NAME

lard − daemon that logs performance data to a sqlite database

SYNOPSIS

lard -f *database* -c *configfile*

DESCRIPTION

The **lard** daemon logs performance data to a sqlite (>=3.7) *database* (file), which is created if it does not exist. **lard** does (on typical GNU/Linux configurations) not depend on elevated privileges to read performance data from sources like /proc and /sys.

On packaging-supported systems, lard is installed as a runable service (say /etc/init.d/lard) that operates on the /etc/lard/lard.conf, and stores the database in /var/lib/lard/lard.db. A user leanux is created to run the daemon, users requiring access to the lard database need to be in the leanux group (or be root).

Note that lard stores command arguments of top process, which may contain sensitive data.

The daemon operates according to a number of options (NAME=VALUE pairs) as specified in the *configfile*:

DATABASE_PAGE_SIZE
: sqlite3 database page size. a larger page size shows some space and performance benefits at the expense of some memory and a bigger WAL file. this parameter only has effect when the database is first created. Default is DATABASE_PAGE_SIZE=4096.

SQLITE_SOFT_HEAPLIMIT
: soft limit for the SQLite heap. SQLite will try to stay below this limit. Operations such as hash joins and sorts benefit from adequate memory. Default is SQLITE_SOFT_HEAPLIMIT=4194304.

LOG_LEVEL
: 0 only errors, 1 +warnings, 2 +status, 3 +info, 4 +debug. specify which log messages are written to the syslog. Default is LOG_LEVEL=2.

MAINTENANCE_INTERVAL
: maintenance (purge) interval in minutes. each maintenance interval snapshots that exceed either MAX_DB_SIZE or RETAIN_DAYS are removed, and the database is vacuumed and analyzed. Default is MAINTENANCE_INTERVAL=120.

MAX_DB_SIZE
: maximum database file size in MiB. excess snapshots are deleted regardless of RETAIN_DAYS, a value of 0 implies no limit. use as absolute upper limit to prevent unplanned growth of the database file. Default is MAX_DB_SIZE=50.

MAX_DISKS
: limit the number of disks for which statistics are stored each snapshot. Default is MAX_DISKS=16.

MAX_MOUNTS
: limit the number of mount points for which statistics are stored each snapshot. Default is MAX_MOUNTS=16.

MAX_PROCESSES
: limit the number of processes for which statistics are stored each snapshot. Default is MAX_PROCESSES=16.

RETAIN_DAYS
: limit the number of days a snapshot is retained. each maintenance interval, snapshots exceeding RETAIN_DAYS are deleted. note that MAX_DB_SIZE takes precedence over RETAIN_DAYS if MAX_DB_SIZE>0. Default is RETAIN_DAYS=31.

SNAPSHOT_CHECKPOINT
: issue a sqlite checkpoint each SNAPSHOT_CHECKPOINT snapshots. effectively controls the maximum size of sqlite WAL file, a checkpoint merges changes written to the WAL into the database file. Default is SNAPSHOT_CHECKPOINT=6.

SNAPSHOT_INTERVAL
: snapshot interval in seconds. sets the snapshot frequency. note that changing this on an existing lard database can produce awkward results in lrep report timeline charts. Default is SNAPSHOT_INTERVAL=300.

COMMAND_ARGS_IGNORE
: comma-separated list of commands to exclude from argument storing. some commands will have unique arguments on each invocation, requiring storage in the lard database. arguments may also contain dangereous data. note that only the first linux/sched.h:TASK_COMM_LEN characters are matched. Default is COMMAND_ARGS_IGNORE=.

The **lmon** tool can be used to replay and visualize individual snapshots from a lard database.

The **lrep** tool produces HTML reports from a lard database.

The database schema, including table definitions and comments, can be displayed with the '.schema' or '.schema tablename' command in sqlite.

BUGS

Report bugs, documentation errors and suggestions at https://github.com/jmspit/leanux/issues.

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SEE ALSO

lblk(1), lmon(1), lrep(1), lsys(1)