

# Computronics Logmon<sup>®</sup> Software Reference Guide

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## Introduction:

LOGMON is a user friendly, flexible and comprehensive UNIX inactivity monitoring tool. The installation instructions for LOGMON are in the Installation chapter.

The aim of LOGMON is to timeout inactive terminal processes. These processes can be direct-connect, remote, dial-up or networked processes. This includes telnet, rlogin and typical X-window sessions. The idle limits can be preset on:

- a) a per user basis
- b) a per group basis or
- c) a per terminal line basis.

Any combination of the above criteria can be utilized, and complex selections can be used when the "code" feature is used. For example, you can specify an activity level for a group of user id's that would vary by time of day, but also vary depending on whether the user was logged in locally or dialed in via a modem.

Before terminal users are logged out, customized warning messages can be sent by the LOGMON software to warn of impending timeout. You can control the way the user is logged off, and can vary the commands used to log off the user based on the application in use.

## **Product Description**

LOGMON for the UNIX operating system is a per user inactivity timeout monitor. Other approaches to inactivity monitoring look at the access time of the tty device, which measures keyboard activity only. LOGMON, on the other hand, monitors the cpu usage for each user and their child processes. Thus LOGMON won't log off a user running a long cpu bound process with no keyboard activity.

The LOGMON software has been designed with a friendly user interface. Furthermore, the user interface does not require any graphical device. Rather, any terminal emulation supported by Unix can be used. Any terminal type that has been set up properly for other software, such as "vi", will work fine. A simple menu structure leads to popup windows and data entry forms. Detailed on-line help is available at all times.

The LOGMON database is protected. Most users have no access to the idle users limit settings, and typically only the `root` user identity can update the LOGMON database. If your site would like to allow other users to monitor LOGMON's operation or change the settings, it is possible to configure this. Contact Computronics for the details.

LOGMON is network aware. You can run the LOGMON utility on one node and monitor the usage of other nodes that are running the "sdc" portion of LOGMON. (sdc is the daemon that monitors usage and actually logs users off.) You can

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even log off users on other nodes, if you wish to allow this and have it configured to do so.

When you receive a distribution copy of LOGMON, the procedure for installing is very simple - a script will perform all the steps needed to make the programs and database available.

## Logmon Database

The Logmon Database defines the rules under which Logmon operates. The Database has five main areas

- ◆ The User File
- ◆ The Limit Profile
- ◆ The Code Profile
- ◆ The Action Profile
- ◆ The Rules Profile

The Logmon daemon (called "sdc") operates in the background monitoring login sessions and performing the specified actions when the user login sessions become inactive.

### User profile

The first step in the Logmon cycle is to identify each login session. Each login will be identified by either the userid or the groupid which it is running under, or the specific terminal it is running on. These criteria are defined under the "Users" portion of the Logmon database.

### Limit profile

Once a User has been identified as inactive, an appropriate "Limit" profile must be selected based on the time of day. The limit profiles point to Code profiles. It allows different Codesets to be applied at different times of the day. Most common is the distinction between business hours and non-business hours. Limits also allow lunch time or any other special times to have a Codeset specified.

### Code profile

The "code" profile is a special feature of Logmon that allows you to use "additional criteria" to control the determination of an inactivity logout time within Logmon. Logmon uses the Users and Limits profiles to determine which string to pass to the "code" script. This script can perform other checks on the user data and it then returns a character string. This string is used to determine which "action" profile to use. *Most sites do not need this level of control.* If this is the case at your site, the code script will always return the string "default". Logmon is shipped in this configuration.

### Action profiles

The next portion of the Logmon database is the Action profiles. These profiles are pointed to by a codeset, and they define what actions Logmon should take for each idle user. The action profiles allow the definition of levels of inactivity. Each level is reached after a specified period of inactivity at the previous level. When a terminal session moves from one level to another, a specified action is taken. The Actions are scripts which are user definable. Typical actions are the display of a warning message at the terminal, and the killing of processes associated with a

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login session. A typical action profile might have 3 levels. The first two simply display warning messages. The third action finally kills off the idle terminal session. You can use as many levels as you wish.

### Threshold CPU

Threshold CPU level can be setup on a per process basis in the rules profile. The logout threshold CPU level for all processes is zero by default. However, the administrator will find that some special conditions may apply. It can be setup in the rules profile so that Logmon's "sdc" daemon will be able to logout the users even though they are running some background jobs. For example, a user might be running xclock in an X windows environment. Or your applications might always use "a little" cpu time, updating an on screen clock. Logmon will not normally consider such a user idle. Use the "rules" feature to configure such an application in a manner where these processes will be considered idle. Another use of a rule is at the opposite extreme. You may have programs that you never want logged out. Use a rule with a value of 0 to indicate that a certain program is never to be logged off.

### Licensing

Logmon is available on a limited time demonstration basis or licensed for use on a particular system. A "setup" program is used to get a license code that controls this. A demonstration copy of Logmon is the full package, simply expiring on a certain date.

It is also possible to license Logmon on a *limited user* basis, at reduced cost. This limited user license is designed for smaller systems. On a limited user license, only a certain number of logged in users will be supported. If you have a 16 user Logmon license, for example, only 16 users will show up in the "online" screen of Logmon, and only those 16 users will be monitored for inactivity and logged off. You *cannot* control which 16 users this will be (it is typically the first users to log in on the system, but this will vary throughout the day). Thus the limited user license only makes sense if you match the license size to the number of people typically logged into the system at one time.



# Chapter 1

## Installing LOGMON

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The following pages discuss the installation of LOGMON.

### Before You Install

To avoid confusion, all of the Logmon related *installation* files are kept in one directory, named "logmon\_dist". Once Logmon is installed, all of the files needed to *execute* and maintain Logmon will be kept in a second directory, which is named "logmon". So you will have two directories, "logmon\_dist" and "logmon". The former is only needed at installation time. This "logmon\_dist" directory requires no more than 2MB of disk space. (On most platforms, in fact, this directory is less than 1MB in size.) We recommend that you keep it on the system at all times, however, in the event Logmon needs to be reinstalled.

This manual assumes both directories are in "/usr". That is, you will have two directories, "/usr/logmon\_dist" and "/usr/logmon". This is not a requirement, however. The installation procedure will work fine regardless of where these directories are located. In fact, the installation script will ask where you want the executable directory to be located.

Note that if you place the *executable* version somewhere other than "/usr/logmon", you should set up a link from "/usr/logmon" to the actual location, or set the environment variable "LOGMON\_HOME" to the actual installation directory. For example:

```
LOGMON_HOME=/usr/local/logmon
export LOGMON_HOME
```

You could now run Logmon from the "/usr/local/logmon" directory.

### Step 1: You must be root

Login to the system as user "root". You **MUST** have superuser privileges to install Logmon.

---

## Step 2: Loading the distribution directory

Your distribution of Logmon might be from an FTP or Web download, from a floppy, or from another media such as a tape. Depending on the format of the file, follow the appropriate notes below:

### Step 2a (FTP or Web download)

You will have a file with a name like "logmon\_*platform\_rev\_dist*.cpio". For example, the file:

"logmon\_aix\_4\_dist.cpio" would be used for AIX release 4

"logmon\_sco\_5.0\_dist.cpio" for SCO Openserver 5.0

"logmon\_hpux\_11\_dist.cpio" for HP/UX release 11, etc.

