

# **IPv6 Web GUI**

**Ethernet Switch**

**ZyNOS 4.10**

## **Support Notes**

**Version 4.10 Sep 2013**



## Purpose

In the old trunk version, we only supported IPv6 configuration of addressing and link-local address using CLI. Now, in the new trunk, we can configure IPv6 addressing, link-local address and DHCPv6 settings via Web GUI. This support note is going to introduce how to configure IPv6 settings through Web GUI.

## Features

IPv6 Addressing: IPv6 Addressing provides the following features on the ZyNOS platform.

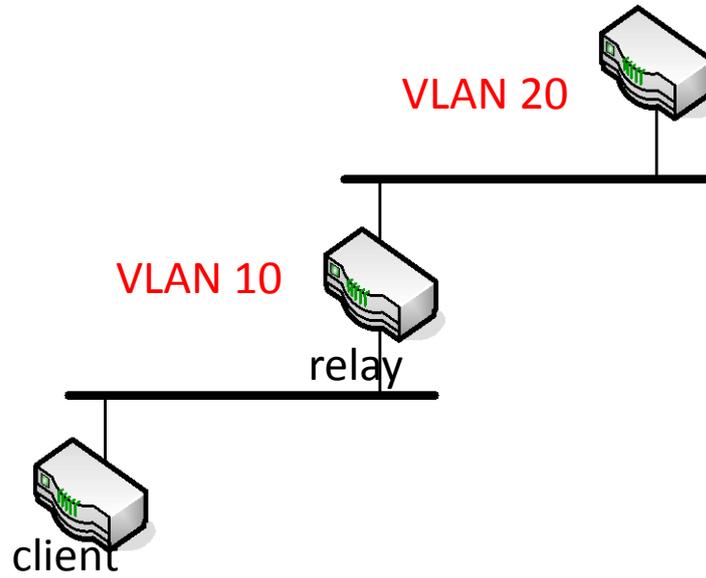
1. Enable / Disable IPv6
2. Configuration of an IPv6 Address.
3. Configuration of an IPv6 address with EUI-64.
4. Configuration of an IPv6 link-local address.

DHCPv6 Relay: Relay agents shall forward messages between client and server. To allow a DHCP client to send a message to a DHCP server that is not attached to the same link, a DHCP relay agent on the client's link will relay messages between the client and server.

DHCPv6 Relay description:

<b>Interface-ID</b>	Option Code : 18	
	Length : 4	
	Data : slotID(1byte) + PortID(1byte) + vlanID(2bytes) (same as zyxel switch dhcpv4 option82, 4 bytes)	
<b>Relay Agent Remote-ID</b>	Option Code : 37	
	Length : n+4	
	Data	enterprise-number : 890 (= ZyXEL. 4 bytes, by IANA)
:		remote-ID : user defined string (n bytes, n <= 64)

## Scenario



The client in VLAN10 would like to get its IP address from the server in VLAN20.

## Web GUI configuration

### VLAN

1. Enter the Web GUI (the default IP address: 192.168.1.1)
2. Basic setting=> VLAN
3. Setup VLAN=> Static VLAN

The screenshot shows the ZyXEL web GUI interface. On the left is a navigation menu with categories like 'Basic Setting', 'Advanced Application', 'IP Application', and 'Management'. Under 'Management', 'VLAN' is selected. The main content area has tabs for 'VLAN Status', 'VLAN Port Setting', 'Private VLAN Status', and 'Static VLAN' (which is highlighted with a red box). Below the tabs is a search bar labeled 'VLAN Search by VID' with a 'Search' button. A message states 'The Number of VLAN: 1.' followed by a table:

Index	VID	Elapsed Time	Status
1	1	0:01:52	Static

At the bottom of the table area, there are 'Change Pages' buttons for 'Previous' and 'Next'.

