

Smokeping & Cacti



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What's the Difference?

There's definite overlap, but:

- **Smokeping:** A latency measurement and packet loss tool. Uses RRDtool to maintain it's data store. No remote daemons or services required:

"SmokePing is a deluxe latency measurement tool. It can measure, store and display latency, latency distribution and packet loss. SmokePing uses RRDtool to maintain a longterm data-store and to draw pretty graphs, giving up to the minute information on the state of each network connection."



What's the Difference?

- **Cacti:** Uses RRDtool, PHP and stores data in MySQL as well as supporting SNMP and graphing with MRTG.



"Cacti is a complete frontend to RRDTool, it stores all of the necessary information to create graphs and populate them with data in a MySQL database. The frontend is completely PHP driven. Along with being able to maintain Graphs, Data Sources, and Round Robin Archives in a database, cacti handles the data gathering. There is also SNMP support for those used to creating traffic graphs with MRTG."

Installation

We'll install both products:

- Installation varies between flavors of Linux and UNIX.
- It's pretty easy to to install these items under Ubuntu.
- You can do *massive* configuration of each. We'll do some to get you started!

Smokeping: Some Details

- **Basic install is extremely easy:**

```
apt-get install smokeping
```

- **Basic config file (/etc/smokeping/config) is simple, but you can get very complex very quickly:**

http://oss.oetiker.ch/smokeping/doc/smokeping_examples.en.html

and, other configuration options:

http://oss.oetiker.ch/smokeping/doc/smokeping_config.en.html

Smokeping: The Install

1. `sudo apt-get install smokeping`
2. `sudo apt-get install echoping`
3. `su -` (to become root)
4. `cd /etc/smokeping`
5. `mv config config.orig`

Then we will grab a copy of our local Smokeping config file, install this and go over it.

6. `scp inst@noc:/etc/smokeping/config /etc/smokeping/config`
7. `/etc/init.d/smokeping restart`

Smokeping: Some Details

`/etc/smokeping/config`

- Check on latency of connection (ping)
- Check on web server uptime and performance

Latency

```
++ LocalMachine
```

```
menu = The NOC
```

```
title = The noc@apricot2008
```

```
host = localhost
```

Smokeping: More Details

`/etc/smokeing/config`

- Performance/Uptime

```
++ NOCsquid
```

```
menu = The NOC Squid
```

```
title = www-cache / HTTP for noc@apricot2008
```

```
probe = EchoPingHttp
```

```
host = localhost
```

```
port = 8080
```

```
url = http://localhost/
```


Smokeping: The Install

There are several more examples here:

http://oss.oetiker.ch/smokeping/doc/smokeping_examples.en.html

If there is time we will play with `/etc/smokeping/config` to customize as you want and, maybe, to use some of the example described in the file linked above.

Smokeping: The Install

Once configured, then restart the service to build the directories with RRD data:

```
# /etc/init.d/smokeping restart
```

You can find your graphs and layout at:

<http://hostname/cgi-bin/smokeping.cgi>

Lets have a look at the config file...

cacti

cacti: The Install

Installation is a bit tricky... (as root):

```
apt-get install mysql-server-5.0
```

```
mysqladmin --user=root -password=instPass create cacti
```

```
apt-get install cacti
```

```
login with admin/admin then change
```

apt-get install mysql-server-5.0

```
Configuring mysql-server-5.0
While not mandatory, it is highly recommended that you set a password
for the MySQL administrative "root" user.

If that field is left blank, the password will not be changed.

New password for the MySQL "root" user:
_____
<Ok>
```

Enter the same password we have used during the workshop for the *inst* account.

apt-get install cacti

Configuring libphp-adodb

WARNING: include path for php has changed!

