Chapter 2
Getting Started: A Quick Tour of the SRC CLI

As an introduction to the SRC command-line interface (CLI), this chapter provides instructions for simple steps that you take after installing software on the system. It shows you how to start the CLI, view the command hierarchy, and make small configuration changes. Topics include:

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Before You Start the SRC CLI

Make sure the SRC software has been configured for:

- C-series Controllers only—Remote access through SSH and/or Telnet

  > **NOTE:** On a C-series Controller, `root` access is not allowed over a Telnet session. To enable root access over an SSH connection, you must configure the **system services ssh root-login allow** statement.

- All platforms—A user account that has superuser privileges

Related Topics

For information about initial CLI configuration, see:

- C-series Controller—*C-series Hardware Guide* and *SRC Getting Started Guide*

- SRC software on a Solaris platform—*SRC Getting Started Guide*

Starting the SRC CLI

When you log in to the CLI, the privileges for your user account determine which commands and configuration statements you can access. A login account with superuser privileges gives a user access to all commands and statements.

Starting the SRC CLI on a C-series Controller

To log in to a C-series Controller and start the CLI through an admin account:

#**ssh admin@my_C-series-controller**
Password:

— SRC CLI 7.0 build CLI.A.7.0.0.0171
(c) 2005-2006 Juniper Networks Inc.
user@host>

The > command prompt shows that you are in operational mode. Later, when you enter configuration mode, the prompt changes to #.

Starting the SRC CLI on a Solaris Platform

To start the CLI on a Solaris platform:

1. Log in to the Solaris system through a user account that has superuser privileges configured for the SRC software:

2. Start the CLI from the directory in which it is installed:

/opt/UMC/cli/bin/cli
— SRC CLI 7.0 build CLI.A.7.0.0.0171
(c) 2005-2006 Juniper Networks Inc.
user@host>

Displaying Commands

The SRC CLI includes several ways to get help about commands.

To use the various Help commands:

1. Type **?** to show the top-level commands available in operational mode.

```
user@host> ?
Possible completions:
  clear               Delete statement
  configure           Enter configuration mode
  disable             Stop an SRC component
  enable              Start an installed SRC component
  exit                Exit a CLI session
  file                Perform file operations
  help                Display help about commands and statements
  history             Display command history
  ping                Ping remote target
  request             Request service
  restart             Restart an SRC component
```

```
  set                   Properties for the CLI environment
  show                  Display information
  ssh                   Open SSH session to another host
  start                 Start shell
  telnet                Telnet to another host
  test                  Test a NIC resolution
  traceroute            Trace route to remote host
```

2. Type file ? to show all possible completions for the file command.

```
user@host> file ?
Possible completions:
  archive               Archive files from the system (local)
  checksum              Calculate file checksum
  compare               Compare files (local)
  copy                  Copy files
  delete                Delete a file (local)
  list                  List files (local)
  rename                Rename a file (local)
  show                  Show file contents
```

3. Type file archive ? to show all possible completions for the file archive command.

```
user@host> file archive ?
Possible completions:
  compress              Compresses the archived file using GNU gzip (.tgz)
* destination          Name of created archive
* source               Path of directory to archive
```

For more information about getting help about commands and statements, see *Chapter 4, Getting Online Help for the SRC CLI.*

Verifying System Status

You can use show commands to check system status and monitor system activity.

To help you become familiar with show commands:

1. Type show ? to display the list of show commands that you can use to monitor the SRC software and C-series Controller.

```
user@host> show ?
Possible completions:
  acp                   Display information about ACP
  cli                   Configure properties for the CLI environment
  component             Display information about SDX components
  configuration         Information about the SDX configuration
  date                  System time and date
  disk                  Configuration for RAID disks
  interfaces            Show interface information
  iptables              Display information about the iptables LINUX tool
  jps                   Display information about the JPS
  nic                   Display information about the NIC
  ntp                   NTP configuration information
  redirect-server       Statistics for redirect server
  route                 Show routing table information
  sae                   Display SAE information
```

```
         security                Display security information
         system                  Display system information
```

2. Use the **show component** command to view a the status of installed
   components.

   ```
   user@host> show component
   Installed Components
   Name       Version                                    Status
   cli        Release: 7.0 Build: CLI.A.7.0.0.0171       running
   acp        Release: 7.0 Build: ACP.A.7.0.0.0174       disabled
   jdb        Release: 7.0 Build: DIRXA.A.7.0.0.0176     running
   editor     Release: 7.0 Build: EDITOR.A.7.0.0.0176    disabled
   redir      Release: 7.0 Build: REDIR.A.7.0.0.0176     disabled
   licSvr     Release: 7.0 Build: LICSVR.A.7.0.0.0179    stopped
   nic        Release: 7.0 Build: GATEWAY.A.7.0.0.0170   disabled
   sae        Release: 7.0 Build: SAE.A.7.0.0.0166       running
   www        Release: 7.0 Build: UMC.A.7.0.0.0169       disabled
   jps        Release: 7.0 Build: JPS.A.7.0.0.0172       disabled
   agent      Release: 7.0 Build: SYSMAN.A.7.0.0.0174    disabled
   webadm     Release: 7.0 Build: WEBADM.A.7.0.0.0173    disabled
   ```

