

Sysbench on Mysql5.7

今回はSysbenchのベンチマークテストをご紹介、テスト対象はMysql5.7とMysql5.8です

概要

本文章はSysbenchでMysqlの性能測定をご紹介します。

1 Sysbech環境を準備する

2 Sysbench性能テスト

3 注意事項

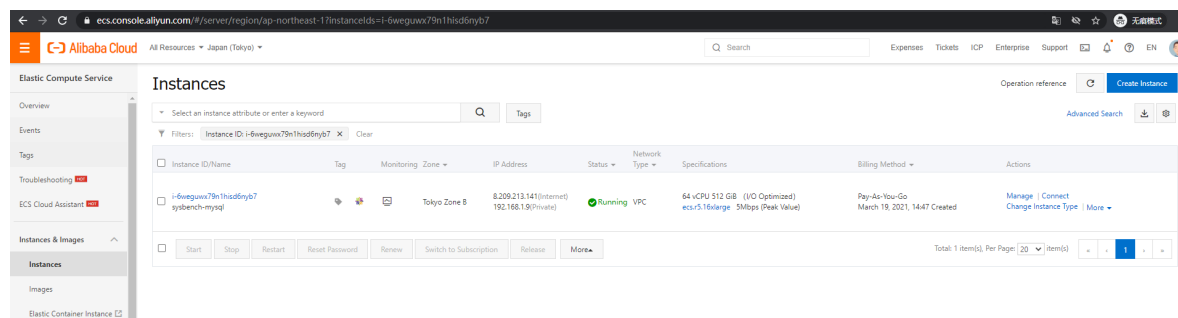
1 Sysbech環境を準備する

SysBenchとはよくデータベース、ファイルシステムやCPU、メモリなどシステムのベンチマークを行うソフトウェアです。

1-1 Sysbechインストール

1) ECSインスタンスを作成する

ECS:
Specifications: 64 vCPU 512 GiB ecs.r5.16xlarge
OS: CentOS 7.7 64-bit



2) Sysbenchをインストールする

①以下のコマンドでSysbenchインストールが行えます。

```
# yum install gcc gcc-c++ autoconf automake make libtool bzip2 mysql-devel git mysql
```

```
[root@iz6weguwx79n1hisd6nyb7Z ~]# yum install gcc gcc-c++ autoconf automake make libtool bzip2 mysql-devel git mysql
Loaded plugins: fastestmirror
Determining fastest mirrors
```

base

| 3.6 kB 00:00:00

epel

| 4.7 kB 00:00:00

extras

| 2.9 kB 00:00:00

updates

| 2.9 kB 00:00:00

(1/7): epel/x86_64/group_gz

| 96 kB 00:00:00

.....

Installed:

autoconf.noarch 0:2.69-11.e17 automake.noarch 0:1.13.4-3.e17
bzip2.x86_64 0:2.5.1-14.e17 gcc.x86_64 0:4.8.5-44.e17 gcc-c++.x86_64
0:4.8.5-44.e17 git.x86_64 0:1.8.3.1-23.e17_8 libtool.x86_64 0:2.4.2-
22.e17_3 mariadb.x86_64 1:5.5.68-1.e17
mariadb-devel.x86_64 1:5.5.68-1.e17

Dependency Installed:

cpp.x86_64 0:4.8.5-44.e17 glibc-devel.x86_64 0:2.17-
323.e17_9 glibc-headers.x86_64 0:2.17-323.e17_9 kernel-headers.x86_64
0:3.10.0-1160.15.2.e17 keyutils-libs-devel.x86_64 0:1.5.8-3.e17 krb5-
devel.x86_64 0:1.15.1-50.e17
libcom_err-devel.x86_64 0:1.42.9-19.e17 libkadm5.x86_64 0:1.15.1-50.e17
libmpc.x86_64 0:1.0.1-3.e17 libselinux-devel.x86_64
0:2.5-15.e17 libsepol-devel.x86_64 0:2.5-10.e17 libstdc++-
devel.x86_64 0:4.8.5-44.e17
libverto-devel.x86_64 0:0.2.5-4.e17 mpfr.x86_64 0:3.1.1-4.e17
openssl-devel.x86_64 1:1.0.2k-21.e17_9 pcre-devel.x86_64 0:8.32-
17.e17 perl-Data-Dumper.x86_64 0:2.145-3.e17 perl-
Error.noarch 1:0.17020-2.e17
perl-Git.noarch 0:1.8.3.1-23.e17_8 perl-TermReadKey.x86_64 0:2.30-
20.e17 perl-Test-Harness.noarch 0:3.28-3.e17 perl-Thread-Queue.noarch
0:3.02-2.e17 zlib-devel.x86_64 0:1.2.7-19.e17_9

Dependency Updated:

e2fsprogs.x86_64 0:1.42.9-19.e17 e2fsprogs-libs.x86_64 0:1.42.9-19.e17
glibc.x86_64 0:2.17-323.e17_9 glibc-common.x86_64 0:2.17-323.e17_9
krb5-libs.x86_64 0:1.15.1-50.e17 libcom_err.x86_64 0:1.42.9-19.e17
libgcc.x86_64 0:4.8.5-44.e17
libgomp.x86_64 0:4.8.5-44.e17 libselinux.x86_64 0:2.5-15.e17
libselinux-python.x86_64 0:2.5-15.e17 libselinux-utils.x86_64 0:2.5-15.e17
libss.x86_64 0:1.42.9-19.e17 libstdc++.x86_64 0:4.8.5-44.e17
mariadb-libs.x86_64 1:5.5.68-1.e17
nscd.x86_64 0:2.17-323.e17_9 openssl.x86_64 1:1.0.2k-21.e17_9
openssl-libs.x86_64 1:1.0.2k-21.e17_9 zlib.x86_64 0:1.2.7-19.e17_9
Complete!

```
| 3.6 kB 00:00:00
| 4.7 kB 00:00:00
| 2.9 kB 00:00:00
| 2.9 kB 00:00:00
| 96 kB 00:00:00
| 1.0 MB 00:00:00
| 225 kB 00:00:00
| 6.9 MB 00:00:00
| 5.7 MB 00:00:00
| 6.1 MB 00:00:00
| 153 kB 00:00:00
```

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②下記のリンクからSysbenchをダウンロードする

```
# git clone https://github.com/akopytov/sysbench.git
```

```
[root@iz6weguwx79nlhisd6nyb7Z ~]# git clone
https://github.com/akopytov/sysbench.git
Cloning into 'sysbench'...
remote: Enumerating objects: 62, done.
remote: Counting objects: 100% (62/62), done.
remote: Compressing objects: 100% (33/33), done.
remote: Total 10220 (delta 28), reused 44 (delta 23), pack-reused 10158
Receiving objects: 100% (10220/10220), 4.23 MiB | 1.38 MiB/s, done.
Resolving deltas: 100% (7326/7326), done.
```

③SysBench 1.0.18バージョンにチェックアウトする

```
# cd sysbench
# git checkout 1.0.18
```

```
[root@iZ6weguwx79n1hisd6nyb7Z ~]# cd sysbench
[root@iZ6weguwx79n1hisd6nyb7Z sysbench]# git checkout 1.0.18
Note: checking out '1.0.18'.
```

You are in 'detached HEAD' state. You can look around, make experimental

changes and commit them, and you can discard any commits you make in this state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using `-b` with the checkout command again. Example:

```
git checkout -b new_branch_name
```

HEAD is now at ab7d582... Release 1.0.18.

```
[root@iz6weguwx79nlhisd6nyb7Z ~]# cd sysbench
[root@iz6weguwx79nlhisd6nyb7Z sysbench]# git checkout 1.0.18
Note: checking out '1.0.18'.
```

You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using `-b` with the checkout command again. Example:

```
git checkout -b new_branch_name
```

HEAD is now at ab7d582... Release 1.0.18.

