

Chapter 20

Configuring Basic System Management

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Configuring the Router's Name and Addresses

For the router, you can do the following:

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An example shows how to configure a router's name, IP address, and system identifier on page 349.

Configuring the Router's Name

To configure the router's name, include the `host-name` statement at the `[edit system]` hierarchy level:

```
[edit system]
host-name host-name;
```

Mapping the Router's Name to IP Addresses

To map a router's hostname to one or more IP addresses, include the `inet` statement at the `[edit system static-host-mapping host-name]` hierarchy level:

```
[edit system]
static-host-mapping {
  host-name {
    inet [ address ];
    alias [ alias ];
  }
}
```

host-name is the name specified by the `host-name` statement at the `[edit system]` hierarchy level.

For each host, you can specify one or more aliases.

Configuring an ISO System Identifier

For Intermediate System-to-Intermediate System (IS-IS) to operate on the router, you must configure a system identifier (system ID). The system identifier is commonly the media access control (MAC) address or the IP address expressed in binary-coded decimal (BCD). For more information, see the *JUNOS Routing Protocols Configuration Guide*.

To configure an International Organization for Standardization (ISO) system ID, include the `sysid` statement at the `[edit system static-host-mapping host-name]` hierarchy level:

```
[edit system]
static-host-mapping {
  host-name {
    sysid system-identifier ;
  }
}
```

host-name is the name specified by the `host-name` statement at the `[edit system]` hierarchy level.

system-identifier is the ISO system identifier. It is the 6-byte system ID portion of the IS-IS Network Service Access Point (NSAP). We recommend that you use the host's IP address represented in BCD format. For example, the IP address 192.168.1.77 is 1921.6800.1077 in BCD.

Example: Configuring a Router's Name, IP Address, and System ID

Configure the router's name, map the name to an IP address and alias, and configure a system identifier:

```
[edit]
user@host# set system host-name router-sj1
[edit]
user@host# set system static-host-mapping router-sj1 inet 192.168.1.77
[edit]
user@host# set system static-host-mapping router-sj1 alias sj1
[edit]
user@host# set system static-host-mapping router-sj1 sysid 1921.6800.1077
[edit]
user@host# show
system {
  host-name router-sj1;
  static-host-mapping {
    router-sj1 {
      inet 192.168.1.77;
      alias sj1;
      sysid 1921.6800.1077;
    }
  }
}
```

Configuring the Router's Domain Name

For each router, you should configure the name of the domain in which the router is located. This is the default domain name that is appended to hostnames that are not fully qualified. To configure the domain name, include the `domain-name` statement at the `[edit system]` hierarchy level:

```
[edit system]
domain-name domain-name;
```

Example: Configuring the Router's Domain Name

Configure the router's domain name:

```
[edit]
user@host# set system domain-name company.net
[edit]
user@host# show
system {
    domain-name company.net;
}
```

Configuring Which Domains to Search

If your router is included in several different domains, you can configure those domain names to be searched.

To configure more than one domain to be searched, include the `domain-search` statement at the `[edit system]` hierarchy level:

```
[edit system]
domain-search [domain-list];
```

The domain list can contain up to 6 domain names, with a total of up to 256 characters.

Example: Configuring Which Domains to Search

Configure two domains to be searched:

```
[edit system]
domain-search [domainone.net domainonealternate.com]
```

Configuring a DNS Name Server

To have the router resolve hostnames into addresses, you must configure one or more Domain Name System (DNS) name servers by including the `name-server` statement at the `[edit system]` hierarchy level:

```
[edit system]
name-server {
    address;
}
```

Example: Configuring a DNS Name Server

Configure two DNS name servers:

```
[edit]
user@host# set system name-server 192.168.1.253
[edit]
user@host# set system name-server 192.168.1.254
[edit]
user@host# show
system {
    name server {
        192.168.1.253;
        192.168.1.254;
    }
}
```

Configuring a Backup Router

When the router is booting, the routing protocol process (rpd) is not running; therefore, the router has no static or default routes. To allow the router to boot and to ensure that the router is reachable over the network if the routing protocol process fails to start properly, you configure a backup router (running IP version 4 [IPv4] or IP version 6 [IPv6]), which is a router that is directly connected to the local router (that is, on the same subnet).

