Installing Mailgraph
on
Mac OS X 10.5.x/10.4.x

1. - Introduction

The purpose of this document is to provide instructions on how to install Mailgraph on OS X 10.5.x/10.4.x Server.

You will not find many explanations as to why something is done one way or the other. There are plenty of documents on this around on the internet. This document should just help you in getting things done.

Mailgraph depends on RRDtool to be installed first. Instructions for installing RRDtool on OS X 10.5.x/10.4.x server can be downloaded from http://osx.topicdesk.com/

This document will require you to use the command line. If you do not feel comfortable with using the command line, you should look for a ready made installer package or for somebody to assist you.

This document is written for Mac OS X 10.5.x/10.4.x. However, it should apply to 10.3.x as well. Be aware though that I have not done any particular testing of this procedure on 10.3.x.

DISCLAIMER: Whatever you do based on this document, you do it at your own risk! Just in case you haven't understood: Whatever you do based on this document, you do it at your own risk!

This tutorial has been tested on a standard Mac OS X 10.5.x/ 10.4.x Server installation. If you have already tinkered with your system, be aware that things might differ. It is impossible for me to foresee all changes that one might have applied to a server.

This tutorial contains step-by-step instructions for the terminal. Although you could just type them in line by line, it is recommended you have a basic understanding of the terminal.

2. - Requirements

Before you get started, you need to make sure some basic requirements are met:

- You have made a backup of your system.
- You have the latest version of Apple's Developer Tools (Xcode 2.4 or higher for 10.4.x and XCode 3.0 or higher for 10.5.x) installed.
  Dev Tools are available on your Server DVD and as a free download from Apple's Developer Connection.
- You do have a backup
- You are running 10.5.x or 10.4.x Server
- RRDtool must be installed on your server first.
  Instructions for installing RRDtool on OS X 10.5.x/10.4.x Server can be downloaded from http://osx.topicdesk.com/
- RRDtool has been installed by using the aforementioned instructions. If you used an alternate method, make sure you adapt the necessary paths.

3. - Installing missing and required components

Besides RRDtool, you will also need a few perl modules to be able to use Mailgraph.

The easiest way to install them is by using CPAN.

To do so issue:

sudo perl -MCPAN -e shell

If you have never used CPAN before you will be prompted to supply a few parameters. Just accept the default values. Once done, you should see the CPAN prompt (*cpan >*):

When at the CPAN prompt issue:

o conf prerequisites_policy ask

This will prompt you when a modules relies on other pre-requisites that have to be installed first. You should allow it to go ahead if asked.

Now you are ready to install the missing module(s).

Just issue:

install File::Tail

This will install the module and bring you back to the CPAN prompt.

NOTE: *File::Tail* requires *Time::HiRes* which most likely was already installed or has been added as a prerequisite when you installed *File::Tail*. So usually there is nothing you need to do about. If for some reason you get an error about this just install it manually by issuing: *install Time::HiRes*

Now issue

exit

to exit CPAN.

NOTE: It is possible that some of the modules will not install. In that case use "*force install*" instead of "*install*" at the CPAN prompt.

NOTE: If you had previously tried to use CPAN without having the Developer Tools installed, you will need to make sure that Developer Tools are now correctly installed and you will also need to re-configure CPAN. To do so get to the CPAN prompt and issue:

o conf init

You will be prompted to supply a few parameters. Just accept the default values.

4. – Getting and installing Mailgraph

This chapter will guide you through getting and installing Mailgraph.

So let's get going:
Make sure you are logged in as root (or alternatively use sudo).

Install the latest version of Mailgraph by issuing the following commands (*in oblique type*). Issue them one after the other making sure you do not miss any dots or slashes. Also note that the download URL given may change in the future. In that case just replace the URL in this document with the current one. The URL used at the time this document was written refers to Mailgraph 1.14. If you want to install a different version, adjust accordingly.

NOTE: Lines wrapping without line spacing are a single command.

mkdir -p /SourceCache

cd /SourceCache

curl -O http://mailgraph.schweikert.ch/pub/ mailgraph-1.14.tar.gz

tar xzf mailgraph-1.14.tar.gz

cd /SourceCache/mailgraph-1.14

Now we need to modify two files. Use your favorite editor (pico, vi, etc.).