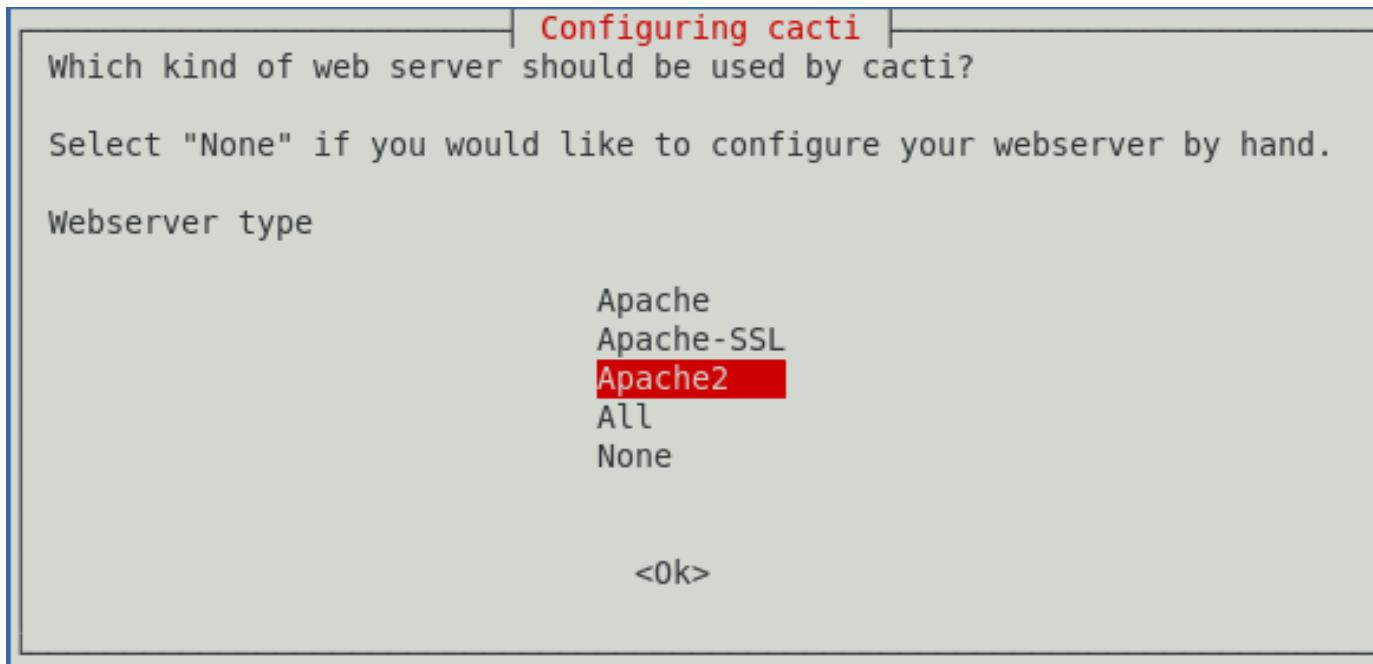
libphp-adodb is no longer installed in /usr/share/adodb. New installation path is now /usr/share/php/adodb.

Please update your php.ini file. Maybe you must also change your web-server configuraton.

<Ok>

You can ignore this

apt-get install cacti



Please choose "Apache2" and then Ok.

apt-get install cacti

```
Configuring cacti

cacti must have a database installed and configured before it can be
used.  If you like, this can be handled with dbconfig-common.

If you are an advanced database administrator and know that you want to
perform this configuration manually, or if your database has already
been installed and configured, you should refuse this option.  Details
on what needs to be done should most likely be provided in
/usr/share/doc/cacti.

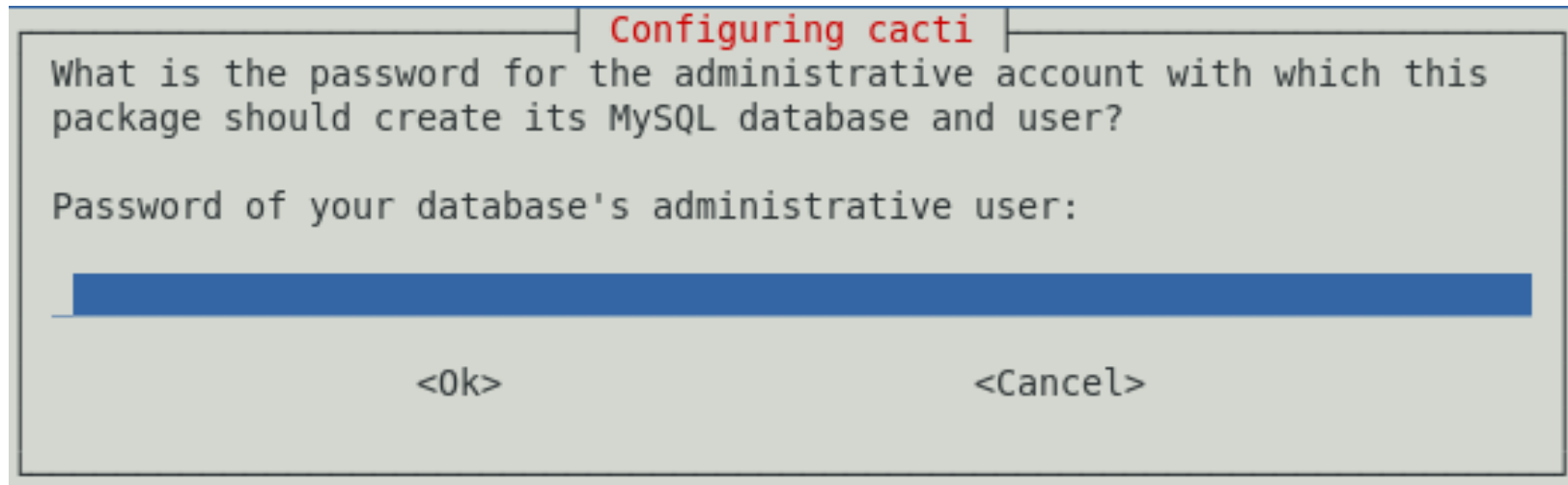
Otherwise, you should probably choose this option.

Configure database for cacti with dbconfig-common?

<Yes>                                <No>
```

