

# DHCP-Snooping Configuration Commands

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## Chapter 1 DHCP-Relay Snooping Configuration Commands

The DHCP-relay snooping configuration commands include:

- ip dhcp-relay snooping
- ip dhcp-relay snooping vlan
- ip dhcp-relay snooping database-agent
- ip dhcp-relay snooping db-file
- ip verify source vlan
- ip arp inspection vlan
- ip source binding
- arp inspection trust
- dhcp snooping trust
- ip-source trust
- show ip dhcp-relay snooping
- show ip dhcp-relay snooping binding
- debug ip dhcp-relay snooping
- debug ip dhcp-relay event
- debug ip dhcp-relay binding

### 1.1.1 dhcp-relay snooping

Command syntax

**ip dhcp-relay snooping**

**no ip dhcp-relay snooping**

To enable or disable the DHCP-relay snooping function in a VLAN, run **ip dhcp-relay snooping**. To resume the corresponding default settings, run **no dhcp-relay snooping**.

## Parameter

None

## Default value

The dhcp-relay snooping function is disabled by default.

## Description

None

## Example

The following example shows how to enable the DHCP-relay snooping function:

```
switch(config)# ip dhcp-relay snooping
switch(config)#
```

## 1.1.2 dhcp-relay snooping vlan

## Command syntax

**ip dhcp-relay snooping vlan *vlan\_id***

**no ip dhcp-relay snooping vlan *vlan\_id***

## Parameter

Parameter	Description
<i>vlan id</i>	ID of a VLAN Range: 1-4094

## Default value

None

## Description

This command is used to configure the VLAN of DHCP snooping.

## Example

The following example shows how to conduct the snooping inspection to the DHCP packets in VLAN2.

```
switch(config)# ip dhcp-relay snooping vlan 2
switch(config)#
```

### 1.1.3 dhcp-relay snooping database-agent

#### Command syntax

**ip dhcp-relay snooping database-agent *A.B.C.D***

**no ip dhcp-relay snooping database-agent**

To configure the TFTP server for backing up DHCP-snooping binding, run **ip dhcp-relay snooping database-agent *A.B.C.D***.

#### Parameter

Parameter	Description
<i>A.B.C.D</i>	Stands for the IP address of the TFTP server.

#### Default value

There is no standby servers by default.

#### Description

If the address of the TFTP server is not configured, the binding backup is not conducted.

#### Example

The following example shows how to set the address of a server of backing up DHCP snooping binding to 192.168.1.1.

```
switch(config)# ip dhcp-relay snooping database-agent 192.168.1.1
switch(config)#
```

### 1.1.4 dhcp-relay snooping db-file

#### Command syntax

**ip dhcp-relay snooping db-file *name***

**no ip dhcp-relay snooping db-file**

#### Parameter

Parameter	Description
<i>Name</i>	File name which is saved during DHCP snooping binding backup.

**Default value**

There is no file.

**Description**

If the file name is not configured, the binding backup is not conducted.

**Example**

The following example shows how to set the file name of binding backup to **dhcp\_binding.txt**.

```
switch(config)# ip dhcp-relay snooping db-file dhcp_binding.txt
switch(config)#
```

**1.1.5 dhcp-relay snooping write****Command syntax**

**ip dhcp-relay snooping write-time** *num*

**no ip dhcp-relay snooping write-time**

**Parameter**

Parameter	Description
<i>Num</i>	Stands for the interval of backing up the DHCP snooping binding.

**Default value**

The default value of the interval is 30 minutes.

**Description**

The binding update will be checked during interval configuration. If the binding is updated, the binding information need be backed up.

**Example**

The following example shows how to set the interval of backing up the binding to 60 minutes.

```
switch(config)# ip dhcp-relay snooping write 60
switch(config)#
```

### 1.1.6 dhcp-relay snooping information option

#### Command syntax

**ip dhcp-relay snooping information option [format snmp-ifindex]**

**no ip dhcp-relay snooping information option [format snmp-ifindex]**

#### Parameter

Parameter	Description
<b>format snmp-ifindex</b>	Fills in option 82 in <b>SNMP ifindex</b> mode (optional).

