the DNS server.
Domain name	Domain name suffix.
SIP server addresses	IPv6 address of the SIP server.
SIP server domain names	Domain name of the SIP server.
Options	Self-defined options.
Code	Code of the self-defined option.
Length	Self-defined option length in bytes.
Hex	Self-defined option content represented by a hexadecimal string.

Related commands

- **ipv6 address dhcp-alloc**
- **ipv6 dhcp client pd**

display ipv6 dhcp client statistics

Use **display ipv6 dhcp client statistics** to display DHCPv6 client statistics.

Syntax

display ipv6 dhcp client statistics [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command displays statistics for all DHCPv6 clients.

Examples

Display DHCPv6 client statistics on VLAN-interface 2.

```
<Sysname> display ipv6 dhcp client statistics interface vlan-interface 2
Interface               :  Vlan-interface2
Packets received        :  1
        Reply           :  1
        Advertise       :  0
        Reconfigure     :  0
        Invalid         :  0
Packets sent            :  5
        Solicit         :  0
        Request         :  0
        Renew           :  0
        Rebind          :  0
        Information-request :  5
        Release         :  0
        Decline         :  0
```

Table 12 Command output

Field	Description
Interface	Interface that acts as the DHCPv6 client.
Packets Received	Number of received packets.
Reply	Number of received reply packets.
Advertise	Number of received advertise packets.
Reconfigure	Number of received reconfigure packets.
Invalid	Number of invalid packets.
Packets sent	Number of sent packets.
Solicit	Number of sent solicit packets.
Request	Number of sent request packets.
Renew	Number of sent renew packets.

Field	Description
Rebind	Number of sent rebind packets.
Information-request	Number of sent information request packets.
Release	Number of sent release packets.
Decline	Number of sent decline packets.

Related commands

reset ipv6 dhcp client statistics

ipv6 address dhcp-alloc

Use **ipv6 address dhcp-alloc** to configure an interface to use DHCPv6 for IPv6 address acquisition.

Use **undo ipv6 address dhcp-alloc** to cancel an interface from using DHCPv6, and clear the obtained IPv6 address and other configuration parameters.

Syntax

ipv6 address dhcp-alloc [**rapid-commit**]

undo ipv6 address dhcp-alloc

Default

An interface does not use DHCPv6 for IPv6 address acquisition.

Views

Management Ethernet interface view

VLAN interface view

Predefined user roles

network-admin

Parameters

rapid-commit: Supports rapid address or prefix assignment.

Examples

Configure VLAN-interface 10 to use DHCPv6 for IPv6 address acquisition. Configure the DHCPv6 client to support rapid address assignment.

```
<Sysname> system-view
[Sysname] interface vlan-interface 10
[Sysname-Vlan-interface10] ipv6 address dhcp-alloc rapid-commit
```

Related commands

display ipv6 dhcp client

ipv6 dhcp client duid

Use **ipv6 dhcp client duid** to configure the DHCPv6 client DUID.

Use **undo ipv6 dhcp client duid** to restore the default.

Syntax

ipv6 dhcp client duid { **ascii** *string* | **hex** *string* | **mac** *interface-type interface-number* }

undo ipv6 dhcp client duid

Default

The device uses DUID-LL as the DHCPv6 client DUID.

Views

Interface view

Predefined user roles

network-admin

Parameters

ascii *string*: Specifies a case-sensitive ASCII string of 1 to 300 characters as the DHCPv6 client DUID.

hex *string*: Specifies a hexadecimal string of 2 to 130 characters as the DHCPv6 client DUID.

mac *interface-type interface-number*: Specifies the MAC address of the specified interface as the DHCPv6 client DUID. The *interface-type interface-number* arguments specify an interface by its type and number.

Examples

Configure the DHCPv6 client DUID as the hexadecimal string FFFFFF for VLAN-interface 10.

```
<Sysname> system-view
[Sysname] interface vlan-interface 10
[Sysname-Vlan-interface10] ipv6 dhcp client duid hex FFFFFF
```

ipv6 dhcp client dscp

Use **ipv6 dhcp client dscp** to set the DSCP value for DHCPv6 packets sent by the DHCPv6 client.

Use **undo ipv6 dhcp client dscp** to restore the default value.

Syntax

ipv6 dhcp client dscp *dscp-value*

undo ipv6 dhcp client dscp

Default

The DSCP value in DHCPv6 packets is 56.

