Mysql5.7 Failover Test

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環境をインストールする

2 Sysbechでデータを準備する

3 Failoverテストを実行する

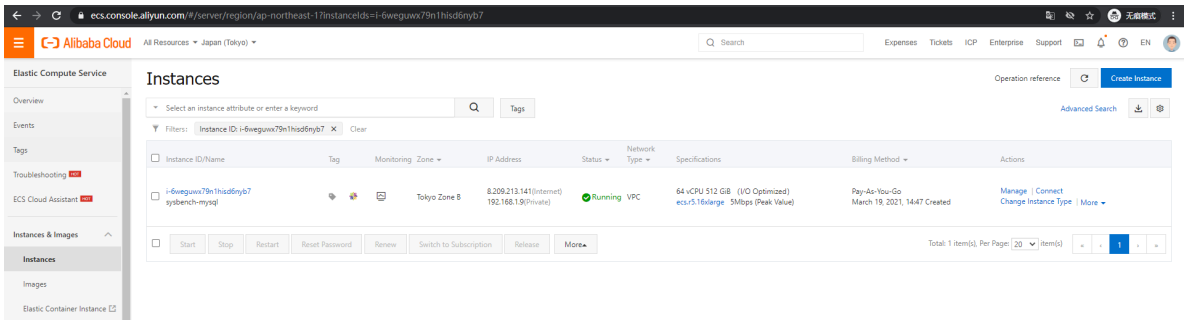
1 Sysbech環境をインストールする

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
```



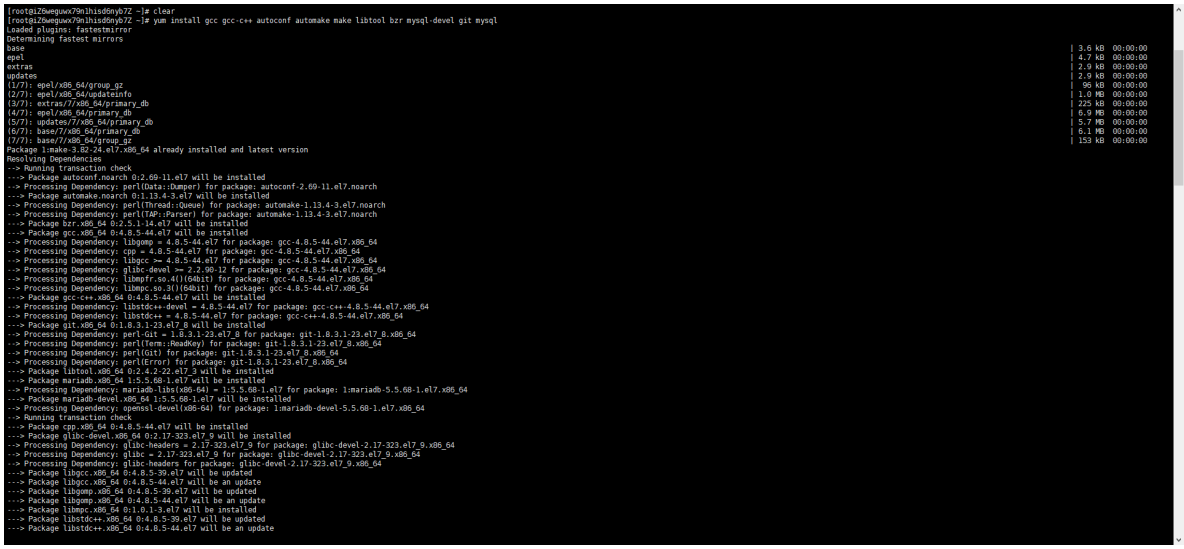
2) Sysbenchをインストールする

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 bzr mysql-devel git
mysql
```

```
[root@iZ6weguwx79n1hisd6nyb7Z ~]# yum install gcc gcc-c++ autoconf automake make
libtool bzr 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.el7          automake.noarch 0:1.13.4-3.el7
bzr.x86_64 0:2.5.1-14.el7    gcc.x86_64 0:4.8.5-44.el7    gcc-c++.x86_64
0:4.8.5-44.el7    git.x86_64 0:1.8.3.1-23.el7_8    libtool.x86_64 0:2.4.2-
22.el7_3    mariadb.x86_64 1:5.5.68-1.el7
  mariadb-devel.x86_64 1:5.5.68-1.el7

Dependency Installed:
  cpp.x86_64 0:4.8.5-44.el7                   glibc-devel.x86_64 0:2.17-
323.el7_9       glibc-headers.x86_64 0:2.17-323.el7_9      kernel-headers.x86_64
0:3.10.0-1160.15.2.el7     keyutils-libs-devel.x86_64 0:1.5.8-3.el7     krb5-
devel.x86_64 0:1.15.1-50.el7
  libcom_err-devel.x86_64 0:1.42.9-19.el7     libkadm5.x86_64 0:1.15.1-50.el7
       libmpc.x86_64 0:1.0.1-3.el7                libselinux-devel.x86_64
0:2.5-15.el7             libsepol-devel.x86_64 0:2.5-10.el7           libstdc++-
devel.x86_64 0:4.8.5-44.el7
  libverto-devel.x86_64 0:0.2.5-4.el7         mpfr.x86_64 0:3.1.1-4.el7
       openssl-devel.x86_64 1:1.0.2k-21.el7_9     pcre-devel.x86_64 0:8.32-
17.el7                  perl-Data-Dumper.x86_64 0:2.145-3.el7        perl-
Error.noarch 1:0.17020-2.el7
  perl-Git.noarch 0:1.8.3.1-23.el7_8          perl-TermReadKey.x86_64 0:2.30-
20.el7     perl-Test-Harness.noarch 0:3.28-3.el7      perl-Thread-Queue.noarch
0:3.02-2.el7            zlib-devel.x86_64 0:1.2.7-19.el7_9

Dependency Updated:
  e2fsprogs.x86_64 0:1.42.9-19.el7    e2fsprogs-libs.x86_64 0:1.42.9-19.el7
glibc.x86_64 0:2.17-323.el7_9            glibc-common.x86_64 0:2.17-323.el7_9
krb5-libs.x86_64 0:1.15.1-50.el7    libcom_err.x86_64 0:1.42.9-19.el7
libgcc.x86_64 0:4.8.5-44.el7
  libgomp.x86_64 0:4.8.5-44.el7       libselinux.x86_64 0:2.5-15.el7
libselinux-python.x86_64 0:2.5-15.el7    libselinux-utils.x86_64 0:2.5-15.el7
libss.x86_64 0:1.42.9-19.el7        libstdc++.x86_64 0:4.8.5-44.el7
mariadb-libs.x86_64 1:5.5.68-1.el7
  nscd.x86_64 0:2.17-323.el7_9        openssl.x86_64 1:1.0.2k-21.el7_9
openssl-libs.x86_64 1:1.0.2k-21.el7_9    zlib.x86_64 0:1.2.7-19.el7_9
Complete!
```



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
```

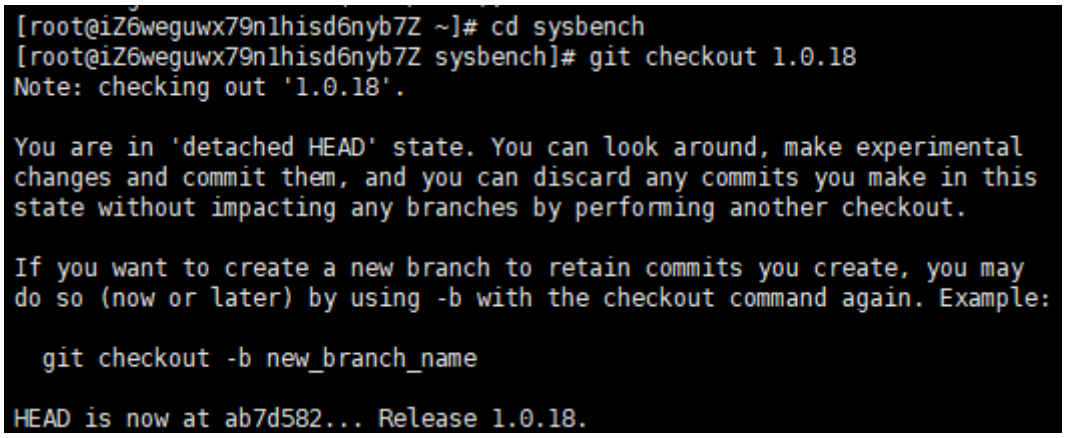
```
[root@iZ6weguwx79n1hisd6nyb7Z ~]# git clone
https://github.com/akopytov/sysbench.git
Cloning into 'sysbench'...
remote: Enumerating objects: 62, done.
remote: Counting objects: 100% (62/62), done.
remote: Compressing objects: 100% (33/33), done.
remote: Total 10220 (delta 28), reused 44 (delta 23), 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.
```



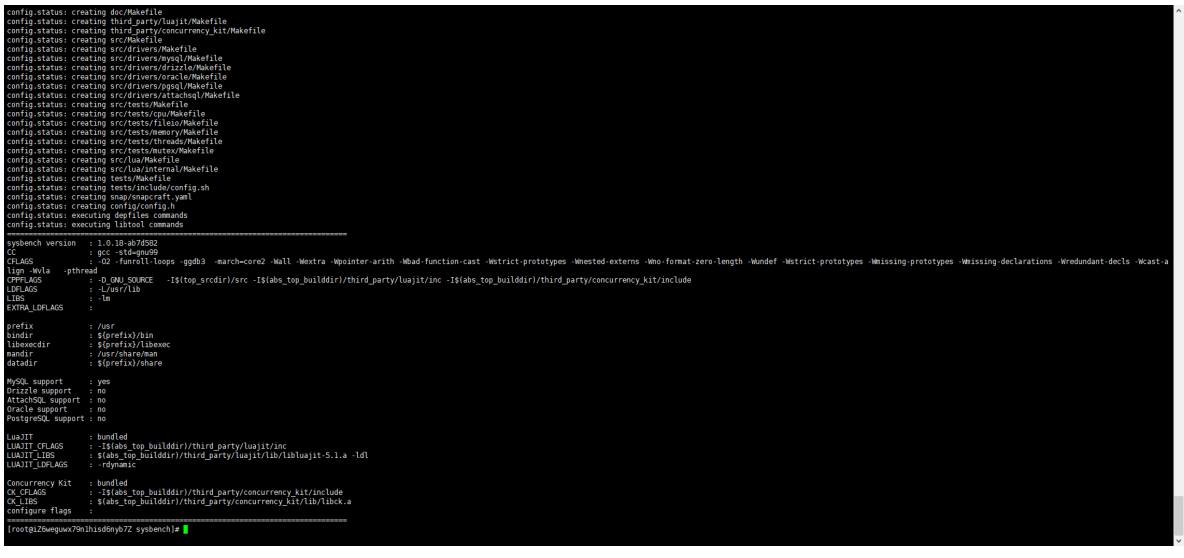
④autogen.shを実行します

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