④autogen.shを実行します

```
# ./autogen.sh
# ./configure --prefix=/usr --mandir=/usr/share/man
```

```
[root@iz6weguwx79nlhisd6nyb7Z sysbench]# ./autogen.sh
./autogen.sh: running `libtoolize --copy --force'
libtoolize: putting auxiliary files in AC_CONFIG_AUX_DIR, `config'.
libtoolize: copying file `config/ltmain.sh'
libtoolize: putting macros in AC_CONFIG_MACRO_DIR, `m4'.
libtoolize: copying file `m4/libtool.m4'
libtoolize: copying file `m4/ltoptions.m4'
libtoolize: copying file `m4/ltugar.m4'
libtoolize: copying file `m4/ltversion.m4'
libtoolize: copying file `m4/lt~obsolete.m4'
./autogen.sh: running `aclocal -I m4'
./autogen.sh: running `autoheader'
./autogen.sh: running `automake -c --foreign --add-missing'
configure.ac:59: installing 'config/ar-lib'
configure.ac:45: installing 'config/compile'
configure.ac:27: installing 'config/config.guess'
configure.ac:27: installing 'config/config.sub'
configure.ac:32: installing 'config/install-sh'
configure.ac:32: installing 'config/missing'
src/Makefile.am: installing 'config/depcomp'
parallel-tests: installing 'config/test-driver'
./autogen.sh: running `autoconf'
Libtoolized with: libtoolize (GNU libtool) 2.4.2
Automade with: automake (GNU automake) 1.13.4
Configured with: autoconf (GNU Autoconf) 2.69
[root@iz6weguwx79nlhisd6nyb7Z sysbench]# ./configure --prefix=/usr --
mandir=/usr/share/man
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
```

```
checking target system type... x86_64-unknown-linux-gnu
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
.....
config.status: executing libtool commands
=====
sysbench version   : 1.0.18-ab7d582
CC                 : gcc -std=gnu99
CFLAGS             : -O2 -funroll-loops -ggdb3 -march=core2 -Wall -Wextra -
Wpointer-arith -Wbad-function-cast -Wstrict-prototypes -Wnested-externs -Wno-
format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-
declarations -Wredundant-decls -Wcast-align -Wvla -pthread
CPPFLAGS           : -D_GNU_SOURCE -I$(top_srcdir)/src -
I$(abs_top_builddir)/third_party/luajit/inc -
I$(abs_top_builddir)/third_party/concurrency_kit/include
LDFLAGS            : -L/usr/lib
LIBS               : -lm
EXTRA_LDFLAGS      :

prefix             : /usr
bindir             : ${prefix}/bin
libexecdir         : ${prefix}/libexec
mandir             : /usr/share/man
datadir            : ${prefix}/share

MySQL support      : yes
Drizzle support    : no
AttachSQL support  : no
Oracle support     : no
PostgreSQL support : no

LuaJIT             : bundled
LUAJIT_CFLAGS      : -I$(abs_top_builddir)/third_party/luajit/inc
LUAJIT_LIBS        : $(abs_top_builddir)/third_party/luajit/lib/libluajit-5.1.a
-lld
LUAJIT_LDFLAGS     : -rdynamic

Concurrency Kit    : bundled
CK_CFLAGS          : -I$(abs_top_builddir)/third_party/concurrency_kit/include
CK_LIBS            : $(abs_top_builddir)/third_party/concurrency_kit/lib/libck.a
configure flags    :
=====
```

```
[root@iz6weguwx79n1hisd6nyb7Z sysbench]# ./autogen.sh
./autogen.sh: running 'libtoolize --copy --force'
libtoolize: putting auxiliary files in AC_CONFIG_AUX_DIR, 'config'.
libtoolize: copying file 'config/ltmain.sh'
libtoolize: putting macros in AC_CONFIG_MACRO_DIR, 'm4'.
libtoolize: copying file 'm4/libtool.m4'
libtoolize: copying file 'm4/ltoptions.m4'
libtoolize: copying file 'm4/ltsugar.m4'
libtoolize: copying file 'm4/ltversion.m4'
libtoolize: copying file 'm4/lt-obsolete.m4'
./autogen.sh: running 'aclocal -I m4'
./autogen.sh: running 'autoheader'
./autogen.sh: running 'automake -c --foreign --add-missing'
configure.ac:59: installing 'config/ar-lib'
configure.ac:45: installing 'config/compile'
configure.ac:27: installing 'config/config.guess'
configure.ac:27: installing 'config/config.sub'
configure.ac:32: installing 'config/install-sh'
configure.ac:32: installing 'config/missing'
src/Makefile.am: installing 'config/depcomp'
parallel-tests: installing 'config/test-driver'
./autogen.sh: running 'autoconf'
Libtoolized with: libtoolize (GNU libtool) 2.4.2
Automake with: automake (GNU automake) 1.13.4
Configured with: autoconf (GNU Autoconf) 2.69
[root@iz6weguwx79n1hisd6nyb7Z sysbench]# ./configure --prefix=/usr --mandir=/usr/share/man
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking target system type... x86_64-unknown-linux-gnu
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether make supports nested variables... yes
checking for style of include used by make... GNU
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking dependency style of gcc... gcc3
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/grep -E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
```

```
config.status: creating doc/Makefile
config.status: creating third_party/luajit/Makefile
config.status: creating third_party/concurrency_kit/Makefile
config.status: creating src/Makefile
config.status: creating src/drivers/Makefile
config.status: creating src/drivers/mysql/Makefile
config.status: creating src/drivers/drizzle/Makefile
config.status: creating src/drivers/oracle/Makefile
config.status: creating src/drivers/pqsql/Makefile
config.status: creating src/drivers/redis/Makefile
config.status: creating src/test/Makefile
config.status: creating src/test/cpu/Makefile
config.status: creating src/test/files/Makefile
config.status: creating src/test/memory/Makefile
config.status: creating src/test/network/Makefile
config.status: creating src/test/mutex/Makefile
config.status: creating src/ua/internal/Makefile
config.status: creating tests/Makefile
config.status: creating tests/include/config.sh
config.status: creating snap/snapsrcraft.yaml
config.status: creating config/config.h
config.status: executing depfiles commands
config.status: executing libtool commands

sysbench version : 1.0.10-ab7d82
CC : gcc -std=c99
CFLAGS : -O2 -funroll-loops -gdb3 -march=core2 -Wall -Wextra -Wpointer-arith -Wbad-function-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-a
top -wala -pthread
CPPFLAGS : -D_GNU_SOURCE -Isys_top_srcdir/src -Isys_top_builddir/third_party/luajit/inc -Isys_top_builddir/third_party/concurrency_kit/include
LDFLAGS : -L/usr/lib
libs : lib
EXTRA_LDFLAGS :

prefix : /usr
bindir : ${prefix}/bin
libexecdir : ${prefix}/libexec
mandir : /usr/share/man
datadir : ${prefix}/share

MySQL support : yes
Drizzle support : no
AtaSQL support : no
Oracle support : no
PostgreSQL support : no

LUAJIT : bundled
LUAJIT_CFLAGS : -Isys_top_builddir/third_party/luajit/inc
LUAJIT_LIBS : sys_top_builddir/third_party/luajit/lib/libluajit-5.1.a -ldl
LUAJIT_LDFLAGS : -rdynamic

Concurrency Kit : bundled
CK_CFLAGS : -Isys_top_builddir/third_party/concurrency_kit/include
CK_LIBS : sys_top_builddir/third_party/concurrency_kit/lib/libck.a
Configure flags :

[root@iz6weguwx79n1hisd6nyb7Z sysbench]#
```

⑤コンパイル

```
# make
# make install
```

```
[root@iz6weguwx79n1hisd6nyb7Z sysbench]# make
Making all in doc
make[1]: Entering directory `/root/sysbench/doc'
Making all in xs1
```

```
make[2]: Entering directory `/root/sysbench/doc/xs1'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/sysbench/doc/xs1'
make[2]: Entering directory `/root/sysbench/doc'
touch manual.html
make[2]: Leaving directory `/root/sysbench/doc'
make[1]: Leaving directory `/root/sysbench/doc'
Making all in third_party/luajit
make[1]: Entering directory `/root/sysbench/third_party/luajit'
make -C ./luajit clean
make[2]: Entering directory `/root/sysbench/third_party/luajit/luajit'
make -C src clean
省略
完了しました
```

```
[root@iz2w6gux79nlhisd9y67z sysbench]# make
Making all in doc
make[1]: Entering directory `/root/sysbench/doc'
Making all in xs1
make[2]: Entering directory `/root/sysbench/doc/xs1'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/sysbench/doc/xs1'
make[2]: Entering directory `/root/sysbench/doc'
touch manual.html
make[2]: Leaving directory `/root/sysbench/doc'
make[1]: Leaving directory `/root/sysbench/doc'
Making all in third_party/luajit
make[1]: Entering directory `/root/sysbench/third_party/luajit'
make -C ./luajit clean
make[2]: Entering directory `/root/sysbench/third_party/luajit/luajit'
make -C src clean
make[3]: Entering directory `/root/sysbench/third_party/luajit/luajit/src'
rm -f luajit libluajit.a libluajit.so host/minilua host/buildm lj.o.s lj_bcode.h lj_ffdef.h lj_libdef.h lj_recdef.h lj_folddef.h host/buildm_arch.h jit/wdef.lua *.o host/*.*.obj *.lib *.exp *.dll *.exe *.manifest *.pdb *.ilk
make[3]: Leaving directory `/root/sysbench/third_party/luajit/luajit/src'
make[2]: Leaving directory `/root/sysbench/third_party/luajit/luajit'
rm -rf tmp
mkdir tmp
tar -C . -cf - luajit | tar -xf - -C tmp/
chmod -R u+w tmp
make -C tmp/luajit \
  PREFIX=/root/sysbench/third_party/luajit \
  INSTALL_INC=/root/sysbench/third_party/luajit/inc \
  install
make[2]: Entering directory `/root/sysbench/third_party/luajit/tmp/luajit'
==== Building LuaJIT 2.1.0-beta2 ====
make -C src
make[3]: Entering directory `/root/sysbench/third_party/luajit/tmp/luajit/src'
HOSTCC      host/mainlua.o
HOSTLINK     host/mainlua
DYNASM      host/buildm_arch.h
HOSTCC      host/buildm.o
HOSTCC      host/buildm_asm.o
HOSTCC      host/buildm_pobj.o
HOSTCC      host/buildm_lib.o
HOSTCC      host/buildm_fold.o
HOSTLINK     host/buildm
BUILDW      lj.o.s
ASM          lj.o.s
CC           lj_gc.o
CC           lj_ffdef.h
CC           lj_ffdef.o
CC           lj_char.o
CC           lj_bcode.h
CC           lj_bc.o
CC           lj_obj.o
CC           lj_buf.o
CC           lj_str.o
CC           lj_tab.o
CC           lj_func.o
CC           lj_udata.o
```

```
In file included from sb_thread.c:37:9:
sb_rand.h:41:17: warning: no previous prototype for 'sb_rand_uniform_uint64' [-Wmissing-prototypes]
inline uint64_t sb_rand_uniform_uint64(void)

sb_rand.h:50:15: warning: no previous prototype for 'sb_rand_uniform_double' [-Wmissing-prototypes]
inline double sb_rand_uniform_double(void)

nv -f .deps/sb_thread.Tpo .deps/sb_thread.Po
gcc -std=gnu99 -DNAME_CONFIG_H -I. -I./config -I./src -I/root/sysbench/third_party/luajit/inc -I/root/sysbench/third_party/concurrency_kit/include -D_GNU_SOURCE -D_GLIBC__ -D_GNU_SOURCE -Wall -Wextra -Wpointer-arith -Wbad-func-tion-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-align -Wvla -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -MT sb_barrier.o -MD -MP -MF .deps/sb_b
nv -f .deps/sb_barrier.Tpo .deps/sb_barrier.Po
gcc -std=gnu99 -DNAME_CONFIG_H -I. -I./config -I./src -I/root/sysbench/third_party/luajit/inc -I/root/sysbench/third_party/concurrency_kit/include -D_GNU_SOURCE -D_GLIBC__ -D_GNU_SOURCE -Wall -Wextra -Wpointer-arith -Wbad-func-tion-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-align -Wvla -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -MT sb_lua.o -MD -MP -MF .deps/sb_lua.o
nv -f .deps/sb_lua.Tpo .deps/sb_lua.Po
gcc -std=gnu99 -DNAME_CONFIG_H -I. -I./config -I./src -I/root/sysbench/third_party/luajit/inc -I/root/sysbench/third_party/concurrency_kit/include -D_GNU_SOURCE -D_GLIBC__ -D_GNU_SOURCE -Wall -Wextra -Wpointer-arith -Wbad-func-tion-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-align -Wvla -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -MT sb_lua.o -MD -MP -MF .deps/sb_lua.o
In file included from sb_lua.c:37:9:
sb_lua.h:24:17: warning: no previous prototype for 'xoroshiro_rotl' [-Wmissing-prototypes]
inline uint64_t xoroshiro_rotl(const uint64_t x, int k) {
xoroshiro128plus.h:38:17: warning: no previous prototype for 'xoroshiro_next' [-Wmissing-prototypes]
inline uint64_t xoroshiro_next(uint64_t s[2]) {
In file included from sb_lua.c:37:9:
sb_lua.h:41:17: warning: no previous prototype for 'sb_rand_uniform_uint64' [-Wmissing-prototypes]
inline uint64_t sb_rand_uniform_uint64(void)

sb_rand.h:50:15: warning: no previous prototype for 'sb_rand_uniform_double' [-Wmissing-prototypes]
inline double sb_rand_uniform_double(void)

nv -f .deps/sb_lua.Tpo .deps/sb_lua.Po
gcc -std=gnu99 -DNAME_CONFIG_H -I. -I./config -I./src -I/root/sysbench/third_party/luajit/inc -I/root/sysbench/third_party/concurrency_kit/include -D_GNU_SOURCE -D_GLIBC__ -D_GNU_SOURCE -Wall -Wextra -Wpointer-arith -Wbad-func-tion-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-align -Wvla -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -MT sb_util.o -MD -MP -MF .deps/sb_util
nv -f .deps/sb_util.Tpo .deps/sb_util.Po
gcc -std=gnu99 -DNAME_CONFIG_H -I. -I./config -I./src -I/root/sysbench/third_party/luajit/inc -I/root/sysbench/third_party/concurrency_kit/include -D_GNU_SOURCE -D_GLIBC__ -D_GNU_SOURCE -Wall -Wextra -Wpointer-arith -Wbad-func-tion-cast -Wstrict-prototypes -Wnested-externs -Wno-format-zero-length -Wundef -Wstrict-prototypes -Wmissing-prototypes -Wmissing-declarations -Wredundant-decls -Wcast-align -Wvla -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -MT sb_counter.o -MD -MP -MF .deps/sb_counter
nv -f .deps/sb_counter.Tpo .deps/sb_counter.Po
lsysys -lfbm -pthread -O2 -funroll-loops -ggdb3 -marchcore2 -dynamic -L/usr/lib -o sysbench sysbench.o sb_timer.o sb_options.o sb_logger.o sb_driver.o sb_histogram.o sb_rand.o sb_thread.o sb_barrier.o sb_lua.o sb_util.o sb_counter.o -L/usr/lib tests/filesio/libbfileio.a tests/threads/libbthreads.a tests/memor
l/threads/libbthreads.a tests/cpu/libbcpu.a tests/mutex/libbmutex.a drivers/mysql/libbmysq1.a -L/usr/lib64/mysql -lmysqlclient -pthread -lz -lsasl -lcrypto /root/sysbench/third_party/luajit/lib/libluajit-5.1.a -ldl /root/sysbench/third_party/concurrency_kit/lib/liblck.a -lm -pthread
make[2]: Leaving directory `/root/sysbench/src'
make[1]: Leaving directory `/root/sysbench/src'
Making all in tests
make[1]: Entering directory `/root/sysbench/tests'
make[1]: Nothing to be done for `all'.
make[1]: Leaving directory `/root/sysbench/tests'
make[1]: Leaving directory `/root/sysbench'
[root@iz2w6gux79nlhisd9y67z sysbench]#
```

```

make[3]: Entering directory '/root/sysbench/src/tests'
make[4]: Entering directory '/root/sysbench/src/tests'
make[4]: Nothing to be done for 'install-data-am'.
make[4]: Leaving directory '/root/sysbench/src/tests'
make[3]: Leaving directory '/root/sysbench/src/tests'
Making install in lua
make[2]: Entering directory '/root/sysbench/src/lua'
Making install in internal
make[3]: Entering directory '/root/sysbench/src/lua/internal'
make install-am
make[4]: Entering directory '/root/sysbench/src/lua/internal'
make[5]: Entering directory '/root/sysbench/src/lua/internal'
make[5]: Nothing to be done for 'install-data-am'.
make[5]: Leaving directory '/root/sysbench/src/lua/internal'
make[4]: Leaving directory '/root/sysbench/src/lua/internal'
make[3]: Leaving directory '/root/sysbench/src/lua'
make[2]: Leaving directory '/root/sysbench/src/lua'
make[4]: Entering directory '/root/sysbench/src/lua'
make[4]: Nothing to be done for 'install-exec-am'.
/usr/bin/mkdir -p '/usr/share/sysbench'
/usr/bin/install -c -s 64k oltp_comm.lua '/usr/share/sysbench'
/usr/bin/install -c bulk_insert.lua oltp_delete.lua oltp_insert.lua oltp_read_only.lua oltp_read_write.lua oltp_select.lua oltp_update_index.lua oltp_update_non_index.lua oltp_write_only.lua select_random_points.lua select_random_ranges.lua '/usr/share/sysbench'
make[4]: Leaving directory '/root/sysbench/src/lua'
make[2]: Leaving directory '/root/sysbench/src/lua'
Making install in
make[2]: Entering directory '/root/sysbench/src'
make[3]: Entering directory '/root/sysbench/src'
/usr/bin/mkdir -p '/usr/bin'
/usr/bin -libtool --mode=install /usr/bin/install -c sysbench '/usr/bin'
libtool: install: /usr/bin/install -c sysbench /usr/bin/sysbench
make[3]: Nothing to be done for 'install-data-am'.
make[3]: Leaving directory '/root/sysbench/src'
make[2]: Leaving directory '/root/sysbench/src'
make[1]: Leaving directory '/root/sysbench/src'
Making install in tests
make[1]: Entering directory '/root/sysbench/tests'
make[2]: Entering directory '/root/sysbench/tests'
make[2]: Nothing to be done for 'install-exec-am'.
make -IINSTALL_TO_DIR="/usr/share/sysbench/tests" install_test_files
make[3]: Entering directory '/root/sysbench/tests'
make[3]: Leaving directory '/root/sysbench/tests'
/usr/bin/mkdir -p '/usr/share/sysbench/tests'
/usr/bin/install -c test_run.sh '/usr/share/sysbench/tests'
make[2]: Leaving directory '/root/sysbench/tests'
make[1]: Leaving directory '/root/sysbench'
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/root/sysbench'
make[1]: Leaving directory '/root/sysbench'
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]#