You should now place this file in a place you will remember on your system. This file is only needed at installation time, and the "logmon\_dist" directory will be created in a moment. We suggest that you place the file in "/usr" so that the "/usr/logmon\_dist" directory will be used, as discussed at the start of this section. To prepare for installation, simply execute:

```
cpio -icmvdu < logmon_platform_rev_dist.cpio (as discussed above).
```

You will now have the "logmon\_dist" directory and you can delete the "logmon...cpio" file. Now, proceed to step 3.

### Step 2b (floppy or tape)

First, "cd" to the desired directory for loading the media. We suggest that "/usr" be used, as discussed at the start of this section, but any other location can be used. This step will only be loading the media and creating the "logmon\_dist" directory. (The installation script will ask where you wish to place the executable version.) Assuming you are now in the desired directory, execute:

```
cpio -icmvdu < devicename
```

The proper device name for your system will be on the label on the media. You will now have a directory named "logmon\_dist". Proceed to the next step.

## Step 3: Run the installation script

Change to the "logmon\_dist" directory (wherever you have placed it) and run the installation script.

```
cd logmon_dist (or other location from step 2)
./install_logmon
```

Answer the prompts presented by the install script. In most cases, you will accept the presented default value by simply pressing the RETURN key.

## Step 4: Get the system identification code

Whether you have licensed or are using a trial copy of Logmon, you will need a setup key. These keys are issued by Computronics. You must first give your "System identification code" to Computronics. We then issue you a trial (30 day) or permanent setup code. To get your identification code, execute:

```
cd /usr/logmon/bin
./setup -i
```

Contact Computronics with the code that is displayed. You can email your request to "info@computron.com". Include your name, your company name, the product name "Logmon", and the version of the software that you are installing. A code will be returned to you via email. Emailed codes are generated quickly, and can be issued throughout the night.

If you prefer you can also fax the code to 630/941-7714 or call 630/941-7767. If you are calling at an unusual hour, you will get a voice mail system. Select option 2 (for setup codes), and leave your identification code and other information on the voice mail system. If the request is urgent, you can select an option to this effect and someone will be paged to quickly respond to your request. The setup code will be given to you in the same manner as your original request.

## Step 5: Enter your setup code

Now you need to enter the setup code that you have received:

```
cd /usr/logmon/bin
./setup
```

Enter the code when prompted. The code can be entered in upper or lower case, with or without the hyphens. Don't add any spaces before, or after the code, however.

## Step 6: Start the SDC process

Start the `sdc` process. This is the program that does all of the work of Logmon. When you start this daemon with the default configuration, Logmon will begin monitoring the users on your system, and will send a warning message to users that are idle for 60 minutes, and then log them off two minutes later. Users logged in as `root` will not be logged off. The next step will allow you to alter these settings. To start `sdc`:

```
cd /usr/logmon/bin
./sdc
```

## Step 7: Run the Logmon utility

At this point, Logmon will already be running and monitoring idle users on the system using a default configuration. You will probably want to alter the settings. This is done via the "logmon" administrator program. The next several sections of this manual discuss the various menus of this program in detail. This step indicates the way you invoke this utility:

```
/usr/logmon/bin/logmon
```

If you have installed Logmon in a directory other than "/usr" and there is no link from "/usr/logmon" to the real directory, make sure you set the environment variable LOGMON\_HOME to the actual executable directory before executing this command.

You can experiment with the menus in "Logmon" as desired. Use the menu option "Q" to quit out of this utility. The SDC daemon will remain running and will continue to log off idle users. You only need to use the "Logmon" utility to alter the settings used by the software or to view the list of users on your system and how long they have been idle.

# Chapter 2

## Starting The SDC Daemon

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Each node that LOGMON resides on runs a single daemon, called "sdc". This is the "System Data Collector". This process is responsible for monitoring the usage on your system and for logging off idle users. This process must be running at all times.

There should be no reason to stop this process, (it is possible to suspend it so that it does not log off idle users). If for some reason you wish to stop the process, use a "kill" command with the processed "pid" number. Do not use "kill -9", just a standard "kill" is sufficient.

### Starting SDC Manually:

If sdc is not already running on your system just execute:

```
cd /usr/logmon/bin
./sdc
```

### Automatic Startup

Most sites configure sdc for automatic startup when the system is booted. This is easy to accomplish, but the exact procedure varies for various implementations of Unix:

#### ***For Solaris 2, DG/UX, Other Systems With the rcnn.d Files***

In directory `/etc/rc3.d` create a file called `S99logmon` (use a number other than 99 if you already have a script beginning with "S99"). This file should contain the following:

```
/usr/logmon/bin/sdc >>/usr/logmon/logs/startup_log 2>&1
```

(If you have installed Logmon in a directory other than `/usr`, modify this command appropriately)

Set permissions on this file via:

```
chmod 744 /etc/rc3.d/S99logmon
```

This will start Logmon when the system is booted.

***For HP/UX Release 9, Other Versions of Unix With A Single "rc" Script***

In directory `/etc` look at the file `"rc"`. Look for a section entitled `localrc()`. Somewhere in this function (usually near the end of it), add the following:

```
/usr/logmon/bin/sdc >>/usr/logmon/logs/startup_log 2>&1
```

This will start Logmon when the system is booted.

# Chapter 3

## Running LOGMON

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The central program in the LOGMON software is the "Logmon Administrator Program", which will be referred to as simply "`logmon`". The menu structure of Logmon provides access to user activity reports and all configuration parameters.

This chapter describes how to run this program, and briefly guides you through the steps involved in inactivity monitoring.

Before starting the `logmon` program, set up the following environment variables:

- ◆ TERM
- ◆ PATH
- ◆ LOGMON\_HOME

### TERM

The TERM variable sets your terminal type. If possible, use a terminal which has underline, reverse video and line-drawing graphics capability. Almost any VT100 emulation does this, as do many other terminal types. If a program like "`vi`" works properly with a specified TERM setting, then "`logmon`" should work fine with the same setting.

The `logmon` program makes use of certain function keys, if available, as well as arrow keys. These special keys are not absolutely necessary, but make using the program much easier. Make sure that the terminal you are using really is the one described by the TERM variable, otherwise you may find that your arrow and function keys are not recognized.

### PATH

The PATH variable is a list of directories which will be searched when you type a command. It is not necessary to modify the PATH variable, but you may find it convenient.

If the PATH variable is not modified you must enter the full pathname for the command:

```
$ /usr/logmon/bin/logmon
```

---

You can include the directory in which the `logmon` program is installed in the `PATH` list to make running this program easier. For users of the Bourne shell or Korn shell, this is done with the following commands:

```
$ PATH=$PATH:/usr/logmon/bin
$ export PATH
```

This will allow you to enter `logmon` as a command, regardless of your current working directory. This can be included in your login script (`.profile` or `.login`) for future sessions.

## LOGMON\_HOME

The `LOGMON_HOME` variable only needs to be set for non-standard installations of `LOGMON`. It is needed to inform the `logmon` program where to find the main `LOGMON` directory when it has not been installed in the default place of `/usr/logmon`.