To configure a backup router running IPv4, include the `backup-router` statement at the `[edit system]` hierarchy level:

```
[edit system]
  backup-router address <destination destination-address>;
```

To configure a backup router running IPv6, include the `inet6-backup-router` statement at the `[edit system]` hierarchy level:

```
[edit system]
  inet6-backup-router address <destination destination-address>;
```

By default, all hosts (default route) are reachable through the backup router. To eliminate the risk of installing a default route in the forwarding table, include the `destination` option, specifying an address that is reachable through the backup router. Specify the address in the format `network/mask-length` so that the entire network is reachable through the backup router.

When the routing protocols start, the address of the backup router is removed from the local routing and forwarding tables. To have the address remain in these tables, configure a static route for that address by including the `static` statement at the `[edit routing-options]` hierarchy level.

Example: Configuring a Backup Router Running IPv4

Configure a backup router and have its address remain in the routing and forwarding tables:

```
[edit]
  system {
    backup-router 192.168.1.254 destination 208.197.1.0/24;
  }
  routing-options {
    static {
      route 208.197.1.0/24 {
        next-hop 192.168.1.254;
        retain;
      }
    }
  }
}
```

Example: Configuring a Backup Router Running IPv6

Configure a backup router running IPv6 and have its address remain in the routing and forwarding tables:

```
[edit]
system {
  backup-router 8:3::1 destination abcd::/48;
}
routing-options {
  rib inet6.0 {
    static {
      route abcd::/48 {
        next-hop 8:3::1;
        retain;
      }
    }
  }
}
```

Configuring Flash Disk Mirroring

You can direct the hard disk to automatically mirror the contents of the compact flash. When you include the `mirror-flash-on-disk` statement, the hard disk maintains a synchronized mirror copy of the compact-flash contents. Data written to the compact flash is simultaneously updated in the mirrored copy of the hard disk. If the flash drive fails to read data, the hard disk automatically retrieves its mirrored copy of the flash disk.



CAUTION: We recommend that you disable flash disk mirroring when you upgrade or downgrade the router.

You cannot issue the `request system snapshot` command while flash disk mirroring is enabled.

To configure the mirroring of the compact flash to the hard disk, include the `mirror-flash-on-disk` statement at the `[edit system]` hierarchy level:

```
[edit system]
mirror-flash-on-disk;
```



NOTE: After you have enabled or disabled the `mirror-flash-on-disk` statement, you must reboot the router for your changes to take effect. To reboot, issue the `request system reboot` command.

Configuring the System Location

To configure the physical location of the system, include the location statement at the [edit system] hierarchy level:

```
[edit system]
location {
  altitude feet;
  building name;
  country-code code;
  floor number;
  hcoord horizontal-coordinate;
  lata service-area;
  latitude degrees;
  longitude degrees;
  npa-nxx number;
  postal-code postal-code;
  rack number;
  vcoord vertical-coordinate;
}
```

altitude feet—Number of feet above sea level.

building name— The name of the building can be 1 to 28 characters in length. If the string contains spaces, enclose it in quotation marks (" ").

country-code code—Two-letter country code.

floor number—Floor in the building.

hcoord horizontal-coordinate—Bellcore Horizontal Coordinate.

lata service-area—Long-distance service area.

latitude degrees—Latitude in degree format.

longitude degrees—Longitude in degree format.

npa-nxx number—First six digits of the phone number (area code and exchange).

postal-code postal-code—Postal code.

rack number—Rack number.

vcoord vertical-coordinate—Bellcore Vertical Coordinate.