4. Add VLAN10 and fixed ports 1-9, 11-28 as members of VLAN10.
5. Select port 10 as a normal port.

**Static VLAN** VLAN Status

ACTIVE

Name

VLAN Group ID

VLAN Type  
 Normal  
 Private

Association VLAN List

VLAN10: fixed 1-9,11-28  
normal 10

Port	Control	Tagging
*	Fixed	<input type="checkbox"/> Tx Tagging
1	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
2	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
3	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
4	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
5	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
6	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
7	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
8	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
9	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
10	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
11	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging

6. Add VLAN20 and fixed port 10.

**Static VLAN** VLAN Status

ACTIVE

Name

VLAN Group ID

VLAN Type  
 Normal  
 Private

Association VLAN List

VLAN20: fixed 10

Port	Control	Tagging
*	Normal	<input type="checkbox"/> Tx Tagging
1	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
2	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
3	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
4	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
5	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
6	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
7	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
8	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
9	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
10	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
11	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging

7. Set up PVID for VLAN10 and VLAN20.

**ZyXEL**

MENU

- Basic Setting
- Advanced Application
- IP Application
- Management

VLAN Port Setting

Subnet Based Vlan | Protocol Based Vlan | VLAN Status

GVRP

port 1-9, 11-28=> pvid: 10  
port10=> pvid: 20

Port	Ingress Check	PVID	GVRP	Acceptable Frame Type	VLAN Trunking	Isolation
*	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	20	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	10	<input type="checkbox"/>	All	<input type="checkbox"/>	<input type="checkbox"/>

## IPv6 Interface

1. Add VLAN10 interface.

**ZyXEL**

MENU

- Basic Setting
- Advanced Application
- IP Application
- Management

Interface Setup

Interface Type: VLAN

Interface ID: 10

Add Cancel

Index	Interface Type	Interface ID	Interface	Delete
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Delete Cancel

2. Add VLAN20 interface.

**ZyXEL**

MENU  
Basic Setting  
Advanced Application  
IP Application  
Management

System Info  
General Setup  
Switch Setup  
IP Setup  
Port Setup  
Interface Setup  
IPv6

**Interface Setup**

Interface Type: VLAN  
Interface ID: 20

Add Cancel

Index	Interface Type	Interface ID	Interface	Delete
1	VLAN	10	VLAN10	<input type="checkbox"/>

Delete Cancel

3. Enable IPv6 Interface.

**ZyXEL**

MENU  
Basic Setting  
Advanced Application  
IP Application  
Management

System Info  
General Setup  
Switch Setup  
IP Setup  
Port Setup  
Interface Setup  
IPv6

**IPv6 Configuration** [IPv6 Status](#)

IPv6 Global Setup [Click Here](#)

**IPv6 Interface Setup** [Click Here](#)

IPv6 Addressing  
IPv6 Link-Local Address Setup [Click Here](#)  
IPv6 Global Address Setup [Click Here](#)

IPv6 Neighbor Discovery  
IPv6 Neighbor Discovery Setup [Click Here](#)  
IPv6 Router Discovery Setup [Click Here](#)  
IPv6 Prefix Setup [Click Here](#)

IPv6 Neighbor Setup [Click Here](#)  
DHCPv6 Client Setup [Click Here](#)

**ZyXEL**

MENU  
Basic Setting  
Advanced Application  
IP Application  
Management

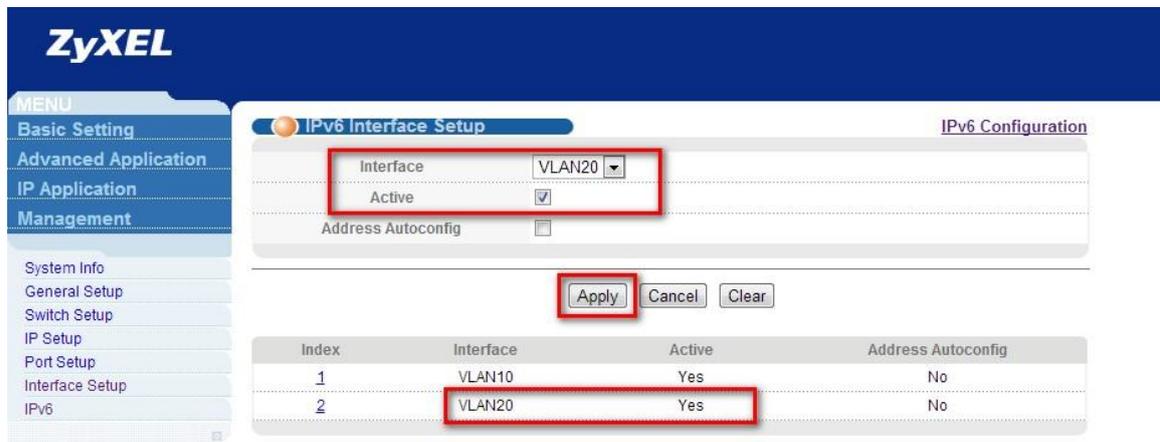
System Info  
General Setup  
Switch Setup  
IP Setup  
Port Setup  
Interface Setup  
IPv6

