

How to Install and Setup Cacti on Ubuntu 16.04

Updated May 31, 2016 By [Kashif Siddique](#) [MONITORING](#), [UBUNTU](#)

Hello and welcome to our today's article on another open source Network monitoring tool that is Cacti. Cacti is a complete network graphing solution designed with RRDTool's data storage and graphing functionality. It can graph network bandwidths with SNMP, shell or perl scripts. RRDtool is a program developed by the Swiss Tobi Oeticker who was already the creator of the famous MRTG. RRDtool is developed using the "C" programming language and it stores the collected data on ".rrd" files. The number of records in a ".rrd" file never increases, meaning that old records are frequently removed. This implies that one obtains precise figures for recently logged data, whereas figures based on very old data are mean value approximations. By default, you can have daily, weekly, monthly and yearly graphs.

Some of the primary features of Cacti are the following:

- unlimited graph items
- flexible data sources
- custom data-gathering scripts
- built-in SNMP support
- graph templates
- data source templates
- host templates
- user-based management and security
- tree, list, and preview views of graph data
- auto-padding support for graphs
- graph data manipulation

Using Cacti you can easily monitor the performance of your computers, networks, servers, router, switch, services (apache, mysql, dns, harddisk, mail server), SANs, applications, weather measurements, etc. Cacti's installation is very simple and you don't need to be expert to complete its setup. You can also add plugins to the Cacti for enabling the possibility to integrate other free tools like ntop or php weathermap.

1) Prerequisites:

The basic requirement for Cacti is that you must have LAMP stack setup on your server, before getting started with the installation of Cacti. Login to your Ubuntu server and run below command to update your Ubuntu server.

```
# apt-get update
# apt-get upgrade
```

Before installing the LAMP packages, please do note that Cacti do not support MySQL-Server-5.7 as yet. So, we will be using the 'MySQL-Server-5.6' by adding it repository and then update the system with below commands.

```
# add-apt-repository 'deb http://archive.ubuntu.com/ubuntu trusty universe'
# apt-get update
```

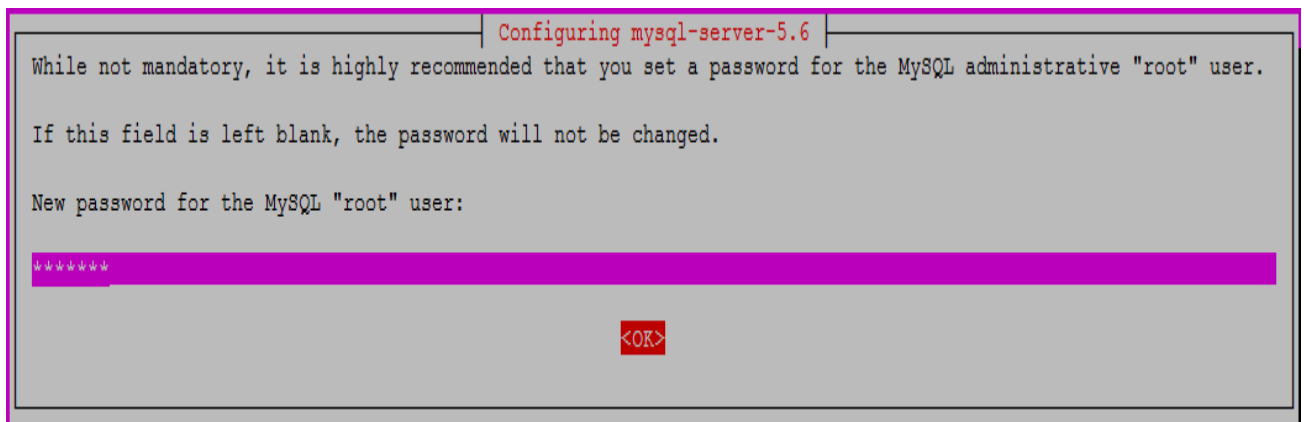
Now install the following packages for Cacti setup on your Ubuntu server with the help of given below command.

```
# apt-get install apache2 mysql-server-5.6 php libapache2-mod-php
```

