### 多配置文件部署多实例MySQL方案

上一节已经简单介绍过MySQL多实例、应用场景、优缺点以及两种实施方案，本文主要介绍第一种即多配置文件部署多实例MySQL,单一配置文件部署方案会在下一节进行实战。

说明：

1. 本文参考老男孩MySQL教程,为本人实战操作记录
2. 这里不再赘述MySQL的安装过程,按照正常的安装MySQL即可(二进制包,源码包等)，注意源码包只执行到make install（并且cmake不需加任何参数）即可
3. 以创建2个为例

1.创建错放不同实例的目录

mkdir -p /data/{3306,3307}/data

#{3306,3307}这种方式会在/data/目录下创建3306和3307两个目录，并且每个目录下都会有data目录

tree /data/ #树形结构查看/data目录

2.创建安装目录的软链接到/data目录下

ln -s /usr/local/mysql /data/mysql

3.为不同的实例创建创建配置文件

复制安装好的mysql目录的support-files目录里面一个配置文件分别到3306和3307目录下

cp /usr/local/mysql/support-files/my-large.cnf /data/3306/my.cnf

cp /usr/local/mysql/support-files/my-large.cnf /data/3307/my.cnf

4.修改配置文件（文章结尾附配置文件,,也可以把MySQL安装目录下的support-files/my-large.cnf 复制过去进行修改，第二种方法保险一点,适用于当前安装的MySQL版本）

vim /data/3306/my.cnf

Vim /data/3307/my.cnf

1. 创建MySQL多实例启动文件（文章结尾附启动文件）

vim /data/3306/mysql

vim /data/3307/mysql

1. 授权mysql用户目录权限

chown -R mysql.mysql /data

#将my.cnf文件权限设置成644

chmod 644 /data/3306/my.cnf

chmod 644 /data/3307/my.cnf

#由于mysql脚本中保存了登录数据库的密码，需要将文件权限设置成700，只允许root,mysql访问

chmod 700 /data/3306/mysql

chmod 700 /data/3307/mysql

1. **配置MySQL命令全局使用路径**
   1. 如果不为MySQL的命令配置全局路径，就无法直接在命令行输入mysql,这样只能用全路径/application/msyq/bin/mysql 这样带着路径输出会比较麻烦
2. 确认mysql命令所在路径

ll /data/mysql/bin/mysql

2.修改PATH路径

#修改文件

vim /etc/profile

#添加如下一行

export PATH=/data/mysql/bin:$PATH

#让其生效

source /etc/profile

3.检查PATH是否生效

echo $PATH

#确认/mysql/bin:是否存在

1. **初始化数据库**

cd /data/mysql/scripts/

#注意5.5和MySQL 5.1的路径不同，MySQL 5.1 不在mysql/bin下

./mysql\_install\_db --basedir=/data/mysql --datadir=/data/3306/data/ --user=mysql

./mysql\_install\_db --basedir=/data/mysql --datadir=/data/3307/data/ --user=mysql

#每个初始化出现两个ok则说明成功

1. 启动MySQL

/data/3306/mysql start

/data/3307/mysql start

10.检查MySQL是否启动成功

11.如果启动不成功则直接执行以下命令或者查看错误日志进行解决/data/mysql/bin/mysqld\_safe --defaults-file=/data/${port}/my.cnf 2>&1 > /dev/null &

MySQL启动错误常见问题及解决办法

1. mysqld\_safe Starting mysqld daemon with databases from /data/3306/data

170818 01:53:26 mysqld\_safe mysqld from pid file /data/3306/mysqld.pid ended

解决办法:删除data目录下已经存在的文件（必须在此目录为空时初始化数据库才可以），然后初始化数据库

2./usr/local/mysql/bin/mysqld: File ‘./mysql-bin.index' not found (Errcode: 13)

解决办法:errcode13，一般就是权限问题，mysql用户是否对数据库目录内的所有文件具有写的权限，查看一下权限，修改MySQL目录的用户和用户组权限

> chown -R mysql:mysql   /usr/local/mysql

1. [ERROR] /usr/local/mysql/bin/mysqld: Can't find file: './mysql/host.frm’

解决办法:权限问题，MySQL初始化时data的mysql目录权限不足，执行以下SQL(/data 为MySQL安装目录)

