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# OSPF Command Reference

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## Command Hierarchies

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## Configuration Commands

```

config
  — router
    — [no] ospf [ospf-instance] [router-id]
      — [no] area area-id
        — [no] interface ip-int-name [secondary]
          — node-sid
      — [no] area area-id
      — segment-routing
      — no segment-routing
        — prefix-sid-range {global | start-label label-value max-index index-value}
        — no prefix-sid-range
        — tunnel-mtu bytes
        — no tunnel-mtu
        — tunnel-table-pref preference
        — no tunnel-table-pref
        — [no] shutdown
    — ospf3 [instance-id] [router-id]
    — [no] ospf3 instance-id
      — advertise-router-capability {link | area | as}
      — no advertise-router-capability
      — advertise-tunnel-link {link | area | as}
      — no advertise-tunnel-link
      — [no] area area-id
        — area-range ip-prefix/mask [advertise | not-advertise]
        — no area-range ip-prefix/mask
        — [no] blackhole-aggregate
        — [no] interface ip-int-name [secondary]
          — [no] advertise-subnet
          — authentication-key [authentication-key | hash-key] [hash | hash2]
          — no authentication-key
          — authentication-type {password | message-digest}
          — no authentication-type
          — auth-keychain name
          — no auth-keychain

```

- **bfd-enable** [remain-down-on-failure]
- **no bfd-enable**
- **dead-interval** *seconds*
- **no dead-interval**
- **hello-interval** *seconds*
- **no hello-interval**
- **interface-type** {broadcast | point-to-point}
- **no interface-type**
- [no] **loopfree-alternate-exclude**
- **lfa-policy-map** **route-nh-template** *template-name*
- **no lfa-policy-map**
- **lsa-filter-out** [all | except-own-rtrlsa | except-own-rtrlsa-and-defaults]
- [no] **lsa-filter-out**
- **message-digest-key** *key-id* **md5** [*key* | *hash-key*] [**hash** | **hash2**]
- **no message-digest-key** *key-id*
- **metric** *metric*
- **no metric**
- **mtu** *bytes*
- **no mtu**
- [no] **passive**
- **priority** *number*
- **no priority**
- **retransmit-interval** *seconds*
- **no retransmit-interval**
- **rib-priority** {**high**} *prefix-list-name*
- **no rib-priority**
- [no] **shutdown**
- **transit-delay** *seconds*
- **no transit-delay**
- [no] **loopfree-alternate-exclude**
- [no] **nssa**
  - **area-range** *ip-prefix/mask* [advertise | not-advertise]
  - **no area-range** *ip-prefix/mask*
  - **area-range** *ip-prefix/prefix-length* [advertise | not-advertise]
  - **no area-range** *ip-prefix/prefix-length*
  - **originate-default-route** [type-7] [no-adjacency-check]
  - **no originate-default-route**
  - [no] **redistribute-external**
  - [no] **summaries**
- [no] **stub**
  - **default-metric** *metric*
  - **no default-metric**
  - [no] **summaries**
- [no] **virtual-link** *router-id* **transit-area** *area-id*
  - **authentication-key** [*authentication-key* | *hash-key*] [**hash** | **hash2**]
  - **no authentication-key**
  - **authentication-type** {password | message-digest}
  - **no authentication-type**
  - **auth-keychain** *name*
  - **no auth-keychain**
  - **dead-interval** *seconds*
  - **no dead-interval**
  - **hello-interval** *seconds*