```

⑥SysBench clientの設定、ffffffは 32 coresが使われている。

```

sudo sh -c 'for x in /sys/class/net/eth0/queues/rx-*; do echo
ffffff>$x/rps_cpus; done'

```

```

sudo sh -c "echo 32768 > /proc/sys/net/core/rps_sock_flow_entries"
sudo sh -c "echo 4096 > /sys/class/net/eth0/queues/rx-0/rps_flow_cnt"
sudo sh -c "echo 4096 > /sys/class/net/eth0/queues/rx-1/rps_flow_cnt"

```

```

[root@iz2bmgwax79nlhisd6nyb7Z sysbench]# sudo sh -c 'for x in /sys/class/net/eth0/queues/rx-*; do echo
ffffff>$x/rps_cpus; done'
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]# sudo sh -c "echo 32768 > /proc/sys/net/core/rps_sock_flow_entries"
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]# sudo sh -c "echo 4096 > /sys/class/net/eth0/queues/rx-0/rps_flow_cnt"
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]# sudo sh -c "echo 4096 > /sys/class/net/eth0/queues/rx-1/rps_flow_cnt"
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]#

```

⑦インストール完了

```

[root@iz2bmgwax79nlhisd6nyb7Z sysbench]# sysbench --version
sysbench 1.0.18-ab7d582
[root@iz2bmgwax79nlhisd6nyb7Z sysbench]#

```

操作ガイドは下記のユーザーガイドもご参照ください

<https://www.alibabacloud.com/help/doc-detail/146103.htm?spm=a2c63.l28256.b99.186.188d3784k2PgLLH>

3) Polardbインスタンスを作成する

PolarDB:

Mysql5.7 8Core32GB

① Polardbインスタンスを作成する

Alibaba Cloud

Cart Tickets Bills English 010_ashen@ab...

Confirm Order

Parameters

Apsara PolarDB (Pay-as-you-go)

Configurations	Payment Option	Quantity	Discount	Price
Region: Japan (Tokyo) Create Type: Create Primary Cluster Primary Availability Zone: Zone B Network Type: VPC VPC: PolarDBBenchmark VSwitch: PolarDBvswB Compatibility: MySQL 5.7 Edition: Cluster (2-16 Nodes) (Recommended) Node Specification: 8 Cores 32 GB(Dedicated) Nodes: 2 Time Zone: UTC +08:00 (default) Table Name Case Sensitivity: Not Case-sensitive (Default) Release Cluster: Retain Last Automatic Backup (Automatic Backup before Release) (Default) Cluster Name: BC0re32GB	Pay-As-You-Go	1	\$0.000/hour	Configuration Fee: \$2.060/hour

Terms of Service

☒ I have read and agree to Apsara PolarDB (Pay-as-you-go) Agreement of Service

Payable: \$2.060/hour

Activate Now

Alibaba Cloud

All Resources Japan (Tokyo)

Search

Expenses Tickets ICP Enterprise Support 010_ashen@ab...

Apsara PolarDB

Global Database Network

Clusters

Cluster Recycle

Pending Events

Event History

Scheduled Tasks

Parameter Templates

Clusters

Create Cluster Cluster ID Enter a value Tags Refresh

Cluster ID/Name	Status	Creation Time	Compatibility	Nodes	Primary Node Specifications	Used Data	Billing Method	Tags	Actions
pc-0iwjkn9d507eak BC0re32GB	Running	Mar 19, 2021, 16:53:55	100% Compatible with MySQL 5.7	2	8-Core 32 GB	2.34 GB	Pay-as-you-go		Change Configurations Add/Remove Node More
Edit Tags									

Items per Page: 30 Total Items: 1

② PolarDBのホワイトリストにECSプライベートIPを追加する

ecs.console.aliyun.com/?spm=5176.12818093.products-grouped.decs.6cb216d95AQIDM#/server/region/ap-northeast-1

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All Resources Japan (Tokyo)

Search

Expenses Tickets ICP Enterprise Support 010_ashen@ab...

Elastic Compute Service

Overview

Events

Tags

Troubleshooting

Instances

Select an instance attribute or enter a keyword Search Tags

Advanced Search

Instance ID/Name	Tag	Monitoring	Zone	IP Address	Status	Network Type	Specifications	Billing Method	Actions
i-fweguam79n1tiazdny67 lysbench-mysef			Tokyo Zone B	8.209.213.141(Internet) 193.186.139(Private)	Running	VPC	4vCPU, 512 GB (I/O Optimized) ecs.r5.xlarge 30Mbps (Peak Value)	Pay-As-You-Go March 19, 2021, 14:47 Created	Manage Connect Change Instance Type More

Alibaba Cloud

Search

Expenses Tickets ICP Enterprise Support 010_ashen@ab...

Cluster / Whitelists

← 8Core32GB | pc-0iwjkn9d507eak Running

Log On to Database Create GDN Migrate Data to Current Cluster Synchronize Data... Refresh

