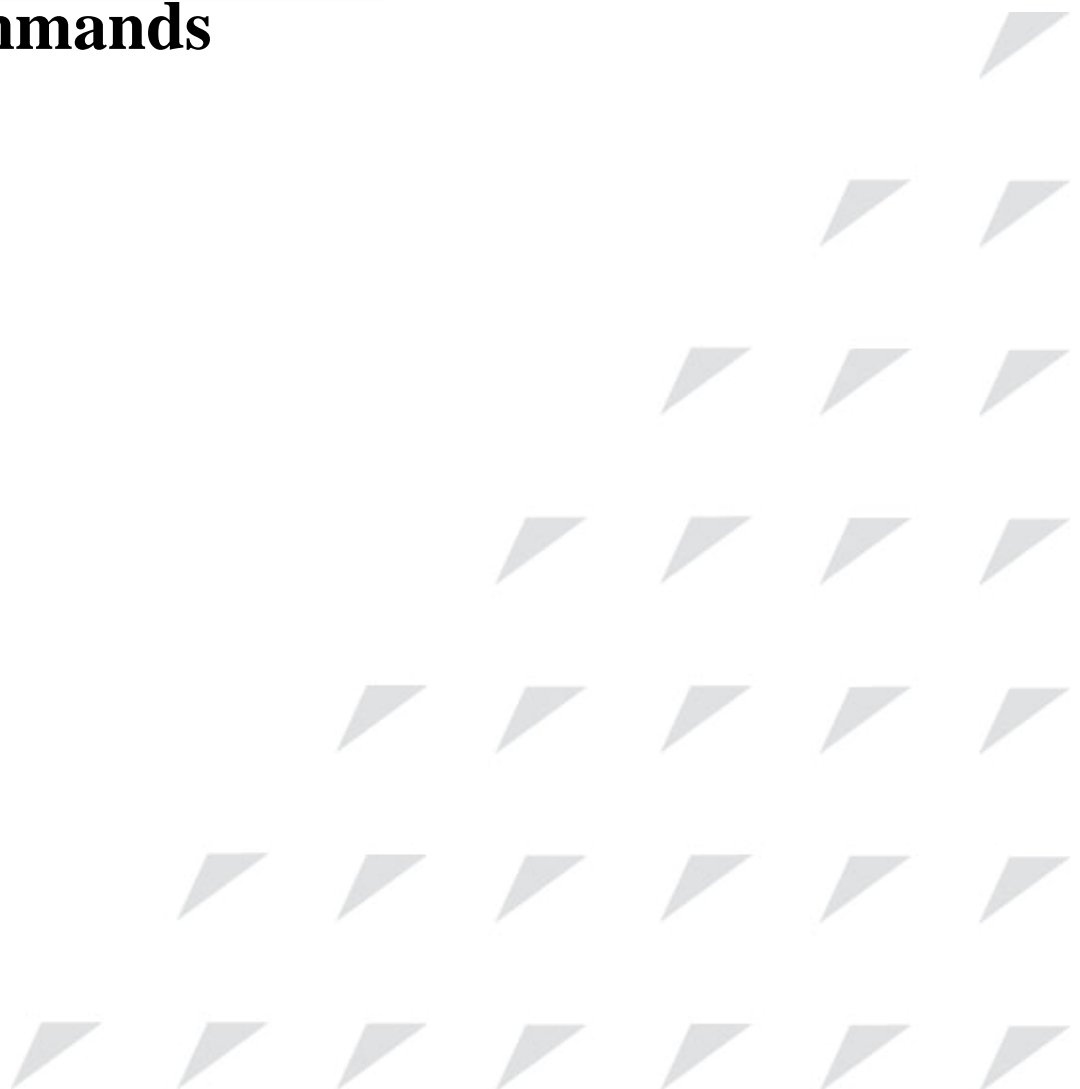


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## **DHCP Commands**



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## Chapter 1 DHCP Commands

### 1.1 ip dhcp server(CONFIG)

#### [Function]

Enable DHCP Server in Global configuration mode. **no ip dhcp server** command will disable DHCP Server.

