orzdba 工具使用说明

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代码 SVN 地址：
http://code.taobao.org/p/orzdba/src/trunk/

说明：
Perl 脚本，用于对 Linux 主机和 MySQL 相关指标进行实时监控。
工具主要有如下参数：

```
-h,--help           Print Help Info.
-i,--interval       Time(second) Interval.
-C,--count          Times.
-t,--time           Print The Current Time.
-nocolor            Print NO Color.

-l,--load           Print Load Info.
-c,--cpu            Print Cpu  Info.
-s,--swap           Print Swap Info.
-d,--disk           Print Disk Info.
-n,--net            Print Net  Info.

-P,--port           Port number to use for mysql connection(default 3306).
-S,--socket         Socket file to use for mysql connection.

-com                Print MySQL Status(Com_select,Com_insert,Com_update,Com_delete).
-hit                Print Innodb Hit%.
-innodb_rows        Print Innodb Rows Status(Innodb_rows_inserted/updated/deleted/read).
-innodb_pages       Print Innodb Buffer Pool Pages Status(Innodb_buffer_pool_pages_data/free/dirty/flushed)
-innodb_data        Print Innodb Data Status(Innodb_data_reads/writes/read/written)
-innodb_log         Print Innodb Log  Status(Innodb_os_log_fsyncs/written)
-innodb_status      Print Innodb Status from Command: 'Show Engine Innodb Status'
                    (history list/ log unflushed/uncheckpointed bytes/ read views/ queries inside/queued)
-T,--threads        Print Threads Status(Threads_running,Threads_connected,Threads_created,Threads_cached).
-rt                 Print MySQL DB RT(us).
-B,--bytes          Print Bytes received from/send to MySQL(Bytes_received,Bytes_sent).

-mysql              Print MySQLInfo (include -t,-com,-hit,-T,-B).
-innodb             Print InnodbInfo(include -t,-innodb_pages,-innodb_data,-innodb_log,-innodb_status)
-sys                Print SysInfo   (include -t,-l,-c,-s).
-lazy               Print Info      (include -t,-l,-c,-s,-com,-hit).

-L,--logfile        Print to Logfile.
-logfile_by_day     One day a logfile,the suffix of logfile is 'yyyy-mm-dd';
                    and is valid with -L.
```

下面分别说明一下：

1、查看 Linux 主机指标

```
  -l,--load          Print Load Info.
  -c,--cpu           Print Cpu  Info.
  -s,--swap          Print Swap Info.
  -d,--disk          Print Disk Info.
  -n,--net           Print Net  Info.
  -sys              Print SysInfo   (include -t,-l,-c,-s)
```

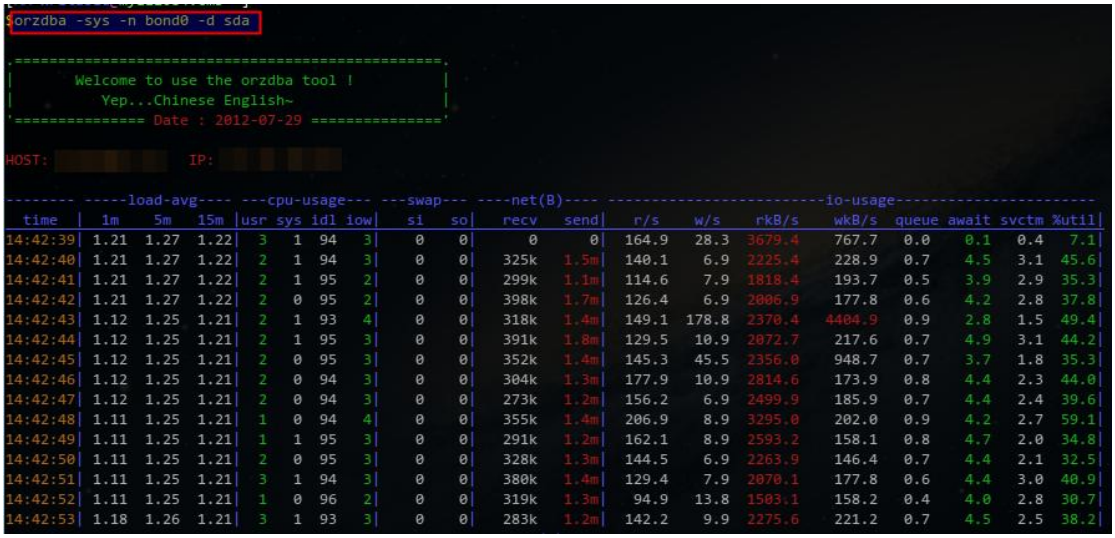
这些指标的数据都来自/proc 目录下的相关系统元数据：
LOAD : /proc/loadavg
CPU : /proc/stat