Press 'Y' to continue installation on LAMP package including its additional required packages as shown.

```
root@ubuntu-16:~#
root@ubuntu-16:~# add-apt-repository 'deb http://archive.ubuntu.com/ubuntu trusty universe'
root@ubuntu-16:~#
root@ubuntu-16:~# apt-get update
Hit:1 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:2 http://gb.archive.ubuntu.com/ubuntu xenial InRelease
Ign:3 http://archive.ubuntu.com/ubuntu trusty InRelease
Hit:4 http://gb.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:5 http://archive.ubuntu.com/ubuntu trusty Release
Hit:6 http://gb.archive.ubuntu.com/ubuntu xenial-backports InRelease
Reading package lists... Done
root@ubuntu-16:~#
root@ubuntu-16:~# apt-get install apache2 mysql-server-5.6 php libapache2-mod-php
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-image-3.19.0-15-generic linux-image-extra-3.19.0-15-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libaio1 libapache2-mod-php7.0 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libdbd-mysql-perl
  libdbi-perl libhtml-template-perl liblua5.1-0 libmysqlclient20 libterm-readkey-perl mysql-client-5.6 mysql-client-core-5.6 mysql-common
  mysql-server-core-5.6 php-common php7.0 php7.0-cli php7.0-common php7.0-json php7.0-opcache php7.0-readline ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom php-pear libclone-perl libmldbm-perl libnet-daemon-perl libsql-statement-perl
  libipc-sharedcache-perl mailx tinycat openssl-blacklist
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libaio1 libapache2-mod-php libapache2-mod-php7.0 libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libdbd-mysql-perl libdbi-perl libhtml-template-perl liblua5.1-0 libmysqlclient20 libterm-readkey-perl mysql-client-5.6
  mysql-client-core-5.6 mysql-common mysql-server-5.6 mysql-server-core-5.6 php php-common php7.0 php7.0-cli php7.0-common php7.0-json php7.0-opcache
  php7.0-readline ssl-cert
0 to upgrade, 31 to newly install, 0 to remove and 25 not to upgrade.
Need to get 26.6 MB of archives.
After this operation, 185 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu trusty/universe amd64 mysql-client-core-5.6 amd64 5.6.16-1-exp1 [4,084 kB]
Get:2 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libapr1 amd64 1.5.2-3 [86.0 kB]
Get:3 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libaprutil1 amd64 1.5.4-1build1 [77.1 kB]
Get:4 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libaprutil1-dbd-sqlite3 amd64 1.5.4-1build1 [10.6 kB]
Get:5 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libaprutil1-ldap amd64 1.5.4-1build1 [8,720 B]
Get:6 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 liblua5.1-0 amd64 5.1.5-8ubuntu1 [102 kB]
Get:7 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 apache2-bin amd64 2.4.18-2ubuntu3 [918 kB]
```

During the installation process, you will be asked to configure the root password of MySQL server. Press 'OK' after setting up the password and then repeat the same upon next prompt.



2) Install SNMP, SNMPD and RRDtools:

We need to install few other packages that are necessary for fully functional Cacti setup and to monitor the 'localhost' where cacti is installed you need to install and configure the service 'snmpd'.

