



# **FSOS**

## **IPv6 Security Configuration Guide**

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**Figure 1-1** DHCPv6 Snooping Topology..... 4

# 1 Configuring DHCPv6 Snooping

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## 1.1 Overview

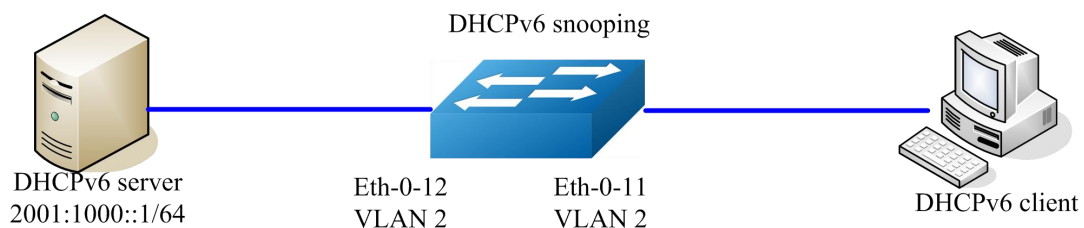
DHCPv6 snooping is a security feature that acts like a firewall between entrusted hosts and trusted DHCPv6 servers. The DHCPv6 snooping feature performs the following activities:

- Validate DHCPv6 messages received from entrusted sources and filters out invalid messages.
- Build and maintain the DHCPv6 snooping binding database, which contains information about entrusted hosts with leased IPv6 addresses.
- The DHCPv6 snooping feature is implemented in software basis. All DHCPv6 messages are intercepted in the chip and directed to the CPU for processing.

## 1.2 Topology

This figure is the networking topology for testing DHCPv6 snooping functions. We need two Linux boxes and one switch to construct the test bed.

- Computer A is used as a DHCPv6 server.
- Computer B is used as a DHCPv6 client.
- Switch A is used as a DHCPv6 Snooping box.



**Figure 1-1** DHCPv6 Snooping Topology

## 1.3 Configuration

### Configure vlan

Switch# configure terminal	Enter the Configure mode
Switch(config)# ipv6 enable	Enable ipv6 globally
Switch(config)# vlan database	Configure VLAN database.
Switch(config-vlan)# vlan 2	Create vlan 2
Switch(config-vlan)# exit	Exit to the Configure mode

### Configure interface eth-0-12

Switch(config)# interface eth-0-12	Enter the Interface Configure mode
Switch(config-if)# switchport	Make sure the port is switch port
Switch(config-if)# switchport access vlan 12	Add the port to vlan 12
Switch(config-if)# dhcpv6 snooping trust	Trust all dhcp packets from this port
Switch(config-if)# no shutdown	Make sure the port is enabled
Switch(config-if)# exit	Exit the Interface Configure mode

### Configure interface eth-0-11

Switch(config)# interface eth-0-11	Enter the Interface Configure mode
Switch(config-if)# switchport	Make sure the port is switch port
Switch(config-if)# switchport access vlan 2	Add the port to vlan 2
Switch(config-if)# no shutdown	Make sure the port is enabled
Switch(config-if)# exit	Exit the Interface Configure mode

### Enable DHCPv6 snooping global feature

Switch(config)# service dhcpv6 enable	Enable dhcp services
Switch(config)# dhcpv6 snooping	Enable dhcp snooping feature

```
Switch(config)# dhcpv6 snooping vlan 2
```

```
Enable dhcp snooping feature on vlan 2
```

## 1.4 Validation

**Step 1** Check the interface configuration.

```
Switch# show running-config interface eth-0-12
```

```
!  
interface eth-0-12  
  switchport access vlan 2  
  dhcpv6 snooping trust
```

```
!  
Switch# show running-config interface eth-0-11
```

```
!  
interface eth-0-11  
  switchport access vlan 2  
!
```

**Step 2** Check the dhcpv6 service status.

```
Switch# show services
```

```
Networking services configuration:  
Service Name      Status  
=====
```

dhcp	disable
dhcpv6	enable

**Step 3** Print dhcpv6 snooping configuration to check current configuration.

```
Switch# show dhcpv6 snooping config
```

```
dhcpv6 snooping service: enabled  
dhcpv6 snooping switch: enabled  
dhcpv6 snooping vlan 2
```

**Step 4** Show dhcpv6 snooping statistics.

```
Switch# show dhcpv6 snooping statistics
```

```
DHCPv6 snooping statistics:  
=====
```

```
DHCPv6 packets 21
Packets forwarded 21
Packets invalid 0
Packets dropped 0
```

**Step 5 Show dhcpv6 snooping binding information.**

Switch# show dhcpv6 snooping binding all

```
DHCPv6 snooping binding table:
VLAN MAC Address Interface Lease(s) IPv6
Address=====
2 0016.76a1.7ed9 eth-0-11 978 2001:1000::2
```