**IPv6 Interface Setup** [IPv6 Configuration](#)

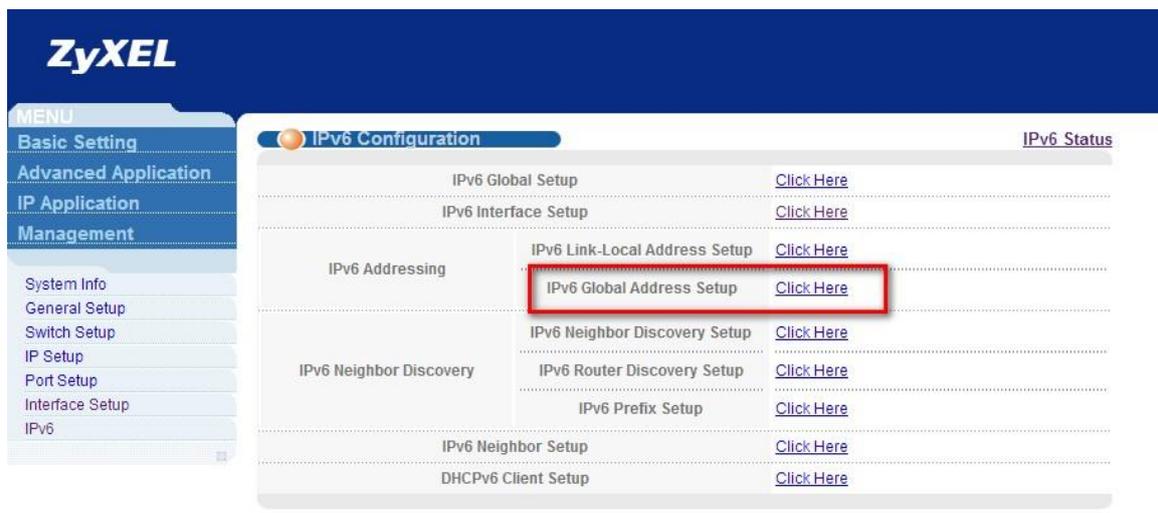
Interface: VLAN10  
Active:   
Address Autoconfig:

Apply Cancel Clear

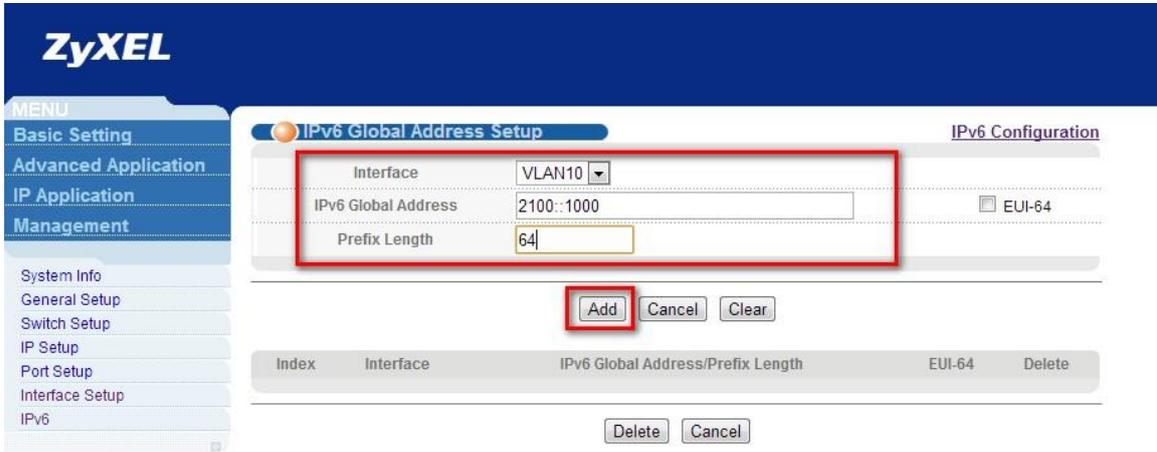
Index	Interface	Active	Address Autoconfig
1	VLAN10	Yes	No
2	VLAN20	No	No



