LSM System User Guide

User Guide
v.1.0, Dan Graham, 12/17/2009

This guide describes how to start and stop the back-end server for the Linux System Monitor. And, it describes how to start and stop probes. In addition, the topid.ignore file is described.

Introduction

The LSM web application includes back-end server processes running on the cvs Linux server. And, it includes probe processes running on the BSD servers. The topid.ignore file reduces the size of the tree GUI by trimming unnecessary branches. And, it reduces the size of tables by eliminating certain aggregations.

LSMserver.pl

On the Linux server, currently residing under ~/LSM/SERVER, are the server programs and classes. The main socket server, ETL, and database aggregation server is run as "LSMserver.pl" and can be launched by running:

```
nohup t.ksh
```

To kill the process, kill (**TERM)** the LSMserver.pl process leader. Then, the child processes should automatically be terminated. But check to make sure.

server.pm constructor parameters

The following is an example of the "new" constructor parameters in the LSMserver.pl program:

```
{host => 'localhost', user => 'mysql', password => 'mysql', dbname =>
'test', aggHourInt => 60*5, aggDayInt => 60*10, aggWeekInt => 60*10,
aggMonthInt => 60*10}
```

This indicates that the database "host" is localhost.
The LSM database "user" is mysql
The LSM database "password" is mysql
The LSM database "dbname" is test.

(This is not the production configuration)

Also, it indicates:

The “aggHourInt” seconds between hourly aggregations is 5 minutes.

The “aggDayInt” seconds between daily aggregations is 10 minutes.

The “aggWeekInt” seconds between weekly aggregations in 10 minutes.

The “aggMonthInt” seconds between monthly aggregations in 10 minutes.

Only one aggregation is allowed to run at a time (controlled by a semaphore). So, even if the daily aggregations are set to run every 10 minutes, the aggregation still has to wait in a queue until the pending aggregations are finished. So, these parameters really indicate the “sleep” time between aggregations.

Tuning these values is a tradeoff between having up-to-date information available for the GUI, quickly, and not bogging down in processing time.

Asset Probes

The probe programs and classes are located under ~/LSM. Starting the probes is a two-step process:

./probeSetOn.pl

starts the lastProbe, dfProbe, and topProbe. This program daemonizes itself and can be run as either root or a user.

./probeSetOnRoot.pl

This runs the trafshowProbe, and must be run as root. (trafshow needs to be run in a privileged account). It is best to exit the term window after starting these.

To stop these probes, kill **(TERM)** the process leader. All child processes should automatically be terminated.

Make sure that the running “trafshow” command and “top” command are also killed. (On BSD, you may have to term these manually).

Note: It may be best to “nice” these probes on critical servers:

nice ./probeSetOn.pl

nice ./probeSetOnRoot.pl

This will ensure that the “top” and “trafshow” commands don't consume

too much CPU time.

topid.ignore

This file exists in the ~/LSM/SERVER directory on the Linux server, and also in the /var/www/cgi-bin/LSM directory on the Linux server.

The file contains newline separated topology id's to ignore in building the display tree (cgi-bin) and processing aggregations (~/LSM/SERVER). The file should be the same in both places.

Typically this is used to ignore the PID branch of the topology to prevent aggregating and displaying in a tree the very lengthy list of Process ID's that accumulate over time. The PID's are still available in the display tables, but valuable processing time is saved by not creating a tree with each PID and not aggregating each PID.