```
[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
Automade 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
......
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
-ldl
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
Automade 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
```

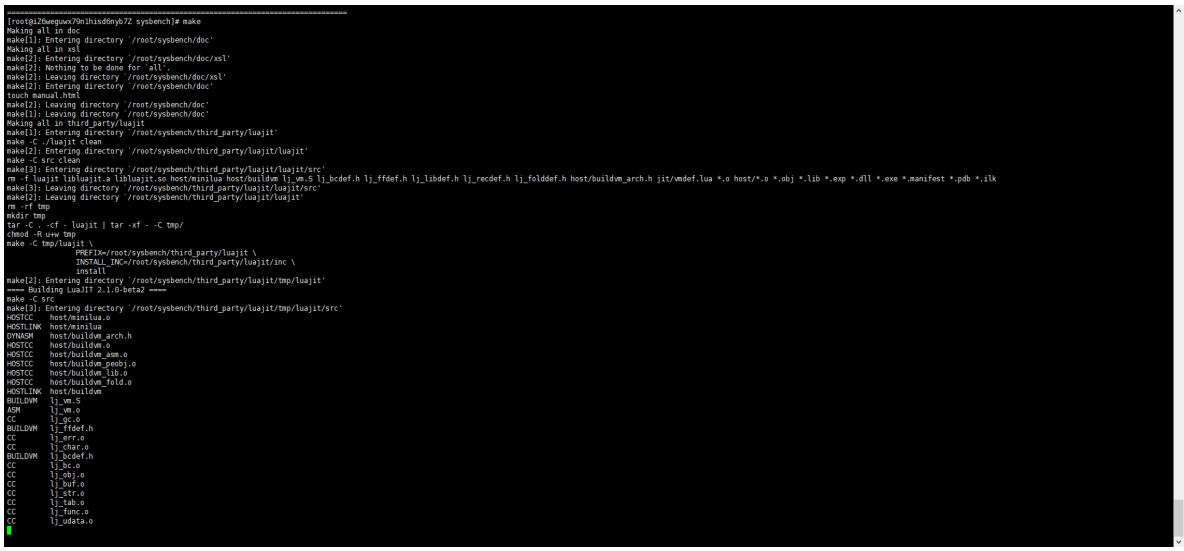


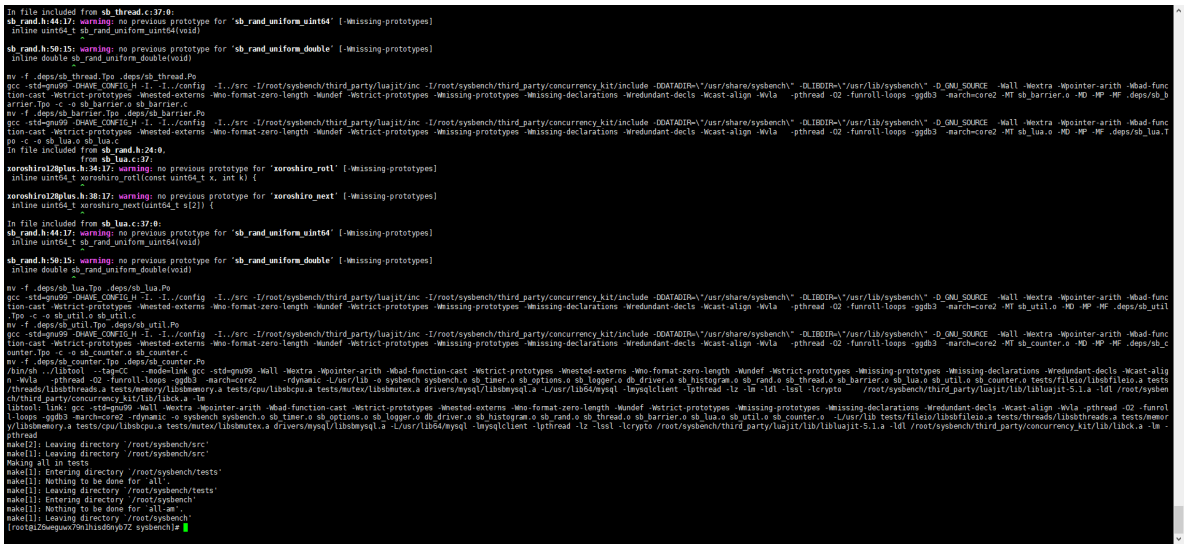
⑤コンパイル

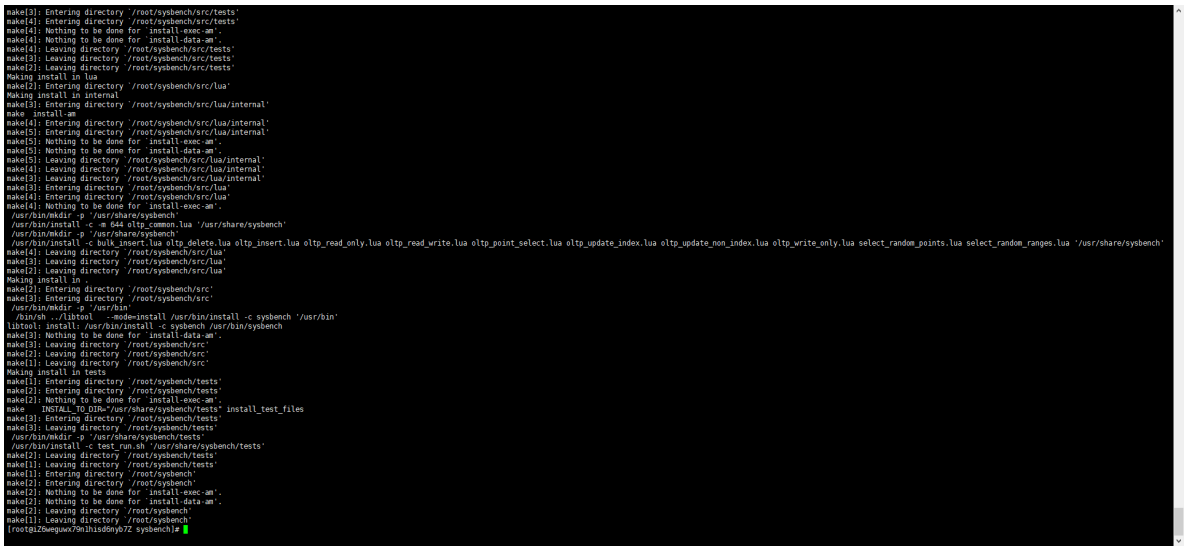
```
# make
# make install
```

```
[root@iZ6weguwx79n1hisd6nyb7Z sysbench]# make
Making all in doc
make[1]: Entering directory `/root/sysbench/doc'
Making all in xsl
```

```
make[2]: Entering directory `/root/sysbench/doc/xsl'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/sysbench/doc/xsl'
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[2]: Entering directory `/root/sysbench/third_party/luajit/luajit/src'
省略
完了しました
```



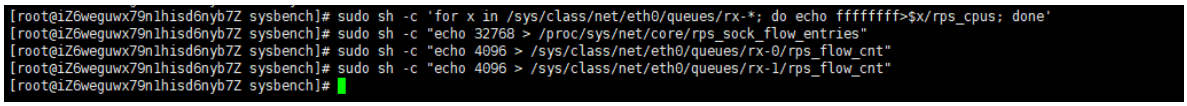




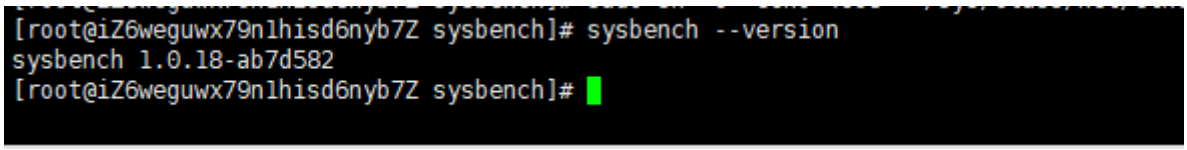
⑥SysBench clientの設定、ffffffffは 32 coresが使われている.