Overview

Settings and Management

Whitelists

Security Management

Accounts

Databases

Backup and Restore

Parameters

Diagnostics and Optimization

Diagnosis

Monitoring

Slow SQL Query

Log and Audit

SQL Explorer

IP List

Add IP Whitelist

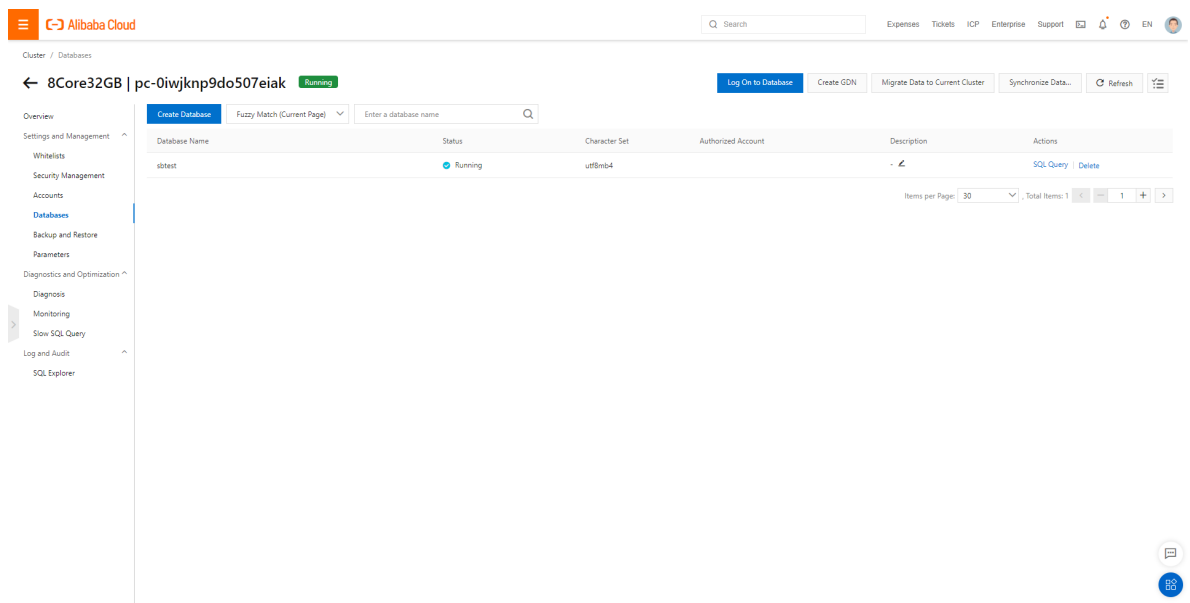
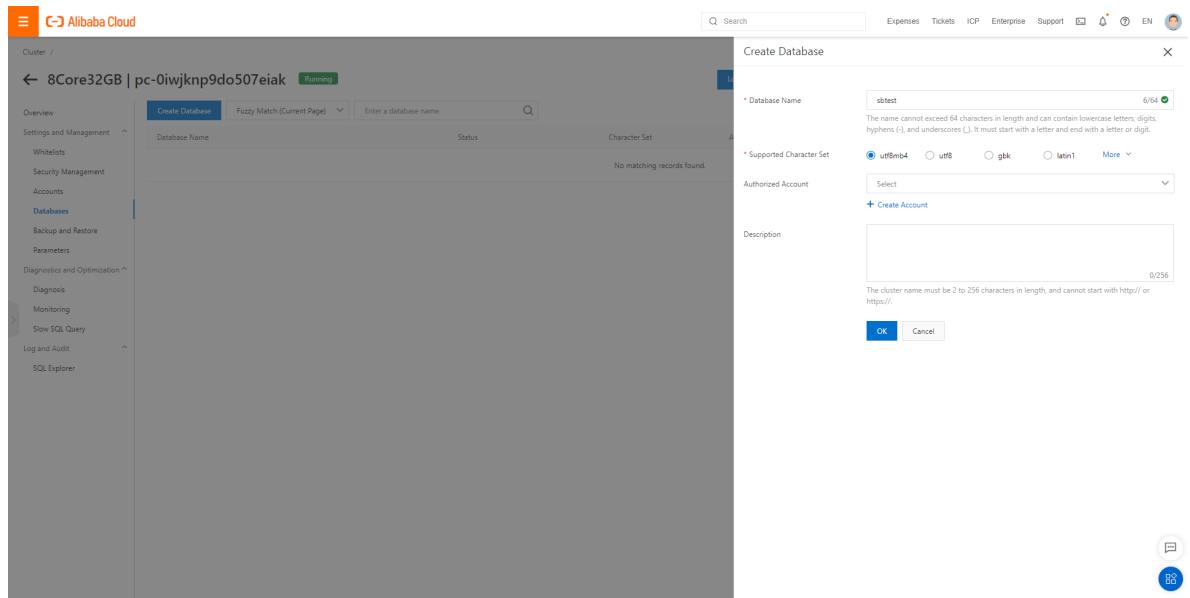
- default		Modify Delete
127.0.0.1		

Security Groups

Select Security Group

Type	Name	Content	Actions
		No Data	

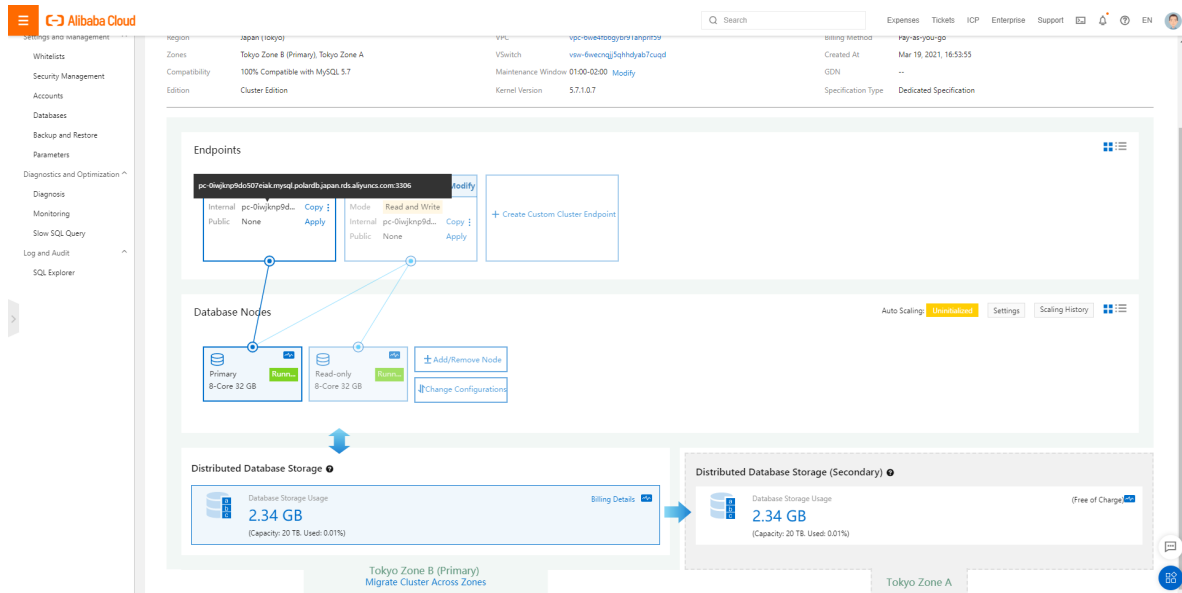




③ Polardbに接続するエンドポイント

プライマリーエンドポイント：データを書き込む際に、プライマリーエンドポイントに接続することをおすすめします

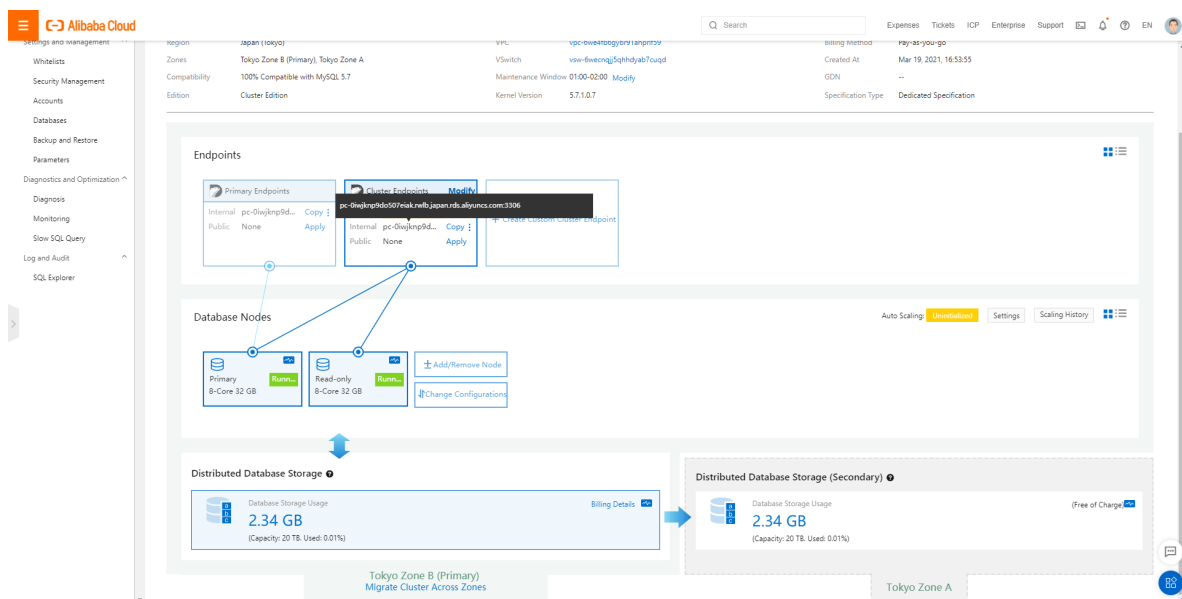
```
pc-0iwjkn9do507eak.mysql.polardb.japan.rds.aliyuncs.com
```



Read_WriteモードでSysbench実行するとき、クラスターエンドポイントに接続することをおすすめします

クラスターエンドポイント:

pc-0iwjkn9do507eiai.rwlb.japan.rds.aliyuncs.com



2 Sysbench性能テスト

2-1 Sysbenchデータを用意する

スクリプトファイル (sysbench.shとprepare.sh) を用意する

```
(root@iz2wmgua79m:~) mkdir sysbenchprepare
(root@iz2wmgua79m:~) cd sysbenchprepare
total 0
drwxr-xr-x 14 root root 4096 Mar 10 16:07 sysbench
drwxr-xr-x  2 root root 4096 Mar 10 19:17 sysbenchprepare
(root@iz2wmgua79m:~) cd sysbenchprepare
(root@iz2wmgua79m:~) cd sysbenchprepare
bash: sz: command not found
(root@iz2wmgua79m:~) cd sysbenchprepare
[root@iz2wmgua79m:~] # yum install lrzsz
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
Resolving Dependencies
--> Running transaction check
--> Package lrzsz.x86_64 0:0.12.20-36.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

Package Arch Version Repository Size
Installing:
lrzsz x86_64 0.12.20-36.el7 base 78 k
Transaction Summary
Install 1 Package
Total download size: 78 k
Installed size: 181 k
Is this ok [y/d/N]: y
Downloading packages:
lrzsz-0.12.20-36.el7.x86_64.rpm | 78 kB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : lrzsz-0.12.20-36.el7.x86_64 1/1
Verifying : lrzsz-0.12.20-36.el7.x86_64 1/1
Installed:
lrzsz.x86_64 0:0.12.20-36.el7
Complete!
[root@iz2wmgua79m:~] # cd sysbenchprepare
[root@iz2wmgua79m:~] # cd sysbenchprepare
[root@iz2wmgua79m:~] # cd sysbenchprepare
total 16
-rw-r--r-- 1 root root 304 Mar 9 12:11 prepare.sh
drwxr-xr-x 14 root root 4096 Mar 10 16:07 sysbench
drwxr-xr-x  2 root root 4096 Mar 10 19:17 sysbenchprepare
-rw-r--r-- 1 root root 1005 Mar 10 17:20 sysbench.sh
[root@iz2wmgua79m:~] #
```

a.sysbench.sh

```
#!/bin/sh
LUA=/usr/share/sysbench/oltp_read_write.lua
SIZE=100000
DB=mysql
#prepare data using primary host
HOST=pc-0iwjkn9do507eiai.mysql.polardb.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest
usage()
{
    echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
    exit "${1}"
}
#chack argumets
if [ "${1}" = "" -o $# -gt 3 ]; then
    usage 1
elif [ "${2}" = "" ]; then
    THREADS=1
else
    THREADS=${2}
fi
echo "Running command: sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=500 --events=0 --time=60 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}"
sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=20 --events=0 --time=120 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}
```

```

1  #!/bin/sh
2  LUA=/usr/share/sysbench/oltp_read_write.lua
3  SIZE=100000
4  DB=mysql
5  #prepare data using primary host
6  HOST=pc-01wkn9do507e1ak.mysql.polardb.japan.rds.aliyuncs.com
7  PORT=3306
8  USER=abtest
9  PASSWORD=Test1234
10 DBNAME=abtest
11 usage()
12 {
13     echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
14     exit "$1"
15 }
16 #check arguments
17 if [ "$1" = "" -o $# -gt 3 ]; then
18     usage 1
19 elif [ "$2" = "" ]; then
20     THREADS=1
21 else
22     THREADS=$2
23 fi
24 echo "Running command: sysbench $1[LUA] --db-driver=$1[DB] --mysql-host=$1[HOST] --mysql-port=$1[PORT] --mysql-user=$1[USER] --mysql-password=$1[PASSWORD] --mysql-db=$1[DBNAME] --table-size=$1[SIZE] --tables=500 --
25 sysbench $1[LUA] --db-driver=$1[DB] --mysql-host=$1[HOST] --mysql-port=$1[PORT] --mysql-user=$1[USER] --mysql-password=$1[PASSWORD] --mysql-db=$1[DBNAME] --table-size=$1[SIZE] --tables=20 --events=0 --time=120 --d
26

