

OSPFv3 Configuration Mode Commands

The OSPFv3 Configuration sub-mode is used to configure the OSPFv3 routing protocol. This mode includes commands that configure OSPFv3 routing parameters.

Command Modes

Exec > Global Configuration > Context Configuration > OSPFv3 Configuration

configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

Important For information on common commands available in this configuration mode, refer to the Common Commands chapter.

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area

Configures an Open Shortest Path First Version 3 (OSPFv3) area and enables authentication for that area.

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Command Modes

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configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

```
[ no ] area { decimal_value | ipv4address } default-cost default_integer_value |
stub [ no-summary ] | virtual-link virtuallink_neighbour_Ipv4_address [
dead-interval virtuallink_dead_interval ] [ hello-interval virtuallink_hello_interval
 ] [ retransmit-interval virtuallink_retransmit_interval ] [ transmit-delay
virtuallink_transmit_delay ]
```

no

Disables authentication for the specified area.

decimal_value | ipv4address

decimal_value: Specifies the identification number of the area where authentication will be enabled as an integer from 0 through 4294967295.

ipv4address: Specifies the IP address of the area where authentication will be enabled in IPv4 dotted-decimal notation.

default-cost *default_integer_value*

Sets the OSPFV3 authentication area's default cost as an integer from 1 through 16777215.

stub [no-summary]

Sets the OSPFV3 stub area. Only Router-LSAs, Network-LSAs, Inter-area Prefix-LSAs, Intra-area Prefix-LSAs and Link-LSAs are allowed in a Stub area.

no-summary Does not inject inter-area routes into stub area.

virtual-link *virtuallink_neighbour_Ipv4_address*

Configures a virtual link to the authentication area.

virtuallink_neighbour_Ipv4_address is the IPv4 address for the virtual link of the authenticated area in dotted-decimal notation.

The following interval timers can be set for the virtual link:

- **dead-interval** *virtuallink_dead_interval*: Sets the virtual link dead-interval (in seconds) as an integer from 1 through 65535.
- **hello-interval** *virtuallink_hello_interval*: Sets the virtual link hello interval (in seconds) as an integer from 1 through 65535.
- **retransmit-interval** *virtuallink_retransmit_interval*: Sets the virtual link retransmit interval (in seconds) as an integer from 1 through 3600.

- **transmit-delay** *virtuallink_transmit_delay*: Sets the virtual link transmit delay (in seconds) as n integer from 1 through 3600.

Usage Guidelines Use this command to establish OPSFv3 areas and enable authentication.

Example

The following command enables authentication for an OSPFv3 area defined by the IP address 192.168.100.10 with default cost of 256

```
area 192.168.100.10 default-cost 256
```

default-metric

Configures the default metric value for routes redistributed from another protocol into Open Shortest Path First Version 3 (OSPFv3).

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Command Modes Exec > Global Configuration > Context Configuration > OSPFv3 Configuration

configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

```
[ no ]  default-metric default_metric_integer_value
```

no

Disables the default metric.

default_metric_integer_value

Specifies the default metric as an integer from 1 through 16777214.

Usage Guidelines Use this command to configure OPSFv3 default metric.

Example

The following command configures OSPFv3 default metric to 256

```
default-metric 256
```

passive-interface

Configures an interface as being OSPFv3 passive. If a network interface is configured as passive, it will not receive or send any OSPFv3 packets.

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Command Modes

Exec > Global Configuration > Context Configuration > OSPFv3 Configuration

configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

`[ no ] passive-interface` *`interface_name`*

no

Disables the passive interface.

interface_name

Specifies an OSPFv3 passive interface as an alphanumeric string of 1 through 79 characters.

Usage Guidelines

Use this command to configure an OPSFv3 passive interface in this context.

Example

The following command configures the *OSPF-if1* interface to be OSPFv3 passive.

```
passive-interface OSPF-if1
```

redistribute

Redistributes routes from other protocols to OSPFv3 neighbors using the OSPFv3 protocol.

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Command Modes

Exec > Global Configuration > Context Configuration > OSPFv3 Configuration

configure > **context** *context_name* > **router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

[no] redistribute { connected | static } redistribute connected [**metric** *metric_value* [**metric-type** *external_metric_type*] [**route-map** *route_map_name*]] [**metric-type** *external_metric_type* [**route-map** *route_map_name*]] [**route-map** *route_map_name*] **static** [**metric** *metric_value* [**metric-type** *external_metric_type*] [**route-map** *route_map_name*]] [**metric-type** *external_metric_type* [**route-map** *route_map_name*]] [**route-map** *route_map_name*]

no

Disables the route redistribution.

connected

Redistributes connected routes.

static

Redistributes static routes.

metric ***metric_value***

Specifies the OSPFv3 default metric value as an integer from 0 through 16777214.

metric-type ***external_metric_type***

Specifies the OSPFv3 external metric type as the integer 1 or 2

route-map ***route_map_name***

Specifies a route map as an alphanumeric string of 1 through 79 characters.

Usage Guidelines

Use this command to configure OPSFv3 redistribution of connected or static routes.

Example

The following command configures OSPFv3 redistribution of connected routes.

```
redistribute connected metric 45 metric-type 1 route-map rt
```

router-id

Sets the OSPFv3 router ID for the Open Shortest Path First Version 3 (OSPFv3) routing process.

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Command Modes

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configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

[no] router-id *router_id_ipaddress*

no

Disables the router-id.

router_id_ipaddress

Specifies the router-id an IPv4 address in dotted-decimal notation.

Usage Guidelines

Use this command to configure OPSF v3 router id to the given IPv4 address.

Example

The following command configures OSPFv3 router id to the given IPv4 address.

```
router-id 11.22.22.21
```

timers spf

Sets OSPFv3 the delay in the time between the detection of a topology change and when the SPF algorithm actually runs.

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Command Modes

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configure > context *context_name* **> router ospfv3**

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-ospfv3)#
```

Syntax Description

[no] timers spf *spf_delay_timer_value spf_hold_timer_value*

no

Disables the SPF delay timer.

spf_delay_timer_value

Sets the Shortest Path First (SPF) delay timer (in milliseconds) as an integer from 0 through 4294967295.

spf_hold_timer_value

Specifies the hold time (in milliseconds) between consecutive SPF calculations. This must be an integer from 0 through 4294967295.

Usage Guidelines

Use this command to configure the OPSFv3 SPF delay timer.

Example

The following command sets OSPFv3 SPF timer.

```
timers spf 256
```