SWAP : /proc/vmstat

DISK : /proc/diskstats

NET : /proc/net/dev

其中，查看 DISK（-d）和 NET（-n）需要带具体的设备名（具体可以查看/proc/diskstats 和/proc/net/dev 中的设备或者可以取自 iostat 和 sar -n DEV）。



time	1m	5m	15m	usr	sys	idl	iow	si	so	recv	send	r/s	w/s	rkB/s	wkB/s	queue	await	svctm	%util
14:42:39	1.21	1.27	1.22	3	1	94	3	0	0	0	0	164.9	28.3	3679.4	767.7	0.0	0.1	0.4	7.1
14:42:40	1.21	1.27	1.22	2	1	94	3	0	0	325k	1.5m	140.1	6.9	2225.4	228.9	0.7	4.5	3.1	45.6
14:42:41	1.21	1.27	1.22	2	1	95	2	0	0	299k	1.1m	114.6	7.9	1818.4	193.7	0.5	3.9	2.9	35.3
14:42:42	1.21	1.27	1.22	2	0	95	2	0	0	398k	1.7m	126.4	6.9	2006.9	177.8	0.6	4.2	2.8	37.8
14:42:43	1.12	1.25	1.21	2	1	93	4	0	0	318k	1.4m	149.1	178.8	2370.4	4404.9	0.9	2.8	1.5	49.4
14:42:44	1.12	1.25	1.21	2	1	95	3	0	0	391k	1.8m	129.5	10.9	2072.7	217.6	0.7	4.9	3.1	44.2
14:42:45	1.12	1.25	1.21	2	0	95	3	0	0	352k	1.4m	145.3	45.5	2356.0	948.7	0.7	3.7	1.8	35.3
14:42:46	1.12	1.25	1.21	2	0	94	3	0	0	304k	1.3m	177.9	10.9	2814.6	173.9	0.8	4.4	2.3	44.0
14:42:47	1.12	1.25	1.21	2	0	94	3	0	0	273k	1.2m	156.2	6.9	2499.9	185.9	0.7	4.4	2.4	39.6
14:42:48	1.11	1.25	1.21	1	0	94	4	0	0	355k	1.4m	206.9	8.9	3295.0	202.0	0.9	4.2	2.7	59.1
14:42:49	1.11	1.25	1.21	1	1	95	3	0	0	291k	1.2m	162.1	8.9	2593.2	158.1	0.8	4.7	2.0	34.8
14:42:50	1.11	1.25	1.21	2	0	95	3	0	0	328k	1.3m	144.5	6.9	2263.9	146.4	0.7	4.4	2.1	32.5
14:42:51	1.11	1.25	1.21	3	1	94	3	0	0	380k	1.4m	129.4	7.9	2070.1	177.8	0.6	4.4	3.0	40.9
14:42:52	1.11	1.25	1.21	1	0	96	2	0	0	319k	1.3m	94.9	13.8	1503.1	158.2	0.4	4.0	2.8	30.7
14:42:53	1.18	1.26	1.21	3	1	93	3	0	0	283k	1.2m	142.2	9.9	2275.6	221.2	0.7	4.5	2.5	38.2