For example if the Logmon base directory was installed in the directory `/usr/local/logmon`, then the `LOGMON_HOME` environment variable needs to be set to `/usr/local/logmon` with the following commands:

```
$ LOGMON_HOME=/usr/local/logmon
$ export LOGMON_HOME
```

Now start the `logmon` program. A short banner identifying the program will be displayed, and then the screen will be cleared for the main menu. If this does not happen see the appendix regarding error messages and diagnostics.

## ***Starting the Logmon Administrator Program***

You can run "logmon" on your local node, or on another node that is running the SDC program, since Logmon is network aware. To start the Logmon administrator utility on your local node type:

```
/usr/logmon/bin/logmon
```

or if `/usr/logmon/bin` is in your `$PATH`, just type:

```
logmon
```

To run this utility on another node, specify the node name after this command. For example:

```
/usr/logmon/bin/logmon acctng
```

This would start the utility on a node named "acctng".

## The Main Menu

The main menu will appear at the top of the screen, with the left-most option highlighted:

```

www.computron.com                               Database: Unlocked  Status: Running

***      *** *  * ***** *  * ***** ***** *** *  * * *** ***
*  * *  * ** ** *  * *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
*  *  *  * * * ***** *  *  *  *  *  *  *  *  *  *  *  *  *  *
*  *  *  * * *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
*  *  *  * * *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
***      *** *  * *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

          *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
          *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
          *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
          *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
          *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
          ***** ***  *** *  *  *  *  *  *  *  *

Actions Limits  Users  Online  Rules  Code  Help  Quit
Maintain Action Profiles

```

The arrow key RIGHT will cycle through the options left-to-right. LEFT cycles through in reverse. Some menus have multiple rows; on such menus, the UP and DOWN keys move in the expected directions. The control keys CTRL-F, CTRL-N, CTRL-B, CTRL-U are always synonymous with the RIGHT, DOWN, LEFT and UP arrows, respectively. On some terminal emulations, you may *need* to use these control keys rather than the actual arrows, due to restrictions in that terminal emulation. But they are available in all terminal emulations, and are thus handy to remember.

When you move to a new option it is highlighted and a one-line explanation is displayed at the base of the menu.

To select the highlighted option press RETURN or ACCEPT.

The initial letter of each option is recognized by the menu, and is equivalent to moving to that option and selecting it. This is a very fast and easy way to move through the menus once you become familiar with the options.

## On-line Context Sensitive Help

To view the on-line help, press ? or CTRL-A or the HELP key.

The help text displayed is general help, and explains function keys, getting around menus, using the data entry editor, etc. The help text is tailored for the menu that you are utilizing. An example help screen, (for the main menu), is:

```
Logmon Main Menu          Database: Unlocked  Status: Running

This is the top level of the set of Logmon menus.

The highlighted option is the "current" option. To move to a
different option, use the arrow keys. As you move between
options, a one-line description is displayed at the base of
the menu. To select the current option, press RETURN.

To exit from the Logmon program, press Q. For a
general description of function keys, press ?.

The Action Profile option displays a menu of the Action
Profiles which have been created. From that menu you can
add, delete, view, modify the Action Profile. Action
Profiles allows you to setup various inactivity timeout
levels to execute the user-defined scripts.

The Limit Profile option setup a business hours time zone
on different idle action profile. From that menu you can
add, delete, view and modify the Limit Profile.
Quit                                                                More█
```

## General Help

There is a general help screen that shows the key assignments that are available at any time. To access this menu, from within any HELP MENU, press the "?" key. That is, first enter the help for the current option or menu, as discussed above. Then press a "?" and you will see the message:

```

Logmon General Help                                     Database: Unlocked  Status: Running
Function keys:
All of the menus and screens respond to your function keys,
control-keys and normal keys for the following actions:

HELP, ctrl-A, ?           : Display this help window.
QUERY, ctrl-E             : Context help, or options.
ACCEPT, ctrl-T, RETURN   : Select item/Finish job.
CANCEL, ctrl-X, Q        : Quit, abandon.
REDISPLAY, ctrl-L        : Redraw the screen.

LEFT ARROW, ctrl-B       : Move left, previous item.
RIGHT ARROW, ctrl-F      : Move right, next item.
UP ARROW, ctrl-U         : Move up, previous item.
DOWN ARROW, ctrl-N       : Move down, next item.

HOME, ctrl-O             : Back to the top.
PAGE UP, ctrl-P          : Previous page.
PAGE DOWN, ctrl-G       : Next page.
Quit                                                              More

```

At most points in the **logmon** program there is context-sensitive help. At some points, the CTRL-E or QUERY key activates a pick-list. In these cases, pressing CTRL-E or QUERY again will provide context-sensitive help.

The help window itself is a flexible and powerful viewing mechanism. The action bar at the base of the window lists the keys that are active.

Pressing RETURN will scroll through the help one page at a time - the most natural way to read. At the end of the help text, you must press Q, CTRL-X or CANCEL to return to the main screen.

See the general help for details on the other active keys.

## ***Simplified Architecture of Logmon***

Logmon mainly consists of three parts:

- ◆ Logmon Administrator Utility (`logmon`)
- ◆ The System Data Collector daemon (`sdc`)

Logmon Administrator Utility (`logmon`) :

The Logmon utility maintains the Logmon database where the rules for logging out inactive users are defined.

### *Database Settings*

The overview of database settings can be generalized as follows:

User file  Limit profile  Code profile  Action Profile
--

#### DATABASE SETTINGS

Idle User File	The Idle user file defines the mapping of the users.
Limit profile	The Limit profile defines the mapping of the code profile depending on whether it is in business hours or after.
Code profile	The Code profile defines the mapping of the action profile depending on the return value of the code script.
Action profile	The Action profile determines which script should be executed depending on the inactivity idle time of that user.
Rule profile	The Rule profile lets you control special cases for programs that either should never be logged off, or programs that should be considered idle even when a small amount of cpu time is being used up.

## Altering the Logmon Settings

With the LOGMON daemon properly started, the next thing to do is to set up the USERS, ACTIONS, CODE and LIMITS profiles in the Main Menu. Each of these options executes a "directory" menu. The following window is displayed when the Action Profile option on the main menu is chosen:

```

Action Profiles                                     Database: Unlocked  Status: Running

  NO  Name
  0   none
  1   30min  WARNING: Action is empty.
  2   120min WARNING: Action is empty.
--> 3   acctng  WARNING: Action is empty.
  4   action_a

View  Insert  Copy  Delete  Help  Quit  █
View the Action Profiles

```

The rules for moving around this sort of menu are the same as those for bar menus. (You can use LEFT/RIGHT/UP/DOWN as needed.)

It is possible to create more profiles than will fit on the menu display. In this case, the PGDN, PGUP and HOME keys allow you to move between pages. In addition, the word "More" will appear at the top, bottom or both top and bottom of the menu display.

## Data Entry Fields

When entering a value to a field, your normal ERASE and KILL characters are recognized. These are often set to BACKSPACE or CTRL-H for ERASE and DEL or CTRL-U for KILL, but this varies. Typed characters will be inserted at the current cursor position.