Views

System view

Predefined user roles

network-admin

Parameters

dscp-value: Sets the DSCP value for DHCPv6 packets, in the range of 0 to 63.

Usage guidelines

The DSCP value is carried in the Traffic class field of a DHCPv6 packet. It specifies the priority level of the packet and affects the transmission priority of the packet. A bigger DSCP value represents a higher priority.

Examples

Set the DSCP value for DHCPv6 packets sent by the DHCPv6 client to 30.

```
<Sysname> system-view
```

```
[Sysname] ipv6 dhcp client dscp 30
```

ipv6 dhcp client pd

Use **ipv6 dhcp client pd** to configure an interface to use DHCPv6 for IPv6 prefix acquisition.

Use **undo ipv6 dhcp client pd** to cancel an interface from using DHCPv6, and clear the obtained IPv6 prefix and other configuration parameters.

Syntax

ipv6 dhcp client pd *prefix-number* [**rapid-commit**]

undo ipv6 dhcp client pd

Default

An interface does not use DHCPv6 for IPv6 prefix acquisition.

Views

Management Ethernet interface view

VLAN interface view

Predefined user roles

network-admin

Parameters

prefix-number: Specifies an IPv6 prefix ID in the range of 1 to 1024. After obtaining an IPv6 prefix, the client assigns the ID to the IPv6 prefix.

rapid-commit: Supports rapid address or prefix assignment.

Examples

Configure VLAN-interface10 to use DHCPv6 for IPv6 prefix acquisition. Specify an ID for the dynamic IPv6 prefix, and configure the client to support rapid prefix assignment.

```
<Sysname> system-view
[Sysname] interface vlan-interface 10
[Sysname-Vlan-interface10] ipv6 dhcp client pd 1 rapid-commit
```

Related commands

display ipv6 dhcp client

ipv6 dhcp client stateless enable

Use **ipv6 dhcp client stateless enable** to enable stateless DHCPv6.

Use **undo ipv6 dhcp client stateless enable** to restore the default.

Syntax

ipv6 dhcp client stateless enable

undo ipv6 dhcp client stateless enable

Default

Stateless DHCPv6 is disabled.

Views

Management Ethernet interface view

VLAN interface view

Predefined user roles

network-admin

Usage guidelines

With stateless DHCPv6 enabled on an interface, the interface sends an Information-request message to the multicast address of all DHCPv6 servers and DHCPv6 relay agents to request configuration parameters.

Examples

Enable stateless DHCPv6 on VLAN-interface 2.

```
<Sysname> system-view
[Sysname] interface vlan-interface 2
[Sysname-Vlan-interface2] ipv6 dhcp client stateless enable
```

reset ipv6 dhcp client statistics

Use **reset ipv6 dhcp client statistics** to clear DHCPv6 client statistics.

Syntax

reset ipv6 dhcp client statistics [**interface** *interface-type interface-number*]

Views

User view

Predefined user roles

network-admin

Parameters

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command clears all DHCPv6 client statistics.

Examples

Clear all DHCPv6 client statistics.

```
<Sysname> reset ipv6 dhcp client statistics
```

Related commands

display ipv6 dhcp client statistics

DHCPv6 snooping commands

DHCPv6 snooping works between the DHCPv6 client and the DHCPv6 server or between the DHCPv6 client and DHCPv6 the relay agent. DHCPv6 snooping does not work between the DHCPv6 server and the DHCPv6 relay agent.

display ipv6 dhcp snooping binding

Use **display ipv6 dhcp snooping binding** to display DHCPv6 snooping entries.

Syntax

display ipv6 dhcp snooping binding [**address** i*pv6-address* [**vlan** *vlan-id*]]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

address *ipv6-address*: Displays the DHCPv6 snooping entry for the specified IPv6 address.

vlan *vlan-id*: Specifies the ID of the VLAN where the IPv6 address resides.

Usage guidelines

If you do not specify any parameters, this command displays all DHCPv6 snooping entries.

