



# 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.

- [area](#), on page 1
- [default-metric](#), on page 3
- [passive-interface](#), on page 4
- [redistribute](#), on page 4
- [router-id](#), on page 5
- [timers spf](#), on page 6

## area

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

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**Command Modes**

Exec &gt; Global Configuration &gt; Context Configuration &gt; 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 ] 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.

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**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.

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**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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**Privilege** Security Administrator, Administrator

**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** ] **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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**Privilege** Security Administrator, Administrator

**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** ] **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.

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**Usage Guidelines**

Use this command to configure the OSPFv3 SPF delay timer.

**Example**

The following command sets OSPFv3 SPF timer.

```
timers spf 256
```