#### [Command Format]

**[no] ip dhcp server** [*schedule-list list-no*]

#### [Parameter]

*schedule-list*: set schedule task start time, finish time, and time interval of periodic operation;

*list-no*: schedule list number range is <0-99>.

#### [Default]

disable

#### [Command Modes]

Global configuration mode; Privileged EXEC

#### [Executing Command Instruction]

Use **ip dhcp server** command to enable DHCP Server function. DHCP Server and DHCP Snooping are mutually exclusive.

#### [Explanation of command execution echo]

*Enable DHCP server successfully*

*Enable DHCP server unsuccessfully*

*Disable DHCP server successfully*

*Disable DHCP server unsuccessfully*

*Enable DHCP server unsuccessfully. DHCP Snooping is enabled!*

#### [Example]

Enable DHCP server function in global configuration mode:

Raisecom(config)#**ip dhcp server**

Disable DHCP server function in global configuration mode:

Raisecom(config)#**no ip dhcp server**

**[Related commands]**

Commands	Description
<b>ip dhcp server (IP interface mode)</b>	Enable DHCP Server in IP interface mode.
<b>show ip dhcp server</b>	Show configuration and statistic of DHCP Server.

**1.2 ip dhcp server (IP)****[Function]**

You can enable DHCP Server on the interface if this function is not enabled in global configuration mode (But DHCP Server will take effect only when the function is enabled in global configuration mode).

**[Command Format]**

**[no] ip dhcp server** [*schedule-list list-no*]

**[Parameter]**

*schedule-list*: set schedule task start time, finish time, and time interval of periodic operation;

*list-no*: schedule list number range is <0-99>.

**[Default]**

disable

**[Command Modes]**

IP interface configuration mode, Privileged user

**[Executing Command Instruction]**

Use **ip dhcp server to enable** DHCP Server function in interface mode. If there is no IP address on the interface, DHCP Server function will not take effect.

**[Explanation of command execution echo]**

*Enable DHCP server successfully*

*Enable DHCP server unsuccessfully*

*Disable DHCP server successfully*

*Disable DHCP server unsuccessfully*

**[Example]**

Enable DHCP server function in IP interface 4:

```
Raisecom(config)#interface ip 4
```

```
Raisecom(config-ip)#ip dhcp server
```

Disable DHCP server function in IP interface 4:

Raisecom(config-ip)#**no ip dhcp server**

**[Related commands]**

Commands	Description
<b>ip dhcp server(Global configuration mode)</b>	Enable DHCP Server in global configuration mode.
<b>show ip dhcp server</b>	Show configuration and statistic of DHCP Server

### 1.3 ip dhcp server default-lease

**[Function]**

Set lease time for DHCP Server, **no ip dhcp server default-lease command** can restore the configuration to default value.

**[Command Format]**

**[no] ip dhcp server default-lease** *timeout*

**[Parameter]**

*timeout*: integer number, range is 30-10080 (minute).

**[Default]**

30minutes

**[Command Modes]**

Global configuration mode, Privileged EXEC

**[Executing Command Instruction]**

Set lease time for DHCP Server and reclaim the timeout IP address. **no ip dhcp server default-lease** can restore the configuration to default.

**[Explanation of command execution echo]**

*Set DHCP server default lease timeout successfully*

*Set DHCP server default lease timeout unsuccessfully*

*Set DHCP server default lease timeout successfully*

*Set DHCP server default lease timeout unsuccessfully*

**[Example]**

Set DHCP Server default lease timeout is 60 minutes:

Raisecom(config)#**ip dhcp server default-lease 60**

Recover DHCP Server default lease timeout to default value:

Raisecom(config)#**no ip dhcp server default-lease**

**[Related commands]**

Commands	Description
<b>show ip dhcp server</b>	Show configuration and statistic of DHCP Server.