Run the below command to install these packages on your Ubuntu 16.04 server and press 'Y' key to continue.

```
# apt-get install snmp snmpd rrdtool
```

```
root@ubuntu-16:~#  
root@ubuntu-16:~# apt-get install snmp snmpd rrdtool  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  libsensors4 libsnmp-base libsnmp30  
Suggested packages:  
  lm-sensors snmp-mibs-downloader librrds-perl snmptrapd  
The following NEW packages will be installed:  
  libsensors4 libsnmp-base libsnmp30 rrdtool snmp snmpd  
0 to upgrade, 6 to newly install, 0 to remove and 25 not to upgrade.  
Need to get 1,277 kB/1,633 kB of archives.  
After this operation, 5,831 kB of additional disk space will be used.  
Do you want to continue? [Y/n] Y  
Get:1 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libsensors4 amd64 1:3.4.0-2 [28.4 kB]  
Get:2 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libsnmp-base all 5.7.3+dfsg-1ubuntu4 [224 kB]  
Get:3 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libsnmp30 amd64 5.7.3+dfsg-1ubuntu4 [813 kB]  
Get:4 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 snmp amd64 5.7.3+dfsg-1ubuntu4 [154 kB]  
Get:5 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 snmpd amd64 5.7.3+dfsg-1ubuntu4 [57.1 kB]  
Fetched 1,277 kB in 0s (6,571 kB/s)  
Preconfiguring packages ...  
Selecting previously unselected package libsensors4:amd64.  
(Reading database ... 68797 files and directories currently installed.)  
Preparing to unpack .../libsensors4_1:3.4.0-2_amd64.deb ...  
Unpacking libsensors4:amd64 (1:3.4.0-2) ...  
Selecting previously unselected package libsnmp-base.  
Preparing to unpack .../libsnmp-base_5.7.3+dfsg-1ubuntu4_all.deb ...  
Unpacking libsnmp-base (5.7.3+dfsg-1ubuntu4) ...  
Selecting previously unselected package libsnmp30:amd64.  
Preparing to unpack .../libsnmp30_5.7.3+dfsg-1ubuntu4_amd64.deb ...  
Unpacking libsnmp30:amd64 (5.7.3+dfsg-1ubuntu4) ...  
Selecting previously unselected package snmp.  
Preparing to unpack .../snmp_5.7.3+dfsg-1ubuntu4_amd64.deb ...  
Unpacking snmp (5.7.3+dfsg-1ubuntu4) ...
```

3) Install Cacti on Ubuntu 16.04:

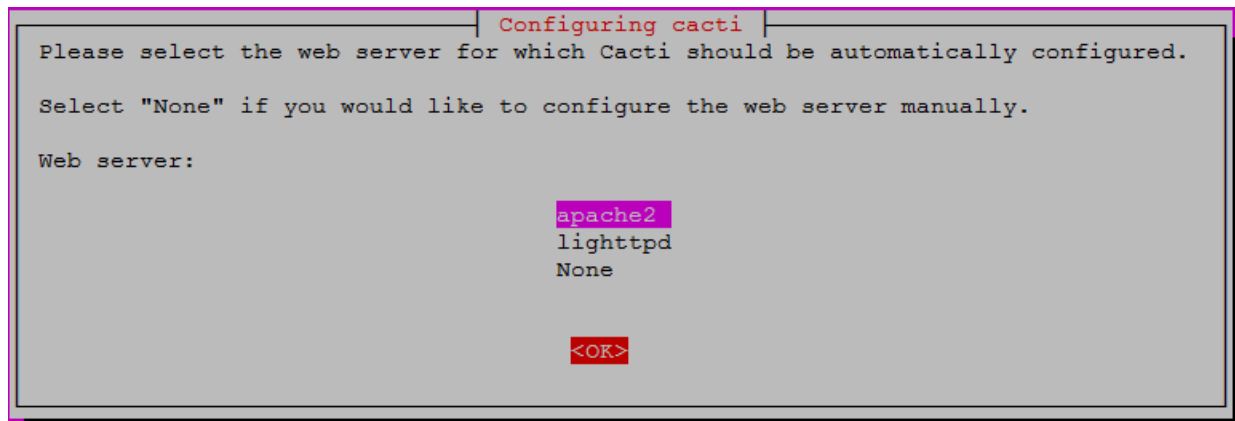
Now we can start Cacti installation as we have completed all of its required dependencies. Issue the below command to start installing Cacti packages and press 'Y' to continue.

```
# apt-get install cacti cacti-spine
```