- **no hello-interval**
- **message-digest-key** *key-id* **md5** [*key* | *hash-key*] [**hash** | **hash2**]
- **no message-digest-key** *key-id*
- **retransmit-interval** *seconds*
- **no retransmit-interval**
- **[no] shutdown**
- **transit-delay** *seconds*
- **no transit-delay**
- **[no] asbr** [**trace-path** *domain-id*]
- **[no] compatible-rfc1583**
- **[no] disable-ldp-sync**
- **export** *policy-name* [ *policy-name...*(up to 5 max)]
- **no export**
- **export-limit** *number* [**log** *percentage*]
- **no export-limit**
- **external-db-overflow** *limit seconds*
- **no external-db-overflow**
- **external-preference** *preference*
- **no external-preference**
- **[no] graceful-restart**
  - **[no] helper-disable**
- **import** *policy-name* [*policy-name...*(upto 5 max)]
- **no import**
- **[no] ldp-over-rsvp**
- **[no] loopfree-alternate**
- **loopfree-alternate-exclude** **prefix-policy** *prefix-policy* [*prefix-policy...* up to 5]
- **no loopfree-alternate-exclude**
- **[no] mcast-import-ipv6**
- **[no] multicast-import**
- **overload** [**timeout** *seconds*]
- **no overload**
- **[no] overload-include-ext-2**
- **[no] overload-include-stub**
- **overload-on-boot** [**timeout** *seconds*]
- **no overload-on-boot**
- **preference** *preference*
- **no preference**
- **reference-bandwidth** *bandwidth-in-kbps*
- **reference-bandwidth** [**tbps** *Tera-bps*] [**gbps** *Giga-bps*] [**mbps** *Mega-bps*] [**kbps** *Kilo-bps*]
- **no reference-bandwidth**
- **rib-priority** {**high**} *prefix-list-name*
- **no rib-priority**
- **rtr-adv-lsa-limit** *limit* [**log-only**] [**threshold** *percent*] [**overload-timeout** {*seconds* | **forever**}]
- **no rtr-adv-lsa-limit**
- **router-id** *ip-address*
- **no router-id**
- **[no] rsvp-shortcut**
- **[no] shutdown**
- **timers**
  - **[no] incremental-spf-wait** *inc-spf-wait*
  - **[no] lsa-accumulate** *lsa-accum-time*
  - **[no] lsa-arrival** *lsa-arrival-time*

## Command Hierarchies

- [no] **lsa-generate** *max-lsa-wait* [*lsa-initial-wait* [*lsa-second-wait*]]
- [no] **redistribute-delay** *redist-wait*
- [no] **spf-wait** *max-spf-wait* [*spf-initial-wait* [*spf-second-wait*]]
- [no] **traffic-engineering**
- [no] **unicast-import-disable**

## Show Commands

```

show
  — router
    — ospf [ospf-instance]
      — prefix-sids
    — ospf3 [ospf-instance]
      — area [area-id] [detail][lfa]
      — capabilities [router-id]
      — database [type {router | network | summary | asbr-summary | external | nssa | all}
        [area area-id] [adv-router router-id] [link-state-id] [detail]
      — interface [area area-id] [detail]
      — interface [ip-int-name | ip-address] [detail]
      — lfa-coverage
      — neighbor [remote ip-address] [detail]
      — neighbor [ip-int-name] [router-id] [detail]
      — opaque-database [link link-id | area area-id | as] [adv-router router-id][ls-id] [detail]
      — range [area-id]
      — routes [ip-prefix[/prefix-length]] [type] [detail] [alternative] [summary] [exclude-
        shortcut]
      — spf [lfa]
      — statistics
      — status
      — virtual-link [detail]
      — virtual-neighbor [remote ip-address] [detail]

```

## Clear Commands

```

clear
  — router
    — ospf [ospf-instance]
    — ospf3 [ospf-instance]
      — database [purge]
      — export
      — neighbor [ip-int-name | ip-address]
      — overload {rtm | fib | rtr-adv-lsa-limit}
      — statistics

```

## Debug Commands

```

debug
  — router
    — ospf [ospf-instance]
    — ospf3 [ospf-instance]
      — area [area-id]
      — no area
      — area-range [ip-address]
      — no area-range
      — cspf [ip-addr]
      — no cspf

```

## Command Hierarchies

- **[no] graceful-restart**
- **interface** [*ip-int-name* | *ip-address*]
- **no interface**
- **leak** [*ip-address*]
- **no leak**
- **lsdb** [**type**] [*ls-id*] [*adv-rtr-id*] [**area** *area-id*]
- **no lsdb**
- **[no] misc**
- **neighbor** [*ip-int-name* | *router-id*]
- **no neighbor**
- **nssa-range** [*ip-address*]
- **no nssa-range**
- **packet** [*packet-type*] [*ip-address*]
- **no packet**
- **rtm** [*ip-addr*]
- **no rtm**
- **spf** [*type*] [*dest-addr*]
- **no spf**
- **virtual-neighbor** [*ip-address*]
- **no virtual-neighbor**