## 1.4 ip dhcp server ip-pool

### [Function]

Set IP address pool including pool name, IP address range, mask, gateway IP address, DNS address, backup DNS ip address etc.

This function can only configure on IP interface. If this interface is not exist, this command also can be set (but it will not take effect). If ip address is delete, ip pool will be saved (it will take effect if the IP interface is set again).

### [Command Format]

**ip dhcp server ip-pool** *pool-name start-ip end-ip mask-ip ip* <0-14> [ **gateway** *gtw-address* ] [ **dns** *dns-address* ] [ **secondary-dns** *dns-address* ] [ **schedule-list** *list-no* ]

**no ip dhcp server ip-pool** *pool-name* [ **schedule-list** *list-no* ]

### [Parameter]

*pool-name*: pool name, it must be exclusive (no more than 16 characters);

*start-ip*: start ip (decimal system such as A.B.C.D);

*end-ip*: end ip (decimal system such as A.B.C.D);

<0-14>: IP interface ID;

*gtw-address*: It is selective. ip address for default gateway (decimal system such as A.B.C.D);

*dns-address*: It is selective. Specify ip address of client(decimal system such as A.B.C.D);

*schedule-list*: set schedule task start time, finish time, and time interval of periodic operation;

*list-no*: schedule list number range is <0-99>.

### [Command Modes]

Global configuration mode, Privileged EXEC

### [Executing Command Instruction]

**Note:** ip pool is identified by name. network gateway and DNS is selective. It is 0.0.0.0 by default (ip pool is no more than 16 characters).

If client and server should be in the same network segment, ip pool and IP interface should be in the same network segment. If client connect server through DHCP Relay, IP pool of server should be in the same network segment with relay-ip, otherwise DHCP Server won't allot IP address for client.

Total ip address can not more than 2500.

### [Explanation of command execution echo]

*Set DHCP server ip pool successfully*

*Set DHCP server ip pool unsuccessfully*

*The input name is too long*

*The input address range is too big and the free is X.*

*The input parameters are wrong.*

*Delete DHCP server ip pool successfully*

*Delete DHCP server ip pool unsuccessfully*

*Delete DHCP server ip pool unsuccessfully. The name does not exist.*

*Ip pool of interface %ld is full*

#### [Example]

Set DHCP Server address pool:

```
Raisecom(config)#ip dhcp server ip-pool pool1 192.168.1.80 192.168.1.100 255.255.255.0 ip  
4 gateway 192.168.1.1 dns 192.168.1.1 secondary-dns 10.100.0.1
```

Delete DHCP server address pool 1:

```
Raisecom(config)#no ip dhcp server ip-pool pool1
```

#### [Related commands]

Commands	Description
<b>show ip dhcp server ip-pool</b>	Show ip pool configuration information.

## 1.5 ip dhcp server max-lease

#### [Function]

Set max lease for DHCP Server. **no ip dhcp server max-lease** command will restore to default.

#### [Command Format]

**[no] ip dhcp server max-lease** *timeout*

#### [Parameter]

*timeout*: integer from 30 to 10080 (minite).

#### [Default]

10080 minutes

#### [Command Modes]

Global configuration mode, Privileged EXEC

**[Executing Command Instruction]**

Set max lease for DHCP Server. Max. lease time can not be shorter than min lease.

**[Explanation of command execution echo]**

*Set DHCP server max lease timeout successfully*

*Set DHCP server max lease timeout unsuccessfully*

*DHCP server max lease timeout is less than min lease timeout*

**[Example]**

Set DHCP Server max. lease timeout to be 3600 minutes:

Raisecom(config)#**ip dhcp server max-lease 3600**

Recover DHCP Server max. lease timeout to be default value:

Raisecom(config)#**no ip dhcp server max-lease**

**[Related commands]**

Commands	Description
<b>show ip dhcp server</b>	Show DHCP Server configuration and statistics

## 1.6 ip dhcp server min-lease

**[Function]**

Set max lease for DHCP Server. **no ip dhcp server min-lease** command will recover to default.