4. Add IPv6 global address



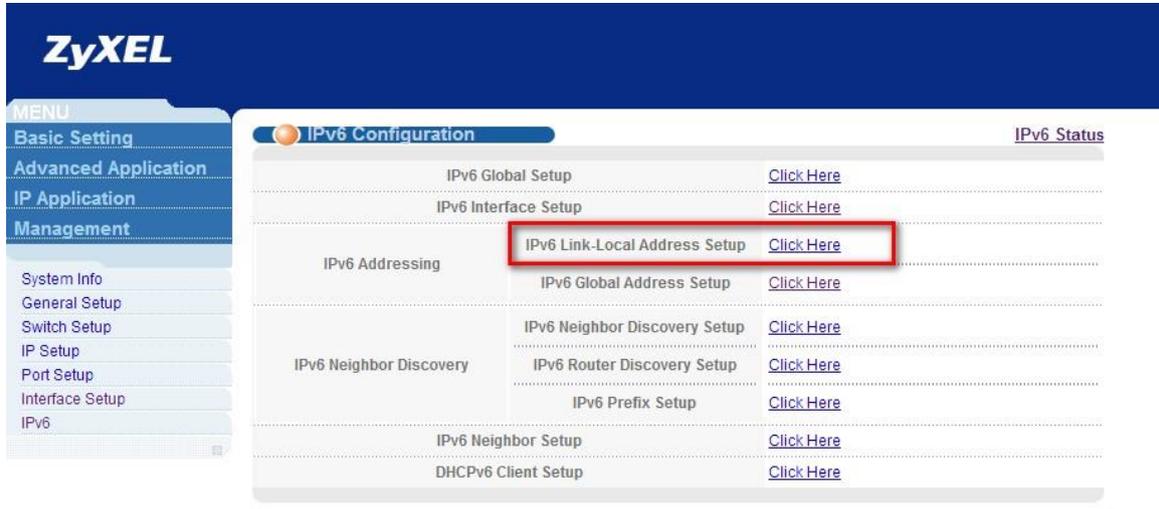
- 5. Add IPv6 global address for VLAN10.



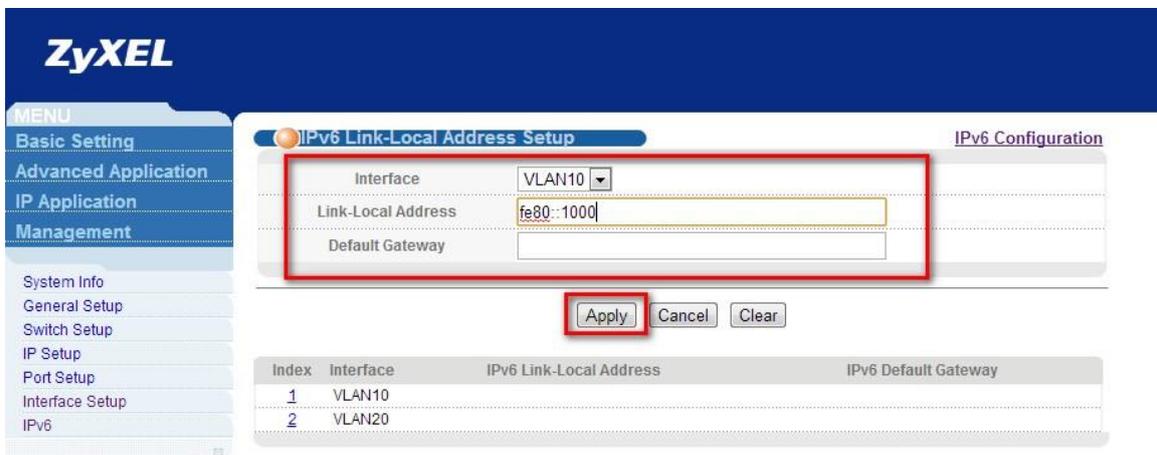
- 6. Add IPv6 global address for VLAN20.