```
sudo sh -c 'for x in /sys/class/net/eth0/queues/rx-*; do echo
ffffffff>$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"
```



⑦インストール完了



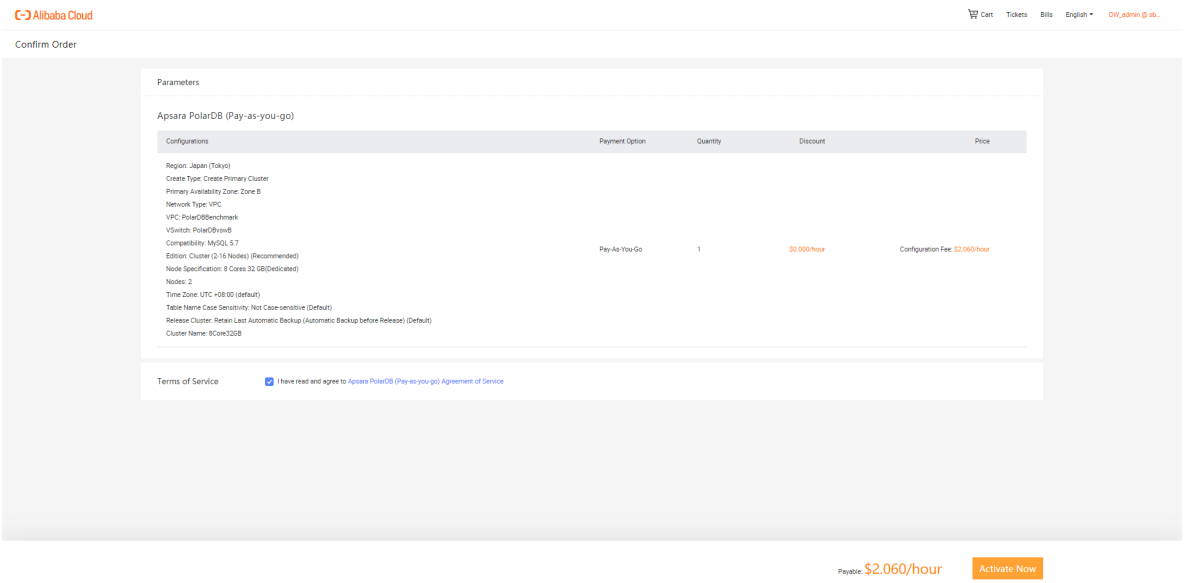
操作ガイドは下記のユーザーガイドもご参照ください
https://www.alibabacloud.com/help/doc-detail/146103.htm?spm=a2c63.l28256.b99.186.188d3784k2PqLH

iZ6weguwx79n1hisd6nyb7ZのImageを取って、ECSを作成する

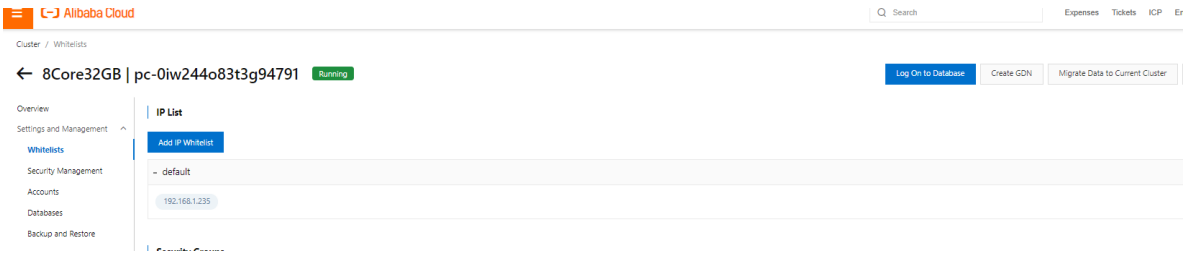
3) Polardbインスタンスを作成する

PolarDB: Mysql5.7 8Core32GB

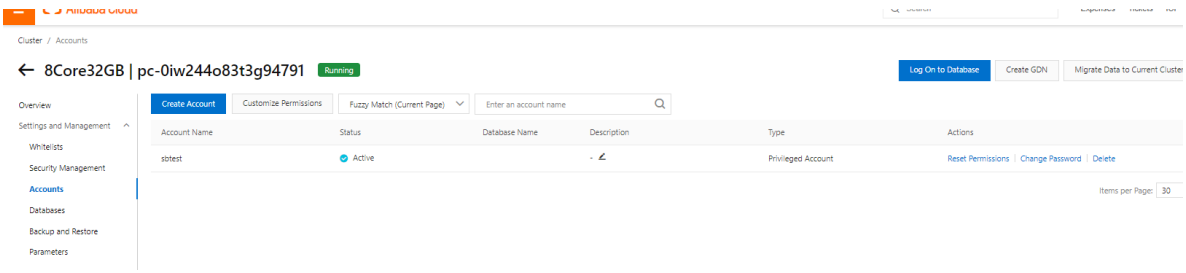
① Polardbインスタンスを作成する



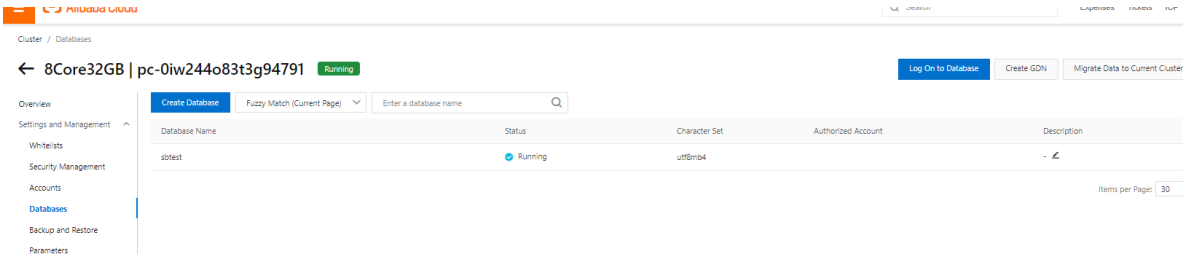
② PolarDBのホワイトリストにECSプライベートIPを追加する



③ PolarDBのアカウントを追加する



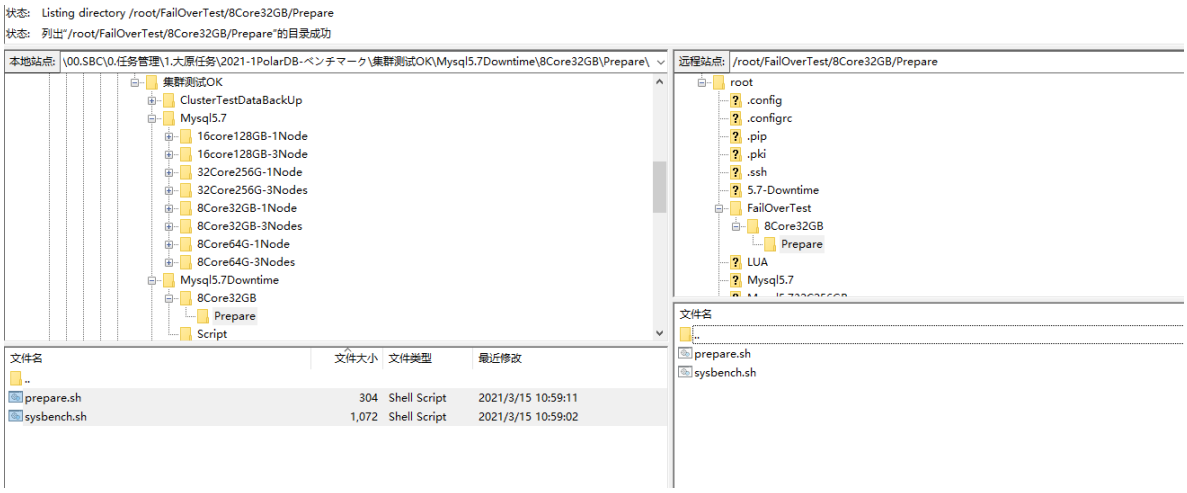
④ テストDBを追加する



2 Sysbechでデータを準備する

2-1 Polardb-Mysql5.7に100GBデータを初期化する

① ScriptをECSにアップロードする



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

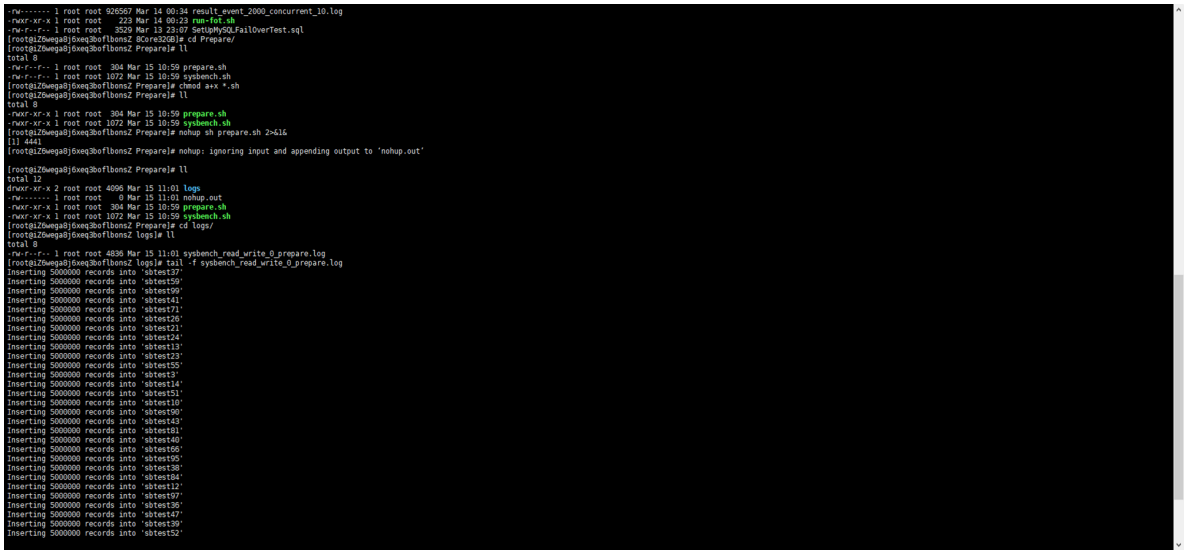
```
#!/bin/sh
LUA=/usr/share/sysbench/oltp_read_write.lua
SIZE=5000000
DB=mysql
#prepare data using primary host
HOST=pc-0iwjknp9do507eiak.mysql.polardb.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest
usage()
{
  echo "Usage: ./sysbench.sh <prepare|run|cleanup> <num of threads>"
  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}
```

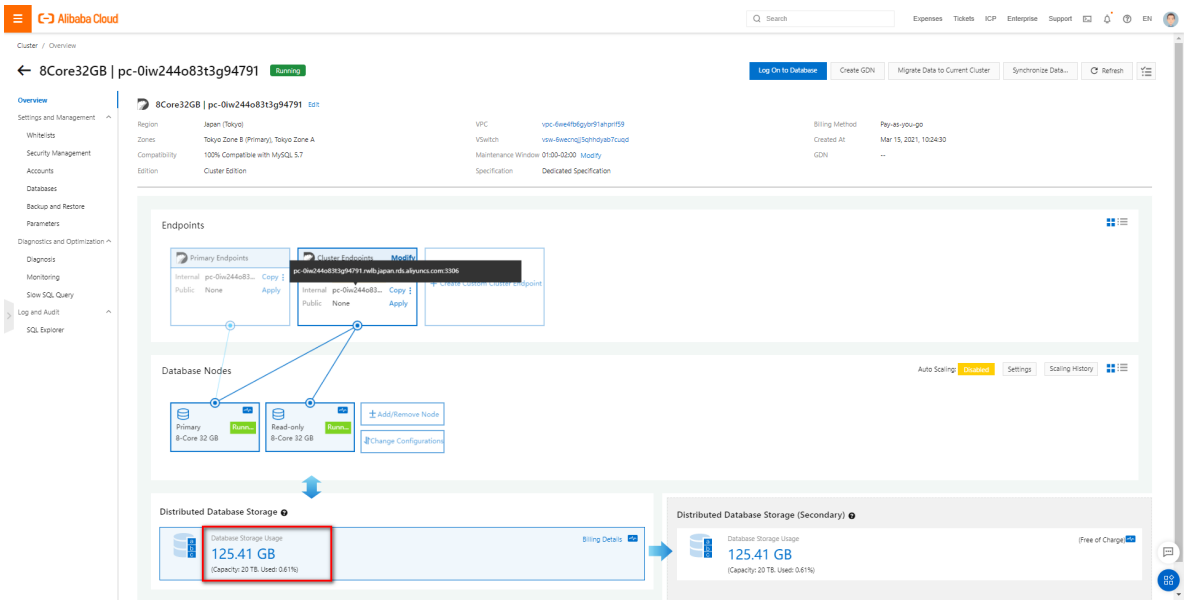
prepare.sh