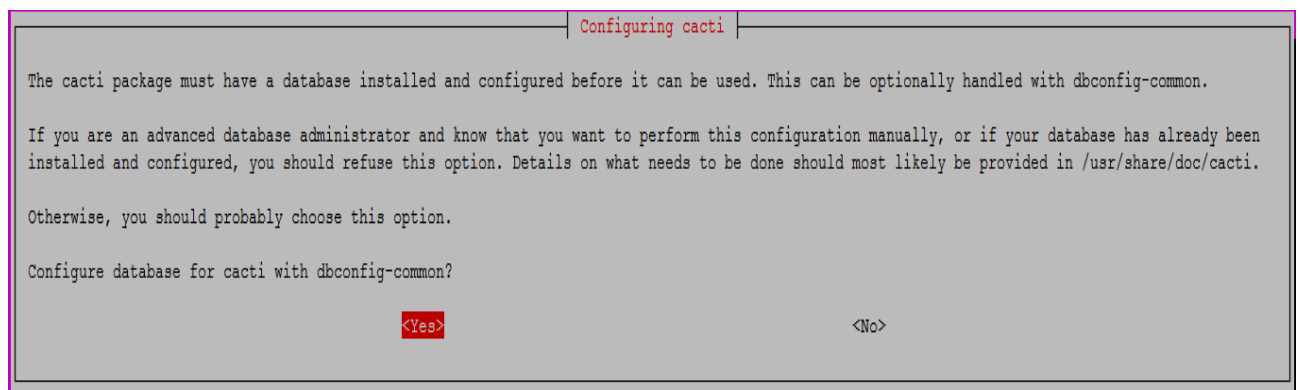
```
root@ubuntu-16:~#  
root@ubuntu-16:~# apt-get install cacti cacti-spine  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  linux-image-3.19.0-15-generic linux-image-extra-3.19.0-15-generic  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  dbconfig-common dbconfig-mysql javascript-common libjs-jquery libjs-jquery-cookie libjs-jquery-ui libjs-jquery-ui-theme-ui-lightness libphp-adodb  
  libxslt1.1 php-mbstring php-mysql php-snmp php-xml php7.0-mbstring php7.0-mysql php7.0-snmp php7.0-xml  
Suggested packages:  
  php-ldap moreutils snmp-mibs-downloader mysql-server | mariadb-server libjs-jquery-ui-docs php-adodb  
The following NEW packages will be installed:  
  cacti cacti-spine dbconfig-common dbconfig-mysql javascript-common libjs-jquery libjs-jquery-cookie libjs-jquery-ui libjs-jquery-ui-theme-ui-lightness  
  libphp-adodb libxslt1.1 php-mbstring php-mysql php-snmp php-xml php7.0-mbstring php7.0-mysql php7.0-snmp php7.0-xml  
0 to upgrade, 19 to newly install, 0 to remove and 25 not to upgrade.  
Need to get 4,295 kB of archives.  
After this operation, 15.0 MB of additional disk space will be used.  
Do you want to continue? [Y/n] Y  
Get:1 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 dbconfig-common all 2.0.4ubuntu1 [582 kB]  
Get:2 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 dbconfig-mysql all 2.0.4ubuntu1 [1,038 B]  
Get:3 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 javascript-common all 11 [6,066 B]  
Get:4 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libjs-jquery all 1.11.3+dfsg-4 [161 kB]  
Get:5 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 libjs-jquery-cookie all 10-2ubuntu2 [6,764 B]  
Get:6 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 libjs-jquery-ui all 1.10.1+dfsg-1 [458 kB]  
Get:7 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 libjs-jquery-ui-theme-ui-lightness all 1.8.24+dfsg-1 [33.7 kB]  
Get:8 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 libphp-adodb all 5.20.3-1ubuntu1 [438 kB]  
Get:9 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 libxslt1.1 amd64 1.1.28-2.1 [145 kB]  
Get:10 http://gb.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 php7.0-mbstring amd64 7.0.4-7ubuntu2.1 [464 kB]  
Get:11 http://gb.archive.ubuntu.com/ubuntu xenial/universe amd64 php-mbstring all 1:7.0+35ubuntu6 [1,940 B]  
Get:12 http://gb.archive.ubuntu.com/ubuntu xenial-updates/main amd64 php7.0-mysql amd64 7.0.4-7ubuntu2.1 [124 kB]  
Get:13 http://gb.archive.ubuntu.com/ubuntu xenial/main amd64 php-mysql all 1:7.0+35ubuntu6 [1,936 B]
```

4) Configuring Cacti:

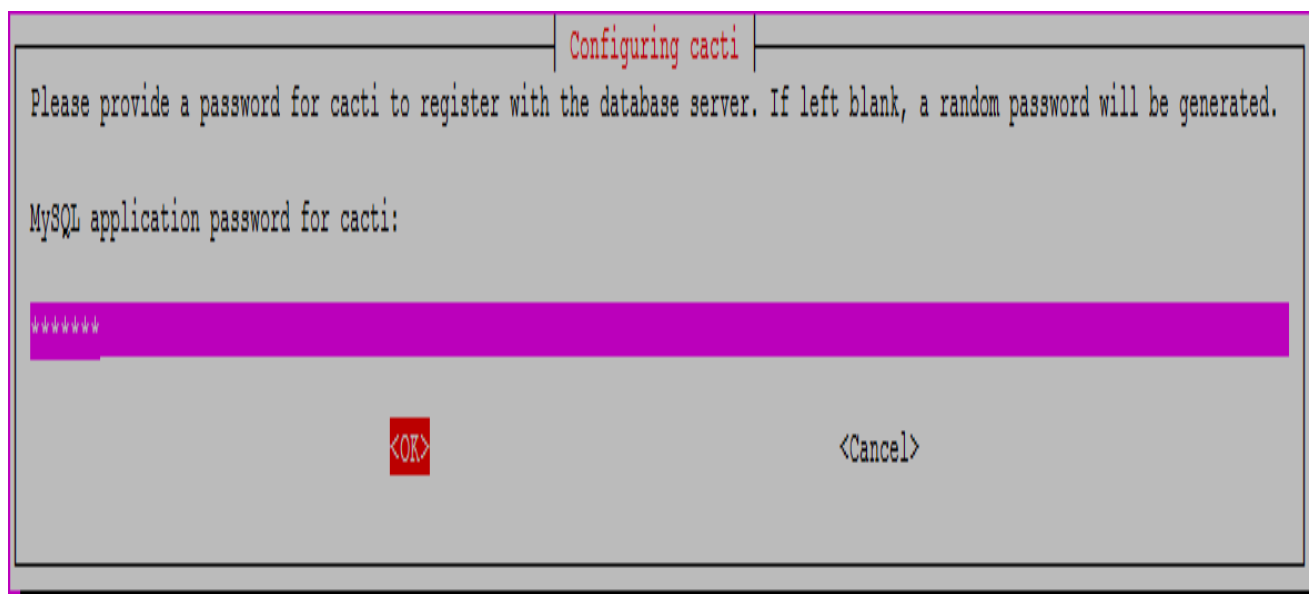
During the installation process you will be prompted to configure Cacti with few options to select from available options. First of all Choose the web server that you wish to use for configure with Cacti like we are using Apache and then press 'OK' key to continue.



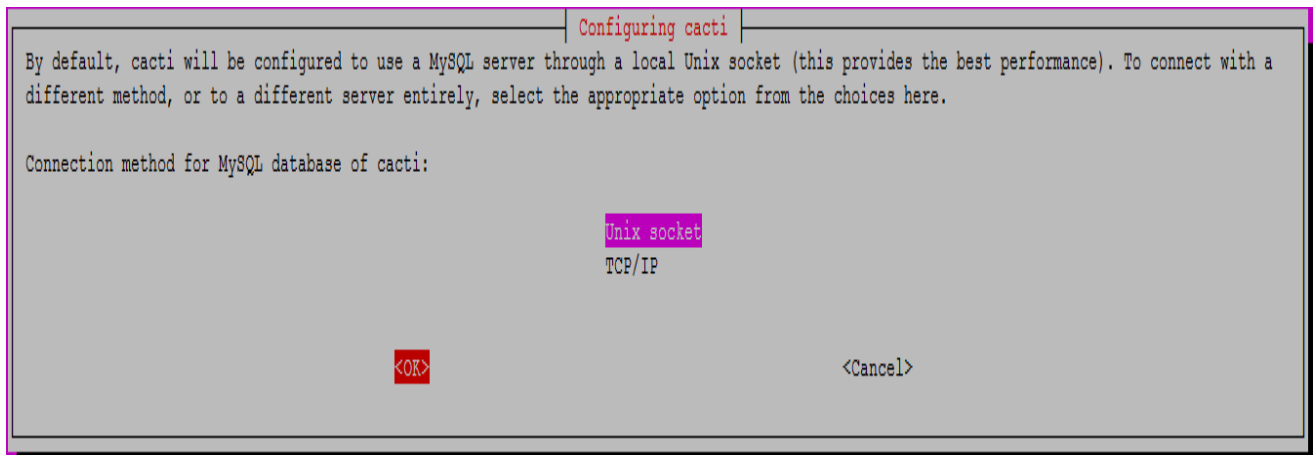
Next is to setup the database that is going to be used for Cacti . Point to the 'No' option if you have already configured databases or click on the 'Yes' to setup database using dbconfig-common for Cacti as shown.