#### Default value

Option 82 will not be added to or removed from the report by default.

#### Description

This command is used to set whether DHCP option82 can be handled when a switch is conducting DHCP snooping. If **format snmp-ifindex** is designated, Use the **SNMP ifindex** mode to fill in option 82; otherwise, fill in option 82 according to RFC3046.

#### Example

The following example shows how to fill in option 82 in **SNMP ifindex** mode.

```
Switch_config#ip dhcp-relay snooping information option format snmp-ifindex
```

### 1.1.7 ip verify source vlan

#### Command syntax

**ip verify source vlan *vlanid***

**no ip verify source vlan *vlanid***

#### Parameter

Parameter	Description
<i>vlan id</i>	ID of a VLAN Range: 1-4094

## Default value

None

## Description

This command is used to configure a VLAN for monitoring the source IP address. The “no” form of this command is used to cancel this VLAN.

## Example

The following example shows how to conduct source IP address monitoring to the packets from all physical interfaces (except trusted interfaces) in VLAN2.

```
switch(config)# ip verify source vlan 2
switch(config)#
```

## 1.1.8 ip arp inspection vlan

## Command syntax

```
ip arp inspection vlan vlanid
no ip arp inspection vlan vlanid
```

## Parameter

Parameter	Description
<i>vlan id</i>	Queries the time of the timer. Range: 1-255

## Default value

None

## Description

This command is used to configure a VLAN for monitoring the source address of the ARP packet. The “no” form of this command is used to cancel this VLAN.

## Example

The following example shows how to conduct source address monitoring to the ARP packets from all physical interfaces (except trusted interfaces) in VLAN2.

```
switch(config)# ip arp inspection vlan 2
switch(config)#
```



## 1.1.9 ip source binding

## Command syntax

**ip source binding *xx-xx-xx-xx-xx-xx* *A.B.C.D* interface *name***

**no ip source binding *xx-xx-xx-xx-xx-xx* *A.B.C.D***

To add MAC-to-IP binding to an interface, run **ip source binding *xx-xx-xx-xx-xx-xx* *A.B.C.D* interface *name***.

## Parameter

Parameter	Description
<i>xx-xx-xx-xx-xx-xx</i>	MAC address.
<i>A.B.C.D</i>	IP address
<i>Name</i>	Name of the interface

## Default value

None

## Description

None

## Example

The following example shows how to bind MAC address **08-00-3e-00-00-01** to IP address **192.168.1.2** on interface **fastEthernet0/0**.

```
switch(config)# ip source binding 08-00-3e-00-00-01 192.168.1.2 interface fastEthernet0/0
switch(config)#
```

## 1.1.10 arp inspection trust

## Command syntax

**arp inspection trust**

## Parameter

None

**Default value**

The interfaces are distrusted ones by default.

**Description**

The ARP monitoring is not conducted to the ARP-trusted interface. The “no” form of this command is used to configure the default value of this interface.

**Example**

The following example shows how to set interface fastEthernet 0/0 to an ARP-trusted interface.

```
Switch_config_f0/0# arp inspection trust
```

**1.1.11 dhcp snooping trust****Command syntax**

**dhcp snooping trust**

**Parameter**

None

**Default value**

The default interface is a distrusted one.

**Description**

DHCP snooping is not conducted to the DHCP-trusted interface. The “no” form of this command is used to resume the default value of this interface.

**Example**

The following example shows how to set interface fastEthernet 0/0 to a DHCP-trusted interface.

```
Switch_config_f0/0# dhcp snooping trust
```

### 1.1.12 dhcp snooping deny

Command syntax

**dhcp snooping deny**

Parameter

None

Default value

DHCP snooping is allowed on the default interface.

Description

After this command is configured, DHCP snooping trust, IP-sourcetrust and ARP inspection trust are automatically enabled. The “no” form of this command is used to configure the default value of this interface.