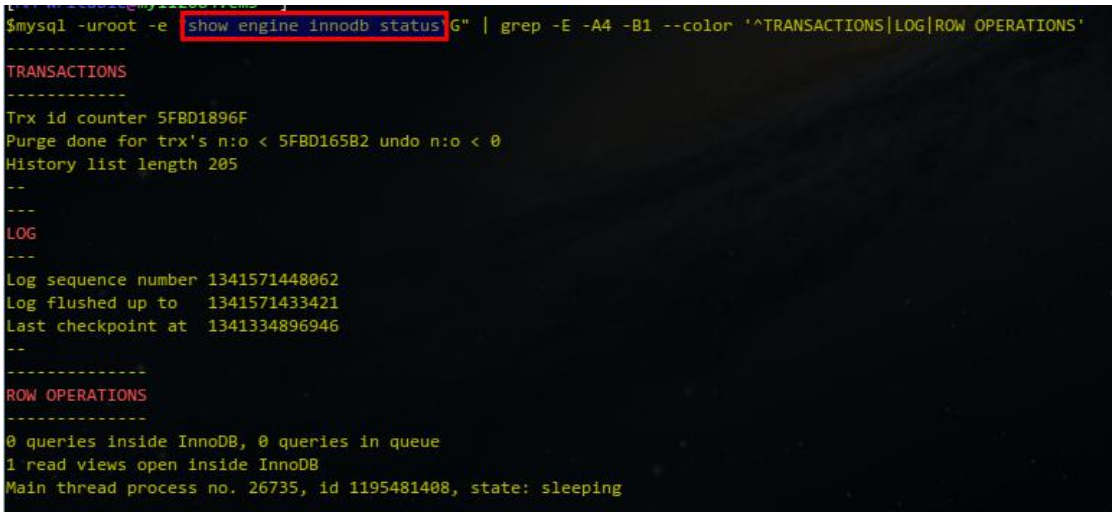
2、查看 MySQL 指标

通过 show variables 列出经常关注的核心变量。

通过 show global status 列出相关 MYSQL status 信息。

```
   -com
Print MySQL Status(Com_select,Com_insert,Com_update,Com_delete).
   -hit
Print Innodb Hit%.
Hit% : (Innodb_buffer_pool_read_requests - Innodb_buffer_pool_reads) / Innodb_buffer_pool_read_requests * 100%
   -innodb_rows
Print Innodb Rows Status(Innodb_rows_inserted/updated/deleted/read).
   -innodb_pages
Print Innodb Buffer Pool Pages Status(Innodb_buffer_pool_pages_data/free/dirty/flushed)
   -innodb_data
Print Innodb Data Status(Innodb_data_reads/writes/read/written)
   -innodb_log
Print Innodb Log  Status(Innodb_os_log_fsyncs/written)
   -innodb_status
Print Innodb Status from Command: 'Show Engine Innodb Status' (history list/ log unflushed/uncheckpointed bytes/ read views/ queries inside/queued)
```

