

# Chapter 2

## Complete IPv6 Configuration Statements

This chapter shows the complete configuration statement hierarchy for the portions of the configuration discussed in this manual, listing all possible configuration statements and showing their level in the configuration hierarchy. When you are configuring the JUNOS software, your current hierarchy level is shown in the banner on the line preceding the `user@host#` prompt.

For a list of the complete configuration statement hierarchy, see the *JUNOS Internet Software Configuration Guide: Getting Started*.

This chapter is organized as follows:

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- [edit interfaces] Hierarchy Level

```

interfaces {
  interface-name {
    disable;
    accounting-profile name;
    description text;
    aggregated-ether-options {
      (flow-control | no-flow-control);
      (loopback | no-loopback);
      minimum-links number;
      source-address-filter {
        mac-address;
      }
      (source-filtering | no-source-filtering);
    }
    aggregated-sonet-options {
      link-speed speed;
      minimum-links number;
    }
    atm-options {
      vpi vpi-identifier max-vcs maximum-vcs;
      ilmi;
      e3-options {
        atm-encapsulation (direct | plcp);
        buildout distance (ft | m);
        framing (g751 | g832);
        loopback (local | remote);
        (payload-scrambler | no-payload-scrambler);
      }
      t3-options {
        atm-encapsulation (direct | plcp);
        buildout distance (ft | m);
        (cbit-parity | no-cbit-parity);
        loopback (local | remote);
        (payload-scrambler | no-payload-scrambler);
      }
    }
    clocking clock-source;
    dce;
    e1-options {
      bert-error-rate rate;
      bert-period seconds;
      fcs (32 | 16);
      framing (g704 | unframed);
      idle-cycle-flag (flags | ones);
      loopback (local | remote);
      start-end-flag (shared | filler);
      timeslots slot-number;
    }
    e3-options {
      bert-algorithm algorithm;
      bert-error-rate rate;
      bert-period seconds;
      compatibility-mode (digital-link | kentrox) <subrate value>;
      fcs (32 | 16);
      idle-cycle-flag value;
      loopback (local | remote);
      (payload-scrambler | no-payload-scrambler);
      start-end-flag value;
    }
  }
}

```

```

encapsulation type;
fastether-options {
    802.3ad aex;
    (flow-control | no-flow-control);
    (loopback | no-loopback);
    source-address-filter {
        mac-address;
    }
    (source-filtering | no-source-filtering);
}
gigether-options {
    802.3ad aex;
    (flow-control | no-flow-control);
    (loopback | no-loopback);
    source-address-filter {
        mac-address;
    }
    (source-filtering | no-source-filtering);
}
hold-time up milliseconds down milliseconds;
keepalives <down-count number> <interval seconds> <up-count number>;
link-mode mode;
lmi {
    lmi-type (ansi | itu);
    n391dte number;
    n392dce number;
    n392dte number;
    n393dce number;
    n393dte number;
    t391dte seconds;
    t392dce seconds;
}
mac mac-address;
mtu bytes;
no-keepalives;
no-traps;
receive-bucket {
    overflow (tag | discard);
    rate percentage;
    threshold number;
}
sonet-options {
    aggregate asx;
    aps {
        advertise-interval milliseconds;
        authentication-key key;
        force;
        hold-time milliseconds;
        lockout;
        neighbor address;
        paired-group group-name;
        protect-circuit group-name;
        request;
        revert-time seconds;
        working-circuit group-name;
    }
}

```

```

    bytes {
        e1-quiet value;
        f1 value;
        f2 value;
        s1 value;
        z3 value;
        z4 value;
    }
    fcs (32 | 16);
    loopback (local | remote);
    path-trace trace-string;
    (payload-scrambler | no-payload-scrambler);
    rfc-2615;
    (z0-increment | no-z0-increment);
}
speed (10m | 100m);
t1-options {
    bert-error-rate rate;
    bert-period seconds;
    buildout (0-133 | 133-266 | 266-399 | 399-532 | 532-655);
    byte-encoding (nx64 | nx56);
    fcs (32 | 16);
    framing (sf | esf);
    idle-cycle-flag (flags | ones);
    invert-data;
    line-encoding (ami | b8zs);
    loopback (local | remote);
    start-end-flag (shared | filler);
    timeslots slot-number;
}
t3-options {
    bert-algorithm algorithm;
    bert-error-rate rate;
    bert-period seconds;
    (cbit-parity | no-cbit-parity);
    compatibility-mode (digital-link | kentrox | larscom) <subrate value>;
    fcs (32 | 16);
    (feac-loop-respond | no-feac-loop-respond);
    idle-cycle-flag value;
    (long-buildout | no-long-buildout);
    loopback (local | remote);
    (payload-scrambler | no-payload-scrambler);
    start-end-flag value;
}
traceoptions {
    flag flag <flag-modifier> <disable>;
}
transmit-bucket {
    overflow (tag | discard);
    rate percentage;
    threshold number;
}
vlan-tagging;
unit logical-unit-number {
    accounting-profile name;
    allow_any_vci;
    disable;
    dcli dcli-identifier;
    drop-timeout milliseconds;
    encapsulation type;
    fragment-threshold bytes;
    mrru bytes;
    multicast-dcli dcli-identifier;
}