Example

The following example shows how to disable DHCP snooping on interface fastEthernet0/0.

```
Switch_config_f0/0# dhcp snooping deny
```

### 1.1.13 ip-source trust

Command syntax

**ip-source trust**

Parameter

None

Default value

The default interface is a distrusted one.

## Description

Source IP address snooping is not conducted to the source-IP-trusted interface. The “no” form of this command is used to resume the default value of this interface.

## Example

The following example shows how to set interface fastEthernet 0/0 to a source-ip-trusted interface.

```
Switch_config_f0/0# ip-source trust
```

### 1.1.14 dhcp-relay agent (L2 switch)

#### Command syntax

**ip dhcp-relay agent**

**no ip dhcp-relay agent**

To enable the forwarding of the DHCP packets on L2 switches, run **ip dhcp-relay agent**. This command is invalid on L3 switches.

#### Parameter

None

#### Default value

The **dhcp-relay agent** function is disabled by default.

## Description

None

## Example

The following example shows how to enable the DHCP-relay agent function:

```
Switch_config#ip dhcp-relay agent  
Switch_config#
```

### 1.1.15 dhcp-relay snooping helper-address (L2 switch)

#### Command syntax

**ip dhcp-relay helper-address** *address* **vlan** *vlan\_id*

**no ip dhcp-relay helper-address *address* vlan *vlan\_id***

#### Parameter

Parameter	Description
<i>address</i>	Stands for the destination IP address of the DHCP-forwarded packets.
<i>vlan id</i>	Stands for the ID of a VLAN. Value range: 1-4094

#### Default value

None

#### Description

This command is used to configure the destination address and VLAN of the DHCP-forwarded packets of L2 switch.

#### Example

The following example shows how to conduct the snooping inspection to the DHCP packets in VLAN2.

```
Switch_config#ip dhcp-relay helper-address 1.1.1.1 vlan 1
Switch_config#
```

### 1.1.16 show ip dhcp-relay snooping

#### Command syntax

**show ip dhcp-relay snooping**

#### Parameter

None

#### Default value

None

#### Description

This command is used to display the information about DHCP-relay snooping configuration.

## Example

The following example shows how to display the information about DHCP-relay snooping configuration.

```
switch(config)# show ip dhcp-relay snooping
```

### 1.1.17 show ip dhcp-relay snooping binding

#### Command syntax

```
show ip dhcp-relay snooping binding [all]
```

#### Parameter

None

#### Default value

None

#### Description

This command is used to display the binding information about DHCP-relay snooping.

If the **all** parameter is in the command sentence, all binding information about DHCP-relay snooping will be displayed.

## Example

The following example shows how to display the binding information about DHCP-relay snooping.

```
switch(config)# show ip dhcp-relay snooping binding
```

### 1.1.18 debug ip dhcp-relay snooping

#### Command syntax

```
debug ip dhcp-relay snooping
```

```
no debug ip dhcp-relay snooping
```

#### Parameter

None

**Default value**

None

**Description**

This command is used to enable or disable the debugging switch of DHCP-relay snooping.

**Example**

The following example shows how to enable the debugging switch of DHCP-relay snooping.

```
switch(config)# debug ip dhcp-relay snooping  
switch(config)#
```

**1.1.19 debug ip dhcp-relay event****Command syntax**

```
debug ip dhcp-relay eventr  
no debug ip dhcp-relay event
```

**Parameter**

None

**Default value**

None

**Description**

This command is used to enable or disable the event debugging switch of DHCP-relay.

**Example**

The following example shows how to enable the event debugging switch of DHCP-relay.

```
switch(config)# debug ip dhcp-relay event  
switch(config)#
```

## 1.1.20 debug ip dhcp-relay binding

### Command syntax

```
debug ip dhcp-relay binding
no debug ip dhcp-relay binding
```

### Parameter

None

### Default value

None

### Description

This command is used to enable or disable the binding debugging switch of DHCP-relay snooping.

### Example

The following example shows how to enable the binding debugging switch of DHCP-relay snooping.

```
switch(config)# debug ip dhcp-relay binding
switch(config)#
```