```
#!/bin/sh
mkdir -p logs
thread=100
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
```

②
Sysbenchでおよそ100GBデータをDBにPushする

```
# chmod a+x *.sh
# nohup sh prepare.sh 2>&1&
```



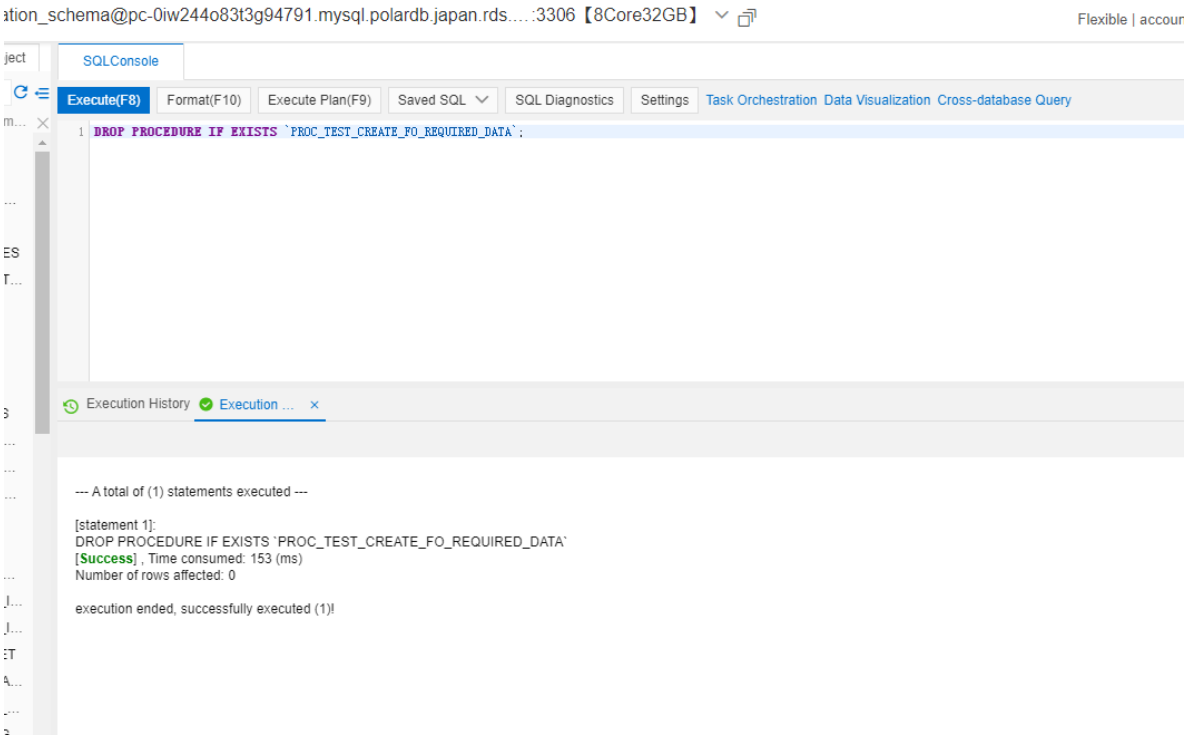


2-2 PolarDB-MysqlにPROCEDUREを作成する

①DMSでPolarDB-MysqlDBに接続し、下記のPROCEDUREを実行する

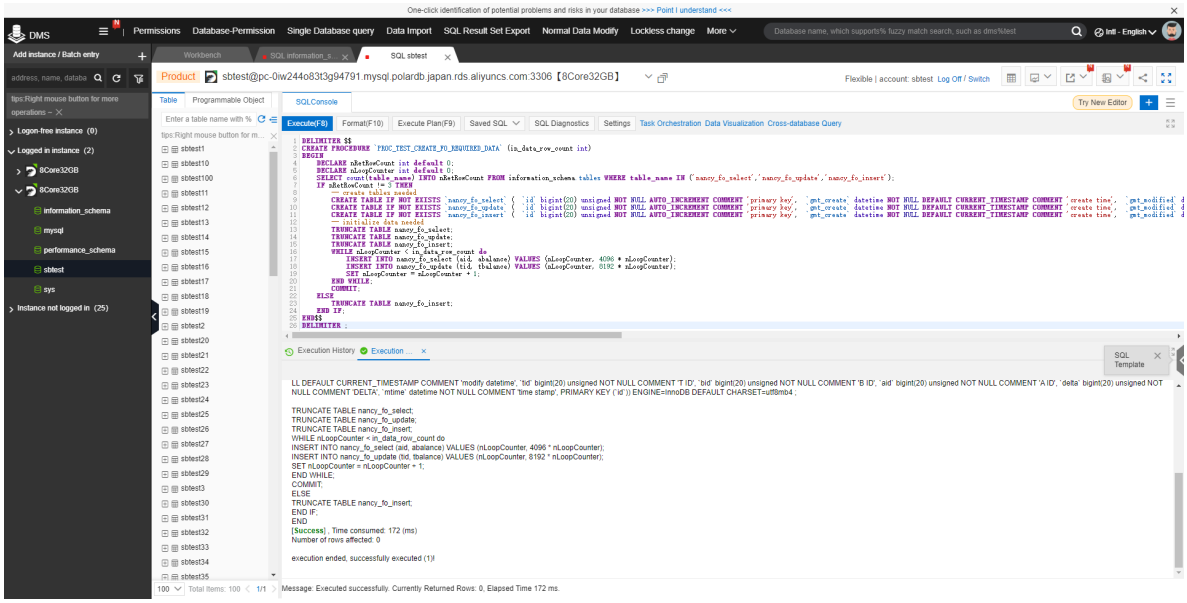
DMSでSetUpMySQLFailOverTest.sqlファイルのSQLを実行する