Examples

Display all DHCPv6 snooping entries.

```
<Sysname> display ipv6 dhcp snooping binding
1 DHCPv6 snooping entries found.
 IPv6 address     MAC address    Lease      VLAN SVLAN Interface
 ================ ============== =========== ==== ===== ========================
 2::1             00e0-fc00-0006 54          2    N/A   Ten-GigabitEthernet1/0/1
```

Table 13 Command output

Field	Description
IPv6 Address	IPv6 address assigned to the DHCPv6 client.
MAC Address	MAC address of the DHCPv6 client.
Lease	Remaining lease duration in seconds.
VLAN	When both DHCPv6 snooping and QinQ are enabled or the DHCPv6 packet contains two VLAN tags, this field identifies the outer VLAN tag. Otherwise, it identifies the VLAN where the port connecting the DHCPv6 client resides.
SVLAN	When both DHCPv6 snooping and QinQ are enabled or the DHCPv6 packet contains two VLAN tags, this field identifies the inner VLAN tag. Otherwise, it displays **N/A**.
Interface	Port connecting to the DHCPv6 client.

Related commands

- **ipv6 dhcp snooping binding record**
- **reset ipv6 dhcp snooping binding**

display ipv6 dhcp snooping binding database

Use **display ipv6 dhcp snooping binding database** to display information about DHCPv6 snooping entry auto backup.

Syntax

display ipv6 dhcp snooping binding database

Views

Any view

Predefined user roles

network-admin

network-operator

Examples

Display information about DHCPv6 snooping entry auto backup.

```
<Sysname> display ipv6 dhcp snooping binding database
File name            :   database.dhcp
Username             :
Password             :
Update interval      :   600 seconds
Latest write time    :   Feb 27 18:48:04 2012
Status               :   Last write succeeded.
```

Table 14 Command output

Field	Description
File name	Name of the DHCPv6 snooping entry backup file.
Username	Username for accessing the URL of the remote backup file.
Password	Password for accessing the URL of the remote backup file. This field is blank if no password is configured and displays ****** if a password is configured.
Update interval	Waiting time in seconds after a DHCPv6 snooping entry change for the DHCPv6 snooping device to update the backup file.
Latest write time	Time of the latest update.
Status	Status of the update: • **Writing**—The backup file is being updated. • **Last write succeeded**—The backup file was successfully updated. • **Last write failed**—The backup file failed to be updated.

display ipv6 dhcp snooping packet statistics

Use **display ipv6 dhcp snooping packet statistics** to display DHCPv6 packet statistics for DHCPv6 snooping.

Syntax

display ipv6 dhcp snooping packet statistics [**slot** *slot-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

slot *slot-number*: Specifies an IRF member device by its member ID.

Usage guidelines

If you do not specify the **slot** *slot-number* option, this command displays DHCPv6 packet statistics for the device where this command is executed.

Examples

Display DHCPv6 packet statistics for DHCPv6 snooping.

```
<Sysname> display ipv6 dhcp snooping packet statistics
DHCPv6 packets received              : 100
DHCPv6 packets sent                  : 200
Invalid DHCPv6 packets dropped       : 0
```

Related commands

> **reset ipv6 dhcp snooping packet statistics**

display ipv6 dhcp snooping trust

Use **display ipv6 dhcp snooping trust** to display information about trusted ports.

Syntax

> **display ipv6 dhcp snooping trust**

Views

> Any view

Predefined user roles

> network-admin
>
> network-operator

Examples

> # Display information about trusted ports.
>
> ```
> <Sysname> display ipv6 dhcp snooping trust
> DHCPv6 snooping is enabled.
>  Interface                           Trusted
>  =========================           ============
>  Ten-GigabitEthernet1/0/1            Trusted
> ```
>
> The output shows that DHCPv6 snooping is enabled, Ten-GigabitEthernet1/0/1 is the trusted port.

Related commands

> **ipv6 dhcp snooping trust**

ipv6 dhcp snooping binding database filename

Use **ipv6 dhcp snooping binding database filename** to configure the DHCPv6 snooping device to back up DHCPv6 snooping entries to a file.

Use **undo ipv6 dhcp snooping binding database filename** to disable the auto backup and remove the backup file.

Syntax

> **ipv6 dhcp snooping binding database filename** { *filename* | **url** *url* [**username** *username* [**password** { **cipher** | **simple** } *key*]] }
>
> **undo ipv6 dhcp snooping binding database filename**

Default

> The DHCPv6 snooping device does not back up DHCPv6 snooping entries.

