Configuring LibreNMS on Ubuntu 20.04 LTS

This will guide you through installing LibreNMS setup on Ubuntu 20.04 LTS server with NGINX running as the web server.

Requirements

- Linux Server running Ubuntu 20.04 LTS
- NGINX
- sudo access to the server. All following commands have to be entered as the root user. Best way to do it is, by login in as root with `sudo su`

Installation Packages

`apt install software-properties-common`

`add-apt-repository universe`

`apt update`

`apt install acl curl composer fping git graphviz imagemagick mariadb-client mariadb-server mtr-tiny nginx-full nmap php7.4-cli php7.4-curl php7.4-fpm php7.4-gd php7.4-json php7.4-mbstring php7.4-mysql php7.4-snmp php7.4-xml php7.4-zip rrdtool snmp snmpd whois unzip python3-pymysql python3-dotenv python3-redis python3-setuptools python3-systemd`

Adding User for LibreNMS

Adding user into LibreNMS

`useradd librenms -d /opt/librenms -M -r -s "$(which bash)"`

Clone LibreNMS from github

Change the directory to `cd /opt` Then run this script `git clone https://github.com/librenms/librenms.git`

After that, Setting Permission for LibreNMS

`chown -R librenms:librenms /opt/librenms`

`chmod 771 /opt/librenms`

`setfacl -d -m g::rwx /opt/librenms/rrd /opt/librenms/logs /opt/librenms/bootstrap/cache/ /opt/librenms/storage/`

`setfacl -R -m g::rwx /opt/librenms/rrd /opt/librenms/logs /opt/librenms/bootstrap/cache/ /opt/librenms/storage/`

Installing PHP dipendencies

`su - librenms`

`./scripts/composer_wrapper.php install --no-dev`

`exit`

If this script fails, The workaround is to install the composer package manually.

```
wget https://getcomposer.org/composer-stable.phar
mv composer-stable.phar /usr/bin/composer
chmod +x /usr/bin/composer
```

Set timeZone for LibreNMS

In this link you can select your timezone https://php.net/manual/en/timezones.php (Asia/ Colombo)

Ensure date.timezone is set in php.ini to your preferred time zone. (you can use nano or vi to edit)

`vi /etc/php/7.4/fpm/php.ini`

`vi /etc/php/7.4/cli/php.ini`

(`;date.timezone = Asia/Colombo (remove ";" and add Asia/ Colombo)`)

set the time zone

`timedatectl set-timezone Etc/UTC` (Asia/ Colombo)

Configuring Maria DB

Use vi or nano to edit

`vi /etc/mysql/mariadb.conf.d/50-server.cnf`

Add these within the [mysqld]

`innodb_file_per_table=1`

`lower_case_table_names=0`

after adding the above lines, save and exit. Then, enable and restart the DB

`systemctl enable mariadb`

`systemctl restart mariadb`

loggin to the db

`mysql -u root`

now you have to create a database for LibreNMS

NOTE: Change the 'password' below to something secure.

```
CREATE DATABASE librenms CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
CREATE USER 'librenms'@'localhost' IDENTIFIED BY 'password';
GRANT ALL PRIVILEGES ON librenms.* TO 'librenms'@'localhost';
FLUSH PRIVILEGES;
exit
```

Configure PHP-FPM

`cp /etc/php/7.4/fpm/pool.d/www.conf /etc/php/7.4/fpm/pool.d/librenms.conf`

`vi /etc/php/7.4/fpm/pool.d/librenms.conf`

Change [www] to [librenms]

`[librenms]`

Change user and group to "librenms":

`user = librenms`

`group = librenms`

Change listen to a unique name:

add the below line

`listen = /run/php-fpm-librenms.sock`

before this `;listen = /run/php/php7.4-fpm.sock`

Web server configuration

Editing librenms configuration file

`vi /etc/nginx/conf.d/librenms.conf`

edit server_name as required:

```
server {
 listen      80;
 server_name librenms.learn.com; (used learn as example, you can use your ins
 root        /opt/librenms/html;
 index       index.php;

 charset utf-8;
 gzip on;
 gzip_types  text/css  application/javascript  text/javascript  application/x-jav
 location / {
  try_files  $uri  $uri/  /index.php?$query_string;
 }
 location ~ [^/]\.php(/|$) {
  fastcgi_pass unix:/run/php-fpm-librenms.sock;
  fastcgi_split_path_info ^(.+\.php)(/.+)$;
  include fastcgi.conf;
 }
 location ~ /\.(?!well-known).* {
  deny all;
 }
}
```