**[Command Format]**

**[no] ip dhcp server min-lease** *timeout*

**[Parameter]**

*timeout*: integer from 30 to 10080 (minute).

**[Default]**

30minutes

**[Command Modes]**

Global configuration mode, Privileged EXEC

**[Executing Command Instruction]**

Set min lease for DHCP Server. Min lease time can not be longer than min lease. Use the min. lease time when client requests applied time lower than the min lease time.

**[Explanation of command execution echo]**

*Set DHCP server min lease timeout successfully*

*Set DHCP server min lease timeout unsuccessfully*



*DHCP server min lease timeout is more than max lease timeout*

#### [Example]

Set DHCP Server min. lease time to be 3600 minutes:

Raisecom(config)#**ip dhcp server min-lease 3600**

Recover DHCP Server min. lease time to default value:

Raisecom(config)#**no ip dhcp server min-lease**

#### [Related commands]

Commands	Description
<b>show ip dhcp server</b>	Show configuration and statistic information of DHCP Server.

## 1.7 ip dhcp snooping

#### [Function]

Enable DHCP Snooping function in global configuration mode. **no ip dhcp snooping** command will stop the function.

#### [Command Format]

**[no] ip dhcp snooping** [*schedule-list list-no*]

#### [Parameter]

*schedule-list*: set the start time, over time, period interval of schedule;

*list-no*: list range <0-99>.

#### [Default]

DHCP Snooping is disabled

#### [Command Modes]

Global configuration mode, Privileged EXEC

#### [Executing Command Instruction]

Enable DHCP Snooping function in global configuration mode. **no ip dhcp snooping** command will stop the function. DHCP Snooping and DHCP Server/Relay are mutually exclusive.

#### [Explanation of command execution echo]

*Enable DHCP Snooping successfully*

*Enable DHCP Snooping unsuccessfully*

*Disable DHCP Snooping successfully*

*Disable DHCP Snooping unsuccessfully*

#### [Example]

Enable DHCP Snooping function in global configuration mode:

Raisecom(config)#**ip dhcp snooping**

Disable DHCP Snooping function in global configuration mode:

Raisecom(config)#**no ip dhcp snooping**

#### [Related commands]

Commands	Description
<b>show ip dhcp snooping</b>	Show configuration of DHCP Snooping.

## 1.8 ip dhcp snooping information option

#### [Function]

Enable and disable DHCP Snooping to support option 82.

#### [Command Format]

**[no] ip dhcp snooping information option** [*schedule-list list-no*]

#### [Parameter]

*schedule-list*: set the start time, over time, period interval of schedule;

*list-no*: list range <0-99>.

#### [Default]

Do not support option 82

#### [Command Modes]

Privileged EXEC, Global configuration mode

#### [Executing Command Instruction]

This function can be set in Global configuration mode or Interface configuration mode.

But it can take effect only if DHCP Snooping is enabled.

#### [Explanation of command execution echo]

*Enable DHCP Snooping to support option 82 successfully*

*Enable DHCP Snooping to support option 82 unsuccessfully*

*Disable DHCP Snooping from supporting option 82 successfully*

*Disable DHCP Snooping from supporting option 82 unsuccessfully*

#### [Example]

DHCP Snooping supports Option 82 enable:

Raisecom(config)#**ip dhcp snooping information option**

DHCP Snooping supports Option 82 disable:

Raisecom(config)#**no ip dhcp snooping information option**

**[Related commands]**

Commands	Description
<b>show ip dhcp snooping</b>	Show configuration information of DHCP Snooping.

## 1.9 ip dhcp snooping port-list

**[Function]**

Enable DHCP Snooping function in interface mode. **no ip dhcp snooping port-list** command can disable this function.