```

```

multicast-vpi vpi-identifier.vci-identifier;
no-traps;
oam-liveness {
  down-count cells;
  up-count cells;
}
oam-period (disable | seconds);
point-to-point;
shaping {
  (cbr rate | vbr peak rate sustained rate burst length);
  queue-length number;
}
short-sequence;
tunnel {
  destination destination-address;
  source source-address;
  ttl number;
}
vci vpi-identifier.vci-identifier;
vlan-id number;
family family {
  mtu bytes;
  address address {
    destination destination-address;
    eui-64;
    preferred;
    primary;
  }
}
}
}
}
}

```

## [edit policy-options] Hierarchy Level

```

[edit]
policy-options {
  policy-statement policy-name {
    term term-name {
      from {
        family (inet | inet6);
        route-filter destination-prefix match-type;
      }
      then {
        actions;
      }
    }
  }
}

```

- [edit protocols] Hierarchy Level

```

protocols {
  BGP  bgp {
    advertise-inactive;
    authentication-key key;
    cluster cluster-identifier;
    damping;
    description text-description;
    export [ policy-names ];
    family (inet | inet6) {
      (any | multicast | unicast) {
        prefix-limit {
          maximum number;
          teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        rib-group group-name;
      }
      labeled-unicast {
        prefix-limit {
          maximum number;
          teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        resolve-vpn;
        rib-group group-name;
      }
    }
  }
  graceful-restart {
    disable;
    restart-time seconds;
    stale-routes-time seconds;
  }
  hold-time seconds;
  import [ policy-names ];
  ipsec-sa ipsec-sa;
  keep (all | none);
  local-address address;
  local-as autonomous-system <private>;
  local-preference local-preference;
  log-updown;
  metric-out (metric | minimum-igp <offset> | igp <offset>);
  multihop <ttl-value>;
  no-aggregator-id;
  no-client-reflect;
  out-delay seconds;
  passive;
  path-selection (cisco-non-deterministic);
  peer-as autonomous-system;
  preference preference;
  remove-private;
  traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
      <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
  }
}

```

```

group {
  advertise-inactive;
  allow [network/mask-length];
  authentication-key key;
  cluster cluster-identifier;
  damping;
  description text-description;
  export [ policy-names ];
  family (inet | inet6) {
    (any | multicast | unicast) {
      prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
      }
      rib-group routing-table-group-name;
    }
    labeled-unicast {
      prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
      }
      resolve-vpn;
      rib-group group-name;
    }
  }
}
graceful-restart {
  disable;
  restart-time seconds;
  stale-routes-time seconds;
}
hold-time seconds;
import [ policy-names ];
ipsec-sa ipsec-sa;
keep (all | none);
local-address address;
local-as autonomous-system <private>;
local-preference local-preference;
log-updown;
metric-out (metric | minimum-igp <offset> | igp <offset>);
multihop <tth-value>;
multipath;
neighbor address {
  peer-specific options;
}
no-aggregator-id;
no-client-reflect;
out-delay seconds;
passive;
peer-as autonomous-system;
preference preference;
protocol protocol;
remove-private;
traceoptions {
  file name <replace> <size size> <files number> <no-stamp>
    <(world-readable | no-world-readable)>;
  flag flag <flag-modifier> <disable>;
}

```

```

type type;
neighbor address {
  advertise-inactive;
  authentication-key key;
  cluster cluster-identifier;
  damping;
  description text-description;
  export [ policy-names ];
  family (inet | inet6) {
    (any | multicast | unicast) {
      prefix-limit {
        maximum number;
        teardown <percentage> <idle-timeout (forever | minutes)>;
      }
      rib-group routing-table-group-name;
      labeled-unicast {
        prefix-limit {
          maximum number;
          teardown <percentage> <idle-timeout (forever | minutes)>;
        }
        resolve-vpn;
        rib-group group-name;
      }
    }
  }
  graceful-restart {
    disable;
    restart-time seconds;
    stale-routes-time seconds;
  }
  hold-time seconds;
  import [ policy-names ];
  ipsec-sa ipsec-sa;
  keep (all | none);
  local-address address;
  local-as autonomous-system <private>;
  local-preference preference;
  log-updown;
  metric-out (metric | minimum-igp <offset> | igp <offset>);
  multihop <ttl-value>;
  multipath;
  no-aggregator-id;
  no-client-reflect;
  out-delay seconds;
  passive;
  peer-as autonomous-system;
  preference preference;
  traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
      <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
  }
}
}
}