```

b.prepare.sh

```

#!/bin/sh
mkdir -p logs
thread=500
echo "prepare data using default settings, ref sysbench SIZE" >>
logs/sysbench_read_write_0_prepare.log
./sysbench.sh prepare ${thread} >> logs/sysbench_read_write_0_prepare.log
echo "data had been successfully initialized." >>
logs/sysbench_read_write_0_prepare.log

```

```

1  #!/bin/sh
2  mkdir -p logs
3  thread=500
4  echo "prepare data using default settings, ref sysbench SIZE" >> logs/sysbench_read_write_0_prepare.log
5  ./sysbench.sh prepare $1[threads] >> logs/sysbench_read_write_0_prepare.log
6  echo "data had been successfully initialized." >> logs/sysbench_read_write_0_prepare.log
7

```

2-2 Sysbenchテストのデータを用意する

```

[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# ll
total 8
-rwxr-xr-x 1 root root 304 Mar 19 19:30 prepare.sh
-rwxr-xr-x 1 root root 1039 Mar 19 19:30 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# nohup sh prepare.sh 2>&1&
[1] 24489
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# nohup: ignoring input and
appending output to 'nohup.out'
^C
[1]+  Done                  nohup sh prepare.sh 2>&1&
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# ll
total 12
drwxr-xr-x 2 root root 4096 Mar 19 19:31 logs
-rw----- 1 root root 0 Mar 19 19:31 nohup.out
-rwxr-xr-x 1 root root 304 Mar 19 19:30 prepare.sh
-rwxr-xr-x 1 root root 1039 Mar 19 19:30 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# cd logs/
[root@iz6weguwx79n1hisd6nyb7Z logs]# ll
total 4
-rw-r--r-- 1 root root 2810 Mar 19 19:31 sysbench_read_write_0_prepare.log

```

```
[root@iz6weguwx79n1hisd6nyb7Z logs]# tail -f sysbench_read_write_0_prepare.log
Creating a secondary index on 'sbtest10'...
Creating a secondary index on 'sbtest17'...
Creating a secondary index on 'sbtest16'...
Creating a secondary index on 'sbtest2'...
Creating a secondary index on 'sbtest7'...
Creating a secondary index on 'sbtest12'...
Creating a secondary index on 'sbtest5'...
Creating a secondary index on 'sbtest14'...
Creating a secondary index on 'sbtest20'...
data had been successfully initialized.
```

data had been successfully initialized.

AC

```
[root@iz6weguwx79n1hisd6nyb7Z logs]# ll
total 4
-rw-r--r-- 1 root root 2810 Mar 19 19:31 sysbench_read_write_0_prepare.log
```

```
[root@iz6weguwx79n1hisd6nyb7Z ~]# ll
total 16
-rw-r--r-- 1 root root 304 Mar 9 12:11 prepare.sh
drwx-r-x 14 root root 4096 Mar 19 16:07 sysbench
drwx-r-x 2 root root 4096 Mar 19 19:17 sysbenchprepare
-rw-r--r 1 root root 1065 Mar 10 17:28 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z ~]# mv prepare.sh ./sysbenchprepare/prepare.sh
[root@iz6weguwx79n1hisd6nyb7Z ~]# ll
total 12
drwx-r-x 14 root root 4096 Mar 19 16:07 sysbench
drwx-r-x 2 root root 4096 Mar 19 19:24 sysbenchprepare
-rw-r--r 1 root root 1065 Mar 10 17:28 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z ~]# mv sysbench.sh ./sysbenchprepare/sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z ~]# ll
total 8
drwx-r-x 14 root root 4096 Mar 19 16:07 sysbench
drwx-r-x 2 root root 4096 Mar 19 19:24 sysbenchprepare
-rw-r--r 1 root root 1065 Mar 10 17:28 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z ~]# cd sysbenchprepare/
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# ll
total 8
-rw-r--r 1 root root 304 Mar 9 12:11 prepare.sh
-rw-r--r 1 root root 1065 Mar 10 17:28 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# chmod a+x *.sh
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]# ll
total 8
-rwx-r-x 1 root root 304 Mar 9 12:11 prepare.sh
-rwx-r-x 1 root root 1065 Mar 10 17:28 sysbench.sh
[root@iz6weguwx79n1hisd6nyb7Z sysbenchprepare]#
```

```
ERROR 1045 (28000): Access denied for user 'root'@'192.168.1.9' (using password: YES)
[root@iz6weguwx79n1hisd6nyb7Z logs]# yes
bash: yes: command not found
[root@iz6weguwx79n1hisd6nyb7Z logs]# clear
[root@iz6weguwx79n1hisd6nyb7Z logs]# ll
total 4
-rw-r--r 1 root root 2810 Mar 19 19:31 sysbench_read_write_0_prepare.log
[root@iz6weguwx79n1hisd6nyb7Z logs]# cat sysbench_read_write_0_prepare.log
prepare data using default settings, ref sysbench SIZE
Running command: sysbench /usr/share/sysbench/oltp_read_write.lua --db-driver=mysql --mysql-host=pc-0lwjkn9d6507e1ak.mysql.polardb.jpainc.com --mysql-port=3306 --mysql-user=sbtest --mysql-password=Test1234 --mysql-db=sbtest --table-size=100000 --tables=500
--event=0 --time=60 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=500 prepare
sysbench 1.0.10-oltp-olap (using bundled LuaJIT 2.1.0-beta2)

Initializing worker threads...

Creating table 'sbtest6'...
Creating table 'sbtest9'...
Creating table 'sbtest7'...Creating table 'sbtest4'...Creating table 'sbtest12'...
Creating table 'sbtest1'...
Creating table 'sbtest11'...
Creating table 'sbtest13'...Creating table 'sbtest9'...

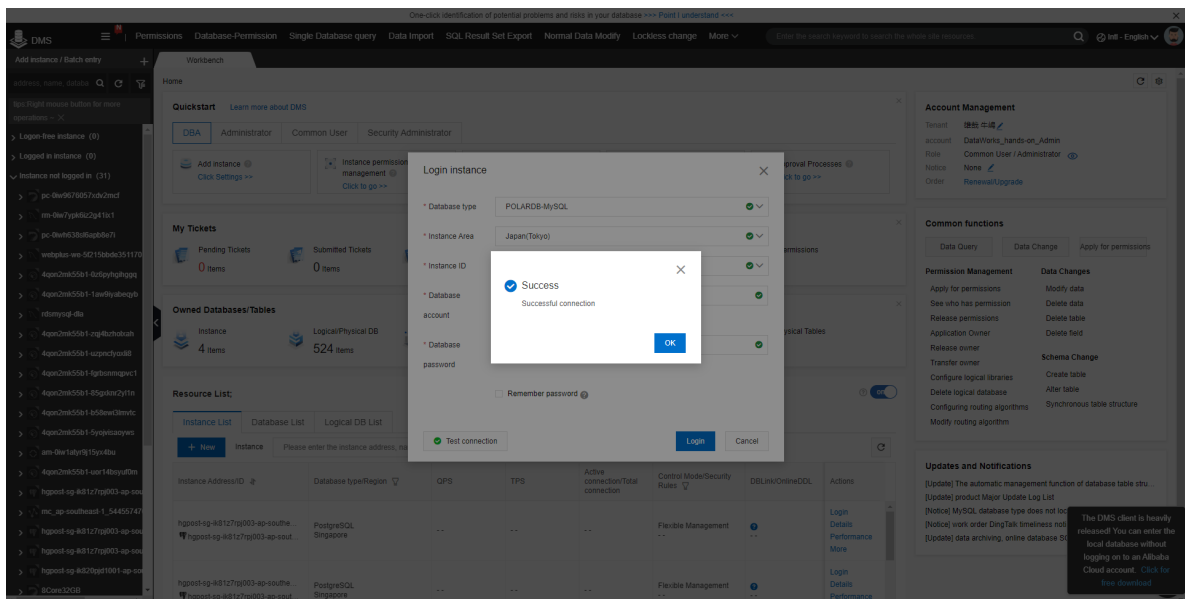
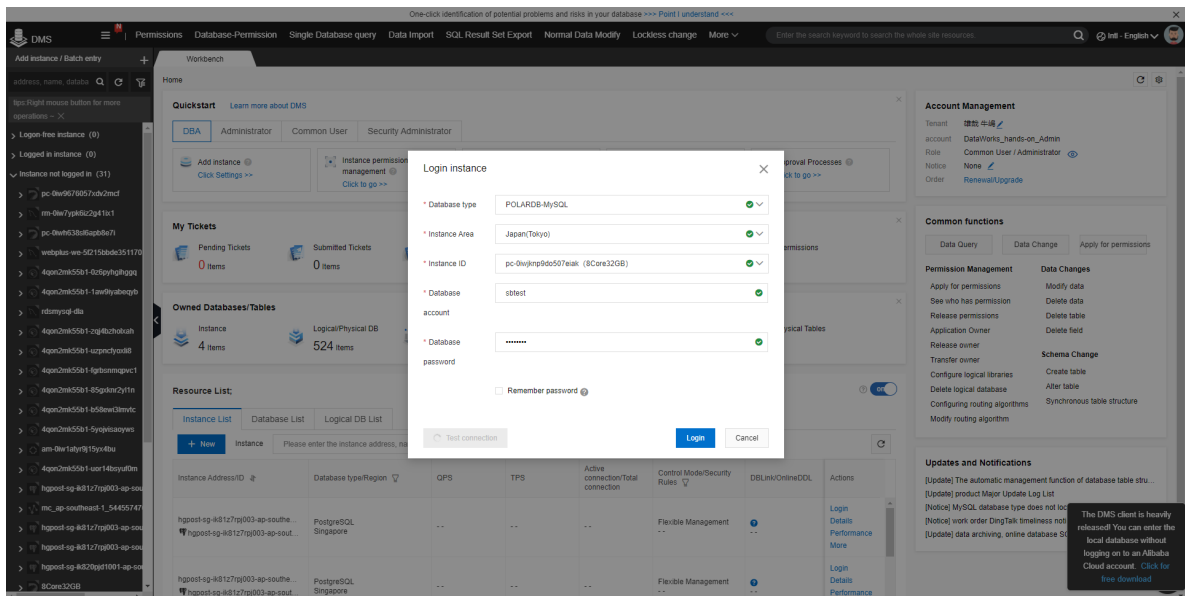
Creating table 'sbtest12'...
Creating table 'sbtest3'...
Creating table 'sbtest15'...
Creating table 'sbtest14'...
Creating table 'sbtest16'...
Creating table 'sbtest10'...
Creating table 'sbtest15'...
Creating table 'sbtest19'...
Creating table 'sbtest18'...
Creating table 'sbtest17'...
Creating table 'sbtest20'...
Inserting 100000 records into 'sbtest8'
Inserting 100000 records into 'sbtest6'
Inserting 100000 records into 'sbtest4'
Inserting 100000 records into 'sbtest13'
Inserting 100000 records into 'sbtest11'
Inserting 100000 records into 'sbtest1'
Inserting 100000 records into 'sbtest3'
Inserting 100000 records into 'sbtest9'
Inserting 100000 records into 'sbtest18'
Inserting 100000 records into 'sbtest19'
Inserting 100000 records into 'sbtest10'
Inserting 100000 records into 'sbtest12'
Inserting 100000 records into 'sbtest17'
Inserting 100000 records into 'sbtest16'
Inserting 100000 records into 'sbtest7'
Inserting 100000 records into 'sbtest5'
Inserting 100000 records into 'sbtest12'
Inserting 100000 records into 'sbtest20'
Inserting 100000 records into 'sbtest2'
Inserting 100000 records into 'sbtest14'
Creating a secondary index on 'sbtest6'...
Creating a secondary index on 'sbtest9'...
```