Edit
/SourceCache/mailgraph-1.14/mailgraph.cgi

/SourceCache/mailgraph-1.14/mailgraph.pl

and in both files add:

For 10.4.x:
use lib '/usr/local/rrdtool/lib/perl/5.8.6/';

For 10.5.x:
use lib '/usr/local/rrdtool/lib/perl/5.8.8/';

below the very first line:

#!/usr/bin/perl -w

The result should look like this:

#!/usr/bin/perl -w

use lib '/usr/local/rrdtool/lib/perl/5.8.6/';
or this
use lib '/usr/local/rrdtool/lib/perl/5.8.8/';

(In essence you are adding the path to the RRDtool library)

We furthermore need to set the correct paths in:
/SourceCache/mailgraph-1.14/mailgraph.cgi

To do this, change:

my $rrd = 'mailgraph.rrd';

my $rrd_virus = 'mailgraph_virus.rrd';

to:

my $rrd = '/private/var/log/mailgraph/mailgraph.rrd';

*my $rrd_virus = '/private/var/log/mailgraph/
mailgraph_virus.rrd';*

When done editing, continue as follows by issuing:

cd /SourceCache/mailgraph-1.14

sudo chown administrator:administrator mailgraph.cgi

(This will set ownership and access permissions. Make sure this is in line with your access policy. In my case, I do not want this to be accessible by the *www* user and I recommend you do the same. I am pushing security even further and make sure that the *mailgraph.cgi* script resides behind a password protected realm). It is up to you to be more permissive or restrictive.

sudo chmod 665 mailgraph.cgi

sudo chown root:wheel mailgraph.pl

sudo chmod 755 mailgraph.pl

sudo chown administrator:administrator mailgraph.css

sudo chmod 666 mailgraph.css

sudo mkdir -p /usr/local/bin

sudo cp -p mailgraph.pl /usr/local/bin/mailgraph.pl

sudo cp -p mailgraph.cgi /path/to/your/site/mailgraph.cgi

sudo cp -p mailgraph.css /path/to/your/site/mailgraph.css

(Make sure you indicate a path that is web accessible and allows CGI execution)

Next we need to set up a property list for launchd, so that mailgraph gets started on system startup.

cd /System/Library/LaunchDaemons

sudo touch ch.ethz.mailgraph.plist

Above command created a new empty property list. Edit

/System/Library/LaunchDaemons/ch.ethz.mailgraph.plist

with your favorite editor (pico, vi, etc.) and add the following content:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
<key>Label</key>
<string>ch.ethz.mailgraph</string>
<key>LaunchOnlyOnce</key>
<true/>
<key>LowPriorityIO</key>
<true/>
<key>Nice</key>
<integer>1</integer>
<key>OnDemand</key>
<false/>
<key>Program</key>
<string>/usr/local/bin/mailgraph.pl</string>
<key>ProgramArguments</key>
<array>
<string>mailgraph.pl</string>
<string>-l</string>
<string>/var/log/mail.log</string>
<string>-d</string>
```

```
<string>--daemon-pid=/var/run/mailgraph.pid</string>
<string>--daemon-rrd=/var/log/mailgraph</string>
<string>--rbl-is-spam</string>
<string>--virbl-is-virus</string>
<string>--ignore-localhost</string>
<string>-v</string>
</array>
<key>ServiceIPC</key>
<true/>
</dict>
</plist>
```

(NOTE: *<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">* is a single line.)

Now we need to make sure a needed directory exists:

mkdir -p /var/log/mailgraph

The next step is to modify where amavisd-new logs its information to. We want all information to be in one place for Mailgraph to pick it up.

To this purpose edit:

/private/etc/amavisd.conf

and change:

$DO_SYSLOG = 0;

to:

$DO_SYSLOG = 1;

and make sure "$syslog_facility" is set as follows:
(not available in older versions of amavisd-new)

$syslog_facility = 'mail';

Having made changes to amavisd.conf we need to restart amavisd:

To do so issue:

sudo /bin/launchctl unload /System/Library/LaunchDaemons/org.amavis.amavisd.plist

sudo /bin/launchctl load /System/Library/LaunchDaemons/
org.amavis.amavisd.plist

You may see the following error:
"Workaround Bonjour: Unknown error: 0"
It's due to a bug introduced in 10.4.7 and safe to ignore.

The last step is to start Mailgraph by issuing:

sudo /bin/launchctl load -w /System/Library/
LaunchDaemons/ch.ethz.mailgraph.plist

You are now all set and should have Mailgraph installed and running.

You can test if it works by pointing your browser to the URL your mailgraph.cgi resides.

5. - Caveats

There are basically 2 potential issues.

a) RRDtool wasn't installed properly
b) Typos made when modifying the Mailgraph files.

Also, if you have modified any paths and or environment variables, make sure you check them against above instructions.

That's all folks.
Hope this helps.
Have fun,
Alex

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Athanasios Alexandrides
Lugano, Switzerland
tutorials -at- topicdesk.com