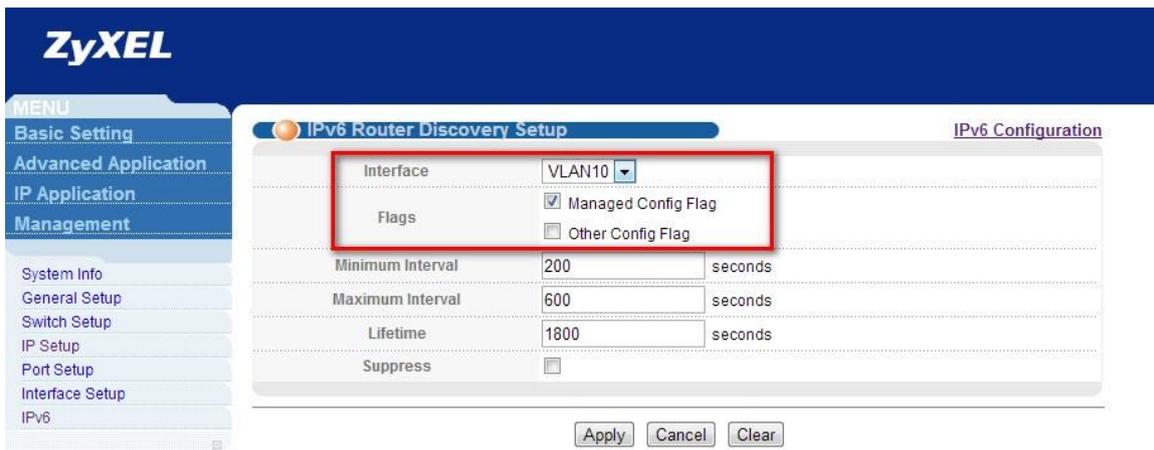
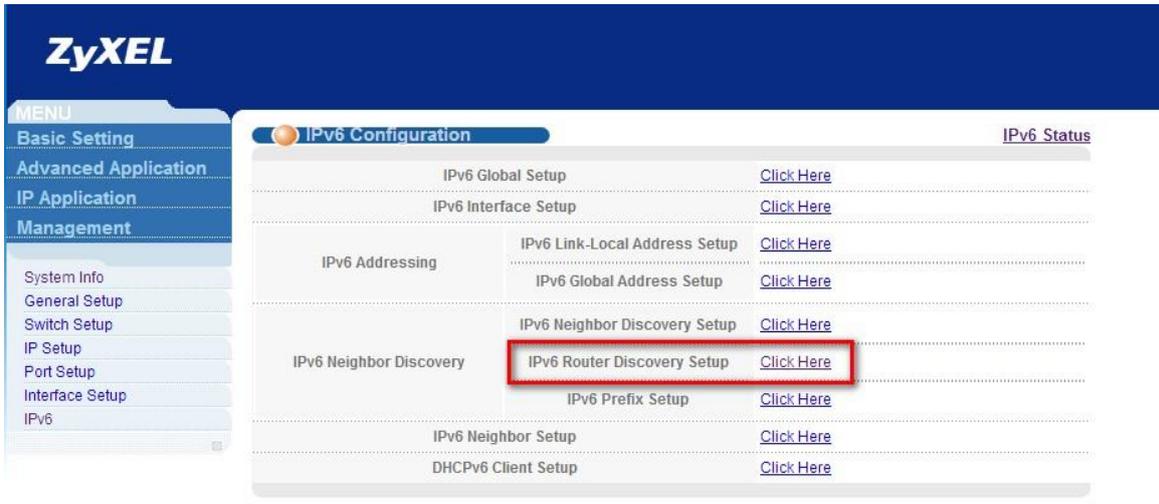
7. Add IPv6 link-local address.