**[Command Format]**

**[no] ip dhcp snooping port-list { all | port-list } [schedule-list list-no]**

**[Parameter]**

*all*: all physical port;

*port-list*: physical port list ;

*schedule-list*: set the start time, over time, period interval of schedule;

*list-no*: list range <0-99>.

**[Default]**

DHCP Snooping function is enabled.

**[Command Modes]**

Privileged EXEC, Global configuration mode

**[Executing Command Instruction]**

**ip dhcp snooping port-list** command can enable DHCP Snooping function on specify port. **no ip dhcp snooping port-list** command can stop this function.

By default, DHCP Snooping service is enabled on all the interfaces. But it can take effect only if DHCP Snooping is enabled.

**[Explanation of command execution echo]**

*Enable DHCP Snooping successfully*

*Enable DHCP Snooping unsuccessfully*

*Disable DHCP Snooping successfully*

*Disable DHCP Snooping unsuccessfully*

**[Example]**

Enable DHCP Snooping function for specified port:

Raisecom(config)#**ip dhcp snooping port-list** 1-10,20

Disable DHCP Snooping function for specified port:

Raisecom(config)#**no ip dhcp snooping port-list** 1-10,20

#### [Related commands]

Commands	Description
<b>show ip dhcp snooping</b>	Show configuration information of DHCP Snooping.

## 1.10 ip dhcp snooping trust

#### [Function]

DHCP snooping is a DHCP security feature that provides security by filtering distrusted DHCP messages and by building and maintaining a DHCP snooping binding table. An distrusted message is a message that is received from outside the network or firewall and that can cause traffic attacks within your network.

The DHCP snooping binding table contains the MAC address, IP address, lease time, binding type, VLAN number, and interface information that corresponds to the local distrusted interfaces of a switch; it does not contain information regarding hosts interconnected with a trusted interface. An distrusted interface is an interface that is configured to receive messages from outside the network or firewall. A trusted interface is an interface that is configured to receive only messages from within the network.

DHCP snooping acts like a firewall between distrusted hosts and DHCP servers. It also gives you a way to differentiate between distrusted interfaces connected to the end-user and trusted interfaces connected to the DHCP server or another switch.

#### [Command Format]

**[no] ip dhcp snooping trust** [*schedule-list list-no*]

#### [Parameter]

*schedule-list*: set the start time, over time, period interval of schedule;

*list-no*: list range <0-99>.

#### [Default]

Untrust

#### [Command Modes]

Privileged EXEC; Interface configuration mode

#### [Executing Command Instruction]

Port trust can take effect only if DHCP Snooping in Global configuration mode.

#### [Explanation of command execution echo]

*Set port as DHCP Snooping trusted port successfully*

*Set port as DHCP Snooping trusted port unsuccessfully*

*Set port as DHCP Snooping untrusted port successfully*

*Set port as DHCP Snooping untrusted port unsuccessfully*

#### [Example]

Set port 3 to be DHCP Snooping trusted port:

Raisecom(config)#**interface port 3**

Raisecom(config-port)#**ip dhcp snooping trust**

Set port 3 to be DHCP Snooping untrusted port:

Raisecom(config-port)#**no ip dhcp snooping trust**

#### [Related commands]

Commands	Description
<b>ip dhcp snooping information option</b>	Enable DHCP Snooping to support option 82
<b>show ip dhcp snooping</b>	Show configuration of DHCP Snooping

## 1.11 show ip dhcp server

#### [Function]

Show the configuration information and statistic information of DHCP server.

#### [Command Format]

**show ip dhcp-server**

#### [Command Modes]

Privileged EXEC, Privileged user

#### [Executing Command Instruction]

The command is used to show the configuration information and statistic information of DHCP server.