- QUERY, CTRL-E Pressing the QUERY or CTRL-E key while in a pick-list will terminate the pick-list (without making any selection), and display the context-sensitive help for the underlying screen.
- Q You can quit out of any menus or options in Logmon by pressing the Q key. This will work anywhere other than in a data entry field.

## View user status report on screen

The purpose of the `logmon` program is to control the operations of the SDC daemon, to maintain the user database and to produce a user status report.

There is an on-line query facility available to show the status of all login users on the system.

Select the online option from the logmon main menu. Then use the users menu. The information of the online status report will be updated and displayed once per poll time with a default of 60 seconds. This report will have headings as follows:

```

User Processes Mon Mar  6 04:15:50 2000 Database: Unlocked Status: Running
  User      Tty      Group      Pid + Action      Script      Level Idle Next
  > nandy   (tty? ed)   1001 action      <

```

Additional information on this screen, and customizing the way it is sorted, is presented in the manual section on The ONLINE Menu.

### Definitions of items on the User status report

User	The user ID of the person logged in.
Tty	The terminal device name which the login session is associated with. If the user is on a network connection this will be a pseudo-tty.
Group	The group name of the login user.
Pid	The process id of the shell process which was created to manage the login session.
Action	Action profile associated with the user.
Script	The script the Logmon daemon is executing to logout or send messages to the user.
Level	The action level which the login user has reached.
Idle	The time in minutes that the user was idle.
Next	Minutes left for the user to enter the next action level.

## Database Validation Report

```
Validate Data Base                Database: Unlocked  Status: Running  
WARNING: Action Profile 30min is empty.  
WARNING: Action Profile 120min is empty.  
WARNING: Action Profile acctng is empty.
```

It is possible to set up the databases in a way that causes Logmon not to work as expected. For instance, you might create an action but forget to put values in it (as shown above). Or you might create a limit without a corresponding code or action. You can ask Logmon to check that the files are set up in a consistent, logical manner. Just use the menu options as follows: Online ← Admin ← Validate. A report such as the illustration above will be produced.

# Chapter 4

## The Users Menu

---

The idle user file is the main control file for LOGMON where the varying idle limits for different users, groups or ttys are setup. Through the user menu, the Logmon daemon can select a limit profile by a particular userid, group or tty.

Select the User option from the main menu. The Idle User form will then be displayed.

The Idle User Form has an action bar at the base of the window. To select an action, press the first letter of the word, or use the arrow keys to move to the desired option and then press RETURN

The actions are described in the context-specific help. Press QUERY or CTRL-E to see this description.

The active control keys and function keys are described in the online general help. Press HELP or ? or CTRL-A to see this description.

## Editing the Idle User file

```

User Profiles                                     Database: Unlocked  Status: Running
-----
  NO  Type  Name  Limit
-->  0  User  root  none
     1  User  acctng  special
     2  TTY  tty.*  terminal
     3  Group  admin  admingroup
     4  Default

Change Delete Insert Move Help Quit █
Change a User Profile

```

**Change** From the action bar, select Change to modify the current details. You must then select the row number at which to begin editing.

Each line consists of a row number, type, name and the limit file.

**Type column** In the Type column, enter 'User' for user login or 'Group' for group name or 'TTY' for the tty name. Enter 'Default' for the default limit profile as a "catch-all" for the rest. Remember that you *don't* need to type these strings. Just use CTRL-E and a pop-up menu will show you the available options and let you choose one.

**Name column** In the Name column, the entries are in a pattern-matching format. The simplest format is a single exact match. In the above example, row one shows this type of match. The user file selects the "special" profile for user id "acctng".

More complex Name formats are possible by using patterns which match a part of the text, rather than an exact match with the whole text value. An example of this is shown above, in row two. The entry "tty.\*" for tty means that this file will select the "terminal" profile for any users which have tty names that begin with "tty" (such as tty/a, tty19, tty/1).

The pattern-matching facilities of the "Name" column are implemented using the standard UNIX regular expression utilities.

There is a powerful and complex syntax for specifying patterns available through this utility, but most purposes can be served with some simple forms:

- The dot character (.) matches any one character. e.g. "staff." would match "staffA" and "staffB".
- \* The asterisk character (\*) will match zero or more occurrences of the previous character or pattern. e.g. "branch.\*" will match "branchacct" and "branchmis".
- [ ] Any string inside square brackets will match one character which occurs in the string. e.g. "tty0[123]" will match "tty01" and "tty02" and "tty03".

If there is more than one row in the user file that matches the selected criteria, the limit profile will only be selected on the first criteria satisfied.

This is very important. In the sample above, user "root" will use the limit "none" no matter what tty is used. User "acctng" will always use the limit "special". If a different user is used, and they are on a device whose name begins "tty", they will use the limit "terminal". If the user is not on a tty type device, and they are in the group "admin", then limit "admingroup" is used. Finally, if none of the other criteria are met, the limit "default" will apply.



In other words, once a user matches one of the criteria in the list no further searching is done. If you wish to combine criteria in more complex ways, use the "Code" feature to do this. That is the purpose of the code script menu.

**Limit column** In the limit column, if you know the name of the limit profile that you want to use, you can type it in directly. The pick-list is available if you are unsure of the available profile names, or if you just prefer picking to typing. Just use CTRL-E to activate the pick-list.

When the pick-list is displayed, the field name currently in the Limit column (if any) will be highlighted.

**RETURN** To select the highlighted field name, press RETURN.

**UP / DOWN** The UP and DOWN arrow keys will move the cursor between rows in the current column.

- CANCEL or CTRL-X      At any time while editing, you can press CANCEL or CTRL-X and the cursor will drop straight to the action bar prompt.
- Change                  From the action bar, you can continue to edit details by selecting Change. A prompt will ask for the row number at which to continue editing.
- Delete                  First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. Then select Delete to remove the marked row.
- Insert                  The Insert action prompts for a row number. A new row will be added and you will be prompted for the data for that row.
- Move                    First use the arrow keys to select the desired row. The selected row is marked with "-->". Then select Move and you will be prompted for a new row number for the selected row.
- Saving Changes      All changes you make to any of the settings are kept in memory and take effect at the next sample period (typically one minute.) Note however that the changes you make in any of the menus need to be saved so that they will be in effect the next time Logmon is started. To save your current setup, use the menu options: Online  Admin  Persist.

# Chapter 5

## The Limit Profile

---

As the LOGMON "sdc" daemon finds users that are to be logged out, it accesses the "User" database discussed in the previous section and opens the limit profile referenced there. A business hours time zone can be set up and different code profiles are chosen for each user depending on whether the user is in business hours or after hours. Or other time based alterations to the selection of a timeout value can be specified.

Time zones, specified in 24 hour clock notation, can be set up in the limit profile file. They default to a start time of midnight (0000) and an end time of 2359.

Select the Limit Profile option from the main menu. The Limit Profile Menu will then be displayed.

```
Limit Profiles                                     Database: Unlocked  Status: Running
NO      Name
--> 0    default
      1    special
      2    terminal
      3    admingroup
      4    none

View      Insert      Copy      Delete      Help      Quit      █
View the Limit Profiles
```

The Limit Profile Menu has an action bar at the base of the window. To select an action, press the first letter of the word, or use the arrow keys to move to the proper option and press RETURN.

