

Smokeying & Cacti



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Hervey Allen



nsr@interERLab
Bangkok, Thailand

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."



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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."

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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!

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Smokeying: Some Details

- **Basic install is extremely easy:**

```
apt-get install smokeying
```

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

http://oss.oetiker.ch/smokeying/doc/smokeying_examples.en.html

and, other configuration options:

http://oss.oetiker.ch/smokeying/doc/smokeying_config.en.html

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Smokeying: The Install

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

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

6. `scp inst@noc:/var/www/share/conf/config .`
7. `/etc/init.d/smokeying restart`

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Smokeying: Some Details

/etc/smokeying/config

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

Latency

```
++ LocalMachine
menu = The NOC
title = The noc@intERLab
host = localhost
```

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Smokeying: More Details

/etc/smokeying/config

- **Performance/Uptime**

```
++ NOCsquid
menu = The NOC Squid
title = www-cache / HTTP for noc@intERLab
probe = EchoPingHttp
host = localhost
port = 8080
url = http://localhost/
```

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Smokeying: The Install

There are several more examples here:

http://oss.oetiker.ch/smokeying/doc/smokeying_examples.en.html

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

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Smokeying: The Install

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

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

You can find your graphs and layout at:

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

Lets have a look at the config file...

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cacti

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cacti: The Install

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

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

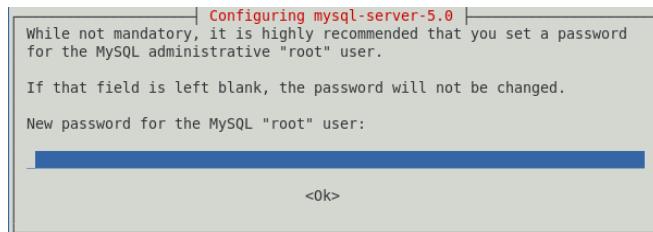
```
mysqladmin --user=root --password=instPass create cacti
```

```
apt-get install cacti
```

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

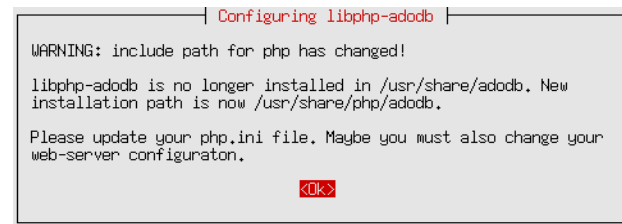
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apt-get install mysql-server-5.0



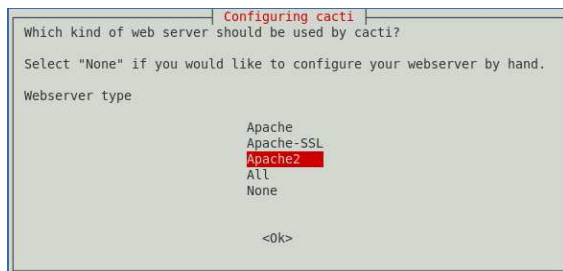
Enter the same password we have used during the workshop for the *inst* account.

apt-get install cacti



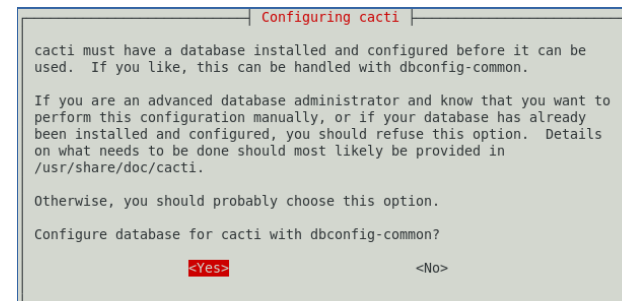
You can ignore this

apt-get install cacti



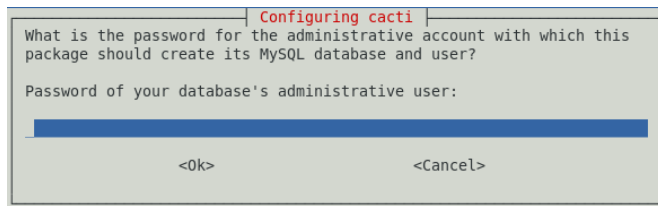
Please choose "Apache2" and then Ok.

apt-get install cacti



Choose "Yes" at this screen.

