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HOWTO_SNMP_and_MRTG_Made_Easy

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Required & Optional Packages

Required

- [net-analyzer/net-snmp](#)
- [media/libs/gd](#)
- [net-analyzer/mrtg](#)

- [sys-process/dcron](#)

Optional

- [www-servers/mini_httpd](#)
- [net-www/apache](#)

Let's Begin

NOTE: This guide suggests using an mrtg config per target, this is rather inefficient as mrtg can do them all in 1 job itself

SU Into root before continuing forward. Start by:

```
mkdir /etc/mrtg
mkdir /etc/cron.mrtg
mkdir -p /var/www/localhost/htdocs/mrtg
```

Now let's edit `/etc/snmp/snmpd.conf` NOTE: Ignore the warning not to edit this file.

```
File: /etc/snmp/snmpd.conf
com2sec local 127.0.0.1/32 public
com2sec local 10.10.10.0/24 public

group MyROGroup v1 local
group MyROGroup v2c local
group MyROGroup usm local

view all included .1 80

access MyROGroup "" any noauth exact all none none

syslocation MyLocation
syscontact Me <me@somewhere.org>
```

Edit `/etc/conf.d/snmpd` file, and in `SNMPD_FLAGS` line have:

```
File: /etc/conf.d/snmpd
-C -c /etc/snmp/snmpdconf
```

This makes sure SNMPD uses the above `/etc/snmp/snmpd.conf`, and `_only_` that file.

Now the daemon:

```
/etc/init.d/snmpd start
/sbin/rc-update add snmpd default
```

Configuration

Traffic

```
/usr/bin/cfgmaker \
--output=/etc/mrtg/traffic.cfg \
--ifdesc=ip \
--ifref=descr \
--global "WorkDir: /var/www/localhost/htdocs/mrtg" \
--global "Options[_]: bits,growright" \
public@localhost
```

CPU

Now set up some files

```
File: /etc/mrtg/cpu.cfg
WorkDir: /var/www/localhost/htdocs/mrtg
LoadMIBs: /usr/share/snmp/mibs/UCD-SNMP-MIB.txt
Target[localhost.cpu]: ssCpuRawUser0&ssCpuRawUser0:public@127.0.0.1 + ssCpuRawSystem0&ssCpuRawSystem0:public@127.0.0.1 + ssCpuRawNice0&ssCpuRawNice0:public@127.0.0.1
RouterUptime[localhost.cpu]: public@127.0.0.1
MaxBytes[localhost.cpu]: 100
Title[localhost.cpu]: CPU Load
PageTop[localhost.cpu]: <H1>Active CPU Load %</H1>
Unscaled[localhost.cpu]: ymwd
ShortLegend[localhost.cpu]: %
YLegend[localhost.cpu]: CPU Utilization
Legend1[localhost.cpu]: Active CPU in % (Load)
Legend2[localhost.cpu]:
Legend3[localhost.cpu]:
Legend4[localhost.cpu]:
LegendI[localhost.cpu]: Active
LegendO[localhost.cpu]:
Options[localhost.cpu]: growright,nopercent
```

CPU-Temp

```
File: /etc/mrtg/cpu-temp.cfg
LoadMIBs: /usr/share/snmp/mibs/LM-SENSORS-MIB.txt
Target[localhost.cpu-temp]: .1.3.6.1.4.1.2021.13.16.2.1.3.1&.1.3.6.1.4.1.2021.13.16.2.1.3.1:public@localhost
PageTop[localhost.cpu-temp]: <H1>CPU Temperature</H1>
WorkDir: /var/www/localhost/htdocs/mrtg
Options[localhost.cpu-temp]: nopercent,growright,gauge,noinfo,pngdate,nobanner
Factor[localhost.cpu-temp]: 0.001
PNGTitle[localhost.cpu-temp]: CPU Temperature
Title[localhost.cpu-temp]: CPU Temperature
kMG[localhost.cpu-temp]: C
MaxBytes[localhost.cpu-temp]: 100000
YLegend[localhost.cpu-temp]: Temperature (c)
ShortLegend[localhost.cpu-temp]: C
LegendI[localhost.cpu-temp]: CPU Temperature
LegendO[localhost.cpu-temp]:
Legend1[localhost.cpu-temp]: CPU Temperature
Legend2[localhost.cpu-temp]:
#Unscaled[localhost.cpu-temp]: ymwd
#WithPeak[localhost.cpu-temp]: ymwd
XSize[localhost.cpu-temp]: 360
```

```
YSize[localhost.cpu-temp]: 75
#YTics[localhost.cpu-temp]: 10
Colours[localhost.cpu-temp]: DKBLUE#61A0DF, DKBLUE#0000DD, DARKGREEN#006600, VIOLET#FF00FF
```