The actions are described in the online context help - press QUERY or CTRL-E to see this description.

The active control keys and function keys are described in the online general help - press HELP or ? or CTRL-A to see this description.

## ***Editing a Limit Profile***

You must create a limit corresponding to each "User" as set up in the "User Menu".

- |        |  |
|--------|--|
| View   | To modify an existing limit, first position the cursor to the desired limit with the arrow keys, and then select View. The Limit Profile Form is then displayed, showing all details of the profile. The cursor is positioned at the action bar at the base of the window.                         |
| Insert | The Insert action prompts for a row number. A new row will be added and you will be prompted for the data for that row.  |
| Copy   | First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. If you then select Copy, you will be asked for the desired destination row and its new name. To change the details of this new profile, proceed as for modifying an existing profile. |
| Delete | First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. Then select Delete to remove the marked row.  |

<u>Limit Profile; default</u>		<u>Database; Unlocked</u>	<u>Status; Running</u>
<u>NO</u>	<u>Time</u>	<u>Code Set</u>	
--> 0	0000	night	
1	0700	day	
2	1800	night	



Change Delete Insert Help Quit █

**Change** The change menu is used to alter the settings. You can enter a desired row number to alter or use the arrow keys to select the row before choosing the "change" option.

**Time column** The Time column holds numeric values. The value is always a four-digit number, representing hour and minute (HHMM) on a 24-hour clock.

The above example shows a limit named "default" which will select code profile "day" between 07:00 (7 AM) and 18:00 (6 PM, for the 12 hour thinkers in the USA). Note that the profile has an implied "2359" at the end. To specify a time period in the middle of the day, use three rows, as shown here (it literally reads 0000-0659 is night, 0700-1759 is day, 1800-2359 is night).

**Code Set** Specify the desired Code Set to use during the specified times. Typically this also specified the "action profile". Thus you are indicating the inactivity time to apply at different times of the day.

- QUERY, CTRL-E    If you know the name of the code profile that you want to use, you can type it in directly. The pick-list is available if you are unsure of the available profile names, or if you just prefer picking to typing.
- RETURN            The arrow keys and the RETURN key behave in a predictable manner within the limit profile form. After editing, the cursor moves to the action bar at the base of the window.
- CANCEL or CTRL-X    At any time while editing, you can press CANCEL or CTRL-X and the cursor will drop straight to the action bar prompt.
- Change             From the action bar, you can continue to edit details by selecting Change. You will then choose the row to edit.
- Delete              Use the arrows to select the desired row, which will be marked with "-->". Then select Delete to remove the marked row.
- Insert               Select Insert to add a new record. A prompt asks which row to add - a new record is inserted and subsequent rows move down.
- Saving Changes     All changes you make to any of the settings are kept in memory and take effect at the next sample period (typically one minute.) Note however that the changes you make in any of the menus need to be saved so that they will be in effect the next time Logmon is started. To save your current setup, use the menu options: Online  Admin  Persist.

# Chapter 6

## Overview of Code Profile

---

---

Code profiles are a feature in LOGMON that offers an additional level of control. Codes provide for finer selection of which user is affected by which action. This added layer lies between the limits profile and the actions profile.

Most sites do not use the Code feature. If this feature is not needed, you can use the default script which returns the string "default". This means that each time you set up a "Code" entry in the program, you should specify the left column (the "code") as default. This will be discussed again later.

An external administrator definable program adds to the decision of which action profile should be initiated. The program receives as its parameters the user's name, group, tty and idle time. The program can then do what ever it likes with that information in order to produce an output code to stdout. The output code is compared against the codes in the codeset to decide which action profile is the appropriate one.

You can make the program as powerful or as simple as you like but the output must be a single code word. The name of the program (full path) is definable in the configuration file, "logmon.cnf". It defaults to `code_script`. This can be changed by altering the line in "logmon.cnf" that reads:

```
codeScript = code_check
```

A very simple example script would be:

```
#!/bin/sh
#       A simple code script
#
# $1 is username
# $2 is groupname
# $3 is tty
# $4 is idle time

if [ "$3" = "console" ]; then
  echo console
else
  echo default
fi
```

This sample script would allow you to set up Logmon so that a particular limit profile at a certain time would run an action based on the code "console" if the user was on the console. Otherwise they would get a different action profile, relating to the "default" code.

To use "Codes", alter the `code_check` script as needed, or just use the standard one, which always returns the string "default". Then, from Logmon's main menu:

**Code** Select the Code option from the main menu. The Code Profile Menu will then be displayed.

The Code Profile Menu has an action bar at the base of the window. To select an action, press the first letter of the word or use the arrow keys to move to a desired option and then press RETURN .

**QUERY, CTRL-E** The actions are described in the online context help - press QUERY or CTRL-E to see this description.

**HELP, ?, CTRL-A** The active control keys and function keys are described in the online general help - press HELP or ? or CTRL-A to see this description.

## Editing a Code Profile

There are several example Code Profiles distributed with the Logmon software. You may copy one of these and modify it to suit your needs, or you can start with a new profile.

**View** To modify an existing profile, first position the cursor to the required profile with the arrow keys, and then select View. The Code Profile Form is then displayed, showing all details of the profile. The cursor is positioned at the action bar at the base of the window.

**Delete** First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. Then select Delete to remove the marked row.

**Insert** The Insert action prompts for a row number. A new row will be added and you will be prompted for the data for that row.

```
Code Profile: default          Database: Unlocked  Status: Running
  NO  Return Value          Action Profile
--> 0  default              action_a
```

**Change** From the action bar, select Change to modify the current details. You will be asked for a row number to edit.

---

RETURN	The arrow keys will move the cursor between the entry fields in an intuitive manner. Press RETURN to move forward through the entry fields.
NO column	This is just the row number.
Return Value	This specifies the different code values in this codeset. Note that all strings that are returned by the <code>code_check</code> script must be specified here.
	If you are not using the code feature, or don't understand what this all means, just use the string "default" in this column.
Action Profile	<p>The Action Profile represents the actions to be executed if the <code>code_check</code> script returns the corresponding Return Value.</p> <p>The LOGMON daemon will automatically detect any modifications to the code profile so modifications to the code profile will be reflected in Logmon behavior immediately after saving.</p>
QUERY. CTRL-E	If you know the name of the action profile that you want to use, you can type it in directly. The pick-list is available if you are unsure of the available action profiles, or if you just prefer picking to typing.
RETURN	The arrow keys and the RETURN key behave in a predictable manner within the code profile form.
CANCEL, CTRL-X	At any time while editing, you can press CANCEL or CTRL-X and the cursor will drop straight to the action bar prompt.
Change	From the action bar, you can edit details by selecting Change. You can choose the row to edit.
Delete	Use the arrows to select the desired row, which will be marked with "-->". Then select Delete to remove the marked row.
Insert	Select Insert to add a new record. A prompt asks which row to add - a new record is inserted and subsequent rows move down.