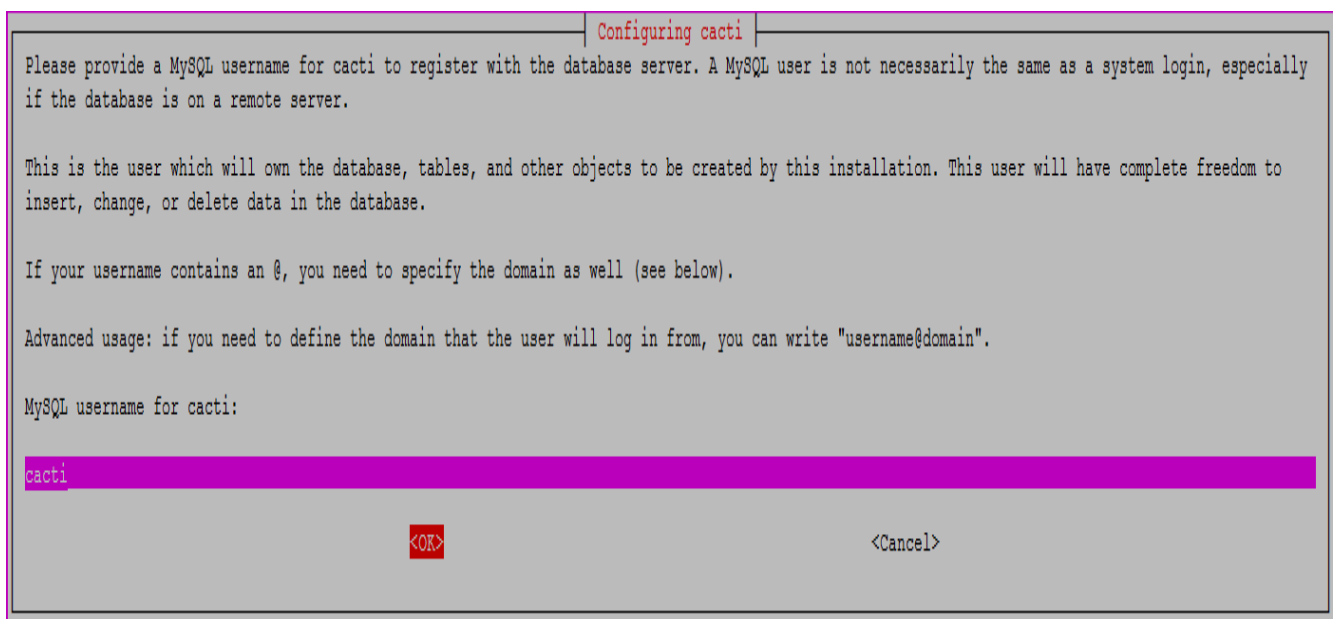
Provide the database password for Cacti application to be used with database server.



Select the MySQL server connection type from the available options, for the best performance we will be choosing the default UNIX socket as shown.



Then you will be asked to create a new mysql database user for Cacti to be used to connect with the database server.