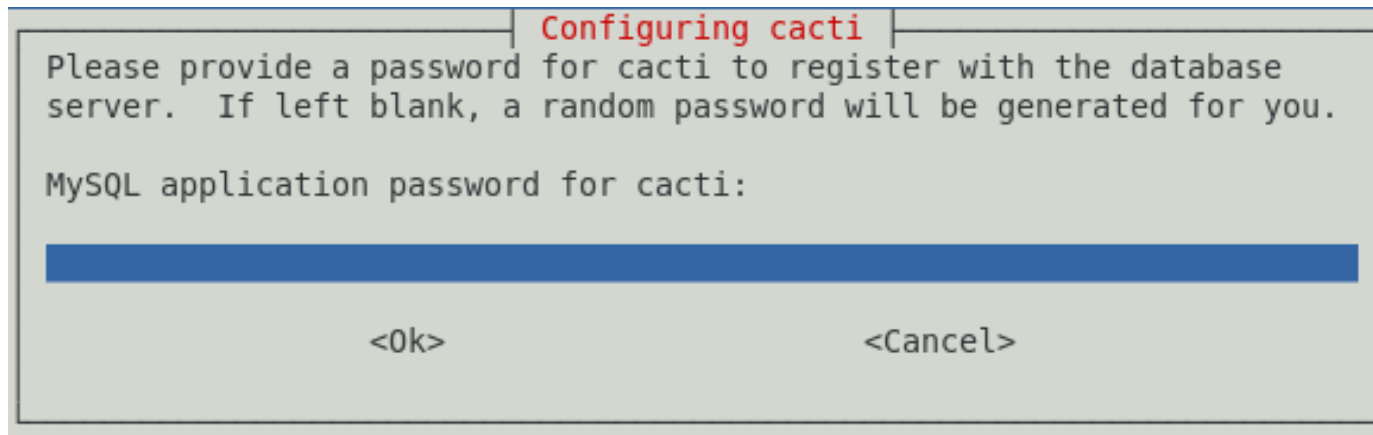
Choose "Yes" at this screen.

apt-get install cacti



Enter the same password you used when installing MySQL previously. This is your *inst* account password.

apt-get install cacti

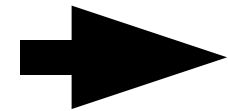


Configuring cacti

Please provide a password for cacti to register with the database server. If left blank, a random password will be generated for you.

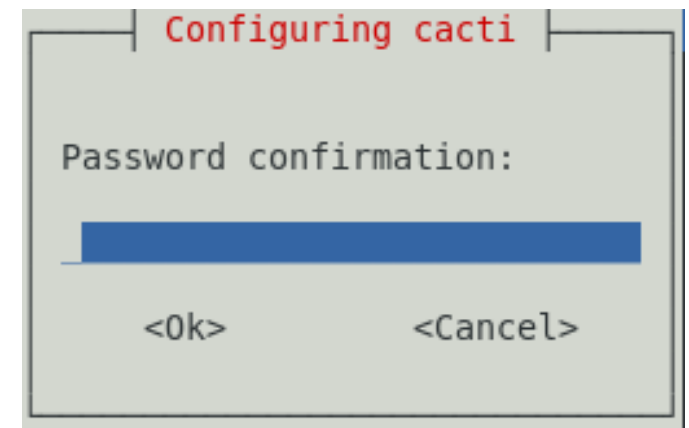
MySQL application password for cacti:

<Ok> <Cancel>



then...

Let's use the same *inst* password to keep things simple.