To find out which topology id (topid) to ignore, issue the following from MySQL command prompt:

```
mysql> use test;

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A



Database changed

mysql> select * from topo_def;

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| TopId | TKey1 | TKey2 | TKey3 | TKey4  | TKey5 | TKey6   | TKey7      | TKey8    | TKey9
| TKey10   | TKey11  | TKey12 | TKey13 | TKey14 | Tkey15 |

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|     1 | root  | *     | *     | *      | *     | *       | *          | *        | *
| *        | *       | *      | *      | *      | *      |

|     2 | root  | LINUX  | *     | *      | *     | *       | *          | *        | *
| *        | *       | *      | *      | *      | *      |

|     3 | root  | LINUX  | site  | *      | *     | *       | *          | *        | *
| *        | *       | *      | *      | *      | *      |

|     4 | root  | LINUX  | site  | server | *     | *       | *          | *        | *
| *        | *       | *      | *      | *      | *      |

|     5 | root  | LINUX  | site  | server | stats | *       | *          | *        | *
| *        | *       | *      | *      | *      | *      |
```

```
|     6 | root  | LINUX  | site  | server | stats | reboot  | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|     7 | root  | LINUX  | site  | server | stats | reboot  | os         | *        | *
| *       | *       | *      | *      | *      | *      |

|     8 | root  | LINUX  | site  | server | stats | login   | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|     9 | root  | LINUX  | site  | server | stats | login   | user       | *        | *
| *       | *       | *      | *      | *      | *      |

|    10 | root  | LINUX  | site  | server | stats | login   | user       | ip       | *
| *       | *       | *      | *      | *      | *      |

|    11 | root  | LINUX  | site  | server | stats | login   | user       | ip       | pty
| *       | *       | *      | *      | *      | *      |

|    12 | root  | LINUX  | site  | server | stats | disk    | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|    13 | root  | LINUX  | site  | server | stats | disk    | filesystem | *        | *
| *       | *       | *      | *      | *      | *      |

|    14 | root  | LINUX  | site  | server | stats | disk    | filesystem | mount    | *
| *       | *       | *      | *      | *      | *      |

|    15 | root  | LINUX  | site  | server | stats | mem     | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|    16 | root  | LINUX  | site  | server | stats | mem     | owner      | *        | *
| *       | *       | *      | *      | *      | *      |

|    17 | root  | LINUX  | site  | server | stats | mem     | owner      | command  | *
| *       | *       | *      | *      | *      | *      |

|    18 | root  | LINUX  | site  | server | stats | mem     | owner      | command  | pid
| *       | *       | *      | *      | *      | *      |

|    19 | root  | LINUX  | site  | server | stats | cpu     | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|    20 | root  | LINUX  | site  | server | stats | cpu     | owner      | *        | *
| *       | *       | *      | *      | *      | *      |

|    21 | root  | LINUX  | site  | server | stats | cpu     | owner      | command  | *
| *       | *       | *      | *      | *      | *      |

|    22 | root  | LINUX  | site  | server | stats | cpu     | owner      | command  | pid
| *       | *       | *      | *      | *      | *      |

|    23 | root  | LINUX  | site  | server | stats | network | *          | *        | *
| *       | *       | *      | *      | *      | *      |

|    24 | root  | LINUX  | site  | server | stats | network | protocol   | *        | *
| *       | *       | *      | *      | *      | *      |

|    25 | root  | LINUX  | site  | server | stats | network | protocol   | destServ | *
| *       | *       | *      | *      | *      | *      |

|    26 | root  | LINUX  | site  | server | stats | network | protocol   | destServ |
```

```
srcServ | *        | *       | *      | *      | *      | *      |

|    27 | root  | LINUX  | site  | server | stats | network | protocol   | destServ |
srcServ | destHost | *       | *      | *      | *      | *      |

|    28 | root  | LINUX  | site  | server | stats | network | protocol   | destServ |
srcServ | destHost | srcHost | *      | *      | *      | *      |

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28 rows in set (0.10 sec)



mysql>
```

As can be seen from the display the PID topology id's are 18 and 22 (one for CPU utilization and the other for Memory utilization). So the following should exist in both topid.ignore files:

```
[dgraham@localhost SERVER]$ cat topid.ignore

22

18



[dgraham@localhost SERVER]$
```

Note: The LSMserver.pl program must be restarted for changes to topid.ignore to go into effect.

Conclusion

This presents some basic job control for the LSM web application.