3. Use the **show system information** command to view general system information.

   ```
   user@host> show system information

   System Identification
   Hostname        myC-seriesController
   Manufacturer    Juniper Networks
   Product Name    SDX-2000
   Version         1.0
   Serial Number   0207082006000001
   UUID            48384441-5254-0030-4859-0030485977EE
   Hostid          e30a2e07
   Software version SDX-300 Release 7.0 [B.7.0.0-7]

   System Time
   Current time              2006-12-19 13:52:26 EST
   Uptime                    21:30
   Number of active users    3
   Load Averages (1m/5m/15m) 0.02/0.07/0.02

   Memory
   Total 15G
   Free  14G

   CPU Info
   Number of CPU 4
   CPU Model     Dual Core AMD Opteron(tm) Processor 265
   Clock Speed   1804.132 MHz

   Disk Information
     Mountpoint        Total Used  Use%
     /                 2015M 955M  47%
     /altroot          2015M  35M   1%
     /altvar            29G   75M   0%
     /boot              98M   14M  14%
     /var               31G  829M   2%
   ```

```
Temperature
System +24 C
CPU-1  +34 C
CPU-2  +36 C

Fan Speed
Fan-1 9375 RPM
Fan-2 9375 RPM
```

Configuring a User Account

This sample procedure describes how to use the CLI to view system status and to perform a simple configuration change. You configure a new user account, one for your own use or a test account.

To configure a user account on the system:

1. Log in as user with superuser privileges, start the CLI, and enter configuration mode.

   user@host> **configure**
   [edit]
   user@host#

   The prompt in brackets ([edit]), also known as a *banner*, shows that you are in configuration edit mode, at the top of the hierarchy.

2. Move to the [edit system login] level of the configuration hierarchy.

   [edit]
   user@host# **edit system login**

   [edit system login]
   user@host#

   The prompt in brackets changes to [edit system login] to show you are at a new level in the hierarchy.

3. Add a new user account.

   [edit system login]
   user@host# **edit user nchen**

   This example adds an account nchen (for Nathan Chen), but you can use any account name.

4. Configure a full name for the account. If the name includes spaces, enclose the entire name in quotation marks (" ").

   [edit system login user nchen]
   user@host# **set full-name "Nathan Chen"**

5. Configure an account class. The account class sets the user access privileges for the account.

    [edit system login user nchen]
    user@host# **set class super-user**

6. Configure an authentication method and password for the account.

    [edit system login user nchen]
    user@host# **set authentication plain-text-password**
    New password:
    Retype new password:

    When the new password prompt appears, enter a clear-text password that the system will encrypt, and then confirm the new password.

7. Commit the configuration.

    [edit system login user nchen]
    user@host# **commit**
    commit complete

    Configuration changes are not activated until you commit the configuration. If the commit is successful, a **commit complete** message appears.

8. Return to the top level of the configuration, and then exit.

    [edit system login user nchen]
    user@host# **top**

    [edit]
    user@host# **exit**
    Exiting configuration mode

9. Log out of the SRC software.

    user@host> **exit**
    [user@host]#

10. To test your changes, log back in with the user account and password that you just configured.

    — SRC CLI 7.0 build CLI.A.7.0.0.0171
    (c) 2005-2006 Juniper Networks Inc.
    nchen@host>

    When you log in, the new username appears at the command prompt.

Creating a Configuration

This sample procedure shows how to configure SAE properties for aggregate services as an example of how to navigate through various hierarchy levels in the CLI and use **help** and **show** commands to obtain information while working at the CLI.

In the SRC software, an aggregate service is a type of SAE service that comprises a number of individual services. Combining services lets the SRC software treat the services within an aggregate service as a unit.

The final configuration looks like this:

```
sae {
    configuration {
      aggregate-services {
        keepalive-time 172800;
        keepalive-retry-time 900;
        activation-deactivation-time 900;
        failed-notification-retry-time 92000;
      }
    }
}
```

To configure SAE properties for aggregate services:

1. Enter configuration mode.

   user@host> **edit**
   Entering configuration mode.

   [edit]
   user@host#

2. In configuration mode, move to the hierarchy level at which you configure aggregate services.

   [edit]
   user@host# **edit shared sae configuration aggregate-services**

   [edit shared sae configuration aggregate-services]
   user@host#

   Press the space bar after typing the initial characters of a word to quickly complete the word.