Views

> System view

Predefined user roles

network-admin

Parameters

filename: Specifies the name of a local file. For information about the *filename* argument, see *Fundamentals Configuration Guide*.

url *url*: Specifies the URL of a remote file. Do not include a username or password in the URL. Case sensitivity and the supported path format type vary by server.

username *username*: Specifies the username for logging in to the remote device.

cipher: Sets a ciphertext password.

simple: Sets a plaintext password.

key: Specifies the key string. This argument is case sensitive. If **simple** is specified, it must be a string of 1 to 32 characters. If **cipher** is specified, it must be a ciphertext string of 1 to 73 characters.

Usage guidelines

For security purposes, all passwords, including passwords configured in plaintext, are saved in ciphertext.

This command automatically creates the file if you specify a non-existent file.

With this command executed, the DHCPv6 snooping device backs up its snooping entries immediately and runs auto backup. The snooping device, by default, waits 300 seconds after a DHCPv6 snooping entry change to update the backup file. You can use the **ipv6 dhcp snooping binding database update interval** command to change the waiting time. If no DHCPv6 snooping entry changes, the backup file is not updated.

When the file is on a remote device, follow these restrictions and guidelines to specify the URL, username, and password:

- If the file is on an FTP server, enter URL in the format of ftp://*server address*:*port*/*file path*, where the port number is optional.

- If the file is on a TFTP server, enter URL in the format of tftp://*server address*:*port*/*file path*, where the port number is optional.

- The username and password must be the same as those configured on the FTP or TFTP server. If the server authenticates only the username, the password can be omitted. For example, enter URL **ftp://1.1.1.1/database.dhcp username admin** at the CLI to specify the URL and username for the file on an FTP server.

- If the IP address of the server is an IPv6 address, enclose the address in a pair of brackets, for example, **ftp://[1::1]/database.dhcp**.

- You can also specify the DNS domain name for the server address field, for example, **ftp://company/database.dhcp**.

Examples

Configure the DHCPv6 snooping device to back up DHCPv6 snooping entries to the file **database.dhcp**.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping binding database filename database.dhcp
```

Configure the DHCPv6 snooping device to back up DHCPv6 snooping entries to the file **database.dhcp** in the working directory of the FTP server at 1::1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping binding database filename url ftp://[1::1]/database.dhcp
username 1 password simple 1
```

Configure the DHCPv6 snooping device to back up DHCPv6 snooping entries to the file **database.dhcp** in the working directory of the TFTP server at 2::1.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping binding database filename tftp://[2::1]/database.dhcp
```

Related commands

> **ipv6 dhcp snooping binding database update interval**

ipv6 dhcp snooping binding database update interval

Use **ipv6 dhcp snooping binding database update interval** to set the waiting time after a DHCPv6 snooping entry change for the DHCPv6 snooping device to update the backup file.

Use **undo ipv6 dhcp snooping binding database update interval** to restore the default.

Syntax

> **ipv6 dhcp snooping binding database update interval** *seconds*

> **undo ipv6 dhcp snooping binding database update interval**

Default

The DHCPv6 snooping device waits 300 seconds after a DHCPv6 snooping entry change to update the backup file. If no DHCPv6 snooping entry changes, the backup file is not updated.

Views

> System view

Predefined user roles

> network-admin

Parameters

> *seconds*: Sets the waiting time in seconds, in the range of 60 to 864000.

Usage guidelines

When a DHCPv6 snooping entry is learned, updated, or removed, the waiting period starts. The DHCPv6 snooping device updates the backup file when the waiting period is reached. All snooping entries changed during the period will be saved to the backup file.

The waiting time does not take effect if you do not configure the DHCPv6 snooping entry auto backup by using the **ipv6 dhcp snooping binding database filename** command.

Examples

Set the waiting time to 600 seconds for the DHCPv6 snooping device to update the backup file.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping binding database update interval 600
```

Related commands

> **ipv6 dhcp snooping binding database filename**

ipv6 dhcp snooping binding database update now

Use **ipv6 dhcp snooping binding database update now** to manually save DHCPv6 snooping entries to the backup file.

Syntax

> **ipv6 dhcp snooping binding database update now**

Views

> System view

Predefined user roles

network-admin

Usage guidelines

This command does not take effect if you do not configure the DHCPv6 snooping entry auto backup by using the **ipv6 dhcp snooping binding database filename** command.