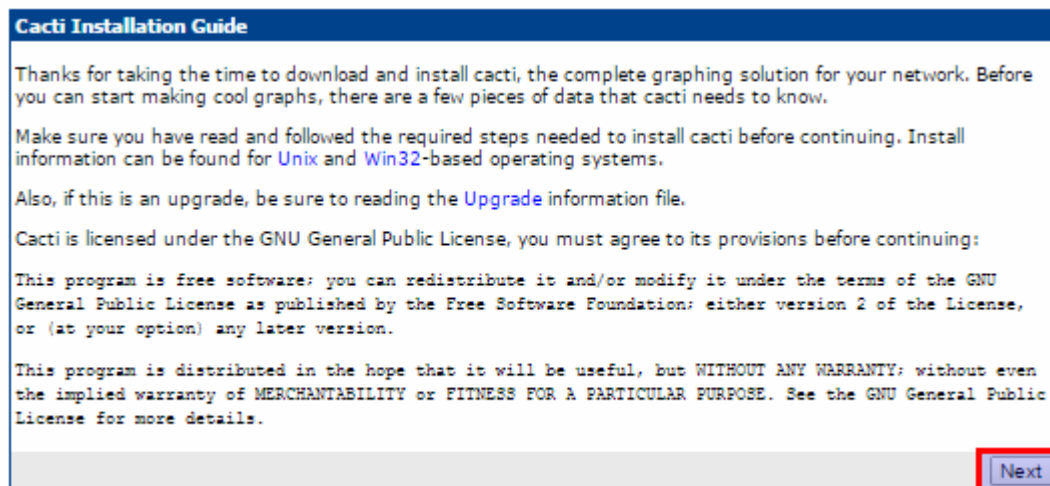
That's it, cacti installation and configuration setup is complete. Now make sure that all required services are active and running.

```
# service snmpd restart
# service mysql restart
# service apache2 restart
```

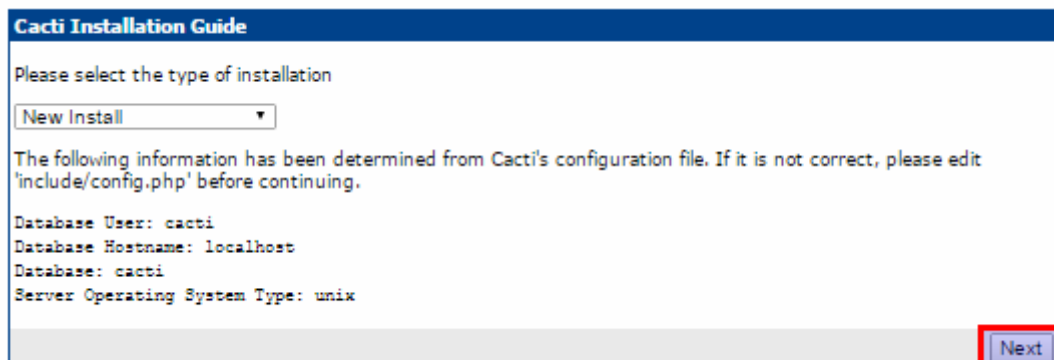
5) Cacti Web Installation Setup:

Open the following url to start Cacti web configuration and click on Next to continue after reading cacti installation guide.

`http://your-server_ip-address/cacti`



Select the type of installation as 'New Installation' and click on the NEXT button.



Now check below and make sure all of these values are correct before continuing. If everything looks OK and there is no error in your installation, then hit Finish.

Cacti Installation Guide

Make sure all of these values are correct before continuing.

[FOUND] RRDTool Binary Path: The path to the rrdtool binary.

 [OK: FILE FOUND]

[FOUND] PHP Binary Path: The path to your PHP binary file (may require a php recompile to get this file).

 [OK: FILE FOUND]

[FOUND] snmpwalk Binary Path: The path to your snmpwalk binary.

 [OK: FILE FOUND]

[FOUND] snmpget Binary Path: The path to your snmpget binary.

 [OK: FILE FOUND]

[FOUND] snmpbulkwalk Binary Path: The path to your snmpbulkwalk binary.

 [OK: FILE FOUND]

[FOUND] snmpgetnext Binary Path: The path to your snmpgetnext binary.

 [OK: FILE FOUND]

[FOUND] Cacti Log File Path: The path to your Cacti log file.

 [OK: FILE FOUND]

SNMP Utility Version: The type of SNMP you have installed. Required if you are using SNMP v2c or don't have embedded SNMP support in PHP.

RRDTool Utility Version: The version of RRDTool that you have installed.

NOTE: Once you click "Finish", all of your settings will be saved and your database will be upgraded if this is an upgrade. You can change any of the settings on this screen at a later time by going to "Cacti Settings" from within Cacti.

Finish

Then you need to enter 'admin' username and its password where as admin is default username and password for cacti as shown below.



User Login

Please enter your Cacti user name and password below:

User Name:

Password:

Login

Modify the default password after first login and set some different password.