Configuring cacti

Password confirmation:

<Ok> <Cancel>

cacti: Next Steps

**Next open a web browser on your machine
and go to the address:**

`http://localhost/cacti`

You will see the following screens...

apt-get install cacti

Cacti Installation Guide

Thanks for taking the time to download and install cacti, the complete graphing solution for your network. Before you can start making cool graphs, there are a few pieces of data that cacti needs to know.

Make sure you have read and followed the required steps needed to install cacti before continuing. Install information can be found for [Unix](#) and [Win32](#)-based operating systems.

Also, if this is an upgrade, be sure to reading the [Upgrade](#) information file.

Cacti is licensed under the GNU General Public License, you must agree to its provisions before continuing:

```
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at
your option) any later version.
```

```
This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.
```

Next >>

Click on “Next >>”

apt-get install cacti

Cacti Installation Guide

Please select the type of installation

The following information has been determined from Cacti's configuration file. If it is not correct, please edit 'include/config.php' before continuing.

Database User: cacti
Database Hostname:
Database: cacti
Server Operating System Type: unix

[Next >>](#)

Be sure "New Install" is chosen and press the "Next >>" button.

apt-get install cacti

Cacti Installation Guide

Make sure all of these values are correct before continuing.

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

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

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

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

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

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

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

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.

Hopefully your screen looks like this. If not, let your instructor know.

Press "Finish"

cacti: Initial Login



User Login

Please enter your Cacti user name and password below:

User Name:

Password:

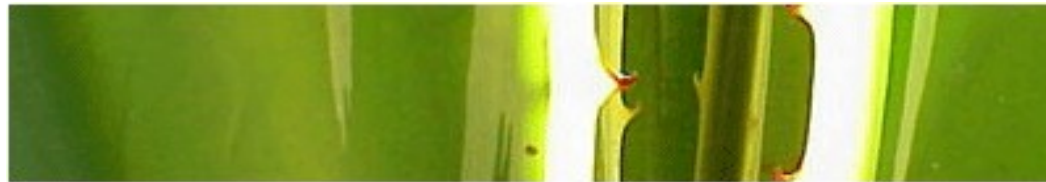
Login

Initial login with:

User Name: *admin*

Password: *admin*

cacti: Change Password



User Login

***** Forced Password Change *****

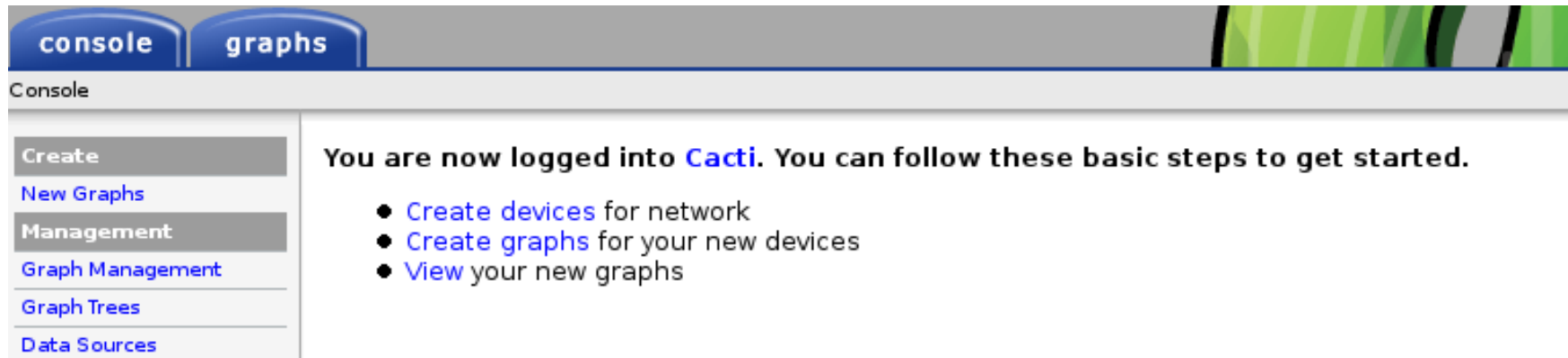
Please enter a new password for cacti:

Password:

Confirm:

Use the same *inst* password to keep things simple for our workshop.

cacti: Finishing



As you can see the idea is to do the following:

- Define the devices you wish to monitor
- Define the graphs you wish to use for each device
- View and organize graphs as you want

Note that cacti takes advantage of snmp settings. As possible we'll set up some cacti graphs at this time.