- Saving Changes    All changes you make to any of the settings are kept in memory and take effect at the next sample period (typically one minute.) Note however that the changes you make in any of the menus need to be saved so that they will be in effect the next time Logmon is started. To save your current setup, use the menu options: Online ← Admin ← Persist.
- Quit                Select Quit to exit this menu and return to the next highest menu. This same key is used to exit any menu in Logmon.

# Chapter 7

## The Action Profile

---

The purpose of action profiles are to define what actions are to be performed by Logmon at each 'level' of inactivity, and to determine at what time intervals, (in minutes) people should move between 'levels'. A particular Action profile is selected by Logmon by processing the relevant User, Limit and Code profiles. Once again, Logmon uses the "User" menu to decide on a "Limit". This controls the "Code". The "Code" points to the desired "Action".

All actions defined take the form of scripts that you can alter as needed. These scripts are saved in the `/usr/logmon/scripts` directory.

Specified inactivity idle time in minutes can be set up in the action profile file, and if the inactivity limit is expired, the script will be executed by the Logmon daemon.

Select the Actions option from the main menu. The Action Profile Menu will then be displayed.

```
Action Profiles                                     Database: Unlocked  Status: Running
NO  Name
--> 0  none
    1  admingroup
    2  terminal
    3  30min
    4  120min
    5  acctng
    6  action_a

View  Insert  Copy  Delete  Help  Quit  █
View the Action Profiles
```

The Action Profile Menu has an action bar at the base of the window. To select an action, press the first letter of the word, or move to the desired option and press RETURN.

The actions are described in the online context help - press QUERY or CTRL-E to see this description.

The active control keys and function keys are described in the online general help - press HELP or ? or CTRL-A to see this description.

## ***Editing an Action Profile***

You must create an action profile to match each entry specified in your "code" profiles.

View	To modify an existing profile, first position the cursor to the required profile with the arrow keys, and then select View. The Action Profile Form is then displayed, showing all details of the profile. The cursor is positioned at the action bar at the base of the window.
Insert	The Insert action prompts for a row number. A new row will be added and you will be prompted for the data for that row.
Copy	First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. If you then select Copy, you will be asked for the desired destination row and its new name. To change the details of this new profile, proceed as for modifying an existing profile.
Delete	First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. Then select Delete to remove the marked row.

```

Action Profile: 120min                               Database: Unlocked  Status: Running
  NO  Inactivity      Script
  0   60             warn1
  1   60             warn2
  2   2              kill_coke
--> 3   2             kill2

Change Delete Insert Help Quit █
Change an Action Entry

```

- Change** From the action bar, select Change to modify the current details. You will need to specify the row number to change.
- RETURN** The arrow keys will move the cursor between the entry fields in an intuitive manner. Press RETURN to move forward through the entry fields.
- NO** This column is just the row number and is used for editing purposes.
- Inactivity column** The Inactivity column specifies the number of minutes of inactivity before reaching this level. The value ranges from 0 to 9999.
- Script column** The script column represents the scripts to be executed if the specified number of minutes of inactivity has expired. These scripts are simply executable script files that are in the /usr/logmon/scripts directory.

The above example shows a profile named "120min" which will execute script "warn1" after 60 minutes of inactivity, and the action level of the idle user will be set to 1. If the user remains idle, the SDC daemon will execute script "warn2" after 60 additional minutes of inactivity. If the user is still idle, the script "kill\_coke" will be run two minutes later. Finally, if the user is still on the system and idle after two more minutes, the script "kill12" will be run.

The LOGMON daemon will automatically detect any modifications to the action profile so modifications to the action profile will be reflected in Logmon behavior for the next sample period (typically one minute).

- QUERY, CTRL-E If you know the name of the scripts that you want to use, you can type it in directly. The pick-list is available if you are unsure of the available scripts, or if you just prefer picking to typing.
- RETURN The arrow keys and the RETURN key behave in a predictable manner within the action profile form. If editing is finished then the cursor moves to the action bar at the base of the window.
- CANCEL, CTRL-X At any time while editing, you can press CANCEL or CTRL-X and the cursor will drop straight to the action bar prompt.
- Change From the action bar, you can edit the details for any row by selecting Change. You will be asked for the row to edit.
- Delete Use the arrows to select the desired row, which will be marked with "-->". Then select Delete to remove the marked row.
- Insert Select Insert to add a new record. A prompt asks which row to add - a new record is inserted and subsequent rows move down.
- Saving Changes All changes you make to any of the settings are kept in memory and take effect at the next sample period (typically one minute.) Note however that the changes you make in any of the menus need to be saved so that they will be in effect the next time Logmon is started. To save your current setup, use the menu options: Online ← Admin ← Persist.
- Quit Select Quit to exit this menu and return to the next highest menu. This same key is used to exit any menu in Logmon.

## Timeout scripts

Logmon's SDC daemon logs out idle users and sends them warning messages by executing the provided scripts, or others that you create using the provided scripts as a starting point.

Below is an example of the timeout script which is written for the "Bourne" Shell. All scripts reside under the default directory `/usr/logmon/scripts`.

```
# $0 = script name
# $1 = user name
# $2 = tty
# $3 = pid
# $4 = action level
# $5 = minutes to next level
# $6 = cpu level
# $7 = segment key
# $8 = base working directory

# final check system cpu
$8/bin/confirm $3 $6 $7 $8
if [ $? -eq 2 -o $? -eq 0 ]
then
node=`uname -n`
echo "$node Logmon: $1 is idle. level $4 \n" > $2 &
echo "$node Logmon: logout $1 now ... \n" > $2 &
kill -1 $3
fi
```

LOGMON provides a special command '**confirm**' for last verification of inactivity prior to actually logging out the idle user. `confirm` checks the cpu consumption of the user and returns a special code number to the script program. Four arguments should be passed to this program. They are \$3 (PID of the user), \$6 (cpu consumption level), \$7 (the segment key) and \$8 (base working directory).

The returned codes are listed as follows:

- 0 or 2            User is idle. Proceeds to logout the idle user.
- 255             wrong arguments to `confirm`.
- 1                Cannot execute `confirm` command.



# Chapter 8

## The Rules Profile

---

---

Logmon will logout users based on certain pre-set rules. Under normal conditions, Logmon's SDC daemon will logout the idle users on the system who have not done any work or consumed any cpu time.

However, under some special conditions, the system administrator may find that special logout rules will apply. The rules are not defined on per user basis but on the program level.

Entries define commands/process names and a corresponding CPU threshold levels. Commands are entered without their path names in the form as displayed by "ps -ea" (on some versions of Unix use "ps -c").

Select the Rules option from the main menu. The Rule Profile form will then be displayed.

### ***Editing the Rules Profile***

An empty Rules Profile is distributed with the Logmon software and no specific pre-defined logout rules are set by default.

The rules table could be left blank and no rules specified. Threshold CPU level by default will work like this: If no cpu time is consumed by the user, then the user is considered to be idle and the appropriate Logmon script is executed.

A rules profile example for reference is shown as below. You may modify it and add the entries to the profile to suit your needs.

The cursor is positioned at the first entry field, ready for data entry.

<u>Rule Profiles</u>		<u>Database: Unlocked</u>	<u>Status: Running</u>
<u>NO</u>	<u>Command</u>	<u>CPU Threshold</u>	
--> 0	xclock	1	
1	rlogin	0	

Each line consists of a row number, Command Name and the CPU Level.