```
DROP PROCEDURE IF EXISTS `PROC_TEST_CREATE_FO_REQUIRED_DATA`$$
```

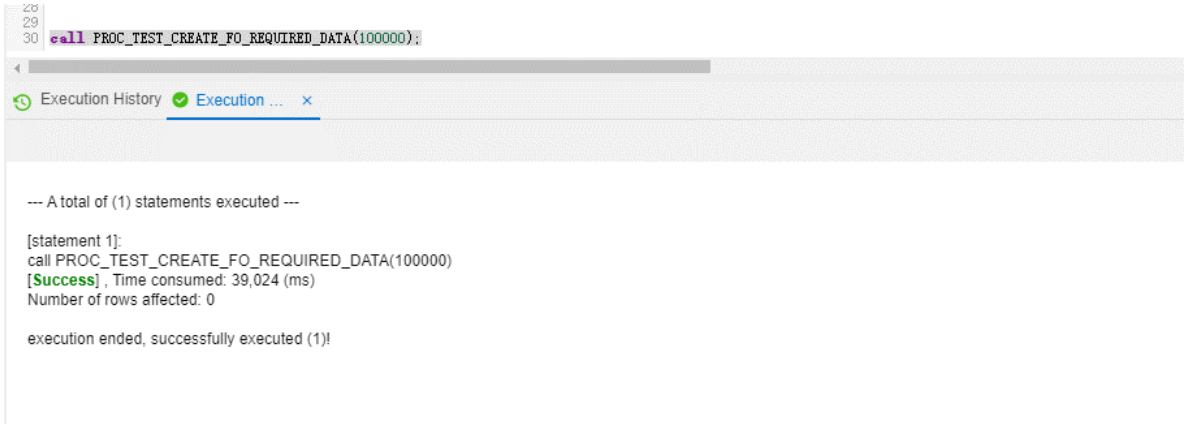



```
DELIMITER $$
CREATE PROCEDURE `PROC_TEST_CREATE_FO_REQUIRED_DATA` (in_data_row_count int)
BEGIN
    DECLARE nRetRowCount int default 0;
    DECLARE nLoopCounter int default 0;
    SELECT count(table_name) INTO nRetRowCount FROM information_schema.tables
WHERE table_name IN ('nancy_fo_select','nancy_fo_update','nancy_fo_insert');
    IF nRetRowCount != 3 THEN
        -- create tables needed
        CREATE TABLE IF NOT EXISTS `nancy_fo_select` (  `id` bigint(20) unsigned
NOT NULL AUTO_INCREMENT COMMENT 'primary key',  `gmt_create` datetime NOT NULL
DEFAULT CURRENT_TIMESTAMP COMMENT 'create time',  `gmt_modified` datetime NOT
NULL DEFAULT CURRENT_TIMESTAMP COMMENT 'modify datetime',  `aid` bigint(20)
unsigned NOT NULL COMMENT 'A ID',  `abalance` bigint(20) unsigned NOT NULL
COMMENT 'A BALANCE',  PRIMARY KEY (`id`),  KEY `idx_a_id` (`aid`)) ENGINE=InnoDB
DEFAULT CHARSET=utf8mb4 ;
        CREATE TABLE IF NOT EXISTS `nancy_fo_update` (  `id` bigint(20) unsigned
NOT NULL AUTO_INCREMENT COMMENT 'primary key',  `gmt_create` datetime NOT NULL
DEFAULT CURRENT_TIMESTAMP COMMENT 'create time',  `gmt_modified` datetime NOT
NULL DEFAULT CURRENT_TIMESTAMP COMMENT 'modify datetime',  `tid` bigint(20)
unsigned NOT NULL COMMENT 'T ID',  `tbalance` bigint(20) unsigned NOT NULL
COMMENT 'T BALANCE',  PRIMARY KEY (`id`),  KEY `idx_t_id` (`tid`)) ENGINE=InnoDB
DEFAULT CHARSET=utf8mb4 ;
        CREATE TABLE IF NOT EXISTS `nancy_fo_insert` (  `id` bigint(20) unsigned
NOT NULL AUTO_INCREMENT COMMENT 'primary key',  `gmt_create` datetime NOT NULL
DEFAULT CURRENT_TIMESTAMP COMMENT 'create time',  `gmt_modified` datetime NOT
NULL DEFAULT CURRENT_TIMESTAMP COMMENT 'modify datetime',  `tid` bigint(20)
unsigned NOT NULL COMMENT 'T ID',  `bid` bigint(20) unsigned NOT NULL COMMENT 'B
ID',  `aid` bigint(20) unsigned NOT NULL COMMENT 'A ID',  `delta` bigint(20)
unsigned NOT NULL COMMENT 'DELTA',  `mtime` datetime NOT NULL COMMENT 'time
stamp',  PRIMARY KEY (`id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 ;
        -- initialize data needed
        TRUNCATE TABLE nancy_fo_select;
```

```
        TRUNCATE TABLE nancy_fo_update;
        TRUNCATE TABLE nancy_fo_insert;
        WHILE nLoopCounter < in_data_row_count do
            INSERT INTO nancy_fo_select (aid, abalance) VALUES (nLoopCounter,
4096 * nLoopCounter);
            INSERT INTO nancy_fo_update (tid, tbalance) VALUES (nLoopCounter,
8192 * nLoopCounter);
            SET nLoopCounter = nLoopCounter + 1;
        END WHILE;
        COMMIT;
    ELSE
        TRUNCATE TABLE nancy_fo_insert;
    END IF;
END$$
DELIMITER ;
```



```
-- create table struct and init 100000 data
call PROC_TEST_CREATE_FO_REQUIRED_DATA(100000);
```




```
-- create function
DELIMITER $$
DROP FUNCTION IF EXISTS `FUNC_DO_STH_AND_RET_CURTS`$$

DELIMITER $$
```

```
DELIMITER $$
DROP FUNCTION IF EXISTS `FUNC_DO_STH_AND_RET_CURTS`$$

DELIMITER $$
```

Execution History | Execution ... ×

--- A total of (1) statements executed ---

[statement 1]:
DROP FUNCTION IF EXISTS `FUNC_DO_STH_AND_RET_CURTS`
[Success] , Time consumed: 151 (ms)
Number of rows affected: 0

execution ended, successfully executed (1)!

```
CREATE FUNCTION `FUNC_DO_STH_AND_RET_CURTS`(t_id int, b_id int, a_id int, delta_ int) RETURNS INT DETERMINISTIC
BEGIN
    DECLARE curTimeTs INT DEFAULT 0;
    DECLARE aBalanceValue INT DEFAULT 0;
    -- test logic
    SELECT abalance INTO aBalanceValue FROM nancy_fo_select WHERE aid = a_id LIMIT 1;
    UPDATE nancy_fo_update SET tbalance = tbalance + delta_ + aBalanceValue WHERE tid = t_id;
    INSERT INTO nancy_fo_insert (tid, bid, aid, delta, mtime) VALUES (t_id, b_id, a_id, delta_, CURRENT_TIMESTAMP);
    SET curTimeTs = UNIX_TIMESTAMP();
    RETURN curTimeTs;
END$$
DELIMITER ;
```

