LibreNMS

Installing LibreNMS

Goals

- Learn how to initially install the LibreNMS Network Management System

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`.

Create database

NOTE: These instructions are based on the official LibreNMS installation notes/) and have been tested on a fresh install of Ubuntu 14.04.

We will assume that the database is running on the same machine as your network management server (this is the most common initial deployment scenario).

First become root:

```
$ sudo bash
```

Then install mysql and configure:

```
# apt-get update
# apt-get install mysql-server mysql-client
# mysql -uroot -p
```

You can select any password for the mysql root user. But *be absolutely sure* that you remember what you choose here. You will use this later.

Input the MySQL root password to enter the MySQL command-line interface where you will get a `mysql>` prompt.

Create the database:

```
CREATE DATABASE librenms;
GRANT ALL PRIVILEGES ON librenms.*
TO 'librenms'@'localhost'
IDENTIFIED BY '<CLASS_PASSWORD>'
;
FLUSH PRIVILEGES;
exit
```

PLEASE NOTE

Here we are using <CLASS*PASSWORD> as the password for LibreNMS to access MySQL. Please replace <CLASS*PASSWORD> with, you guessed it, the class password :)

Install LibreNMS

The NMS is the host is where the web server and SNMP poller run.

Install the required software:

```
apt-get install libapache2-mod-php5 php5-cli php5-mysql php5-gd php5-snmp \
php-pear php5-curl snmp graphviz php5-mcrypt php5-json apache2 fping \
imagemagick whois mtr-tiny nmap python-mysqldb snmpd php-net-ipv4 \
php-net-ipv6 rrdtool git
```

Here is the command above on a single line that may be easier to copy and paste in to your terminal:

---

apt-get install libapache2-mod-php5 php5-cli php5-mysql php5-gd php5-snmp php-pear php5-curl snmp graphviz php5-mcrypt php5-json apache2 fping imagemagick whois mtr-tiny nmap python-mysqldb snmpd php-net-ipv4 php-net-ipv6 rrdtool git

---

The packages listed above are an all-inclusive list of packages that were necessary on a clean install of Ubuntu 14.04.

Post install configuration

snmp

You need to configure snmpd appropriately if you have not already done so. We will do a minimal snmp configuration on our server:

```
# mv /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.orig
```

```
# editor /etc/snmp/snmpd.conf
```

and, add the following line to the empty file:

```
rocommunity NetManage 127.0.0.1
```

And, now restart the snmp service so that the changes become active.

```
# service snmpd restart
```

You can verify that snmp now responds to you locally by typing:

```
# snmpstatus -v2c -c NetManage 127.0.0.1 sysStatus
```

php

In both `/etc/php5/apache2/php.ini` and `/etc/php5/cli/php.ini`, ensure `date.timezone` is set to your preferred time zone.

See http://php.net/manual/en/timezones.php or files under `/usr/share/zoneinfo` for a list of supported timezones. For this workshop we are all going to use the same timezone, that is **PLEASE USE** UTC only. If you select anything other than UTC then other programs will not work properly.

In the two archives noted above find the linea that reads:

```
;date.timezone =
```

and change it to:

```
date.timezone = Etc/UTC
```

Save and exit from the files.

Adding the LibreNMS user

We need to create a LibreNMS system user, `librenms`

```
# useradd librenms -d /opt/librenms -M -r
# usermod -a -G librenms www-data
```

Cloning the LibreNMS source code with git

LibreNMS is installed using git. If you're not familiar with git, check out the [git book][2] or the tips at [git ready][3]. The initial install from github.com is called a `git clone`; subsequent updates are done through `git pull`.

The initial clone can take quite a while (nearly 3 minutes on a 10Mbps connection is typical) as the size of the software repository is 220+ MB in size.

Run the following:

```
# cd /opt
# git clone --depth 1 https://github.com/librenms/librenms.git librenms
```

At this point, you should have a `librenms` directory, with the most recent revision checked out.

Web Interface

To prepare the web interface (and adding devices shortly), you'll need to create and change the ownership of a directory as well as create an Apache Virtul Host definition.