8. Add IPv6 link-local address for VLAN10.



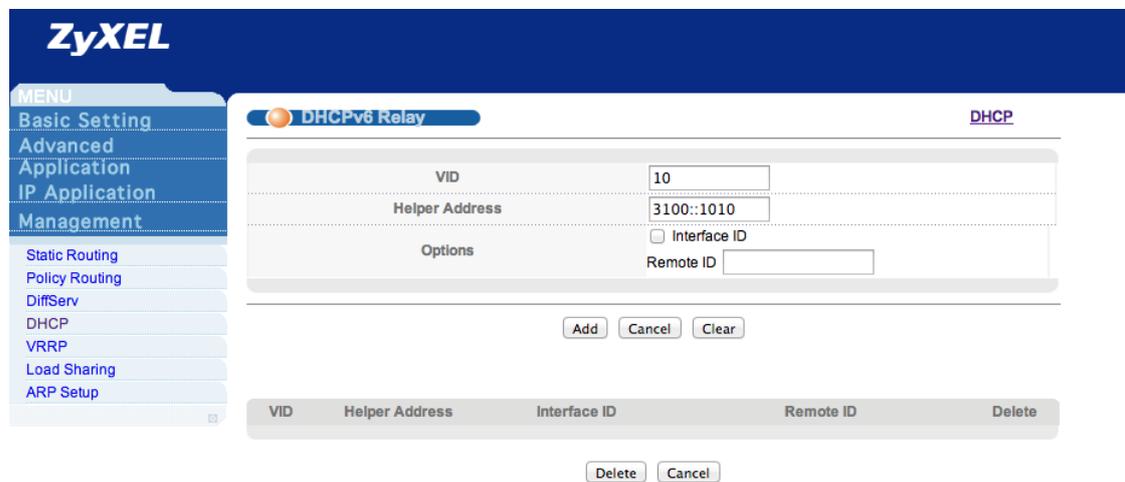
9. Enable management config flag for VLAN10.



10. Enable DHCPv6 Relay.



11. Add the IPv6 help address for VLAN10.



## Verification

Capture the DHCPv6 Relay packets out from the switch to DHCP Server to verify the configuration has been successful, as in the following figure.

No.	Time	Source	Destination	Length	Protocol	Info
3	0.00111300	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
4	0.00117000	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
5	2.03470000	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
6	2.03477200	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
9	6.00008600	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
10	6.00016000	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
13	14.00041100	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
14	14.00048300	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
24	27.93402900	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
36	28.93393600	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
43	30.00110700	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
44	30.00117300	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
45	30.93396000	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
52	34.93412900	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
57	42.93445700	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
209	58.93498300	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
210	62.00150600	3100::1000	3100::1010	203	DHCPv6	Relay-Forw L: 2100::1000 Solicit XID: 0x5f6047 CID: 00010001
211	62.00158100	3100::1010	3100::1000	251	ICMPv6	Destination Unreachable (Port unreachable)
214	90.93494700	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xf4748c CID: 00010001180d3b7e3c970e300ea0
286	454.93646800	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xa0b480 CID: 00010001180d3b7e3c970e300ea0
287	455.93613100	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xa0b480 CID: 00010001180d3b7e3c970e300ea0
288	457.93618300	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xa0b480 CID: 00010001180d3b7e3c970e300ea0
289	461.93631300	fe80::6806:7472:b584:7a09	ff02::1:2	167	DHCPv6	solicit XID: 0xa0b480 CID: 00010001180d3b7e3c970e300ea0