In this example, "xclock" processes will use a CPU value of 1 (this is discussed below). People using "rlogin", on the other hand, will never be logged off.

---

Command	The command name column specifies the name of the process or the command the users run on the system. For example, to specify the X Windows clock enter 'xclock'.
CPU Threshold	The CPU column represents the threshold cpu level in ticks of the relevant command being executed by the user during a one minute time interval. More details on selecting a value for this parameter are in the next section.
Change	From the action bar, select Change to modify the current details. You will be asked to specify a row number to edit.
RETURN	The arrow keys will move the cursor between the entry fields in an intuitive manner. Press RETURN to move forward through the entry fields.
CANCEL, CTRL-X	At any time while editing, you can press CANCEL or CTRL-X and the cursor will drop straight to the action bar prompt.
Delete	First use the arrow keys to select the desired row. The selected row is always marked with the "-->" symbol. Then select Delete to remove the marked row.
Insert	The Insert action prompts for a row number. A new row will be added and you will be prompted for the data for that row.
Saving Changes	All changes you make to any of the settings are kept in memory and take effect at the next sample period (typically one minute.) Note however that the changes you make in any of the menus need to be saved so that they will be in effect the next time Logmon is started. To save your current setup, use the menu options: Online ← Admin ← Persist.
Quit	Select Quit to exit this menu and return to the next highest menu. This same key is used to exit any menu in Logmon.

---

## ***Guidelines for setting up threshold CPU level***

Rules are specified by the administrator using the procedures discussed above.

The threshold CPU level is the total CPU usage for the commands/processes run by the user, as specified in the rules profile. If the total cpu time consumed by the user is less than the threshold cpu levels then the user is considered to be idle and the logout script is executed.

What is this value? It is relative to the speed of your system. All that can be generalized is that a larger value will allow more cpu time to be consumed while a command is still considered idle. If you have a command that users run and it is never being considered idle, try to specify a cpu level of 1. Check in the "online" menu to see if this user is still considered active. If so try a larger value, and continue to experiment until the desired value is determined. Note that a few programs will never work properly; this is true for programs that sleep but then wake up and do a great deal of processing on a periodic basis. Computronics occasionally runs into a program like this: for example, a program that sits idle but then every 30 minutes wakes up and uses a great deal of CPU time. In a case like this, a rule will not help. Just specify an inactivity timeout value (in your "action") of less than 30 minutes.

Commands to never be logged off:

CPU level "0" is reserved for the commands that are *never* to be considered idle. A good example at some sites is the remote login command. For example, when the CPU level of the command "rlogin" is set to 0, the Logmon daemon will bypass checking and will not logout the user who executed the "rlogin" command. Other programs that should never be logged off, no matter how long they are idle, should also be set up using a CPU level of 0.

The LOGMON daemon will automatically detect any modifications to the Rules Profile so modifications to the Rules Profile will be reflected in Logmon behavior in the next sample period (typically one minute).



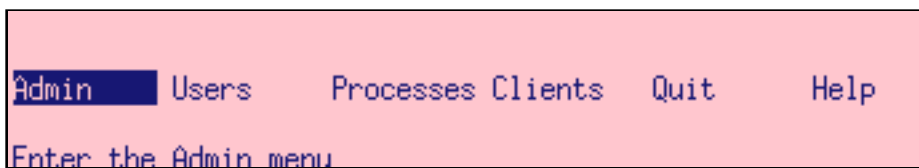
# Chapter 9

## The ONLINE Menu

---

The ONLINE menu choice is used to monitor Logmon's operation, and to see how long users have been idle. It is also used to access a series of administrator functions. These will be discussed in the following pages.

When you first go into ONLINE the following menu bar will appear:



From this menu, select any of the options by pressing the first letter or using the arrow keys and then pressing RETURN. The function of each menu, and the submenus, is presented below.

### Admin

- |          |  |
|----------|--|
| Logger   | Logmon can log a great deal of information in its log files. These options control the level of detail of such logging. Contact Computronics if you have specific logging needs. If all you want to do is to create a log of users who have been logged off the system, that is best done with an "echo" statement in your kill script. Again, if you have questions or would like a sample statement, contact Computronics. |
| Validate | This option will check all of the configuration files (Users, Limits, Actions, etc.) and make sure the information is consistent. Any time you have altered the settings and are not sure if you missed anything, use this option to check your setup.   |
| Persist  | As you alter your settings, they are kept in memory only. If you want to save your revised setup, use this option. The persist option will cause the "tables" files to be rewritten with the current configuration. More details on these files are presented in the section on the Subdirectory Structure.  |

- Suspend** If you wish to keep Logmon from logging users off, you can use the suspend option. This option will notify the `sdcc` process to stop running warning and kill scripts. The daemon will continue to run, but the counters in the various screens will not change. When you go back and resume the `sdcc` (the word suspend will change to resume when the daemon has been suspended), processing will return to normal and the counters will update for lost time, logging off users as configured.
- Lock** Logmon is network aware and you can run the Logmon utility and see your user listing for any node running `sdcc`. It is also possible for more than one user to run the Logmon Administrative Utility at the same time. This can lead to problems if two people make changes to the databases at once. If this might be a problem in your environment, use the lock option. This will set a lock that prevents other users who are running logmon from changing any of the settings. These other users can still view the setup and look at the online screens. When locked, the menu bar will change to unlock. Use this option to remove the lock.

## Users

This option is one of the most useful options in this program. It will bring up a real-time display of the users on your system, how long they have been idle, and if a script has been run to send them a warning message or log them off. Some sites leave a session running this option at all times.

You can scroll up and down the list of users with the arrow keys or PAGE UP and PAGE DOWN.

The headings on the report are as follows:

<u>User</u>	<u>Tty</u>	<u>Group</u>	<u>Pid + Action</u>	<u>Script</u>	<u>Level</u>	<u>Idle</u>	<u>Next</u>
root	/ttys2	adm	1001 none		0	7702	6287

Definitions of items on the User status report

- User** The user ID of the person logged in.
- Tty** The terminal device name which the login session is associated with. If the user is on a network connection this will be a pseudo-tty.
- Group** The group name of the login user.
- Pid** The process id of the shell process which was created to manage the login session.
- Action** Action profile associated with the user.

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Script	The script the Logmon daemon is executing to logout or send messages to the user. If "Max Users" is displayed here, this process is not being monitored due to the size of your Logmon license (see "Licensing" at the start of this manual.)
Level	The action level which the login user has reached.
Idle	The time in minutes that the user was idle.
Next	Minutes left for the user to enter the next action level.

## Changing the Sort Order of the Users Display

It is possible to alter the order that the items are displayed in this screen. This is a very useful feature for monitoring your system usage. By default this screen is in PID order. To change the order, simply press the first letter of one of the column headings. A "+" will appear by the column that controls the sort order. If you press this letter again, the sort order will be reversed and a "-" will appear. For example, to sort by user name, press "U". For TTY use "T". For group name, use "G". And for PID, use the letter "P".