Examples

Manually save DHCPv6 snooping entries to the backup file.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping binding database update now
```

Related commands

ipv6 dhcp snooping binding database filename

ipv6 dhcp snooping binding record

Use **ipv6 dhcp snooping binding record** to enable recording of client information in DHCPv6 snooping entries.

Use **undo ipv6 dhcp snooping binding record** to disable the feature.

Syntax

ipv6 dhcp snooping binding record

undo ipv6 dhcp snooping binding record

Default

DHCPv6 snooping does not record client information.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Usage guidelines

This command enables DHCPv6 snooping on the port directly connected to the clients to record client information in DHCPv6 snooping entries.

Examples

Enable recording of client information in DHCPv6 snooping entries on Ten-GigabitEthernet1/0/1.

```
<Sysname> system-view
[Sysname]interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping binding record
```

ipv6 dhcp snooping check request-message

Use **ipv6 dhcp snooping check request-message** to enable the DHCPv6-REQUEST check feature for the received DHCPv6-RENEW, DHCPv6-DECLINE, and DHCPv6-RELEASE messages.

Use **undo ipv6 dhcp snooping check request-message** to disable the DHCPv6-REQUEST check feature.

Syntax

ipv6 dhcp snooping check request-message

undo ipv6 dhcp snooping check request-message

Default

DHCPv6-REQUEST check is disabled.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Usage guidelines

Use the DHCPv6-REQUEST check feature to protect the DHCPv6 server against DHCPv6 client spoofing attacks. The feature enables the DHCPv6 snooping device to check every received DHCPv6-RENEW, DHCPv6-DECLINE, or DHCPv6-RELEASE message against DHCPv6 snooping entries.

- If any of the criteria in an entry is matched, the device compares the entry with the message information.
    - o   If they are consistent, the device considers the message valid and forwards it to the DHCPv6 server.
    - o   If they are different, the device considers the message forged and discards it.
- If no matching entry is found, the device forwards the message to the DHCPv6 server.

Examples

Enable DHCPv6-REQUEST check.

```
<Sysname> system-view
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping check request-message
```

ipv6 dhcp snooping deny

Use **ipv6 dhcp snooping deny** to configure a port as DHCPv6 packet blocking port.

Use **undo ipv6 dhcp snooping deny** to restore the default.

Syntax

ipv6 dhcp snooping deny

undo ipv6 dhcp snooping deny

Default

A port does not block DHCPv6 packets.

Views

Layer 2 Ethernet interface view, Layer 2 aggregate interface view

Predefined user roles

network-admin

Usage guidelines

DHCPv6 clients connected to DHCPv6 packet blocking ports cannot obtain IPv6 addresses, IPv6 prefixes, and other configuration parameters from the DHCPv6 server.

Do not configure a port as both a trusted port and a DHCPv6 packet blocking port.

Examples

Configure Layer 2 Ethernet interface Ten-GigabitEthernet 1/0/1 as a DHCPv6 packet blocking port.

```
<Sysname> system-view
[Sysname] interface Ten-Gigabitethernet 1/0/1
[Sysname-Ten-Gigabitethernet1/0/1] ipv6 dhcp snooping deny
```

ipv6 dhcp snooping enable

Use **ipv6 dhcp snooping enable** to enable DHCPv6 snooping.

Use **undo ipv6 dhcp snooping enable** to disable DHCPv6 snooping.

Syntax

ipv6 dhcp snooping enable

undo ipv6 dhcp snooping enable

Default

DHCPv6 snooping is disabled.

Views

System view

Predefined user roles

network-admin

Usage guidelines

Use the DHCPv6 snooping feature together with trusted port configuration. Before trusted ports are configured, all ports on the DHCPv6 snooping device are untrusted and discard all responses sent from DHCPv6 servers.

When DHCPv6 snooping is disabled, the device forwards all responses from DHCPv6 servers.

Examples

Enable DHCPv6 snooping.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping enable
```

ipv6 dhcp snooping log enable

Use **ipv6 dhcp snooping log enable** to enable DHCPv6 snooping logging.

Use **undo ipv6 dhcp snooping log enable** to restore the default.

Syntax

ipv6 dhcp snooping log enable

undo ipv6 dhcp snooping log enable

Default

DHCPv6 snooping logging is disabled.