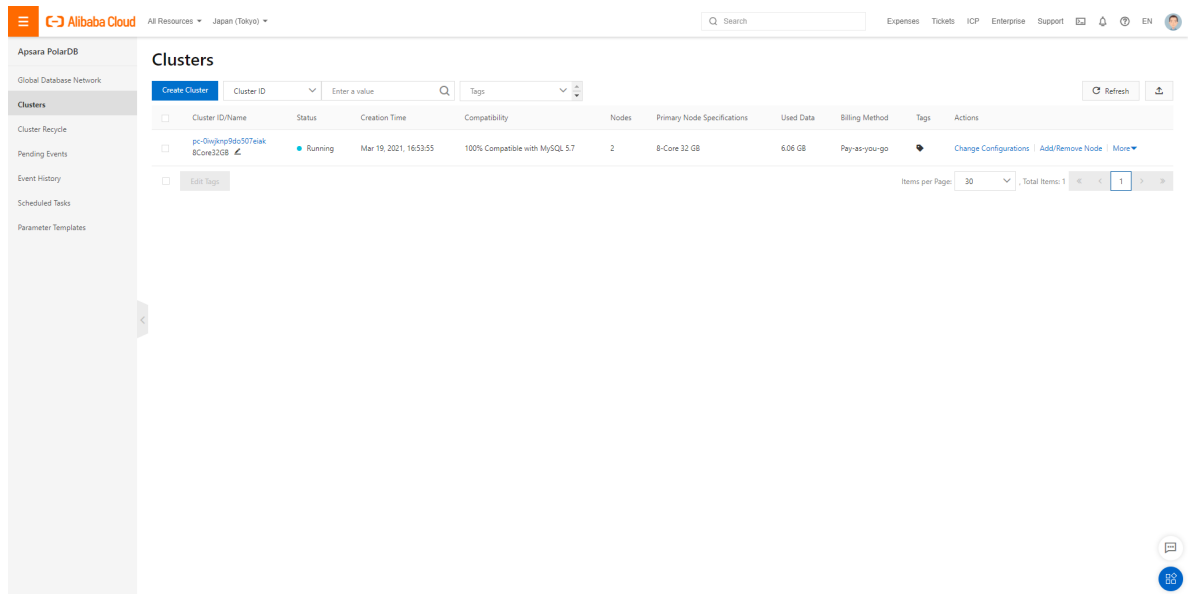
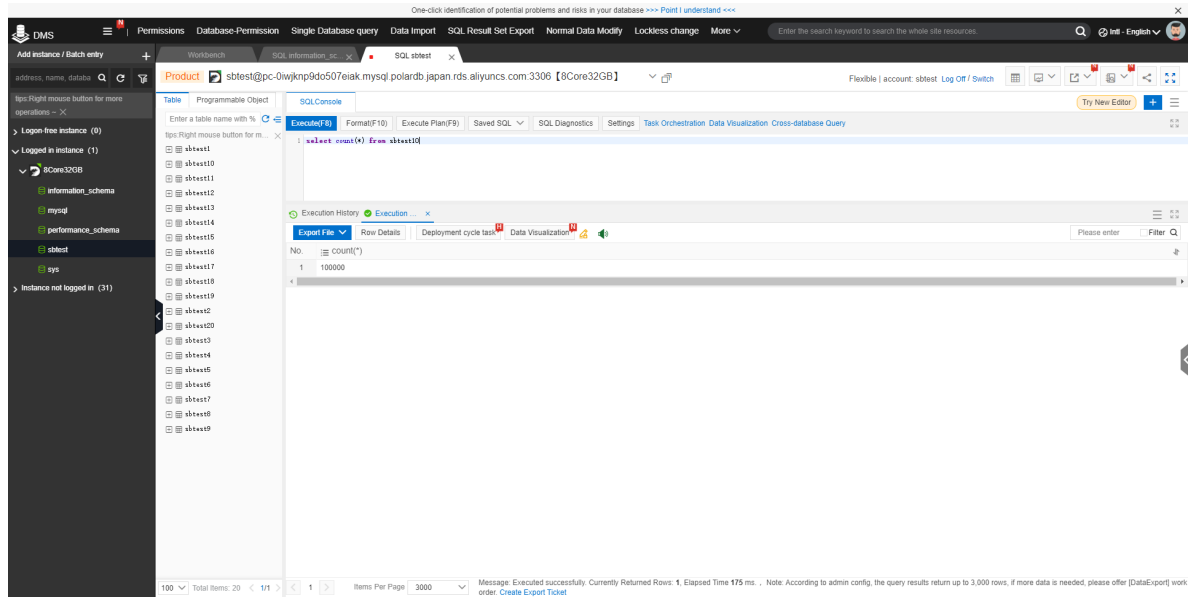
```
[root@izwmgw79n1hisdny672 sysbenchprepare] ll
total 0
-rwxr-xr-x 1 root root 304 Mar 19 10:30 prepare.sh
-rwxr-xr-x 1 root root 1039 Mar 19 10:30 sysbench.sh
[root@izwmgw79n1hisdny672 sysbenchprepare] nohup sh prepare.sh 2>&1
[1] 24489
[root@izwmgw79n1hisdny672 sysbenchprepare] nohup: ignoring input and appending output to "nohup.out"
^C
[1]+  Done                  nohup sh prepare.sh 2>&1
[root@izwmgw79n1hisdny672 sysbenchprepare] ll
total 12
drwxr-xr-x 2 root root 4096 Mar 19 10:31 logs
-rw-r--r-- 1 root root   0 Mar 19 10:31 nohup.out
-rwxr-xr-x 1 root root 304 Mar 19 10:30 prepare.sh
-rwxr-xr-x 1 root root 1039 Mar 19 10:30 sysbench.sh
[root@izwmgw79n1hisdny672 sysbenchprepare] cd logs/
[root@izwmgw79n1hisdny672 logs] ll
total 4
-rw-r--r-- 1 root root 2810 Mar 19 10:31 sysbench_read_write_0_prepare.log
[root@izwmgw79n1hisdny672 logs] tail -f sysbench_read_write_0_prepare.log
Creating a secondary index on "sttest10" ...
Creating a secondary index on "sttest17" ...
Creating a secondary index on "sttest16" ...
Creating a secondary index on "sttest12" ...
Creating a secondary index on "sttest7" ...
Creating a secondary index on "sttest11" ...
Creating a secondary index on "sttest15" ...
Creating a secondary index on "sttest14" ...
Creating a secondary index on "sttest20" ...
data had been successfully initialized.
```

2-3 Sysbenchテストのデータを確認する

DMSで書き込んだデータを確認する、LinuxからもDBを接続し、確認できる



```
select count(*) from sbtest10;
```



2-4 Sysbenchテストを実行する

①スクリプトファイル（sysbench.shとtest.sh）を用意する
sysbench.sh

```
#!/bin/sh
LUA=/usr/share/sysbench/oltp_read_write.lua
SIZE=100000
DB=mysql
#read writeモードの場合、クラスターホストで接続する
HOST=pc-0iwjkn9do507eiai.rw1b.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest
usage()
{
    echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
}
```

```

    exit "${1}"
}
#check arguments
if [ "${1}" = "" -o $# -gt 3 ]; then
    usage 1
elif [ "${2}" = "" ]; then
    THREADS=1
else
    THREADS=${2}
fi
echo "Running command: sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=500 --events=0 --time=60 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}"
sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=20 --events=0 --time=120 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}

```

test.sh

```

#!/bin/sh
DATE=`date +%Y%m%d%H%M`
mkdir $DATE

# thread=500
# echo "prepare data using default settings, ref sysbench SIZE" >>
${DATE}/sysbench_read_write_main.log
# ./sysbench.sh prepare ${thread} >> ${DATE}/sysbench_read_write_main.log

for thread in 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500
7000 7500 8000 8500 9000 9500 10000
do
    echo "Time: $(date +%Y%m%d%H%M%S"), now running sysbench with thread of: "
+ ${thread} >> ${DATE}/sysbench_read_write_${thread}.log
    ./sysbench.sh run ${thread} >> ${DATE}/sysbench_read_write_${thread}.log
done
# echo "cleaning data up." >> ${DATE}/sysbench_read_write_main.log
# ./sysbench.sh cleanup ${thread} >> ${DATE}/sysbench_read_write_main.log

