

Chapter 2

Getting Started: A Quick Tour of the CLI

As an introduction to the 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 platform only—Remote access through SSH and/or Telnet



NOTE: On a C-series platform, `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

For information about initial CLI configuration, see:

- C-series platform—*C-series Hardware Guide* and *SRC Getting Started Guide*
- SRC software on a Solaris platform—*SRC Getting Started Guide*

Starting the 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 CLI on a C-series Platform

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

```
#ssh admin@my_C-series-platform
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 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 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
tracert	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*.

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 platform.

```
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-seriesPlatform
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 section 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 that 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 section 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 section 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.
```