另外，-innodb_status 的信息来自如下：



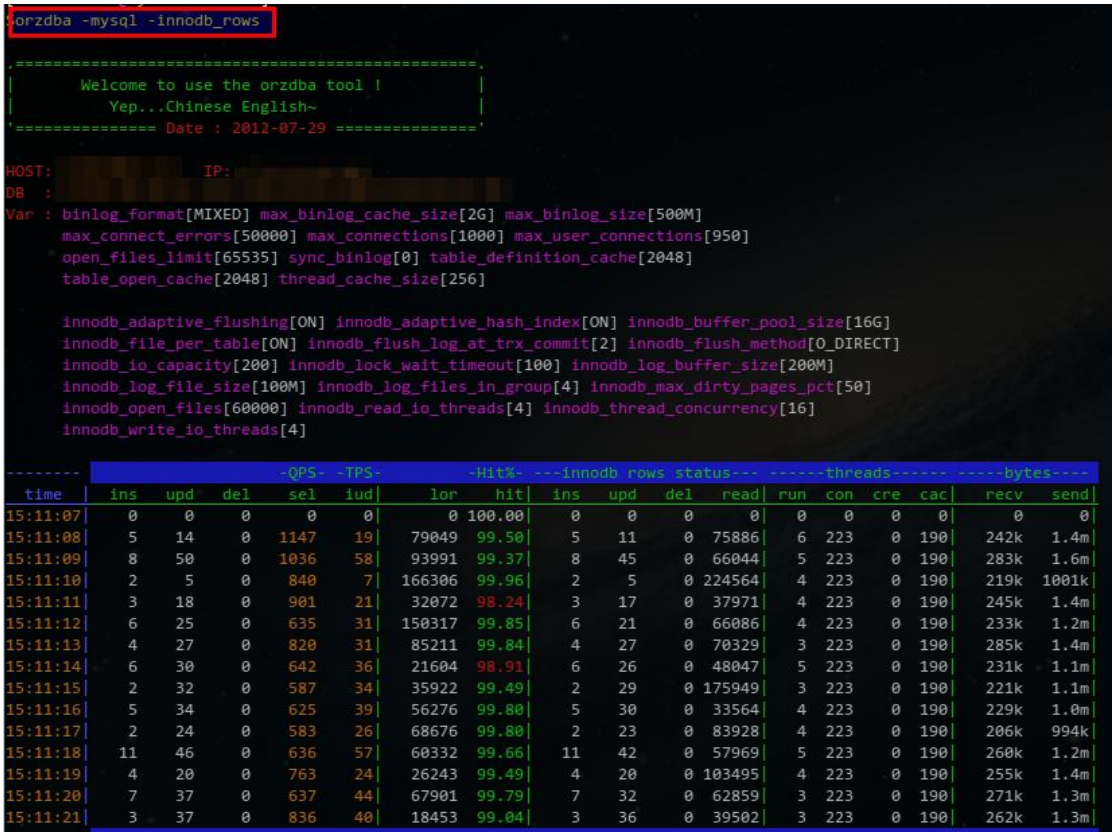
其中：

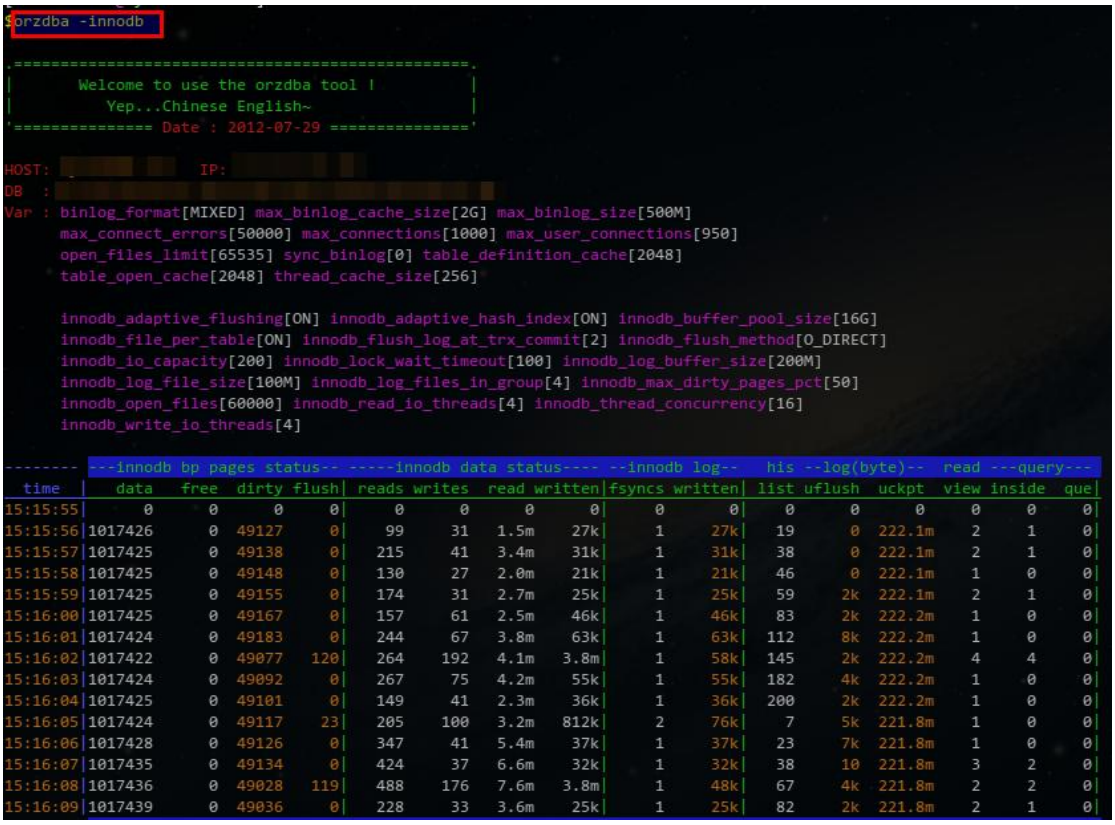
log unflushed = Log sequence number - Log flushed up to