*** Forced Password Change ***

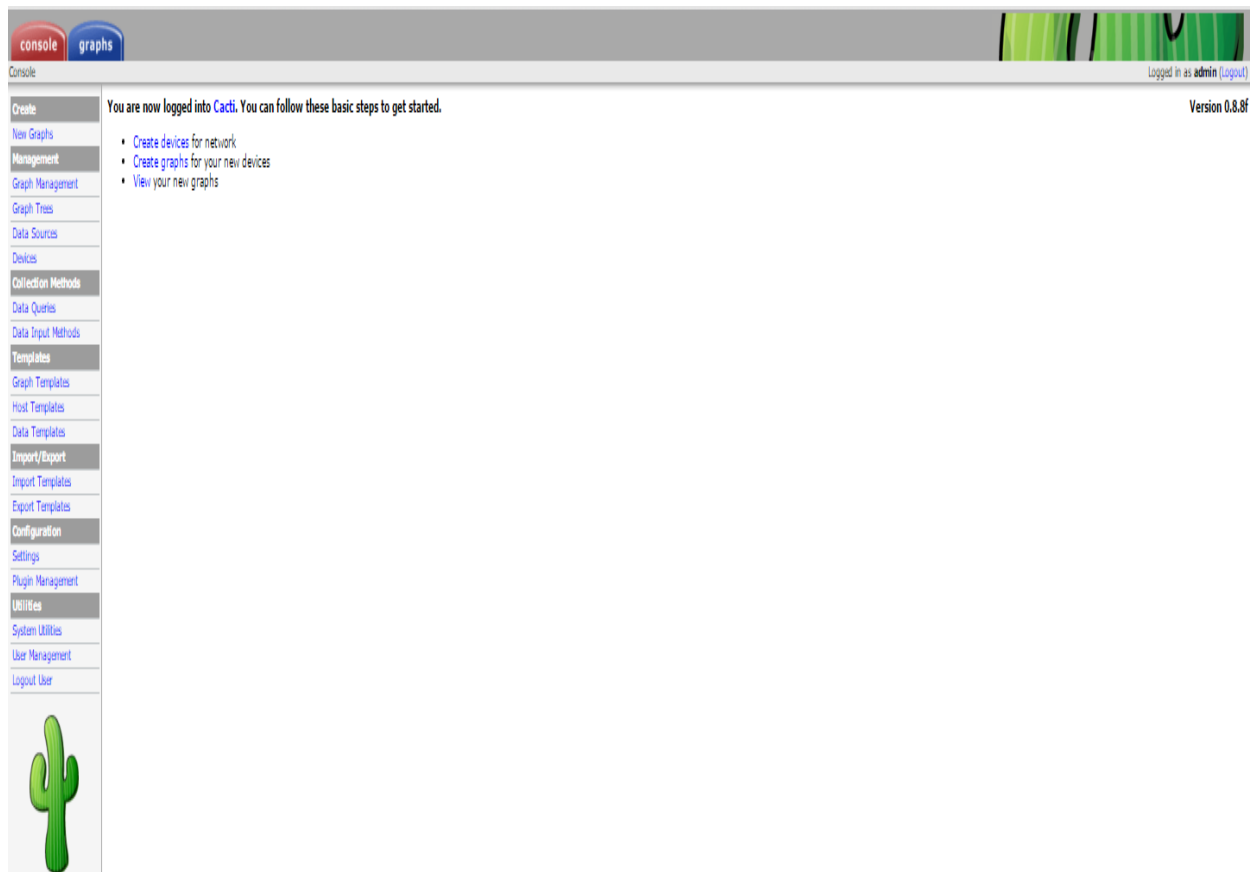
Please enter a new password for cacti:

Password:

Confirm:

Welcome To Cacti Home Page:

After resetting cacti user password, you will be automatically directed towards its home page. That just looks like below.



Now add new devices, or create new graphs. To view graphs of your localhost system, click on the graphs button and you will see multiple graphs of your local host server showing your system memory usage and load average etc.



Conclusion:

In this article you learn about the installation and configuration setup of Cacti on Ubuntu 16.04. Now you are able to use it in your own environment to get graph data for the CPU and network bandwidth utilization. You can also use it to monitor the network traffic by polling a router or switch via snmp. Hope you have enjoyed alot, so do not forget to share your thoughts, Thank you.