```

```
[root@izwmgpxw7n3hisdny672 sybenchrun]# ll
total 8
-rwxr-xr-x 1 root root 1069 Mar 19 20:03 sybench.sh
-rwxr-xr-x 1 root root 633 Mar 19 20:01 test.sh
[root@izwmgpxw7n3hisdny672 sybenchrun]# nohup sh test.sh 2>&16
[1] 28180
[root@izwmgpxw7n3hisdny672 sybenchrun]# nohup: ignoring input and appending output to 'nohup.out'
[1]
total 12
dwxr-xr-x 2 root root 4096 Mar 19 20:04 202103192004
-rw-r----- 1 root root 0 Mar 19 20:04 nohup.out
-rwxr-xr-x 1 root root 1069 Mar 19 20:03 sybench.sh
-rwxr-xr-x 1 root root 633 Mar 19 20:01 test.sh
[root@izwmgpxw7n3hisdny672 sybenchrun]# cd /202103192004/
[root@izwmgpxw7n3hisdny672 202103192004]# ll
total 4
-rwxr-xr-x 1 root root 1335 Mar 19 20:04 sybench_read_write_500.log
[root@izwmgpxw7n3hisdny672 202103192004]# tail -f sybench_read_write_500.log
[ 12] | thds: 500 tps: 3724.22 qps: 4438.58 (r/w/o: 51829.17/1458.00/9235.00) lat (ms,95%): 200.47 err/s: 0.00 reconf/s: 0.00
[ 13] | thds: 500 tps: 3629.04 qps: 7695.08 (r/w/o: 53732.17/15507.60/7665.31) lat (ms,95%): 204.11 err/s: 0.00 reconf/s: 0.00
[ 14] | thds: 500 tps: 3429.39 qps: 6943.84 (r/w/o: 48515.48/14066.50/6916.78) lat (ms,95%): 179.94 err/s: 0.00 reconf/s: 0.00
[ 15] | thds: 500 tps: 4207.84 qps: 8455.75 (r/w/o: 56586.73/17052.50/8417.60) lat (ms,95%): 188.50 err/s: 0.00 reconf/s: 0.00
[ 16] | thds: 500 tps: 4010.03 qps: 7917.55 (r/w/o: 55812.39/15886.11/8019.06) lat (ms,95%): 215.44 err/s: 0.00 reconf/s: 0.00
[ 17] | thds: 500 tps: 4601.05 qps: 8310.91 (r/w/o: 56678.41/15286.80/8095.60) lat (ms,95%): 147.61 err/s: 0.00 reconf/s: 0.00
[ 18] | thds: 500 tps: 4099.69 qps: 8071.67 (r/w/o: 56599.56/16066.74/8057.37) lat (ms,95%): 193.38 err/s: 0.00 reconf/s: 0.00
[ 19] | thds: 500 tps: 352.15 qps: 7706.17 (r/w/o: 53777.12/1552.64/7746.32) lat (ms,95%): 158.83 err/s: 0.00 reconf/s: 0.00
[ 20] | thds: 500 tps: 4169.23 qps: 8326.64 (r/w/o: 56469.20/15446.52/8302.40) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
[ 21] | thds: 500 tps: 4172.68 qps: 8317.58 (r/w/o: 56505.52/16625.70/8345.36) lat (ms,95%): 161.51 err/s: 0.00 reconf/s: 0.00
[ 22] | thds: 500 tps: 4226.23 qps: 8426.35 (r/w/o: 56115.90/16665.10/8461.50) lat (ms,95%): 126.89 err/s: 0.00 reconf/s: 0.00
[ 23] | thds: 500 tps: 4037.77 qps: 80974.40 (r/w/o: 56607.78/15291.07/8075.54) lat (ms,95%): 147.61 err/s: 0.00 reconf/s: 0.00
```

```
[ 94] | thds: 500 tps: 4369.25 qps: 8815.14 (r/w/o: 61815.90/17601.00/8707.31) lat (ms,95%): 189.85 err/s: 0.00 reconf/s: 0.00
[ 95] | thds: 500 tps: 4446.48 qps: 8950.61 (r/w/o: 62678.24/18823.72/8974.36) lat (ms,95%): 57820.01/14485.00/9235.00) lat (ms,95%): 139.85 err/s: 0.00 reconf/s: 0.00
[ 96] | thds: 500 tps: 4371.19 qps: 8772.73 (r/w/o: 61441.61/17537.74/8742.37) lat (ms,95%): 137.30 err/s: 0.00 reconf/s: 0.00
[ 97] | thds: 500 tps: 3958.00 qps: 8322.98 (r/w/o: 55365.90/15841.60/7935.80) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
[ 98] | thds: 500 tps: 4516.12 qps: 90483.42 (r/w/o: 63409.70/18041.48/9032.24) lat (ms,95%): 139.85 err/s: 0.00 reconf/s: 0.00
[ 99] | thds: 500 tps: 4126.00 qps: 8271.02 (r/w/o: 57839.01/16465.00/8265.60) lat (ms,95%): 126.89 err/s: 0.00 reconf/s: 0.00
[100] | thds: 500 tps: 4558.85 qps: 89714.98 (r/w/o: 62797.88/17803.40/9113.69) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
[101] | thds: 500 tps: 4426.06 qps: 89086.28 (r/w/o: 62225.90/18002.26/8854.13) lat (ms,95%): 132.40 err/s: 0.00 reconf/s: 0.00
[102] | thds: 500 tps: 4464.02 qps: 89792.45 (r/w/o: 62527.51/17066.30/8903.64) lat (ms,95%): 170.40 err/s: 0.00 reconf/s: 0.00
[103] | thds: 500 tps: 4171.25 qps: 84952.13 (r/w/o: 59408.59/17198.04/8345.50) lat (ms,95%): 176.73 err/s: 0.00 reconf/s: 0.00
[104] | thds: 500 tps: 4078.97 qps: 81378.38 (r/w/o: 57024.57/16196.08/8157.94) lat (ms,95%): 147.61 err/s: 0.00 reconf/s: 0.00
[105] | thds: 500 tps: 4307.85 qps: 85864.06 (r/w/o: 60056.94/17183.41/8613.71) lat (ms,95%): 137.35 err/s: 0.00 reconf/s: 0.00
[106] | thds: 500 tps: 4658.10 qps: 93209.04 (r/w/o: 62594.43/18526.40/9318.20) lat (ms,95%): 132.40 err/s: 0.00 reconf/s: 0.00
[107] | thds: 500 tps: 3396.99 qps: 68047.76 (r/w/o: 47477.84/13776.95/6792.98) lat (ms,95%): 189.93 err/s: 0.00 reconf/s: 0.00
[108] | thds: 500 tps: 4351.66 qps: 86224.30 (r/w/o: 60443.30/17077.67/8703.32) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
[109] | thds: 500 tps: 4149.34 qps: 84006.91 (r/w/o: 58018.83/16500.30/8259.60) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
[110] | thds: 500 tps: 4342.01 qps: 86578.11 (r/w/o: 60775.08/17119.02/8684.01) lat (ms,95%): 144.97 err/s: 0.00 reconf/s: 0.00
[111] | thds: 500 tps: 4084.05 qps: 81507.93 (r/w/o: 57001.65/16338.19/8168.09) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
[112] | thds: 500 tps: 4230.02 qps: 84945.45 (r/w/o: 59375.11/17110.09/8460.04) lat (ms,95%): 134.90 err/s: 0.00 reconf/s: 0.00
[113] | thds: 500 tps: 3847.62 qps: 76550.32 (r/w/o: 53854.63/15408.46/7695.23) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
[114] | thds: 500 tps: 4360.68 qps: 85961.64 (r/w/o: 60198.54/17161.73/8601.36) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
[115] | thds: 500 tps: 4215.85 qps: 84789.05 (r/w/o: 59253.94/17183.40/8431.71) lat (ms,95%): 144.97 err/s: 0.00 reconf/s: 0.00
[116] | thds: 500 tps: 4300.68 qps: 85961.64 (r/w/o: 60198.54/17161.73/8601.36) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
[117] | thds: 500 tps: 4449.53 qps: 88756.55 (r/w/o: 62291.41/17566.09/8899.06) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
[118] | thds: 500 tps: 4399.04 qps: 87814.79 (r/w/o: 61200.55/17818.16/8796.08) lat (ms,95%): 139.85 err/s: 0.00 reconf/s: 0.00
[119] | thds: 500 tps: 4451.75 qps: 89571.99 (r/w/o: 62760.49/17907.00/8904.50) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
[120] | thds: 500 tps: 4248.15 qps: 84129.03 (r/w/o: 59002.12/16639.60/8487.31) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
50. statistics:
  queries performed:
    read: 7014308
    write: 2004088
    other: 1002044
    total: 10020440
  transactions: 501022 (4169.50 per sec.)
  queries: 10020440 (83330.07 per sec.)
  ignored errors: 0 (0.00 per sec.)
  reconnects: 0 (0.00 per sec.)
General statistics:
  total time: 120.1616s
  total number of events: 501022
Latency (ms):
  min: 7.81
  avg: 119.78
  max: 962.94
  95th percentile: 158.63
  sum: 60013232.53
Threads fairness:
  events (avg/stddev): 1002.0440/10.49
  execution time (avg/stddev): 120.0265/0.01
~C
[1]~ Done nohup sh test.sh 2>&16 (wd: ~/sybenchrun)
[wd root: ~/sybenchrun/202103192004]
[root@izwmgpxw7n3hisdny672 202103192004]#
```

下記にのSysbenchログファイルが生成されます
sybench_read_write_500.log
sybench_read_write_1000.log
sybench_read_write_1500.log

```
112 [ 98s ] thds: 500 tps: 4516.12 qps: 90483.42 (r/w/o: 63409.70/18041.48/9032.24) lat (ms,95%): 139.85 err/s: 0.00 reconf/s: 0.00
113 [ 99s ] thds: 500 tps: 4216.00 qps: 8271.02 (r/w/o: 57839.01/16465.00/8265.60) lat (ms,95%): 126.89 err/s: 0.00 reconf/s: 0.00
114 [ 100s ] thds: 500 tps: 4558.85 qps: 89714.98 (r/w/o: 62797.88/17803.40/9113.69) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
115 [ 101s ] thds: 500 tps: 4426.06 qps: 89086.28 (r/w/o: 62225.90/18002.26/8854.13) lat (ms,95%): 132.40 err/s: 0.00 reconf/s: 0.00
116 [ 102s ] thds: 500 tps: 4464.02 qps: 89792.45 (r/w/o: 62527.51/17066.30/8903.64) lat (ms,95%): 170.40 err/s: 0.00 reconf/s: 0.00
117 [ 103s ] thds: 500 tps: 4171.25 qps: 84952.13 (r/w/o: 59408.59/17198.04/8345.50) lat (ms,95%): 176.73 err/s: 0.00 reconf/s: 0.00
118 [ 104s ] thds: 500 tps: 4078.97 qps: 81378.38 (r/w/o: 57024.57/16196.08/8157.94) lat (ms,95%): 147.61 err/s: 0.00 reconf/s: 0.00
119 [ 105s ] thds: 500 tps: 4307.85 qps: 85864.06 (r/w/o: 60056.94/17183.41/8613.71) lat (ms,95%): 137.35 err/s: 0.00 reconf/s: 0.00
120 [ 106s ] thds: 500 tps: 4658.10 qps: 93209.04 (r/w/o: 62594.43/18526.40/9318.20) lat (ms,95%): 132.40 err/s: 0.00 reconf/s: 0.00
121 [ 107s ] thds: 500 tps: 3396.99 qps: 68047.76 (r/w/o: 47477.84/13776.95/6792.98) lat (ms,95%): 189.93 err/s: 0.00 reconf/s: 0.00
122 [ 108s ] thds: 500 tps: 4351.66 qps: 86224.30 (r/w/o: 60443.30/17077.67/8703.32) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
123 [ 109s ] thds: 500 tps: 4149.34 qps: 84006.91 (r/w/o: 58018.83/16500.30/8259.60) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
124 [ 110s ] thds: 500 tps: 4342.01 qps: 86578.11 (r/w/o: 60775.08/17119.02/8684.01) lat (ms,95%): 144.97 err/s: 0.00 reconf/s: 0.00
125 [ 111s ] thds: 500 tps: 4084.05 qps: 81507.93 (r/w/o: 57001.65/16338.19/8168.09) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
126 [ 112s ] thds: 500 tps: 4230.02 qps: 84945.45 (r/w/o: 59375.11/17110.09/8460.04) lat (ms,95%): 134.90 err/s: 0.00 reconf/s: 0.00
127 [ 113s ] thds: 500 tps: 3847.62 qps: 76550.32 (r/w/o: 53854.63/15408.46/7695.23) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
128 [ 114s ] thds: 500 tps: 4360.68 qps: 85961.64 (r/w/o: 60198.54/17161.73/8601.36) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
129 [ 115s ] thds: 500 tps: 4215.85 qps: 84789.05 (r/w/o: 59253.94/17183.40/8431.71) lat (ms,95%): 144.97 err/s: 0.00 reconf/s: 0.00
130 [ 116s ] thds: 500 tps: 4300.68 qps: 85961.64 (r/w/o: 60198.54/17161.73/8601.36) lat (ms,95%): 158.63 err/s: 0.00 reconf/s: 0.00
131 [ 117s ] thds: 500 tps: 4449.53 qps: 88756.55 (r/w/o: 62291.41/17566.09/8899.06) lat (ms,95%): 142.39 err/s: 0.00 reconf/s: 0.00
132 [ 118s ] thds: 500 tps: 4399.04 qps: 87814.79 (r/w/o: 61200.55/17818.16/8796.08) lat (ms,95%): 139.85 err/s: 0.00 reconf/s: 0.00
133 [ 119s ] thds: 500 tps: 4451.75 qps: 89571.99 (r/w/o: 62760.49/17907.00/8904.50) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
134 [ 120s ] thds: 500 tps: 4248.15 qps: 84129.03 (r/w/o: 59002.12/16639.60/8487.31) lat (ms,95%): 150.29 err/s: 0.00 reconf/s: 0.00
135 50. statistics:
136   queries performed:
137     read: 7014308
138     write: 2004088
139     other: 1002044
140     total: 10020440
141   transactions: 501022 (4169.50 per sec.)
142   queries: 10020440 (83330.07 per sec.)
143   ignored errors: 0 (0.00 per sec.)
144   reconnects: 0 (0.00 per sec.)
145
146 General statistics:
147   total time: 120.1616s
148   total number of events: 501022
149
150 Latency (ms):
151   min: 7.81
152   avg: 119.78
153   max: 962.94
154   95th percentile: 158.63
155   sum: 60013232.53
156
157 Threads fairness:
158   events (avg/stddev): 1002.0440/10.49
159   execution time (avg/stddev): 120.0265/0.01
160
161
```