To get workingCPU-Temp you must emergenet-analyzerfnet-snmp withlm_sensorsUSE flag.

Memory

File: /etc/mrtg/mem.cfg

```
LoadMIBs: /usr/share/snmp/mibs/UCD-SNMP-MIB.txt
Target[localhost.mem]: memAvailReal0&memAvailReal0:public@localhost
PageTop[localhost.mem]: <H1>Free Memory</H1>
WorkDir: /var/www/localhost/htdocs/mrtg
Options[localhost.mem]: nopercent,growright,gauge,noinfo
Title[localhost.mem]: Free Memory
MaxBytes[localhost.mem]: 1000000
kMG[localhost.mem]: K,M,G,T,P,X
YLegend[localhost.mem]: bytes
ShortLegend[localhost.mem]: bytes
LegendI[localhost.mem]: Free Memory:
LegendO[localhost.mem]:
LegendL[localhost.mem]: Free memory, not including swap, in bytes
```

Swap

File: /etc/mrtg/swap.cfg

```
LoadMIBs: /usr/share/snmp/mibs/UCD-SNMP-MIB.txt
Target[localhost.swap]: memAvailSwap0&memAvailSwap0:public@localhost
PageTop[localhost.swap]: <H1>Swap Memory</H1>
WorkDir: /var/www/localhost/htdocs/mrtg
Options[localhost.swap]: nopercent,growright,gauge,noinfo
Title[localhost.swap]: Free Memory
MaxBytes[localhost.swap]: 1000000
kMG[localhost.swap]: k,M,G,T,P,X
YLegend[localhost.swap]: bytes
ShortLegend[localhost.swap]: bytes
LegendI[localhost.swap]: Free Memory:
LegendO[localhost.swap]:
LegendL[localhost.swap]: Swap memory avail, in bytes
```

1. we're almostthere

Ping

File: /etc/mrtg/ping.cfg

```
WorkDir: /var/www/localhost/htdocs/mrtg
Title[localhost.ping]: Round Trip Time
PageTop[localhost.ping]: <H1>Round Trip Time</H1>
Target[localhost.ping]: `/etc/mrtg/ping.sh`
MaxBytes[localhost.ping]: 2000
Options[localhost.ping]: growright,unknaszerq nopercent,gauge
LegendI[localhost.ping]: Pkt loss %
LegendO[localhost.ping]: Avg RTT
YLegend[localhost.ping]: RTT (ms)
```

Making Jobs

Traffic

File: /etc/cron.mrtg/traffic

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/traffic.cfg
```

CPU

File: /etc/cron.mrtg/cpu

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/cpu.cfg
```

CPU-Temp

File: /etc/cron.mrtg/cpu-temp

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/cpu-temp.cfg
```

Memory

File: /etc/cron.mrtg/mem

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/mem.cfg
```

Swap

File: /etc/cron.mrtg/swap

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/swap.cfg
```

Ping

File: /etc/cron.mrtg/ping

```
#!/bin/sh
/usr/bin/mrtg /etc/mrtg/ping.cfg
```

Ping.sh

File: /etc/mrtg/ping.sh