## Options within the Users Screen

You can do even more with this screen. You can force log a user off, for example. Here are the various options:

Dump	This option will make a copy of the data shown in the users screen (as well as lines beyond those that fit on the screen). This is handy for debugging or for keeping system logs. When you press "D" the report will be written to the file "users.lst", in your current directory.
Script	To run a script against any particular user, use the arrow keys to move the "-->" pointer to select a row. Then press "S" and you will be shown a list of scripts from the <code>scripts</code> directory. Highlight the desired script name and you will be asked for confirmation that you wish to run that named script. Press "Y" to the prompt and Logmon will execute the script at this time.
Force	The force option is similar to the script option above. However, this option does not prompt for a script name. Rather, it moves the selected user to the next level, running any script that is set up for that user in the actions. To use this option, first use the arrow keys to move the "-->" pointer to select a row. Then press "F" and you will be asked for confirmation that you wish to move the selected user to the "next level". Press "Y" and this related script will be run.

## Processes

This option is similar to the Users screen, but it shows all processes, along with how long they have been idle. Like the previous screen for Users, this screen can be sorted as desired.

You can scroll up and down the list of processes with the arrow keys or PAGE UP and PAGE DOWN.

The headings on the report are as follows:

Name	User	Tty	Group	pId	Parent	Cpu -
logmon	randy	pty/ttynd	adm	950	29475	10

Definitions of items on the Process status report

Name	The name of the program that the user is running.
User	The user name that is running this process.
Tty	The terminal device name which this process is associated with.
Group	The group name of this process.
Pid	The process id that is running the named program. (Note that the "I" is capitalized as this is the sort key, to differentiate it from "P" for parent).
Parent	The PID number of the parent of this process.
Cpu	The CPU usage of this process during the last sample period. You can use this value as a guide when utilizing the "rules" feature and you are trying to decide on proper cpu level settings.

## Changing the Sort Order of the Process Display

It is possible to alter the order that the items are displayed in this screen. This is a very useful feature for monitoring your system usage. By default this screen is in PID order. To change the order, simply press the first letter of one of the column headings. A "+" will appear by the column that controls the sort order. If you press this letter again, the sort order will be reversed and a "-" will appear. Thus you can do an ascending or descending sort. For example, to sort by user name, press "U". For the program name, use "N". For TTY use "T". For group name, use "G". And for PID, use the letter "I". For the parent process id, use "P". And finally, to sort by cpu usage (a very useful option!), press "C".

## Options within the Process Screen

Dump            This option will make a copy of the data shown in the process screen (as well as lines beyond those that fit on the screen). This is handy for debugging or for keeping system logs. When you press "D" the report will be written to the file "process.lst", in your current directory.

## Clients

Multiple users can be utilizing the Logmon Administrative Utility at the same time. When you select the client option, you will get a list of users that are running this program, and what node they are accessing the program from.



# Chapter 10

## Subdirectory Structure

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It is helpful to know the contents of the Logmon directory:

```
bin/  
code_check  
help/  
logmon.cnf  
logs/  
scripts/  
tables/
```

This tree structure is created when LOGMON is installed. Each of the items in the tree are briefly discussed in the following pages.

### The **bin** subdirectory

The `bin` directory contains the executable files needed to run LOGMON. There are three essential programs required for LOGMON daemon to function. The first is the `logmon` control program, the second is the `sdc` daemon program itself, the third is `confirm` which was discussed earlier. There is also the `setup` program which is used to set up or alter your Logmon license.

### The **code\_check** script

This is a standard editable script that is run whenever a "code" is evaluated. See the manual section on the "Code Profile" for details on this script.

### The **help** subdirectory

All of the on-line help for LOGMON is kept as text files in this directory. The help displays available throughout the product can be customized by modifications to these text files.

### The **logs** subdirectory

This is a default destination for the output generated by the LOGMON daemon processes. Depending on the level of debug output selected, these files can become large and will need to be manually cleaned out on a periodic basis.

### The **scripts** subdirectory

The manual section on Action Profiles discussed this directory. All scripts that are to be automatically executed by Logmon are kept here.

### The **tables** subdirectory

This directory contains all the controlling parameter tables. There are files here which represent the items to be shown in pick-lists, as well as files which specify the idle users, the idle limits, the code sets, the logout rules, actions to be taken according to the time zone settings, etc. There are three sub-directories which hold the definitions of the `action` profiles, `limit` profiles and `code` profiles respectively. There are two files named `user` and `rule`, which contain the related menu data.

Please note that all of these are editable files. Some sites prefer to make changes to the Logmon configuration by editing these files directly. This is particularly handy when a number of changes are being made. Note however, that the files are only read when the "sdc" is started. And furthermore if you make changes to the running configuration and then use the Persist option, these files will be overwritten. Therefore if you are going to alter these files it is best to: 1) stop `sdc`, 2) change these files, 3) restart `sdc`.

### The LOGMON configuration file: `logmon.cnf`

This file specifies the name of the "`code_check`" script. Another parameter that can be specified is the interval between polls which defaults to 60 seconds. There are many other configuration parameters in this file, which you can use to customize the behavior of Logmon and control the amount of information logged. Comments in this file document the values and their usage. Note that the file is only read when `sdc` is first started, so you should stop and restart `sdc` if you are going to change such parameters.

# Chapter 11

## Diagnostic Guide

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### **Trouble Starting logmon**

There are a number of diagnostic messages which may be displayed by the logmon program if it cannot locate or gain the necessary access to the installation directory structure. These messages are displayed immediately after the logmon command is entered, and the program terminates.

For example:

```
$ /usr/logmon/bin/logmon
Could not open /usr/logmon/logs/logmon.03052000.2738.log as log file. errno = 13
$
```

Another message which may be displayed is related to terminal drivers:

```
$ /usr/logmon/bin/logmon
Sorry, I don't know how to deal with your 'xxx' terminal.
$
```

This message is displayed when there is no entry in the terminfo database for the terminal type identified by your **TERM** variable.

In addition to on screen messages about startup problems, messages may be written to the log files. Look in `/usr/logmon/logs`, and you will see various "logmon" and "sdc" logs. Each file is stamped with the date and time that the specified program was run. These logs files should be edited to see any error or warning messages that are generated.

### **Garbled Screen**

The **logmon** program uses the curses library for screen management. This library obtains the definition of screen controls from the **terminfo** entry for the terminal identified by your **TERM** environment variable. Note that the **terminfo** database is separate from the **termcap** file, which is used on some versions of Unix by **vi** and other older screen-based programs.

Check that your **TERM** variable is set correctly. Check that your terminal is set to the right modes and emulation. Check the **terminfo** entry for your terminal type - on some systems the command **infocmp** will provide this listing. Contact Computronics if you have questions about setting up the terminal emulation properly. A good guide is that if "vi" works correctly, so should Logmon.

## ***Failure to logout idle users***

Sometimes the Logmon "sdc" daemon does not function as expected. It might not send warning messages or kill signals to the login sessions of idle users, but still produces the idle user status report on screen correctly. If this happens, check the scripts that you are using for errors. You might also check the returned code of the command `confirm` executed in the timeout script.

If returned code (\$?) is 255, the Logmon daemon failed to get information properly.

If returned code (\$?) is 1, check that the `confirm` program has proper permission to run and that the full pathname of the `confirm` program is correct.