> chown -R mysql.mysql /data

附：

1.MySQL多实例的配置文件

[client]

port =3306

socket =/data/3306/mysql.sock

[mysql]

no-auto-rehash

[mysqld]

user = mysql

port =3306

socket =/data/3306/mysql.sock

basedir =/data/mysql

datadir =/data/3306/data

open\_files\_limit =1024

back\_log =600

max\_connections =800

max\_connect\_errors =3000

table\_cache =614

external-locking = FALSE

max\_allowed\_packet =8M

sort\_buffer\_size =1M

join\_buffer\_size =1M

thread\_cache\_size =100

thread\_concurrency =2

query\_cache\_size =2M

query\_cache\_limit =1M

query\_cache\_min\_res\_unit =2k

#default\_table\_type = InnoDB

thread\_stack =192K

#transaction\_isolation = READ-COMMITTED

tmp\_table\_size =2M

max\_heap\_table\_size =2M

long\_query\_time =1

#log\_long\_format

#log-error = /data/3306/error.log

#log-slow-queries = /data/3306/slow.log

pid-file =/data/3306/mysql.pid

log-bin =/data/3306/mysql-bin

relay-log =/data/3306/relay-bin

relay-log-info-file =/data/3306/relay-log.info

binlog\_cache\_size =1M

max\_binlog\_cache\_size =1M

max\_binlog\_size =2M

expire\_logs\_days =7

key\_buffer\_size =16M

read\_buffer\_size =1M

read\_rnd\_buffer\_size =1M

bulk\_insert\_buffer\_size =1M

#myisam\_sort\_buffer\_size = 1M

#myisam\_max\_sort\_file\_size = 10G

#myisam\_max\_extra\_sort\_file\_size = 10G

#myisam\_repair\_threads = 1

#myisam\_recover

lower\_case\_table\_names =1

skip-name-resolve

slave-skip-errors =1032,1062

replicate-ignore-db=mysql

server-id =1

innodb\_additional\_mem\_pool\_size =4M

innodb\_buffer\_pool\_size =32M

innodb\_data\_file\_path = ibdata1:128M:autoextend

innodb\_file\_io\_threads =4

innodb\_thread\_concurrency =8

innodb\_flush\_log\_at\_trx\_commit =2

innodb\_log\_buffer\_size =2M

innodb\_log\_file\_size =4M

innodb\_log\_files\_in\_group =3

innodb\_max\_dirty\_pages\_pct =90

innodb\_lock\_wait\_timeout =120

innodb\_file\_per\_table =0

[mysqldump]

quick

max\_allowed\_packet =2M

[mysqld\_safe]

log-error=/data/3306/mysql\_3306.err

pid-file=/data/3306/mysqld.pid

1. MySQL多实例的启动文件(切记每个实例的启动文件端口要修改,并且注意检查cmd\_path和mysql\_sock等各种路径是否正确)

#init

port=3306

mysql\_user="root"

mysql\_pwd="cancer"

CmdPath="/data/mysql/bin"

mysql\_sock="/data/${port}/mysql.sock"

#startup functionfunction\_start\_mysql()

{

if [ ! -e "$mysql\_sock" ];then

printf "Starting MySQL...\n"

/bin/sh ${CmdPath}/mysqld\_safe --defaults-file=/data/${port}/my.cnf 2>&1 > /dev/null &

else

printf "MySQL is running...\n"

exit

fi

}

#stop function

function\_stop\_mysql()

{

if [ ! -e "$mysql\_sock" ];then

printf "MySQL is stopped...\n"

exit

else

printf "Stoping MySQL...\n"

${CmdPath}/mysqladmin -u ${mysql\_user} -p${mysql\_pwd} -S /data/${port}/mysql.sock shutdown

fi

}

#restart function

function\_restart\_mysql()

{

printf "Restarting MySQL...\n"

function\_stop\_mysql

sleep 2

function\_start\_mysql

}

case $1 in

start)

function\_start\_mysql

;;

stop)

function\_stop\_mysql

;;

restart)

function\_restart\_mysql

;;

\*)

printf "Usage: /data/${port}/mysql {start|stop|restart}\n"

esac