First, create and chown the `rrd` directory and create the `logs` directory:

```
# cd /opt/librenms
# mkdir rrd logs
# chown -R librenms:librenms /opt/librenms
# chmod 775 rrd
# chown www-data /opt/librenms
```

Next, create `/etc/apache2/sites-available/librenms.conf`:

```
 # editor /etc/apache2/sites-available/librenms.conf
```

Add the following lines:

```
<VirtualHost *:80>
  DocumentRoot /opt/librenms/html/
  ServerName  librenms.campusN.ws.nsrc.org
  CustomLog /opt/librenms/logs/access_log combined
  ErrorLog /opt/librenms/logs/error_log
  AllowEncodedSlashes NoDecode
  <Directory "/opt/librenms/html/">
    Require all granted
    AllowOverride All
    Options FollowSymLinks MultiViews
  </Directory>
</VirtualHost>
```

Change the X in `librenms.campusX.ws.nsrc.org` to your PC number.

On Ubuntu 14.04, `mcrypt` is not enabled on install. Run the following to enable it:

```
# php5enmod mcrypt
```

Now enable the Virtual Host, but wait to restart Apache

```
# a2ensite librenms.conf
# a2enmod rewrite
```

Don't restart the Apache web server just yet. Wait for to finish the next section before doing that.

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 do:

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

At the bottom of the file /etc/default/rrdcached you will add the following lines:

```
DAEMON=/usr/bin/rrdcached
WRITE_TIMEOUT=1800
WRITE_JITTER=1800
BASE_PATH=/opt/librenms/rrd/
JOURNAL_PATH=/var/lib/rrdcached/journal/
PIDFILE=/var/run/rrdcached.pid
SOCKFILE=/var/run/rrdcached.sock
SOCKGROUP=librenms
DAEMON_GROUP=librenms
DAEMON_USER=librenms
BASE_OPTIONS="-B -F"
```

Save the file and exit and then:

```
# service rrdcached restart
```

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

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

Find the line:

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

And change it to:

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

And, add this line just below:

```
$config['rrdtool_version'] = 1.5;
```

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

```
# service apache2 restart
```

Web installer

You can choose either a web configuration or manual configuration at the command line. We're going to use the Web installer, which is by far the easiest, but we'll include the manual configuration as a reference at the end of this document.

At this stage you can launch the web installer by going to

http://librenms.campusX.ws.nsrc.org/install.php

Follow the onscreen instructions.

- Stage 0 is a summary of the PHP modules installed, normally you should just click on `Next Stage`
- Stage 1 prompts you for the database settings. Enter
  - DB Host: localhost
  - DB User: librenms
  - DB Pass: <CLASS_PASSWORD>
  - DB Name: librenms
- Stage 2 is the DB creating itself - it should finish correctly, and you simply click on `Goto Add User` at the bottom
- Stage 3: enter a username, password and E-mail address. This will become the login you use to access the web interface.
  We suggest you use `sysadm`, the class password, and your own E-mail address.
- Stage 4 should show you the successful user creation, click on `Generate Config`
- Stage 5: the interface should show, at this point:

"The config file has been created"

You can now click `Finish install`.

Note: **IF** the installer tells you it can't write the configuration file, it may be that you forgot to run `chown www-data /opt/librenms`

You should try and fix the problem, and reload http://librenms.campusX.ws.nsrc.org/install.php.

See below if you still have problems.

- Stage 6: you are done!

You can now follow the instructions and click where it says `click here to login to your new install`.

A useful tool is provided with LibreNMS to help verify that the software is installed correctly.

Let's try it out:

```
# cd /opt/librenms
# ./validate.php
```

You may see warnings about the software not being up to date, and some more about permissions. You can probably ignore these for now, but it might come in useful later if you experience issues with LibreNMS.

We can now secure the `/opt/librenms` directory again:

```
# chown librenms /opt/librenms
```

Fine tuning MySQL

There is one setting we need to add and one we want to be sure is included for your MySQL database server that will help LibreNMS to run more efficiently. You need to edit the file /etc/mysql/my.cnf:

```
# editor /etc/mysql/my.cnf
```

Under the section of the file titled `# * InnoDB` add the following two lines to the file:

```
innodb_file_per_table   = 1
innodb_flush_log_at_trx_commit = 0
```

Now save the file and restart the MySQL server:

```
# service mysql restart
```

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 BASIC CONFIGURATION! ⇐

If you're still experiencing problems...

If it still doesn't work, you will need to copy the generated config the configuration from the browser window, create a new file `/opt/librenms/config.php` with a text editor, and paste the config into this file).

(Remember if you are using “vi” to enter insert mode before you paste)

From:
https://workshops.nsrc.org/dokuwiki/ - **Workshops**

Permanent link:
https://workshops.nsrc.org/dokuwiki/2016/uni-of-guam/librenms-installation

Last update: **2016/07/27 06:28**