③ Sysbenchテスト性能測定結果を記録する read/write/qps

```
sysbench_read_write_4500.log
139 [ 125s ] thds: 4500 tps: 176.07 qps: 1659.65 (r/w/o: 853.33/632.25/174.07) lat (ms,95%): 9977.52 err/s: 0.00 reconn/s: 0.00
140 [ 126s ] thds: 4500 tps: 96.01 qps: 873.06 (r/w/o: 417.03/361.02/95.01) lat (ms,95%): 9624.59 err/s: 0.00 reconn/s: 0.00
141 [ 127s ] thds: 4500 tps: 46.00 qps: 310.99 (r/w/o: 127.99/139.99/43.00) lat (ms,95%): 14562.82 err/s: 0.00 reconn/s: 0.00
142 [ 128s ] thds: 4500 tps: 62.00 qps: 393.01 (r/w/o: 128.00/206.01/59.00) lat (ms,95%): 12163.09 err/s: 0.00 reconn/s: 0.00
143 [ 129s ] thds: 4499 tps: 91.99 qps: 637.97 (r/w/o: 259.99/287.98/90.00) lat (ms,95%): 13071.47 err/s: 0.00 reconn/s: 0.00
144 [ 130s ] thds: 4499 tps: 199.02 qps: 1384.14 (r/w/o: 522.05/660.07/202.02) lat (ms,95%): 14302.94 err/s: 0.00 reconn/s: 0.00
145 [ 131s ] thds: 4499 tps: 203.98 qps: 1079.90 (r/w/o: 256.98/621.94/200.98) lat (ms,95%): 16519.10 err/s: 0.00 reconn/s: 0.00
146 [ 132s ] thds: 4499 tps: 126.00 qps: 726.99 (r/w/o: 168.00/434.00/125.00) lat (ms,95%): 15934.78 err/s: 0.00 reconn/s: 0.00
147 SQL statistics:
148   queries performed:
149     read:          3327122
150     write:         664892
151     other:          332446
152     total:         3324460
153     transactions:  166223 (1249.42 per sec.)
154     queries:       3324460 (2498.46 per sec.)
155     ignored errors: 0 (0.00 per sec.)
156     reconnects:    0 (0.00 per sec.)
157
158 General statistics:
159   total time:      133.0375s
160   total number of events: 166223
161
162 Latency (ms):
163   min:             10.90
164   avg:             3331.29
165   max:             22535.19
166   95th percentile: 6713.97
167   sum:             553736708.77
168
169 Threads fairness:
170   events (avg/stddev): 36.9384/3.20
171   execution time (avg/stddev): 123.0526/3.63
172
173
```

※ここまではデータをSIZE=100000に性能測定の手順をご紹介しました。

3 注意事項

1) 問題

threadsが大きくなると、下記のようにメモリが足りないエラーが発生する可能性がある

```
Running the test with following options:
Number of threads: 10000
Report intermediate results every 1 second(s)
Initializing random number generator from current time

Initializing worker threads...

FATAL: `thread_init' function failed: not enough memory
```

2) 解決方法:

LuaのJITを更新する

```
akopytovのgitからダウンロード
https://github.com/akopytov/LuaJIT.git

ダウンロードされたLuaJITに入れ替える sysbench/third_party/luajit/luajit
- Backup: mv sysbench/third_party/luajit/luajit
sysbench/third_party/luajit/backup_of_luajit
- Replace LuaJIT mv ${LUAJITダウンロードフォルダ}
sysbench/third_party/luajit/luajit

再度コンパイル
- cd sysbench/
- ./autogen.sh
- ./configure --prefix=/usr --mandir=/usr/share/man
- make clean
- make -j 64 && make install
```

このサイトをご参照ください

<https://github.com/akopytov/sysbench/issues/120>

ここまではSysbenchのテスト方法をご紹介しました。

3) 今回テストするスクリプトファイル

※今回性能測定はSIZE=100000000 table=500 threadが500から10000まで実行しました。このぐらいのデータですとデータ準備する時間が二日間ほどかかります。（Redoログを削除する場合）データがおよそ12TBになる

The screenshot shows the Alibaba Cloud Apsara PolarDB Clusters console. It displays a list of clusters with columns for Cluster ID/Name, Status, Creation Time, Compatibility, Nodes, Primary Node Specifications, Used Data, Billing Method, Tags, and Actions. Two clusters are visible: one in 'Creating' status and one in 'Running' status.

Cluster ID/Name	Status	Creation Time	Compatibility	Nodes	Primary Node Specifications	Used Data	Billing Method	Tags	Actions
pc-0lw90b050lp00im MySQL5.7_16C128GB	Creating	Mar 10, 2021, 23:05:06	100% Compatible with MySQL 5.7	2	16-Core 128 GB	11.15 TB	Pay-as-you-go		Change Configurations Add/Remove Node More
pc-0lw9130lh620ydz93 don'tdelete-MySQL5.7_8... MySQL8.0-32Core256GB	Running	Mar 6, 2021, 20:19:26	100% Compatible with MySQL 5.7	2	8-Core 32 GB	11.21 TB	Pay-as-you-go		Change Configurations Add/Remove Node More

データPrepare:

①prepare.sh

```
#!/bin/sh
mkdir -p logs
thread=500
echo "prepare data using default settings, ref sysbench SIZE" >>
logs/sysbench_read_write_0_prepare.log
./sysbench.sh prepare ${thread} >> logs/sysbench_read_write_0_prepare.log
echo "data had been successfully initialized." >>
logs/sysbench_read_write_0_prepare.log
```

②sysbench.sh

```
#!/bin/sh
LUA=/usr/share/sysbench/oltp_read_write.lua
SIZE=100000000
DB=mysql
#prepare data using primary host
HOST=pc-0lw9130lh620ydz93.mysql.polardb.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest
usage()
{
    echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
    exit "${1}"
}
```

```

}
#chack argumets
if [ "${1}" = "" -o $# -gt 3 ]; then
    usage 1
elif [ "${2}" = "" ]; then
    THREADS=1
else
    THREADS=${2}
fi
echo "Running command: sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=500 --events=0 --time=60 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}"
sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=20 --events=0 --time=120 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}

```

データを用意するコマンド:

```
nohup sh prepare.sh 2>&1&
```

SysbenchRunを実行する

データは12TBになり、大きいためThreadは最大6500までになしてください

①test.sh

```

#!/bin/sh
DATE=`date '+%Y%m%d%H%M'`
mkdir $DATE

# thread=500
# echo "prepare data using default settings, ref sysbench SIZE" >>
${DATE}/sysbench_read_write_main.log
# ./sysbench.sh prepare ${thread} >> ${DATE}/sysbench_read_write_main.log

for thread in 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500
7000 7500 8000 8500 9000 9500 10000
do
    echo "Time: $(date +"%Y%m%d%H%M%S"), now running sysbench with thread of: "
+ ${thread} >> ${DATE}/sysbench_read_write_${thread}.log
    ./sysbench.sh run ${thread} >> ${DATE}/sysbench_read_write_${thread}.log
done
# echo "cleaning data up." >> ${DATE}/sysbench_read_write_main.log
# ./sysbench.sh cleanup ${thread} >> ${DATE}/sysbench_read_write_main.log

```

②sysbench.sh

```

#!/bin/sh
LUA=/usr/share/sysbench/oltp_read_write.lua
SIZE=100000000
DB=mysql
#HOST=pc-0iw162qaide5441z8.mysql.polardb.japan.rds.aliyuncs.com

```

```

HOST=pc-0iw9130lh620ydz93.rw1b.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest
usage()
{
    echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
    exit "${1}"
}
#check argumets
if [ "${1}" = "" -o $# -gt 3 ]; then
    usage 1
elif [ "${2}" = "" ]; then
    THREADS=1
else
    THREADS=${2}
fi
echo "Running command: sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=500 --events=0 --time=60 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}"
sysbench ${LUA} --db-driver=${DB} --mysql-host=${HOST} --mysql-port=${PORT} --mysql-user=${USER} --mysql-password=${PASSWORD} --mysql-db=${DBNAME} --table-size=${SIZE} --tables=500 --events=0 --time=120 --db-ps-mode=disable --percentile=95 --report-interval=1 --threads=${THREADS} ${1}

```

③データを実行するコマンド:

```
nohup sh test.sh 2>&1&
```

④ログを確認する

sysbench_read_write_4500.log
read/write/qps

```

139 [ 125s ] tlds: 4500 tps: 176.07 qps: 1659.65 (r/w/o: 853.33/632.25/174.07) lat (ms,95%): 9977.52 err/s: 0.00 reconn/s: 0.00
140 [ 126s ] tlds: 4500 tps: 96.01 qps: 873.06 (r/w/o: 417.03/361.02/55.01) lat (ms,95%): 9624.59 err/s: 0.00 reconn/s: 0.00
141 [ 127s ] tlds: 4500 tps: 46.00 qps: 310.99 (r/w/o: 127.99/139.99/43.00) lat (ms,95%): 14562.82 err/s: 0.00 reconn/s: 0.00
142 [ 128s ] tlds: 4500 tps: 62.00 qps: 393.01 (r/w/o: 128.00/206.01/59.00) lat (ms,95%): 12163.09 err/s: 0.00 reconn/s: 0.00
143 [ 129s ] tlds: 4499 tps: 91.59 qps: 637.97 (r/w/o: 259.59/297.99/80.00) lat (ms,95%): 13071.47 err/s: 0.00 reconn/s: 0.00
144 [ 130s ] tlds: 4499 tps: 199.02 qps: 1384.14 (r/w/o: 522.05/660.07/202.02) lat (ms,95%): 14302.94 err/s: 0.00 reconn/s: 0.00
145 [ 131s ] tlds: 4499 tps: 203.98 qps: 1079.90 (r/w/o: 256.98/621.94/200.98) lat (ms,95%): 16519.10 err/s: 0.00 reconn/s: 0.00
146 [ 132s ] tlds: 4499 tps: 126.00 qps: 726.99 (r/w/o: 168.00/434.00/125.00) lat (ms,95%): 15934.78 err/s: 0.00 reconn/s: 0.00
147 SQL statistics:
148 queries performed:
149   read:                2327122
150   write:               664892
151   other:               332446
152   total:              3324460
153   transactions:       166223 (1249.42 per sec.)
154   queries:            3324460 (24988.46 per sec.)
155   ignored errors:      0 (0.00 per sec.)
156   reconnects:          0 (0.00 per sec.)
157
158 General statistics:
159   total time:          133.0375s
160   total number of events: 166223
161
162 Latency (ms):
163   min:                 10.90
164   avg:                 3331.29
165   max:                 22535.19
166   95th percentile:    6713.97
167   sum:                 553736708.77
168
169 Threads fairness:
170   events (avg/stddev): 36.9384/3.20
171   execution time (avg/stddev): 123.0526/3.63
172
173

```

以上です