```
#!/bin/sh
PING="/bin/ping"
# Google, for example
ADDR="google.com"
DATA=`$PING -c10 -s500 $ADDR -q `
LOSS=`echo $DATA | awk '{print $18 }' | tr -d %`
echo $LOSS
if [ $LOSS = 100 ];
then
    echo 0
else
    echo $DATA | awk -F/ '{print $5 }'
fi
```

```
/bin/chmod +x /etc/cron.mrtg/*
/bin/chmod +x /etc/mrtg/ping.sh
```

Run each script 3 times (disregard the warnings)

```
/etc/cron.mrtg/traffic
/etc/cron.mrtg/cpu
/etc/cron.mrtg/cpu-temp
/etc/cron.mrtg/mem
/etc/cron.mrtg/swap
/etc/cron.mrtg/ping
```

Make the Index

```
/usr/bin/indexmaker --output=/var/www/localhost/htdocs/mrtg/index.html \
--title="Power Under Control :)" \
--sort=name \
--enumerate \
/etc/mrtg/traffic.cfg \
/etc/mrtg/cpu.cfg \
/etc/mrtg/cpu-temp.cfg \
/etc/mrtg/mem.cfg \
/etc/mrtg/swap.cfg \
/etc/mrtg/ping.cfg
```

Make the mrtg.cfg

```
cfgmaker --global "WorkDir: /var/www/localhost/htdocs/mrtg/" \
--global "Options[_]: growright,bits" \
--ifref=ip \
public@localhost > /etc/mrtg/mrtg.cfg
```

Cronjob

```
/bin/cat >> /var/spool/cron/crontabs/root
*/5 * * * * /bin/run-parts /etc/cron.mrtg >/dev/null 2>&1
```

Now just press [ctrl+d]

or

```
/usr/bin/crontab -e
```

Additional Cron Job Options

In your *.cfg file, add the lines-

```
RunAsDaemon Yes
Interval: <Choose your interval, 5 is minimum>
```

This option works well if you choose not to create a cron job

Power Under Control

Open Mozilla or your browser of choice and browse

```
/var/www/localhost/htdocs/mrtg/index.html
```

or use your httpd server

<http://localhost/mrtg>

Advanced Users

For other targets (and other stat), try with other object identifier (OID)

Polling

```
robert@moira mrtg $ snmpwalk -v 1 -c public localhost mgmt.1.2.2.1.10.2
IF-MIB::ifInOctets2 = Counter32: 140021440
```

Translating

```
robert@moriamrtg $ snmptranslate -IR -Td mgmt.1.2.2.1.10.2
IF-MIB::ifInOctets2
ifInOctets OBJECT-TYPE
-- FROM IF-MIB, RFC1213-MIB
SYNTAX Counter32
MAX-ACCESS read-only
STATUS current
DESCRIPTION "The total number of octets received on the interface,
including framing characters.
```

Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of

```
ifCounterDiscontinuityTime'  
 ::= { iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) interfaces(2) ifTable(2) ifEntry(1) ifInOctets(10) 2 }
```

Most Important Files

```
/usr/share/doc/net-snmp  
/usr/share/doc/mrtg-*/contrib
```

- manmrtg
- mansnmpd
- mansnmpwalk
- mancrontab
- mancat

Discussion

Originalforum discussioncan be found [here](#)

UTF-8

IF your systemis using**UTF-8**, you *will* get this

```
-----  
ERROR: Mrtg will most likely not work properly when the environment  
variable LANG is set to UTF-8. Please run mrtg in an environment  
where this is not the case. Try the following command to start:
```

```
env LANG=C /usr/bin/mrtg /etc/mrtg/mem.cfg  
-----
```

So, just do as you're told for all files in [/etc/cron.mrtg/](#):

- /etc/cron.mrtg/traffic
- /etc/cron.mrtg/cpu
- /etc/cron.mrtg/cpu-temp
- /etc/cron.mrtg/mem
- /etc/cron.mrtg/swap
- /etc/cron.mrtg/ping

See also

- [Cacti](#)
- [Zabbix](#)

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