restart nginx and php

`rm /etc/nginx/sites-enabled/default`

`systemctl restart nginx`

`systemctl restart php7.4-fpm`

Enable lnms command completion

`ln -s /opt/librenms/lnms /usr/bin/lnms`

`cp /opt/librenms/misc/lnms-completion.bash /etc/bash_completion.d/`

Configure snmpd

`cp /opt/librenms/snmpd.conf.example /etc/snmp/snmpd.conf`

`vi /etc/snmp/snmpd.conf`

RANDOMSTRINGGOESHERE and set your own community string

`curl -o /usr/bin/distro https://raw.githubusercontent.com/librenms/librenms-agent/master/snmp/distro`

`chmod +x /usr/bin/distro`

`systemctl enable snmpd`

```
systemctl restart snmpd
```

Cron job

```
cp /opt/librenms/librenms.nonroot.cron /etc/cron.d/librenms
```

Copy logrotate config

LibreNMS keeps logs in /opt/librenms/logs. Over time these can become large and be rotated out. To rotate out the old logs you can use the provided logrotate config file:

```
cp /opt/librenms/misc/librenms.logrotate /etc/logrotate.d/librenms
```

Web installer

```
chown librenms:librenms /opt/librenms/config.php
```

Final Steps

Use your Ip address in the browser and you will load the below setup page. **(Using Windows Inside Xp)**

Troubleshooting

```
sudo su - librenms
```

```
./validate.php
```

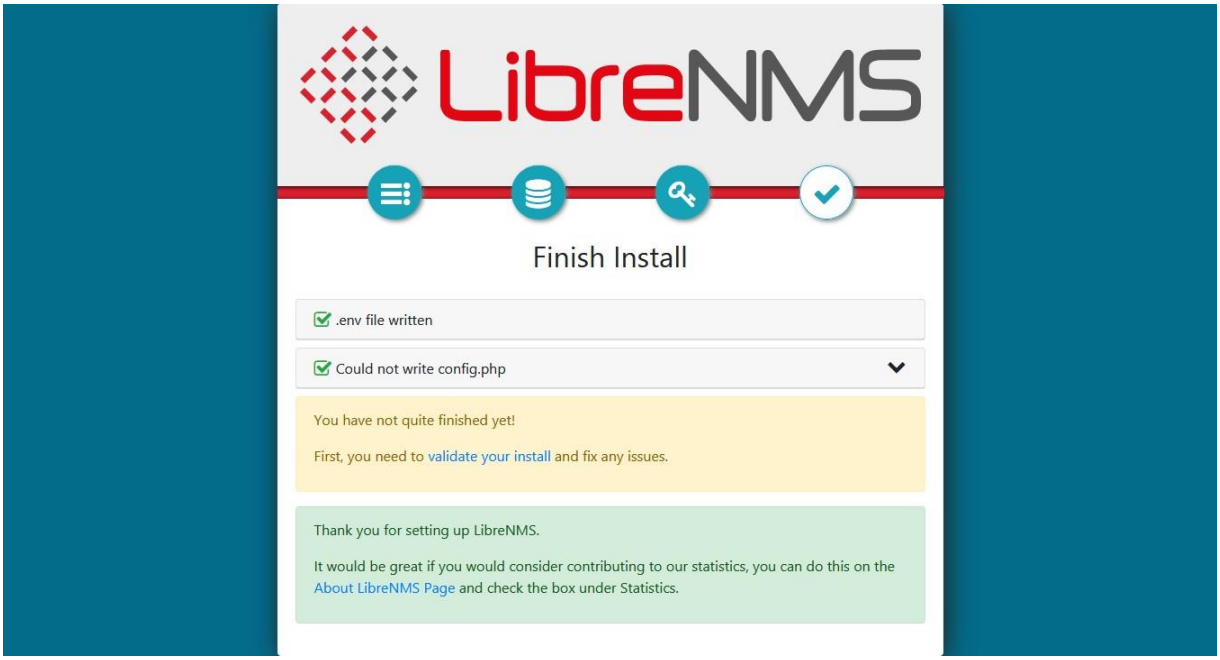
Login in to LibreNMS

Once you finish setting up , its time to log into the system. Use your IP address in the browser and you will load the below page.In here the web installer will prerequisite check.