Configuring the Root Password

The JUNOS software is preinstalled on the router. When the router is powered on, it is ready to be configured. Initially, you log in to the router as the user “root” with no password. After you log in, you should configure the root (superuser) password by including the root-authentication statement at the [edit system] hierarchy level:

```
[edit system]
root-authentication {
  (encrypted-password "password"| plain-text-password);
  ssh-rsa "public-key";
  ssh-dsa "public-key";
}
```

If you configure the plain-text-password option, you are prompted to enter and confirm the password:

```
[edit system]
user@host# set root-authentication plain-text-password
New password: type password here
Retype new password: retry password here
```

For information about how to create a plain-text passwords, see “Specifying Plain-Text Passwords” on page 17.

To load an SSH key file, enter the load-key-file command. This command loads RSA (SSH version 1) and DSA (SSH version 2) public keys. You can also configure a user to use ssh-rsa and ssh-dsa keys.

If you load the SSH keys file, the contents of the file are copied into the configuration immediately after you enter the load-key-file statement. To view the SSH keys entries, use the configuration mode show command. For example:

```
[edit system]
user@host# set root-authentication load-key-file my-host:.ssh/identity.pub
.file.19692          |      0 KB |  0.3 kB/s | ETA: 00:00:00 | 100%
[edit system]
user@host# show
root-authentication {
ssh-rsa "1024 35 9727638204084251055468226757249864241630322207
404962528390382038690141584534964170019610608358722961563475
784918273603361276441874265946893207739108344810126831259577
226254616679992783161235004386609158662838224897467326056611
921814895398139655615637862119403276878065381696020274916416
3735913269396344008443 boojum@juniper.net"; # SECRET-DATA
}
```

Example: Configuring the Root Password

Configure an encrypted password:

```
[edit]
user@host# set system root-authentication encrypted-password
"$1$14c5.$sBopasddsdfs0"
[edit]
user@host# show
system {
  root-authentication {
    encrypted-password "$1$14c5.$sBopasddsdfs0";
  }
}
```

Configure a plain-text password:

```
[edit]
user@host# set system root-authentication plain-text-password
New password: type root password
Retype new password: retype root password
[edit]
user@host# show
system {
  root-authentication {
    encrypted-password "$1$14c5.$sBopasddsdfs0";
  }
}
```

Compressing the Current Configuration File

By default, the current operational configuration file is compressed, and is stored in the file `juniper.conf.gz`, in the `/config` file system, along with the last three committed versions of the configuration. If you have large networks, the current configuration file might exceed the available space in the `/config` file system. Compressing the current configuration file allows the file to fit in the file system, typically reducing the size of the file by 90 percent. You might want to compress your current operation configuration files when they reach 3 megabytes (MB) in size.

When you compress the current configuration file, the names of the router's configuration files change. To determine the size of the files in the `/config` file system, issue the `file list /config detail` command.



NOTE: We recommend that you use the default setting (compress the router configuration files) to minimize the amount of disk space that they require.

If you do not want to compress the current operational configuration file, include the `no-compress-configuration-files` statement at the `[edit system]` hierarchy level:

```
[edit system]
no-compression-configuration-files;
```

Commit the current configuration file to include the `no-compression-configuration-files` statement. Commit the configuration again to uncompress the current configuration file:

```
[edit system]
user@host# set no-compression-configuration-files
user@host# commit
commit complete
user@host# commit
commit complete
```

To compress the current configuration file, include the `compress-configuration-files` statement at the `[edit system]` hierarchy level:

```
[edit system]
compress-configuration-files;
```

Commit the current configuration file to include the `compression-configuration-files` statement. Commit the configuration again to compress the current configuration file:

```
[edit system]
user@host# set compress-configuration-files
user@host# commit
commit complete
user@host# commit
commit complete
```

For more information about how configurations are stored, see “How the Configuration Is Stored” on page 201.

