Configuring Graceful Shutdown Support for OSPFv3

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Information About Graceful Shutdown for OSPFv3

The Graceful Shutdown for OSPFv3 feature provides the ability to temporarily shut down the OSPFv3 protocol in the least disruptive manner and to notify its neighbors that it is going away. All traffic that has another path through the network will be directed to that alternate path. A graceful shutdown of the OSPFv3 protocol can be initiated using the **shutdown** command in router configuration mode or in address family configuration mode.

This feature also provides the ability to shut down OSPFv3 on a specific interface. In this case, OSPFv3 will not advertise the interface or form adjacencies over it; however, all of the OSPFv3 interface configuration will be retained. To initiate a graceful shutdown of an interface, use the **ipv6 ospf shutdown** or the **ospfv3 shutdown** command in interface configuration mode.

How to Configure Graceful Shutdown Support for OSPFv3

Configuring Graceful Shutdown of the OSPFv3 Process

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device>enable`	Enables privileged EXEC mode. Enter your password if prompted.

	Command or Action	Purpose
Step 2	**configure terminal** **Example:** `Device#configure terminal`	Enters global configuration mode.

Step 3	Do one of the following:
	• **ipv6 router ospf** *process-id*
	• **router ospfv3** *process-id*
	Example:
	`Device(config)#ipv6 router ospf 1`
	Example:
	`Device(config)#router ospfv3 101`
		Enables OSPFv3 routing and enters router configuration mode.

Step 4	**shutdown** **Example:** `Device(config-router)#shutdown`	Shuts down the selected interface.
Step 5	**end** **Example:** `Device(config-router)#end`	Returns to privileged EXEC mode.

Step 6	Do one of the following:
	• **show ipv6 ospf** [*process-id*]
	• **show ospfv3** [*process-id*]
	Example:
	`Device#show ipv6 ospf`
	Example:
	`Device#show ospfv3`
		(Optional) Displays general information about OSPFv3 routing processes.

Configuring Graceful Shutdown of the OSPFv3 Process in Address-Family Configuration Mode

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device>enable`	Enables privileged EXEC mode. Enter your password if prompted.

	Command or Action	Purpose
Step 2	**configure terminal** **Example:** `Device#configure terminal`	Enters global configuration mode.
Step 3	**router ospfv3** [*process-id*] **Example:** `Device(config)#router ospfv3 1`	Enables router configuration mode for the IPv6 address family.
Step 4	**address-family ipv6 unicast** [**vrf** *vrf-name*] **Example:** `Device(config-router)#address-family ipv6`	Enters IPv6 address family configuration mode for OSPFv3.
Step 5	**shutdown** **Example:** `Device(config-router-af)#shutdown`	Shuts down the selected interface.
Step 6	**end** **Example:** `Device(config-router-af)#end`	Returns to privileged EXEC mode.
Step 7	**show ospfv3** [*process-id*] **Example:** `Device#show ospfv3`	(Optional) Displays general information about OSPFv3 routing processes.

Configuration Examples for Graceful Shutdown Support for OSPFv3

The following sections provide the various configuration examples for graceful shutdown support for OSPFv3.

Example: Configuring Graceful Shutdown of the OSPFv3 Process

The following example shows how to configure graceful shutdown of the OSPFv3 process in IPv6 router OSPF configuration mode configuration mode:

```
ipv6 router ospf 6
 router-id 10.10.10.10
 shutdown
```

The following example shows how to configure graceful shutdown of the OSPFv3 process in router OSPFv3 configuration mode:

```
!
router ospfv3 1
 shutdown
 !
 address-family ipv6 unicast
  exit-address-family
```

The following example shows how to configure graceful shutdown of the OSPFv3 process in address-family configuration mode:

```
!
router ospfv3 1
 !
 address-family ipv6 unicast
  shutdown
  exit-address-family
```

Example: Configuring Graceful Shutdown of the OSPFv3 Interface

The following example shows how to configure graceful shutdown of the OSPFv3 interface using the **ipv6 ospf shutdown** command:

```
!
interface Serial2/1
 no ip address
 ipv6 enable
 ipv6 ospf 6 area 0
 ipv6 ospf shutdown
 serial restart-delay 0
 end
```

The following example shows how to configure graceful shutdown of the OSPFv3 interface using the **ospfv3 shutdown** command:

```
!
interface Serial2/0
 ip address 10.10.10.10 255.255.255.0
 ip ospf 1 area 0
 ipv6 enable
 ospfv3 shutdown
 ospfv3 1 ipv6 area 0
 serial restart-delay 0
 end
```

Additional References for Graceful Shutdown Support for OSPFv3

Related Documents

Related Topic	Document Title
Configuring OSPF	“Configuring OSPF”
OSPF commands	*Cisco IOS IP Routing: OSPF Command Reference*

Feature History for Graceful Shutdown Support for OSPFv3

This table provides release and related information for the features explained in this module.

These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Fuji 16.8.1a	Graceful Shutdown Support for OSPFv3	Graceful Shutdown Support for OSPFv3 feature provides the ability to temporarily shut down an Open Shortest Path First version 3 (OSPFv3) process or interface in the least disruptive manner, and to notify its neighbors that it is going away Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X, C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches.
Cisco IOS XE Cupertino 17.7.1	Graceful Shutdown Support for OSPFv3	This feature was implemented on the C9500X-28C8D model
Cisco IOS XE Dublin 17.10.1b	Graceful Shutdown Support for OSPFv3	This feature was implemented on the C9500X-60L4D model.

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