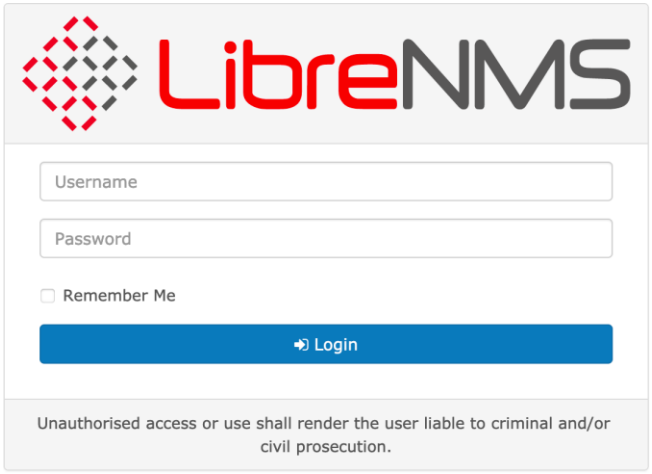
Next, Provide MySQL server connection details and build a database for LibreNMS network monitoring software.

Creating User

Finish Installation

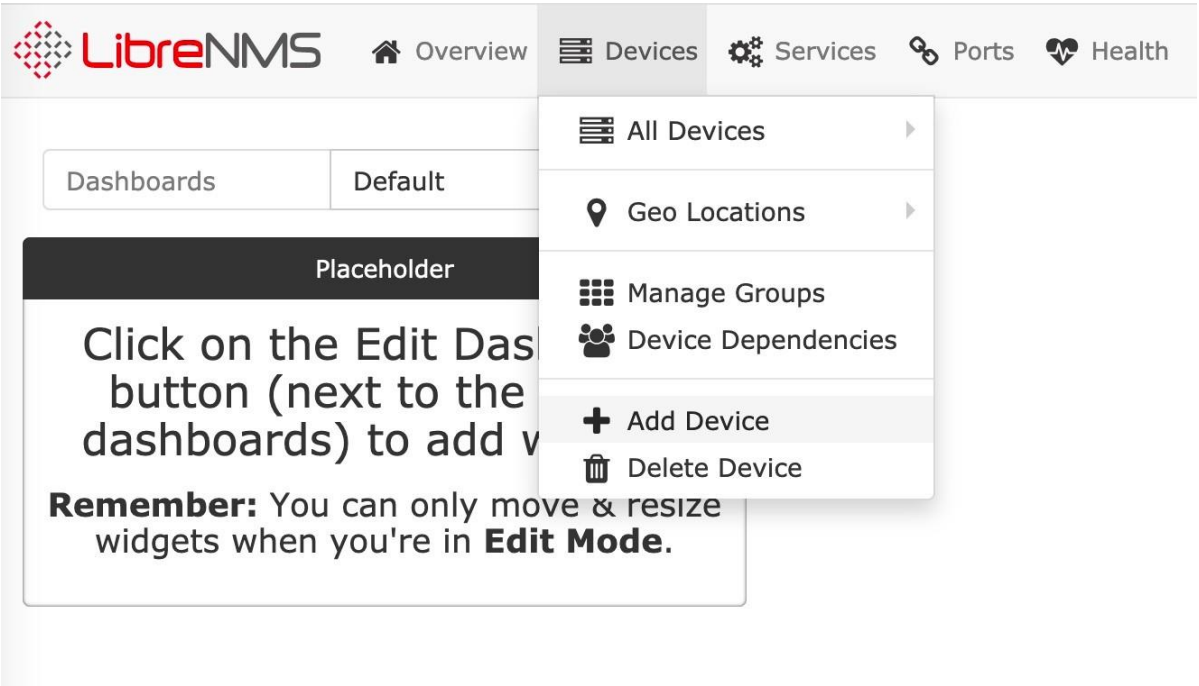


Click on 'Validate your Install' Then, you will direct to LibreNMS login page. Use your credentials to log in.



Adding a device

To add a device click on Devices and click on Add Devices



Once you click on Add Device you will appear the below page. By entering Hostname or IP and Community you can add a device to the system.