3. Verify which values you can set.

```
[edit shared sae configuration aggregate-services]
user@host# set ?
Possible completions:
  activation-deactivation-time
                    Time to activate or deactivate fragment service session (0..INF s)
  failed-notification-retry-time
                    Maximum time to send failure notifications (0..INF s)
  keepalive-retry-time Length of keepalive time period (0..INF s)
  keepalive-time      Keepalive from aggregate svce session to remote session (0..INF s)
```

4. Set the values for the four time intervals.

    [edit shared sae configuration aggregate-services]
    user@host# **set keepalive-time 172800**

    user@host# **set keepalive-retry-time 900**

    [edit]
    user@host# **set activation-deactivation-time 900**

    [edit]
    user@host# **set failed-notification-retry-time 9200**

5. Verify the configuration.

    ```
    [edit shared sae configuration aggregate-services]
    user@host# show
    keepalive-time 172800;
    keepalive-retry-time 900;
    activation-deactivation-time 900;
    failed-notification-retry-time 9200;
    ```

6. Move up one level in the hierarchy, and run the show command again.

    ```
    [edit shared sae configuration aggregate-services]
    user@host# up

    [edit shared sae configuration]
    user@host# show
    policy-management-configuration {
      enable-junose-classifier-expansion;
    }
    aggregate-services {
      keepalive-time 172800;
      keepalive-retry-time 900;
      activation-deactivation-time 900;
      failed-notification-retry-time 9200;
    }
    . . .
    ```

    The output shows the configuration for aggregate services plus any other
    configuration under the [shared sae configuration] hierarchy level.

7. Before you commit the configuration, verify that the configuration is correct.

    [edit shared sae configuration]
    user@host# **commit check**
    configuration check succeeds

8. Commit the configuration.

    [edit shared sae configuration]
    user@host# **commit**
    commit complete.

Using Shortcuts to Create a Configuration

You can navigate through the configuration hierarchy to enter statements, or you can use **set** commands to configure statements at the [edit] hierarchy level. The following list of commands creates the same configuration as the procedure:

user@host# **set shared sae configuration aggregate-services keepalive-time 172800**

user@host# **set shared sae configuration aggregate-services keepalive-retry-time 900**

[edit]
user@host# **set shared sae configuration aggregate-services activation-deactivation-time 900**

[edit]
user@host# **set shared sae configuration aggregate-services failed-notification-retry-time 92000**

Making Changes to the Configuration

You can change a configuration by entering a **set** command and providing a new value.

To change the value for the keepalive timer for aggregate services:

1. Navigate to the location in the hierarchy where properties for aggregate services are configured.

    [edit]
    user@host#
    user@host# **edit shared sae configuration aggregate-services**

    [edit shared sae configuration aggregate-services]
    user@host#

2. Change the value for the keepalive timer.

    [edit shared sae configuration aggregate-services]
    user@host# **set keepalive-time 150000**

3. Verify the change.

    ```
    [edit shared sae configuration aggregate-services]
    user@host# show
    keepalive-time 150000;
    keepalive-retry-time 900;
    activation-deactivation-time 900;
    failed-notification-retry-time 9200;
    ```

4. Commit the change.

    [edit shared sae configuration aggregate-services]
    user@host# **commit**
    commit complete

Rolling Back Configuration Changes

This sample procedure shows how to use the **rollback** command to return to the most recently committed configuration. This command is useful if you make configuration changes, and then decide not to keep the changes.

This example shows how to view the default configuration for redirect server when the component is running, make configuration changes for redirect server, then return to the most recently committed configuration that does not include the changes. Redirect server redirects HTTP requests to a captive portal page.

1. Enter configuration mode.

   user@host> **configure**
   Entering configuration mode.
   [edit]
   user@host#

2. View the current configuration (if any) for redirect server.

   ```
   [edit]
   user@host# show redirect-server
   tcp-port 8800;
   destination-url;
   refresh;
   refresh-document etc/refresh.html;
   request-rate 12000;
   request-burst-size 18000;
   client-rate 25;
   client-burst-size 50;
   ```

   The statements in the output show the default configuration for redirect server.

3. Configure the destination URL for redirect server.

   [edit]
   user@host# **set redirect-server destination-url**
   http://www.mycompany.com/default.html

4. View the updated configuration.

   ```
   [edit]
   user@host# show redirect-server
   tcp-port 8800;
   destination-url http://www.mycompany.com/default.html;
   refresh;
   refresh-document etc/refresh.html;
   request-rate 12000;
   request-burst-size 18000;
   client-rate 25;
   client-burst-size 50;
   ```

   The **destination-url** statement shows the new URL.

5. Use the **rollback** configuration mode command to return to the most recently committed configuration.

    ```
    [edit]
    user@host# rollback
    rollback complete.
    ```

6. View the configuration again to make sure that your change is no longer present.

    ```
    [edit]
    user@host# show redirect-server
    tcp-port 8800;
    destination-url;
    refresh;
    refresh-document etc/refresh.html;
    request-rate 12000;
    request-burst-size 18000;
    client-rate 25;
    client-burst-size 50;
    ```

    The **destination-url** statement shows there is no URL.

7. Exit configuration mode.

    ```
    [edit]
    user@host# exit
    Exiting configuration mode.
    ```