Views

> System view

Predefined user roles

> network-admin

Usage guidelines

> This command enables the DHCPv6 snooping device to generate DHCPv6 snooping logs and send them to the information center. For information about the log destination and output rule configuration in the information center, see *Network Management and Monitoring Configuration Guide*.
>
> As a best practice, disable this feature if the log generation affects the device performance.

Examples

> # Enable DHCPv6 snooping logging.
> ```
> <Sysname> system-view
> [Sysname] ipv6 dhcp snooping log enable
> ```

ipv6 dhcp snooping max-learning-num

> Use **ipv6 dhcp snooping max-learning-num** to set the maximum number of DHCPv6 snooping entries for an interface to learn.
>
> Use **undo ipv6 dhcp snooping max-learning-num** to restore the default.

Syntax

> **ipv6 dhcp snooping max-learning-num** *number*
>
> **undo ipv6 dhcp snooping max-learning-num**

Default

> The number of DHCPv6 snooping entries for an interface to learn is not limited.

Views

> Layer 2 Ethernet interface/Layer 2 aggregate interface view
>
> S-channel interface
>
> VSI interface

Predefined user roles

> network-admin

Parameters

> *number*: Maximum number of DHCPv6 snooping entries for an interface to learn. The value range is 1 to 4294967295.

Examples

> # Specify the Layer 2 Ethernet interface Ten-GigabitEthernet1/0/1 to learn a maximum of 1000 DHCPv6 snooping entries.
> ```
> <Sysname> system-view
> [Sysname] interface Ten-GigabitEthernet1/0/1
> [Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping max-learning-num 1000
> ```

ipv6 dhcp snooping option interface-id enable

Use **ipv6 dhcp snooping option interface-id enable** to enable support for the interface-ID option (also called Option 18).

Use **undo ipv6 dhcp snooping option interface-id enable** to restore the default.

Syntax

ipv6 dhcp snooping option interface-id enable

undo ipv6 dhcp snooping option interface-id enable

Default

The Option 18 is not supported.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Usage guidelines

This command takes effect only when DHCPv6 snooping is globally enabled.

Examples

Enable support for Option 18.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping enable
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option interface-id enable
```

Related commands

- **ipv6 dhcp snooping enable**
- **ipv6 dhcp snooping option interface-id string**

ipv6 dhcp snooping option interface-id string

Use **ipv6 dhcp snooping option interface-id string** to specify the content as the interface ID for Option 18.

Use **undo ipv6 dhcp snooping option interface-id string** to restore the default.

Syntax

ipv6 dhcp snooping option interface-id [**vlan** *vlan-id*] **string** *interface-id*

undo ipv6 dhcp snooping option interface-id [**vlan** *vlan-id*]

Default

The DHCPv6 snooping device uses its DUID as the content for Option 18.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Parameters

vlan *vlan-id*: Specifies the VLAN where the DHCPv6 clients resides.

interface-id: Specifies a string of 1 to 128 characters as the interface ID.

Examples

Specify **company001** as the interface ID.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping enable
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option interface-id enable
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option interface-id string
company001
```

Related commands

- **ipv6 dhcp snooping enable**
- **ipv6 dhcp snooping option interface-id enable**

ipv6 dhcp snooping option remote-id enable

Use **ipv6 dhcp snooping option remote-id enable** to enable support for the remote-ID option (also called Option 37).

Use **undo ipv6 dhcp snooping option remote-id enable** to restore the default.

Syntax

ipv6 dhcp snooping option remote-id enable

undo ipv6 dhcp snooping option remote-id enable

Default

Option 37 is not supported.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Usage guidelines

This command takes effect only when DHCPv6 snooping is globally enabled.

Examples

Enable support for Option 37.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping enable
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option remote-id enable
```

Related commands

- **ipv6 dhcp snooping enable**
- **ipv6 dhcp snooping option remote-id string**

ipv6 dhcp snooping option remote-id string

Use **ipv6 dhcp snooping option remote-id string** to specify the content as the remote ID for Option 37.

Use **undo ipv6 dhcp snooping option remote-id string** to restore the default.

Syntax

ipv6 dhcp snooping option remote-id [**vlan** *vlan-id*] **string** *remote-id*

undo ipv6 dhcp snooping option remote-id [**vlan** *vlan-id*]

Default

The DHCPv6 snooping device uses its DUID as the content for Option 37.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Parameters

vlan *vlan-id*: Specifies the VLAN where the DHCPv6 clients resides.

remote-id: Specifies the a string of 1 to 128 characters as the remote ID.

Examples

Specify **device001** as the remote ID.