```
DELIMITER $$

CREATE FUNCTION `FUNC_DO_STH_AND_RET_CURTS`(t_id int, b_id int, a_id int, delta_ int) RETURNS INT DETERMINISTIC
BEGIN
    DECLARE curTimeTs INT DEFAULT 0;
    DECLARE aBalanceValue INT DEFAULT 0;
    -- test logic
    SELECT abalance INTO aBalanceValue FROM nancy_fo_select WHERE aid = a_id LIMIT 1;
    UPDATE nancy_fo_update SET tbalance = tbalance + delta_ + aBalanceValue WHERE tid = t_id;
    INSERT INTO nancy_fo_insert (tid, bid, aid, delta, mtime) VALUES (t_id, b_id, a_id, delta_, CURRENT_TIMESTAMP);
    SET curTimeTs = UNIX_TIMESTAMP();
    RETURN curTimeTs;
END$$
DELIMITER ;
```

Execution History | Execution ... ×

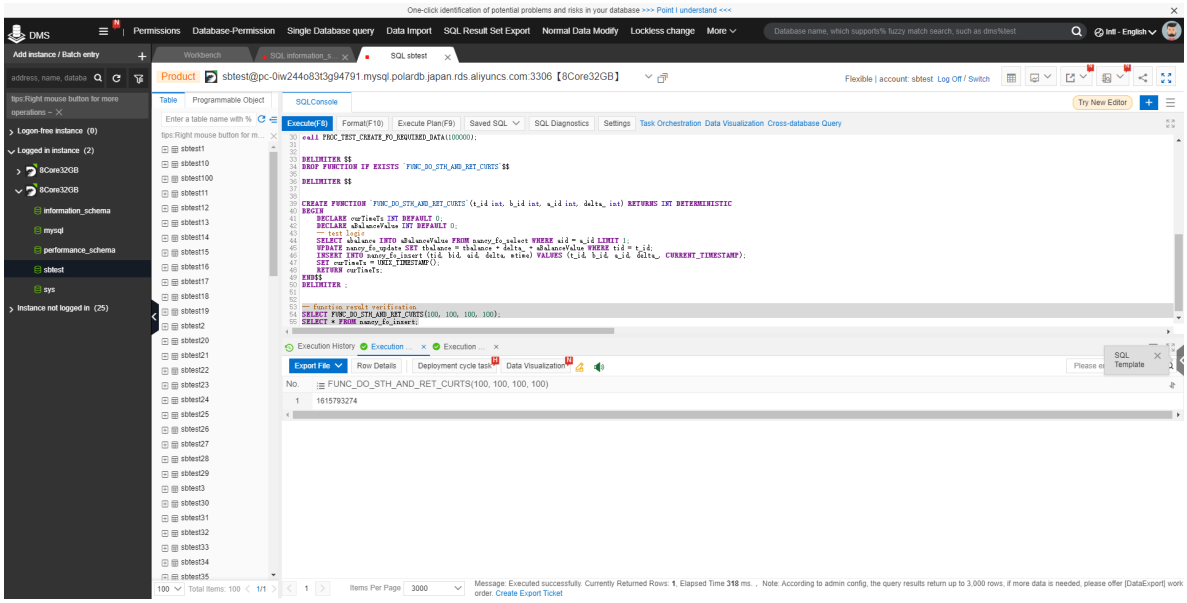
--- A total of (1) statements executed ---

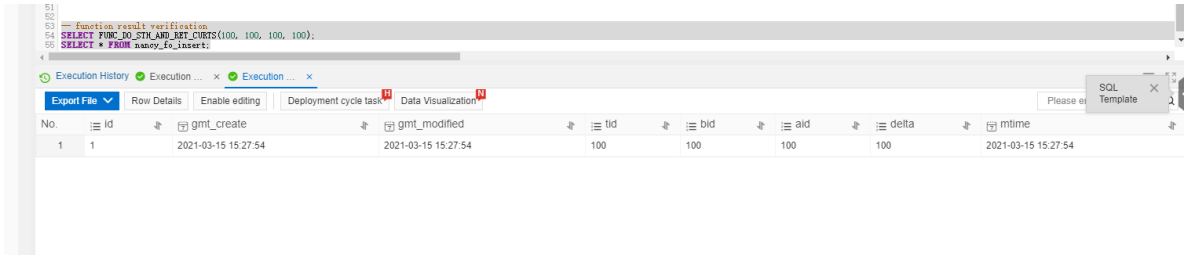
[statement 1]:
CREATE FUNCTION `FUNC_DO_STH_AND_RET_CURTS`(t_id int, b_id int, a_id int, delta_ int) RETURNS INT DETERMINISTIC
BEGIN
DECLARE curTimeTs INT DEFAULT 0;
DECLARE aBalanceValue INT DEFAULT 0;

SELECT abalance INTO aBalanceValue FROM nancy_fo_select WHERE aid = a_id LIMIT 1;
UPDATE nancy_fo_update SET tbalance = tbalance + delta_ + aBalanceValue WHERE tid = t_id;
INSERT INTO nancy_fo_insert (tid, bid, aid, delta, mtime) VALUES (t_id, b_id, a_id, delta_, CURRENT_TIMESTAMP);
SET curTimeTs = UNIX_TIMESTAMP();
RETURN curTimeTs;
END
[Success] , Time consumed: 191 (ms)
Number of rows affected: 0

execution ended, successfully executed (1)!

```
-- function result verification
SELECT FUNC_DO_STH_AND_RET_CURTS(100, 100, 100, 100);
SELECT * FROM nancy_fo_insert;
```





3 Failoverテストを実行する

3-1 ECSでScriptを実行開始する

①スクリプトファイル（fot.shとrun-fot.sh）を用意する
fot.sh

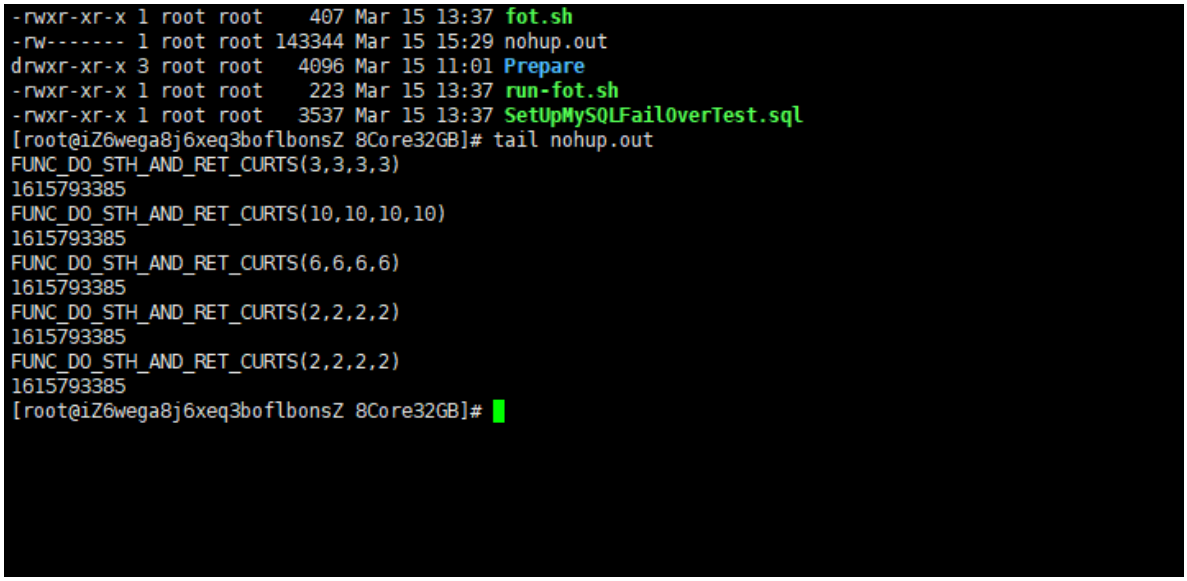
```
#!/bin/sh
HOST=pc-0iw244o83t3g94791.rwlb.japan.rds.aliyuncs.com
PORT=3306
USER=sbtest
PASSWORD=Test1234
DBNAME=sbtest

## default timeout
TIMEOUT_SECONDS=2

for x in {1..10}
do
timeout ${TIMEOUT_SECONDS} mysql -h ${HOST} -P ${PORT}  -D ${DBNAME} -u ${USER}
-p${PASSWORD} -e "SELECT FUNC_DO_STH_AND_RET_CURTS($x,$x,$x,$x);"
retVal=$?
if [ $retVal -ne 0 ]; then
  echo "TIMEOUT OCCURRED! EVENT: "$1
fi
done
```

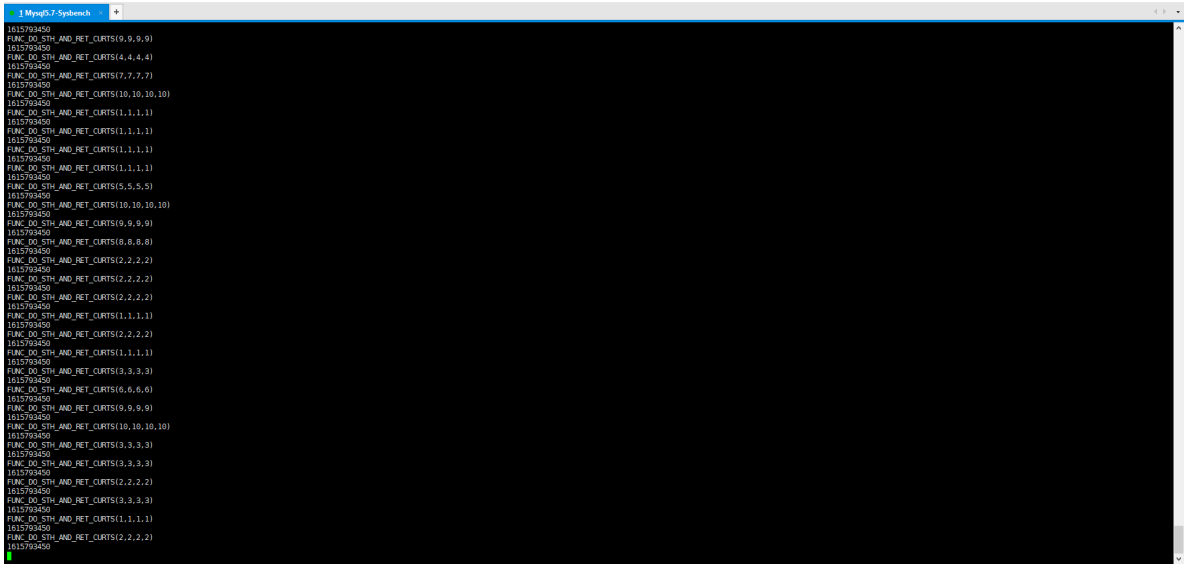
run-fot.sh

```
#!/bin/sh

TOTAL_EVENT_COUNT=$1
CONCURRENT_PROCESS=$2

echo "Start FailOver testing right now."