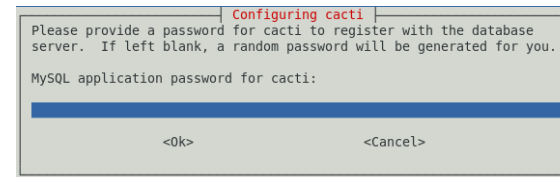
apt-get install cacti



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

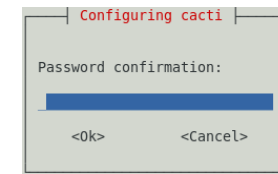
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apt-get install cacti



then...

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



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cacti: Next Steps

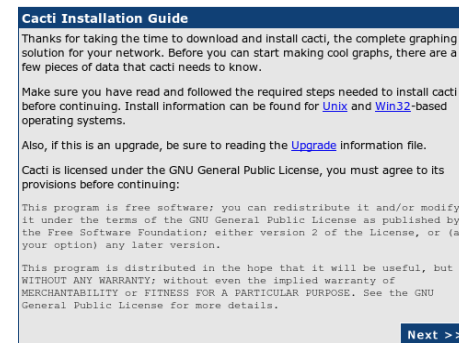
Next open a web browser on your machine and go to the address:

`http://localhost/cacti`

You will see the following screens...

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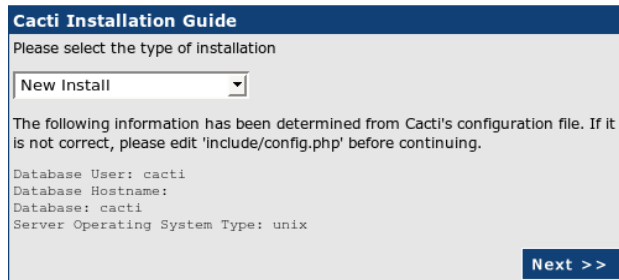
apt-get install cacti



Click on "Next >>"

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apt-get install cacti

A screenshot of the Cacti installation guide. It shows a 'Please select the type of installation' section with a dropdown menu set to 'New Install'. Below this, it states that configuration information has been determined from a file and provides details: Database User: cacti, Database Hostname: (blank), Database: cacti, and Server Operating System Type: unix. A 'Next >>' button is at the bottom right.

Cacti Installation Guide

Please select the type of installation

New Install

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

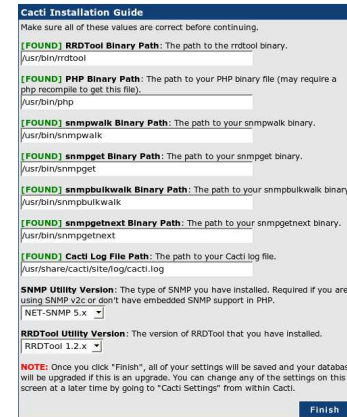
Database User: cacti
Database Hostname:
Database: cacti
Server Operating System Type: unix

Next >>

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

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apt-get install cacti

A screenshot of the Cacti installation guide showing the 'Finish' step. It lists various paths for binaries like rrdtool, php, snmpwalk, snmpget, snmpbulkwalk, and snmpgetnext. It also shows the selected versions for SNMP (NET-SNMP 5.x) and RRDTool (1.2.x). A 'Finish' button is at the bottom right.

Cacti Installation Guide

Make sure all of these values are correct before continuing.

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

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

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

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

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

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

[FOUND] Cacti Log File Path: The path to your Cacti log file.
usr/share/cacti/site/log/cacti.log

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.
NET-SNMP 5.x

RRDTool Utility Version: The version of RRDTool that you have installed.
RRDTool 1.2.x

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

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

Press "Finish"

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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*

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cacti: Change Password



User Login

*** Forced Password Change ***

Please enter a new password for cacti:

Password:
Confirm:

Save

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

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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.