uncheckpointed bytes = Log sequence number - Last checkpoint at

```
   -T,--threads
Print Threads Status(Threads_running,Threads_connected,Threads_created,Threads_cached).
   -B,--bytes
Print Bytes received from/send to MySQL(Bytes_received,Bytes_sent).


   -mysql
Print MySQLInfo (include -t,-com,-hit,-T,-B).
   -innodb
Print InnodbInfo(include -t,-innodb_pages,-innodb_data,-innodb_log,-innodb_status)
```



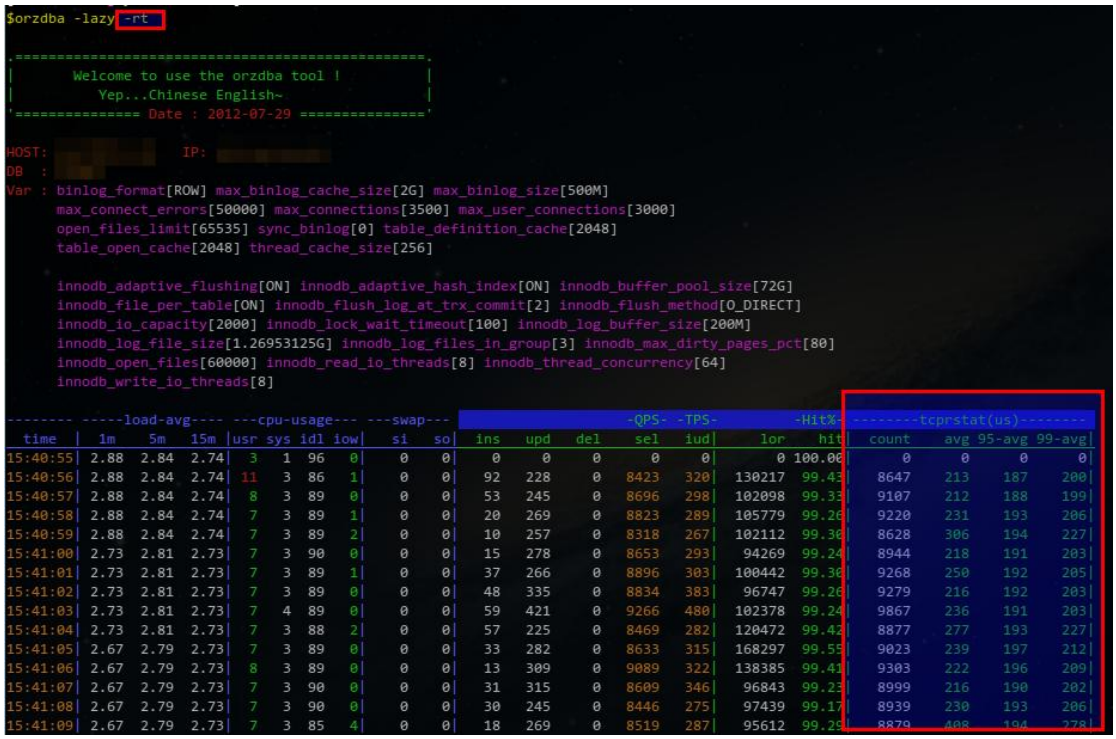


3、查看 MySQL 的响应时间

-rt	Print MySQL DB RT(us).