#seq 1000 | xargs -t -P10 -n1 ./fot.sh
seq ${TOTAL_EVENT_COUNT} | xargs -P${CONCURRENT_PROCESS} -n1 ./fot.sh

echo "ALL DONE"
```

②Scriptを実行開始する

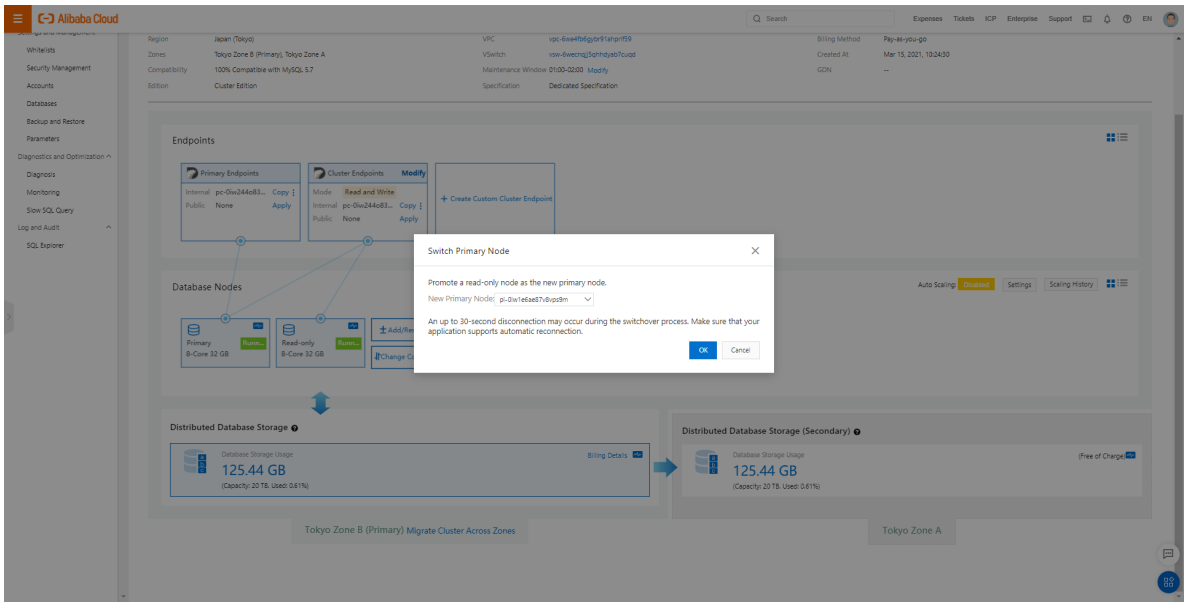
```
# nohup sh run-fot.sh 20000 10 &
```

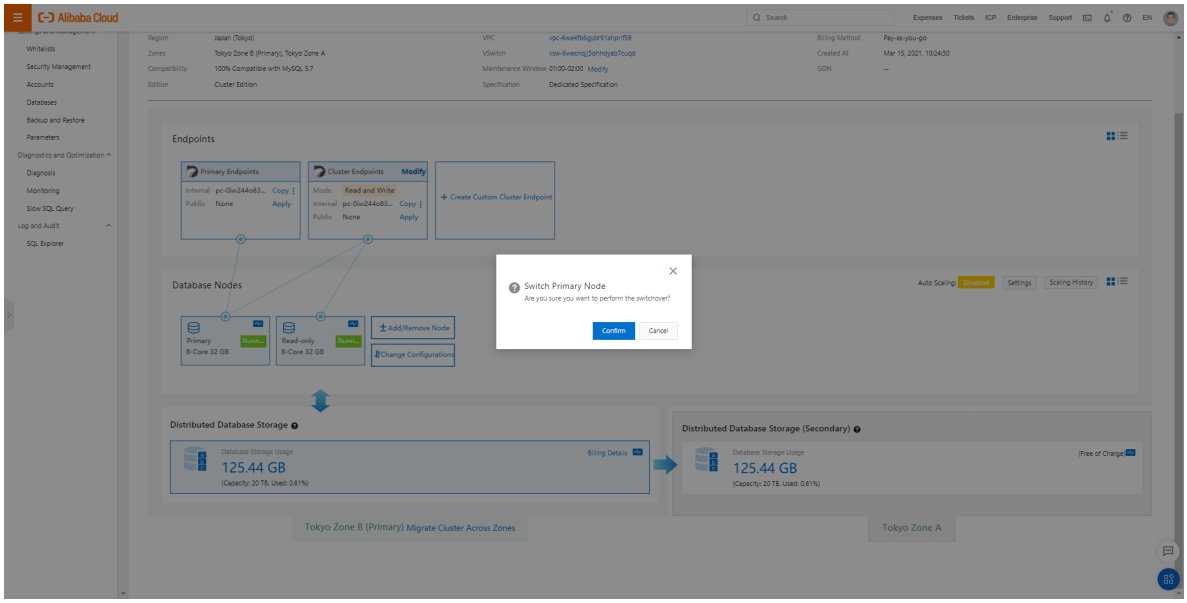


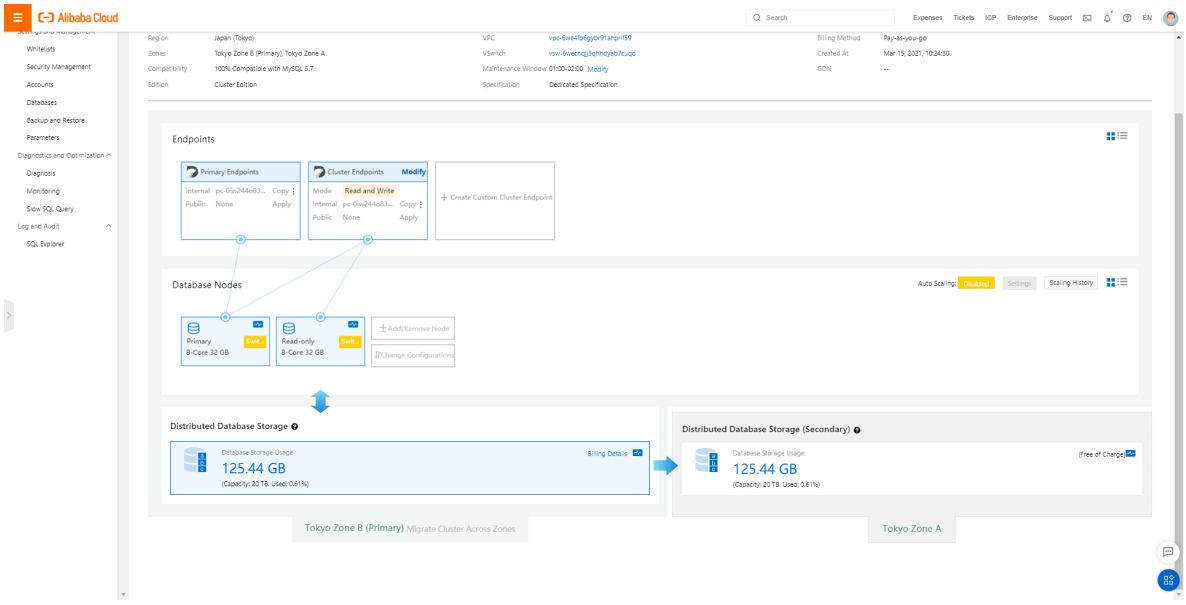


3-2 PolarDB-Mysqlコンソールで Nodeを切り替えする

③PolarDB-Mysqlコンソールでを切り替え開始する



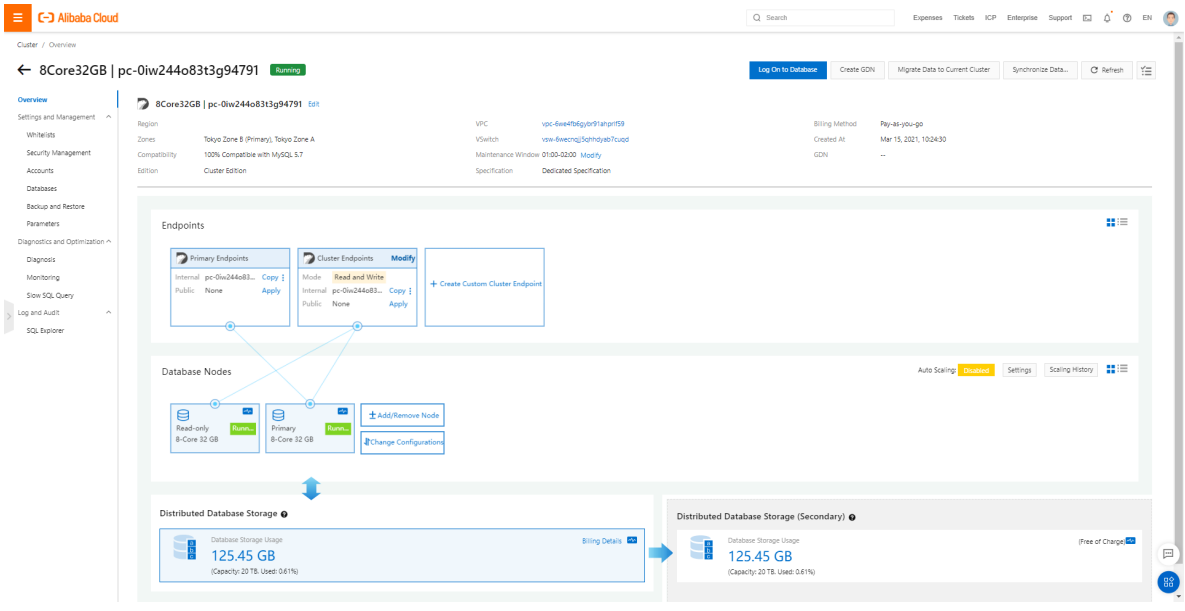




④Nodeを切り替え中で、Script実行状態を確認する

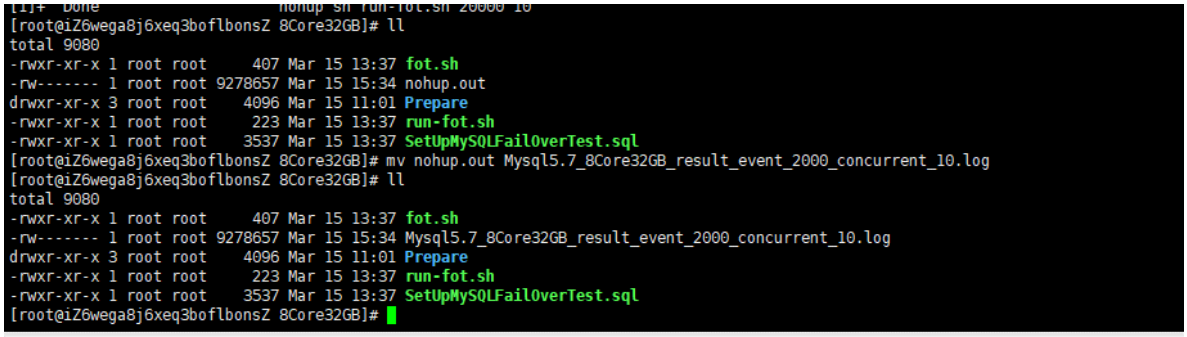
3-3 FailOverを確認する

⑤Nodeを切り替え完了、Script実行を確認する



⑥FailOver計算する