#### [Example]

Show the configuration information and statistic information of DHCP server:

Raisecom# **show ip dhcp server**

*DHCP Server: Enabled*

*IP Interface Enabled: 4*

*Total Number: 1*

*Max lease time: 10080 m*

*Min lease time: 30 m*

*Default lease time: 30 m*

*Statistics information:*

*Running time: 0 hours 1 minutes 4 seconds*

*Boots: 0*

*Discover: 0*

*Request: 0*

*Release: 0*

*Offer: 0*

*Ack: 0*

*Nack: 0*

*Decline: 0*

*Information: 0*

*Unknowns: 0*

*Total: 0*

#### [Related commands]

Commands	Description
<b>ip dhcp server(Global configuration mode)</b>	Start DHCP server in global configuration mode.
<b>ip dhcp server(IP interface configuration mode)</b>	Start DHCP server in IP interface mode.

## 1.12 show ip dhcp server ip-pool

#### [Function]

Show the statistic information for the IP pool of DHCP server.

#### [Command Format]

**show ip dhcp-server ip-pool**

#### [Command Modes]

Privileged EXEC, Privileged user

#### [Executing Command Instruction]

This command is used to show the configuration information for the IP pool of DHCP server.

#### [Example]

Show configuration information for DHCP Server:

Raisecom#**show dhcp-server ip-pool**

-----  
*Name of IP pool table: pool4*

*Status of IP pool table: active*

*IP address range: 10.195.0.204 - 10.195.0.205*

*Mask: 255.255.0.0*

*Including IP Interface: 4*

*IP address of gateway: 0.0.0.0*

*IP address of DNS server: 0.0.0.0*

*IP address of secondary DNS server: 0.0.0.0*

-----

*Valid IP pool count: 1*

*Valid IP address count: 2*

*Alloted IP address count: 0*

#### [Related commands]

Commands	Description
<b>ip dhcp server ip-pool name</b>	Configure IP pool.

## 1.13 show ip dhcp server lease

#### [Function]

Show IP address and relative information.

#### [Command Format]

**show ip dhcp server lease**

#### [Command Modes]

Privileged EXEC, Privileged user

#### [Executing Command Instruction]

You'd better set system clock exactly before you use show ip dhcp server lease command.

#### [Example]

Show allotted IP address and relative information:

Raisecom#**show ip dhcp server lease**

<i>IP Address</i>	<i>Hardware Address</i>	<i>Lease Expiration</i>	<i>IP Interface</i>
172.16.1.11	00:a0:98:02:32:de	Feb-01-2006 11:40:00	1
172.16.3.254	02:c7:f8:00:04:22	Jul-01-2006 23:00:00	1

**Note:** IP Address: IP address at client side;

Hardware Address: MAC address at client side;

Lease Expiration: lease expire time;

IP Interface: IP interface number.

Hereinto, the lease expire time is in utterly time calculate format: mm-dd-yyyy hh:mm:ss.

**[Related commands]**

Commands	Description
<b>ip dhcp server (Global configuration mode)</b>	Enable DHCP Server in global configuration mode.
<b>ip dhcp server (IP interface configuration mode)</b>	Enable DHCP Server in IP interface mode.
<b>show ip dhcp server ip-pool</b>	Show DHCP ip pool information

**1.14 show ip dhcp snooping****[Function]**

Show relative information including the enable state, option 82 and port trust etc.

**[Command Format]**

**show ip dhcp snooping**

**[Command Modes]**

Privileged EXEC, Privileged user

**[Example]**

Show related configuration information of DHCP Snooping:

Raisecom#**show ip dhcp snooping**

*DHCP Snooping: Enabled*

*Option 82: Enabled*

*Port      Enabled Status    Trusted*

-----

*1          enabled          yes*

*2          enabled          no*

*3          disabled        yes*

*4          enabled        yes*

*...        ...            ...*

**[Related commands]**

Commands	Description
<b>ip dhcp snooping</b>	Enable DHCP Snooping in global configuration mode
<b>ip dhcp snooping port-list</b>	Enable DHCP Snooping in port configuration mode
<b>ip dhcp snooping information option</b>	Enable DHCP Snooping to support option 82
<b>ip dhcp snooping trust</b>	Set trust port for DHCP Snooping





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