```

```

IS-IS isis {
  disable;
  authentication-key key;
  authentication-type authentication;
  export [ policy-names ];
  graceful-restart {
    disable;
  }
  level name level level metric metric;
  level level-number {
    authentication-key key;
    authentication-type authentication;
    external-preference preference;
    preference preference;
    wide-metrics-only;
  }
  lsp-lifetime seconds;
  no-authentication-check;
  no-authentication-check;
  overload <timeout seconds>;
  reference-bandwidth reference-bandwidth;
  rib-group group-name;
  spf-delay milliseconds;
  traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
      <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
  }
  interface interface-name {
    authentication-key key;
    authentication-type authentication;
    disable;
    csnp-interval (seconds | disable);
    hello-authentication-key key;
    hello-authentication-type authentication;
    lsp-interval milliseconds;
    mesh-group (value | blocked);
    passive;
    level level-number {
      authentication-key key;
      authentication-type authentication;
      disable;
      hello-authentication-key key;
      hello-authentication-type authentication;
      hello-interval seconds;
      hold-time seconds;
      metric metric;
      passive;
      priority number;
      te-metric metric;
    }
  }
}

```



## [edit routing-instances] Hierarchy Level

```

routing-instances {
  routing-instance-name {
    description text;
    interface interface-name ;
    instance-type (forwarding | no-forwarding);
    route-distinguisher (as-number:number | ip-address:number);
    vrf-import [ policy-names ];
    vrf-export [ policy-names ];
    vrt-table-label;
    protocols {
      bgp {
        bgp-configuration;
      }
      isis {
        isis-configuration;
      }
      ripng {
        ripng-configuration;
      }
    }
  }
  routing-options {
    autonomous-system autonomous-system <loops number>;
    confederation confederation-autonomous-system members [autonomous-system];
    interface-routes {
      rib-group group-name;
    }
    maximum-routes route-limit <log-only | threshold value>;
    options syslog level;
    rib routing-table-name {
      martians {
        destination-prefix match-type <allow>;
      }
      static {
        defaults {
          static-options;
        }
        rib-group group-name;
        route destination-prefix {
          next-hop;
          qualified-next-hop address {
            metric metric;
            preference preference;
          }
          static-options;
        }
      }
    }
  }
  rib-groups group-name {
    import-policy [ policy-names ];
    import-rib [ routing-table-names ];
    export-rib routing-table-name;
  }
}

```

```
router-id address;  
traceoptions {  
  file name <replace> <size size> <files number> <no-stamp>  
    <(world-readable | no-world-readable)>;  
  flag flag <flag-modifier> <disable>;  
}  
}
```

## [edit routing-options] Hierarchy Level

```
[edit]  
routing-options {  
  autonomous-system autonomous-system <loops number>;  
  confederation confederation-autonomous-system members [ autonomous-systems ];  
  interface-routes {  
    rib-group group-name;  
  }  
  maximum-routes route-limit <log-only | threshold value>;  
  options syslog level;  
  rib routing-table-name {  
    martians {  
      destination-prefix match-type <allow>;  
    }  
    static {  
      defaults {  
        static-options;  
      }  
      rib-group group-name;  
      route destination-prefix {  
        next-hop;  
        qualified-next-hop address {  
          metric metric;  
          preference preference;  
        }  
        static-options;  
      }  
    }  
  }  
  rib-groups group-name {  
    import-policy [ policy-names ];  
    import-rib [ routing-table-names ];  
    export-rib routing-table-name;  
  }  
  router-id address;  
  traceoptions {  
    file name <replace> <size size> <files number> <no-stamp>  
      <(world-readable | no-world-readable)>;  
    flag flag <flag-modifier> <disable>;  
  }  
}
```

## [edit snmp] Hierarchy Level

```
snmp {
  description description;
  location location;
  contact contact;
  interface [ interface-names ];
  community community-name {
    authorization authorization;
    clients {
      address <restrict>;
    }
    view view-name;
  }
  trap-options {
    source-address address;
    agent-address outgoing-interface;
  }
  trap-group group-name {
    categories category;
    targets {
      address;
    }
    version version;
  }
  view view-name {
    oid object-identifier (include | exclude);
  }
  traceoptions {
    file <files number> <size size>;
    flag flag <disable>;
  }
}
```

.....