```
<Sysname> system-view
[Sysname] ipv6 dhcp snooping enable
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option remote-id enable
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping option remote-id string device001
```

Related commands

- **ipv6 dhcp snooping enable**
- **ipv6 dhcp snooping option remote-id enable**

ipv6 dhcp snooping rate-limit

Use **ipv6 dhcp snooping rate-limit** to specify the maximum rate at which an interface can receive DHCPv6 packets.

Use **undo ipv6 dhcp snooping rate-limit** to remove the rate limit.

Syntax

ipv6 dhcp snooping rate-limit *rate*

undo ipv6 dhcp snooping rate-limit

Default

Incoming DHCPv6 packets on an interface are not rate limited.

Views

Layer 2 Ethernet interface/Layer 2 aggregate interface view

S-channel interface

VSI interface

Predefined user roles

network-admin

Parameters

rate: Specifies the maximum rate for an interface to receive DHCPv6 packets, in Kbps. The value must be an integer multiple of 8, in the range of 64 to 512.

Usage guidelines

This command takes effect only when DHCPv6 snooping is enabled.

The DHCPv6 packet rate limit feature enables the interface to discard DHCPv6 packets that exceed the maximum rate.

If you configure this command on a Layer 2 Ethernet interface that is a member port of a Layer 2 aggregate interface, the Layer 2 Ethernet interface uses the DHCP packet maximum rate configured on the Layer 2 aggregate interface. If the Layer 2 Ethernet interface leaves the aggregation group, it uses its own DHCP packet maximum rate.

Examples

Specify Ten-GigabitEthernet1/0/1 to receive DHCPv6 packets at a maximum rate of 64 Kbps.

```
<Sysname> system-view
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping rate-limit 64
```

ipv6 dhcp snooping trust

Use **ipv6 dhcp snooping trust** to configure a port as a trusted port.

Use **undo ipv6 dhcp snooping trust** to restore the default state of a port.

Syntax

ipv6 dhcp snooping trust

undo ipv6 dhcp snooping trust

Default

After you enable DHCPv6 snooping, all ports are untrusted.

Views

Layer 2 Ethernet interface view, Layer 2 aggregate interface view

Predefined user roles

network-admin

Usage guidelines

Specify the port facing the DHCP server as trusted and specify the other ports as untrusted so DHCP clients can obtain valid IP addresses.

Examples

Specify Ten-GigabitEthernet1/0/1 as a trusted port.

```
<Sysname> system-view
[Sysname] interface Ten-GigabitEthernet1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] ipv6 dhcp snooping trust
```

Related commands

display ipv6 dhcp snooping trust

reset ipv6 dhcp snooping binding

Use **reset ipv6 dhcp snooping binding** to clear DHCPv6 snooping entries.

Syntax

reset ipv6 dhcp snooping binding { **all** | **address** *ipv6-address* [**vlan** *vlan-id*] }

Views

User view

Predefined user roles

network-admin

Parameters

address *ipv6-address*: Clears the DHCPv6 snooping entry for the specified IPv6 address.

vlan *vlan-id*: Clears DHCPv6 snooping entries for the specified VLAN.

all: Clears all DHCPv6 snooping entries.

Examples

Clear all DHCPv6 snooping entries.

```
<Sysname> reset ipv6 dhcp snooping binding all
```

Related commands

display ipv6 dhcp snooping binding

reset ipv6 dhcp snooping packet statistics

Use **reset ipv6 dhcp snooping packet statistics** to clear DHCPv6 packet statistics for DHCPv6 snooping.

Syntax

reset ipv6 dhcp snooping packet statistics [**slot** *slot-number*]

Views

User view

Predefined user roles

network-admin

Parameters

slot *slot-number*: Specifies an IRF member device by its member ID.

Usage guidelines

If you do not specify the **slot** *slot-number* option, this command clears DHCPv6 packet statistics for the device where this command is executed.

Examples

Clear DHCPv6 packet statistics for DHCPv6 snooping.

```
<Sysname> reset ipv6 dhcp snooping packet statistics
```

Related commands

display ipv6 dhcp snooping packet statistics