```
# mv nohup.out Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log
```



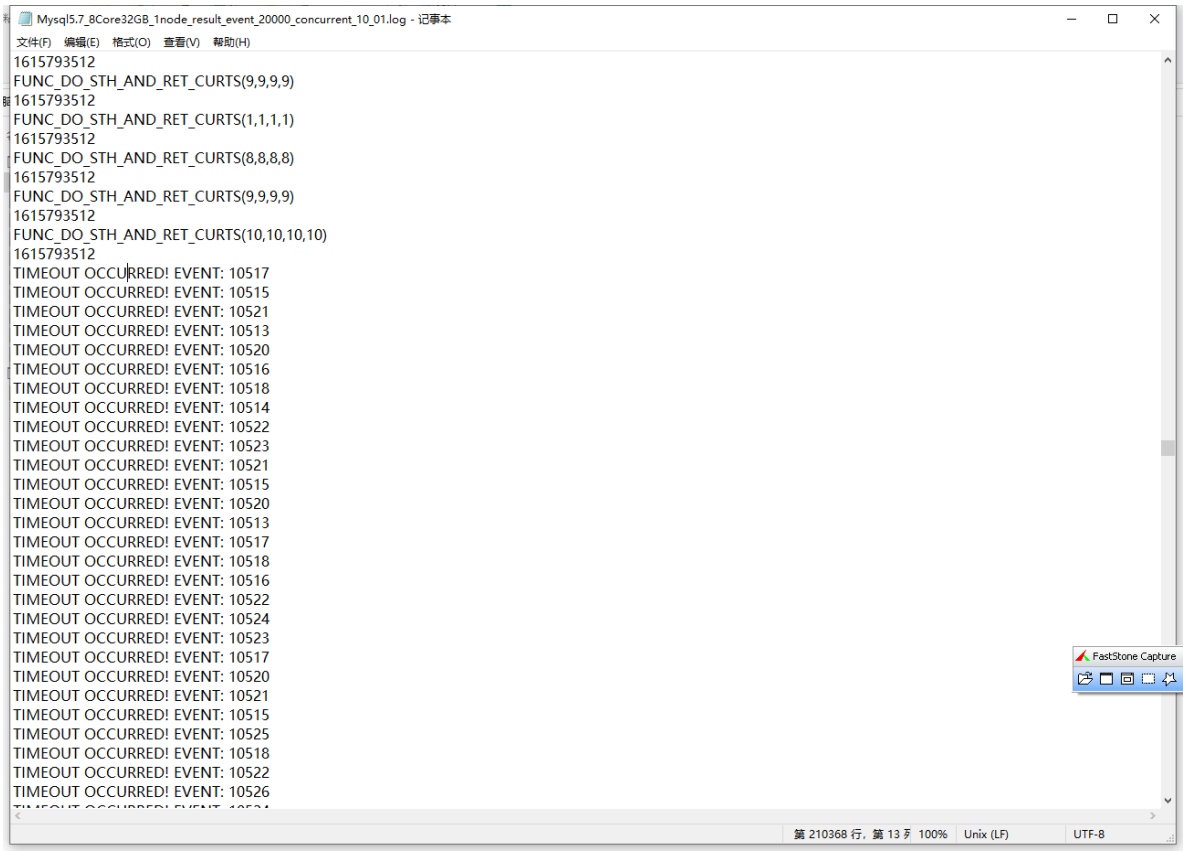

```
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]#  grep -C 4 TIMEOUT
Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log | head -n 6
FUNC_DO_STH_AND_RET_CURTS(9,9,9,9)
1615793512
FUNC_DO_STH_AND_RET_CURTS(10,10,10,10)
1615793512
TIMEOUT OCCURRED! EVENT: 10517
TIMEOUT OCCURRED! EVENT: 10515
```

```
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]#  grep -C 4 TIMEOUT
Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log | tail -n 6
TIMEOUT OCCURRED! EVENT: 10524
TIMEOUT OCCURRED! EVENT: 10523
FUNC_DO_STH_AND_RET_CURTS(1,1,1,1)
1615793530
FUNC_DO_STH_AND_RET_CURTS(3,3,3,3)
1615793530
```

```
# bc
# 1615793530-1615793512
18
```

```
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]# ll
total 9080
-rwxr-xr-x 1 root root     407 Mar 15 13:37 fot.sh
-rw------- 1 root root 9278657 Mar 15 15:34 Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log
drwxr-xr-x 3 root root    4096 Mar 15 11:01 Prepare
-rwxr-xr-x 1 root root     223 Mar 15 13:37 run-fot.sh
-rwxr-xr-x 1 root root    3537 Mar 15 13:37 SetUpMySQLFailOverTest.sql
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]#  grep -C 4 TIMEOUT  Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log | head -n 6
FUNC_DO_STH_AND_RET_CURTS(9,9,9,9)
1615793512
FUNC_DO_STH_AND_RET_CURTS(10,10,10,10)
1615793512
TIMEOUT OCCURRED! EVENT: 10517
TIMEOUT OCCURRED! EVENT: 10515
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]#  grep -C 4 TIMEOUT  Mysql5.7_8Core32GB_result_event_2000_concurrent_10.log | tail -n 6
TIMEOUT OCCURRED! EVENT: 10524
TIMEOUT OCCURRED! EVENT: 10523
FUNC_DO_STH_AND_RET_CURTS(1,1,1,1)
1615793530
FUNC_DO_STH_AND_RET_CURTS(3,3,3,3)
1615793530
[root@iZ6wega8j6xeq3boflbonsZ 8Core32GB]# bc
bc 1.06.95
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
1615793530-1615793512
18
```

Failowver タイムは18秒である、同じ手順で５回Scriptを実行し平均値を計算する



以上です