通过调用 tcprstat 来监控 MySQL 的响应时间。

-rt 中列的具体意义参考 http://www.percona.com/docs/wiki/tcprstat:start 中的解释。



-rt 参数依赖：

（1）需要安装 tcprstat

由于安装后运行 tcprstat 需要 root 用户，或者 sudo 进行，可以通过如下命令来避免：

```
$sudo chown root:root /usr/bin/tcprstat
$sudo chmod u+s /usr/bin/tcprstat
$ll /usr/bin/tcprstat
-rwsr-xr-x 1 root root 1183465 May 28 15:38 /usr/bin/tcprstat
```

默认工具读取 tcprstat 的代码如下：

```
$grep -n 'my $TCPRSTAT' orzdba
166:my $TCPRSTAT = "/usr/bin/tcprstat --no-header -t 1 -n 0 -p $port";
```

不同的路径可以自行修改。

（2）需要安装 Perl 的 File::Lockfile 模块

File::Lockfile 模块同时要依赖 Module-Build/version/Class-Data-Inheritable 这 3 个模块，可以通过下面方式进行安装：

安装 version 模块：

```
$wget http://search.cpan.org/CPAN/authors/id/J/JP/JPEACOCK/version-0.99.tar.gz
$tar -zxvf version-0.99.tar.gz
$cd version-0.99
$perl Makefile.PL
$make
$make test
$sudo make install
```

安装 Class-Data-Inheritable 模块：

```
$wget http://search.cpan.org/CPAN/authors/id/T/TM/TMTM/Class-Data-Inheritable-0.08.tar.gz
```

```
$tar -zxvf Class-Data-Inheritable-0.08.tar.gz
$cd Class-Data-Inheritable-0.08
$perl Makefile.PL
$make
$make test
$sudo make install
```

安装 Module-Build 模块：

```
$wget http://search.cpan.org/CPAN/authors/id/K/KW/KWILLIAMS/Module-Build-0.31.tar.gz
$tar -zxvf Module-Build-0.31.tar.gz
$cd Module-Build-0.31
$perl Build.PL
$./Build
$./Build test
$sudo ./Build install
```

安装安装 File::Lockfile 模块：

```
$wget http://search.cpan.org/CPAN/authors/id/G/GL/GLORYBOX/File-Lockfile-v1.0.5.tar.gz
$tar -zxvf File-Lockfile-v1.0.5.tar.gz
$cd File-Lockfile-v1.0.5
$perl Build.PL
$perl ./Build
$perl ./Build test
$sudo perl ./Build install
```

可以通过如下脚本，检查安装了哪些 perl 模块的脚本：

```
$cat check_module.pl
#!/usr/bin/perl
use ExtUtils::Installed;
my $inst = ExtUtils::Installed->new();
print join "\n",$inst->modules();
print "\n";
```

4、其他

（1）MySQL 相关参数配置

```
   -P,--port          Port number to use for mysql connection(default 3306).
   -S,--socket        Socket file to use for mysql connection.
```

用于指定端口或者 socket。

如果需要 MYSQL 的其他参数要添加，直接改代码：

```
$grep -n -A1 'my $MYSQL' orzdba
166:my $MYSQL    = qq{mysql -s --skip-column-names -uroot -P$port };
167-$MYSQL      .= qq{-S$socket } if defined $socket;
```

（2）控制输出间隔和次数，以及是否输出颜色。

```
   -h,--help          Print Help Info.
```

```
  -i,--interval      Time(second) Interval.
  -C,--count         Times.
  -t,--time          Print The Current Time.
  -nocolor           Print NO Color.
```

（3）日志输出

```
  -L,--logfile       Print to Logfile.
 -logfile_by_day     One day a logfile,the suffix of logfile is 'yyyy-mm-dd';  and is valid with
-L.
```

用于将数据输出到日志文件-L 后面带输出的日志文件，另外如果加上-logfile_by_day 参数的话，将按天输出日志。