

IPv6 Tunnel Configuration on 200/300 Series Managed Switches

Objective

Tunneling is a feature that transports packets from one type of network over a network of a different type. The Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) is a type of IPv6 tunnel that is used to encapsulate IPv6 packets within IPv4 packets for transmission over IPv4 networks.

ISATAP IPv6 addresses are created through the use of an IPv4 address to define its interface ID and a hexadecimal prefix. The interface ID is represented by: 5EFE:a.b.c.d, where a.b.c.d is a dotted decimal IPv4 notation. So an interface ID with respect to 176.8.168.132 and a prefix of FE80 gives an ISATAP tunnel address of FE80::5EFE:176.8.168.132.

This article explains how to configure an ISATAP tunnel on the 200/300 Series Managed Switches.

Applicable Devices

- SF/SG 200 and SF/SG 300 Series Managed Switches

Software Version

- 1.3.0.62

IPV6 Tunnel

Step 1. Log in to the web configuration utility and choose **Administration > Management Interface > IPv6 Tunnel** if the switch is in layer 2 mode or **IP Configuration > Management and IP Interface > IPv6 Tunnel** if the switch is in layer 3 mode. The *IPv6 Tunnel* page opens:

IPv6 Tunnel

Tunnel Number:	1
Tunnel Type:	ISATAP
☛ Source IPv4 Address:	<input checked="" type="radio"/> Auto <input type="radio"/> None <input type="radio"/> Manual <input type="text"/>
☛ Tunnel Router's Domain Name:	<input type="radio"/> Use Default <input checked="" type="radio"/> User Defined <input type="text" value="ISATAP"/> (Default: ISATAP)
Parameters	
☛ Query Interval:	<input type="radio"/> Use Default <input checked="" type="radio"/> User Defined <input type="text" value="60"/> sec. (Range: 10 - 3600, Default: 10)
☛ ISATAP Solicitation Interval:	<input type="radio"/> Use Default <input checked="" type="radio"/> User Defined <input type="text" value="60"/> sec. (Range: 10 - 3600, Default: 10)
☛ ISATAP Robustness:	<input type="radio"/> Use Default <input checked="" type="radio"/> User Defined <input type="text" value="1"/> (Range: 1 - 20, Default: 3)

The following fields display information about the tunnel

- Tunnel Number — The automatic tunnel router domain number.
- Tunnel Type — The tunnel type which is by default assigned as ISATAP.

Step 2. Click the radio button that corresponds to the desired tunnel source IP address in the Source IPv4 Address field.

- Auto — The switch automatically selects the lowest IPv4 address from all other configured interfaces on the switch.
- None — The ISATAP tunnel is disabled.
- Manual — Enter the desired source IPv4 address. This address must be one of the IPv4 addresses of the switch interfaces.

Step 3. Click the radio button that corresponds to the desired tunnel name in the Tunnel Router's Domain Name field. This represents the automatic tunnel router domain name.

- Use Default — By default, the domain name of the tunnel router is ISATAP.
- User Defined — Enter a tunnel router domain name.

Step 4. Click the radio button that corresponds to the desired method at which query intervals are defined in the Query Interval field. The Query Interval indicates the number of seconds between DNS queries. The DNS query is used to resolve the domain name of the tunnel into an IP address.

- Use Default — By default, the value of 10 seconds is used as query interval.
- User Defined — Enter the desired query interval time.

Step 5. Click the radio button that corresponds to the desired method at which the ISATAP solicitation interval is defined in the ISATAP Solicitation Interval field. ISATAP solicitation messages are used to advertise the ISATAP interface. This only occurs if there is no active ISATAP router.

- Use Default — By default, the value of 10 seconds is used as solicitation interval.
- User Defined — Enter the desired solicitation interval.

Step 6. Click the radio button that corresponds to the desired ISATAP robustness in the ISATAP Robustness field. This is used to calculate the interval for the DNS or router solicitation queries. This is the number of refresh messages: the larger the number, the higher the frequency of queries.

- Use Default — By default, the value of 3 is used.
- User Defined — Enter the desired ISATAP robustness.

Note: The ISATAP tunnel will not be operational if the IPv4 interface is not in operation.

Step 7. Click **Apply**. The ISATAP tunnel is configured.