

LibreNMS

Campus Network Design Workshop

Installing LibreNMS - tuning

Goals

- Make LibreNMS perform better by tuning MySQL and installing rrdcached

Notes

- Commands preceded with “\$” imply that you should execute the command as a general user - not as root.
- Commands preceded with “#” imply that you should be working as root.
- Commands with more specific command lines (e.g. “rtrX>” or “mysql>”) imply that you are executing commands on remote equipment, or within another program.
- These instructions assume you are the root user. If you are not, prepend ‘sudo’ to the shell commands (the ones that aren’t at ‘mysql>’ prompts) or temporarily invoke root privileges with “sudo -s”.

Install rrdcache support for LibreNMS

rrdcache allows LibreNMS to write information about devices to memory instead of directly to disk. LibreNMS is a resource-intensive tool and adding memory cache support to LibreNMS will lessen the load on your server.

To do this first become root if your not already the root user:

```
$ sudo bash
```

Then install the rrdcached caching package:

```
# apt-get install rrdcached  
# editor /etc/default/rrdcached
```

And change the file so that it looks like this:

```
# /etc/default file for RRD cache daemon

# Full path to daemon
DAEMON=/usr/bin/rrdcached

# Optional override flush interval, in seconds.
WRITE_TIMEOUT=1800

# Optional override maximum write delay, in seconds.
WRITE_JITTER=1800

# Optional override number of write_threads
WRITE_THREADS=4

# Where database files are placed. If left unset, the default /tmp will
# be used. NB: The daemon will reject a directory that has symlinks as
# components. NB: You may want to have -B in BASE_OPTS.
BASE_PATH=/opt/librenms/rrd/

# Where journal files are placed. If left unset, journaling will
# be disabled.
JOURNAL_PATH=/var/tmp/

# FHS standard placement for process ID file.
PIDFILE=/var/run/rrdcached.pid

# FHS standard placement for local control socket.
SOCKFILE=/var/run/rrdcached.sock

# Optional override group that should own/access the local control
# socket
SOCKGROUP=librenms

# Optional override access mode of local control socket.
#SOCKMODE=0660

# Optional unprivileged group to run under when daemon. If unset
# retains invocation group privileges.
DAEMON_GROUP=librenms

# Optional unprivileged user to run under when daemon. If unset
# retains invocation user privileges.
DAEMON_USER=librenms
```

```
# Any other options not specifically supported by the script (-P, -f,  
# -F, -B).
```

```
BASE_OPTIONS="-F -B"
```

Save the file and exit and then:

```
# systemctl restart rrdcached
```

Next edit the file `"/opt/librenms/config.php"` and change one line and add another:

```
# cd /opt/librenms  
# editor config.php
```

Find the line:

```
#$config['rrdcached']      = "unix:/var/run/rrdcached.sock";
```

And change it to:

```
$config['rrdcached']      = "unix:/var/run/rrdcached.sock";
```

Find the line:

```
$config['rrdtool_version'] = ;
```

and be sure it matched the version of rrdtool you are using. In our case 1.5.5, or:

```
$config['rrdtool_version'] = '1.5.5';
```

Now we can restart the Apache web server to pick up all the various changes we have made.

```
# systemctl restart apache2
```

Fine tuning MySQL

There are a few MySQL server settings we want to add to optimize how LibreNMS uses the MySQL database server back end.

First, go to the correct MySQL configuration directory:

```
# /etc/mysql/conf.d
```

We will create the file `librenms.cnf` and add in a few statements:

```
# editor librenms.cnf
```

In this file add the following lines:

```
[mysqld]
```

```
# From installation instructions
```

```
# http://docs.librenms.org/Installation/Installation-Ubuntu-1604-Apache/
```

```
innodb_file_per_table=1
```

```
# Required to prevent corruption of database with mysql 5.7+
```

```
# https://github.com/librenms/librenms/issues/3647
```

```
# https://git.nsrc.org/nsrc/netmgmt/issues/3
```

```
sql-mode=""
```

```
# Required for decent performance
```

```
# http://docs.librenms.org/Support/Performance/
```

```
# http://dev.mysql.com/doc/refman/5.7/en/innodb-parameters.html#sysvar\_innodb\_flush\_log\_at\_t
```

```
innodb_flush_log_at_trx_commit=0
```

Now save the file and restart the MySQL server:

```
# systemctl restart mysql
```

If you are interested in the details about this change you can read about it at

<http://dev.mysql.com/doc/refman/5.7/en/innodb-multiple-tablespaces.html>

=> YOU CAN NOW PROCEED TO THE BASIC CONFIGURATION LAB!

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