

# 1. Requirements & Pre-requisites

## i. software structure

- free
  - free -V => procps version 3.2.8
- sar
  - sar -V => sysstat version 9.0.4
- iotop
  - iotop --version => 0.3.2
- vmstat
  - vmstat -V => procps version 3.2.8
- mysql
  - mysql --version => (mysql Ver 14.14 Distrib 5.5.33, for Linux (x86\_64) using readline 5.1 )

note : the mysql script (s) are pretty generic, they probably could work on lower or higher versions of mysql but has those haven't been tested it cannot be guaranteed.

## ii. io prerequisites (optional)

prior io troubleshooting one will need to identify up to 5 process that we want to have monitored. In order to identify them, recommendation is to let the following command run for a couple hours :

```
$ sudo iotop -d5 -k -a -o -P
```

```
Total DISK READ: 0.00 K/s | Total DISK WRITE: 180.00 K/s
  PID PRIO USER   DISK READ DISK WRITE SWAPIN  IO>  COMMAND
1564 be/3 root     0.00 K   9928.00 K  0.00 %  3.73 % [jbd2/dm-3-8]
17127 be/4 mysql  56532.00 K 5487548.00 K  0.00 %  0.07 % mysqld --basedir=/usr ...
  416 be/3 root     0.00 K   34492.00 K  0.00 %  0.03 % [jbd2/dm-0-8]
 1569 be/3 root     0.00 K  275148.00 K  0.00 %  0.02 % [jbd2/dm-2-8]
16654 be/4 root    48.00 K  343052.00 K  0.00 %  0.00 % [flush-253:2]
 1624 be/4 root     0.00 K   1408.00 K  0.00 %  0.00 % [flush-253:0]
28336 be/6 root     0.00 K  10044.00 K  0.00 %  0.00 % rsyslogd -i /var/run/syslogd.pid -c 5
 3043 be/4 postfix  0.00 K     0.00 K  0.00 %  0.00 % qmgr -l -t fifo -u
```

## iii. folder structure

```
baseline (${BASELINE_FOLDER})
|
|-----/config
|-----/result
|         |-----/day
|         |-----/week
|         |-----/hour
|         |-----/month
|-----/tmp
```

## iv. baseline script deployment

the baseline script deployment includes the following scripts, make sure when you extract the compress file that you have all the files required

```
baseline ( ${BASELINE_FOLDER} )
|-----baseline.sh
|-----cpu.sh
|-----io.sh
|-----mem.sh
|-----mysql_global.sh
|-----mysql_innodb.sh
|-----sys.sh
```

note : the above script need to be set as executable , in order to get it work will could issue the following command :  
**chmod 755 baseline/\*.sh**

## v. crontab structure

the baseline script is to be run automatically every x frequency, the easiest method is to create a crontab item as follow:

```
* * * * *      command to be executed
|   |   |   |   |
|   |   |   |   |      +----- day of week (0 - 6) (Sunday=0)
|   |   |   |   |
|   |   |   |   |      +----- month (1 - 12)
|   |   |   |   |
|   |   |   |   |      +----- day of month (1 - 31)
|   |   |   |   |
|   |   |   |   |      +----- hour (0 - 23)
|   |   |   |   |
|   |   |   |   |      +----- min (0 - 59)

# we run the baseline every minute
*/1 * * * *      ./baseline/baseline.sh 0 LINUX,IO,MYSQL ALL
```

Note : In the example above the baseline is to run in normal mode ( 0 ) and gather statistics for general LINUX counters like cpu, memory as well as IO specific counters and finally MYSQL ones. All the statistics gathered will be dispatch to all the “time” folders ( hour, day, week, month).