AWS安裝MariaDB數據庫文檔

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Table Of Contents

Server Info

Host IP: `54.223.87.233`
Username: `root`
Password: `1qaz2wsx`

數據庫文件路徑更改到 `/mnt` 下

```
[root@ip-20-0-0-22 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/xvda1       15G  2.1G   13G  15% /
devtmpfs        2.0G   60K  2.0G   1% /dev
tmpfs           2.0G     0  2.0G   0% /dev/shm
/dev/xvdf        94G   60M   89G   1% /mnt
[root@ip-20-0-0-22 ~]#
```

Create MariaDB Repository

AWS使用的CentOS內核是6不是7，故repo需選擇 `CentOS6 (64bit)`。安裝MariaDB使用 `yum` 命令。

創建 `MariaDB Repository`。點擊repo鏈接，依次選擇 `CentOS` -> `CentOS 6 (64-bit)` -> `10.0`，生成如下信息

```
# MariaDB 10.0 CentOS repository list - created 2015-11-04 03:52 UTC
# http://mariadb.org/mariadb/repositories/
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

註：`MariaDB Galera Cluster` 當前GA版本是 `10.0.21`，Release date: 18 Aug 2015，故需選擇 `10.0` 倉庫。

在Server路徑 `/etc/yum.repos.d/` 下創建MariaDB.repo

```
[root@ip-20-0-0-22 ~]# cd /etc/yum.repos.d/ && ls -lh
total 24K
-rw-r--r-- 1 root root  668 Feb 12  2015 amzn-main.repo
-rw-r--r-- 1 root root  324 Feb 12  2015 amzn-nosrc.repo
-rw-r--r-- 1 root root  686 Feb 12  2015 amzn-preview.repo
-rw-r--r-- 1 root root  686 Feb 12  2015 amzn-updates.repo
-rw-r--r-- 1 root root  957 Mar  1  2013 epel.repo
-rw-r--r-- 1 root root 1.1K Mar  1  2013 epel-testing.repo
[root@ip-20-0-0-22 yum.repos.d]#
```

可使用 `vi` 或'vim'創建，保存、退出。

```
[root@ip-20-0-0-22 yum.repos.d]# cat MariaDB.repo
# MariaDB 10.1 CentOS repository list - created 2015-11-04 03:39 UTC
# http://mariadb.org/mariadb/repositories/
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.1/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
[root@ip-20-0-0-22 yum.repos.d]#
```

然後順序執行命令

```
yum clean all
yum makecache
```

生成yum緩存，即可 `yum` 進行安裝。

Install MariaDB

註：MariaDB官方文檔Installing MariaDB with yum

```
yum install MariaDB-server MariaDB-client MariaDB-devel
```

安裝完成後，可使用 whereis 命令查看

```
[root@ip-20-0-0-22 yum.repos.d]# whereis mysql
mysql: /usr/bin/mysql /usr/lib64/mysql /usr/include/mysql /usr/share/mysql
/usr/share/man/man1/mysql.1.gz
```

Initialize MariaDB

啟動 mysql服務 並設置爲開機啟動

```
service mysql start 或 /etc/init.d/mysql start
chkconfig mysql on
```

操作過程：

```
[root@ip-20-0-0-22 yum.repos.d]# service mysql start
Starting MySQL. SUCCESS!
[root@ip-20-0-0-22 yum.repos.d]# chkconfig mysql on
[root@ip-20-0-0-22 yum.repos.d]# service mysql status
 SUCCESS! MySQL running (30564)
[root@ip-20-0-0-22 yum.repos.d]#
```

提高MariaDB安全

```
mysql_secure_installation
```

MariaDB官方文檔mysql_secure_installation

禁止root遠程登錄,設置密碼爲 1qaz2wsx ；
移除匿名用戶賬戶
移除test數據庫

Change Database Data Path

參考BlogChange data directory – MariaDB 10.0.x

MariaDB默認數據庫資料存放路徑是 `/var/lib/mysql` ,現需將數據存放路徑放置在 `/mnt` 下。

```
[root@ip-20-0-0-22 ~]# cd /var/lib/mysql/
[root@ip-20-0-0-22 mysql]# pwd
/var/lib/mysql
[root@ip-20-0-0-22 mysql]# ls -lh
total 109M
-rw-rw---- 1 mysql mysql  16K Nov  4 12:04 aria_log.00000001
-rw-rw---- 1 mysql mysql   52 Nov  4 12:04 aria_log_control
-rw-rw---- 1 mysql mysql  12M Nov  4 12:07 ibdata1
-rw-rw---- 1 mysql mysql  48M Nov  4 12:07 ib_logfile0
-rw-rw---- 1 mysql mysql  48M Nov  4 12:04 ib_logfile1
-rw-r----- 1 mysql root  1.4K Nov  4 12:07 ip-20-0-0-22.err
-rw-rw---- 1 mysql mysql    6 Nov  4 12:07 ip-20-0-0-22.pid
-rw-rw---- 1 mysql mysql    0 Nov  4 12:07 multi-master.info
drwx--x--x 2 mysql mysql 4.0K Nov  4 12:04 mysql
srwxrwxrwx 1 mysql mysql    0 Nov  4 12:07 mysql.sock
drwx------ 2 mysql mysql 4.0K Nov  4 12:04 performance_schema
[root@ip-20-0-0-22 mysql]#
```

`/var/lib/mysql` 目錄rwx權限及屬主、屬組。

```
[root@ip-20-0-0-22 mysql]# cd ..
[root@ip-20-0-0-22 lib]# ls -lh |grep mysql
drwxr-xr-x 4 mysql       mysql       4.0K Nov  4 13:14 mysql
[root@ip-20-0-0-22 lib]#
```

1. 創建目錄 `/mnt/mariadb_data` 並更改rwx權限爲755

```
mkdir /mnt/mariadb_data
chmod 755 /mnt/mariadb_data/
```

操作過程

```
[root@ip-20-0-0-22 ~]# ls -lh /mnt
total 20K
drwxr-xr-x 4 root root 4.0K Nov  4 13:43 elasticsearch
drwx------ 2 root root  16K Nov  4 10:52 lost+found
[root@ip-20-0-0-22 ~]# mkdir /mnt/mariadb_data
[root@ip-20-0-0-22 ~]# chmod 755 /mnt/mariadb_data/
[root@ip-20-0-0-22 ~]# ls -lh /mnt
total 24K
drwxr-xr-x 4 root root 4.0K Nov  4 13:43 elasticsearch
drwx------ 2 root root  16K Nov  4 10:52 lost+found
drwxr-xr-x 2 root root 4.0K Nov  4 13:49 mariadb_data
[root@ip-20-0-0-22 ~]#
```

2. 停止mysql服務

```
[root@ip-20-0-0-22 lib]# service mysql stop
Shutting down MySQL... SUCCESS!
[root@ip-20-0-0-22 lib]# service mysql status
 ERROR! MySQL is not running
[root@ip-20-0-0-22 lib]#
```

3. 將目錄 `/var/lib/mysql` 下所有文件複製到目錄 `/mnt/mariadb_data` 下

```
cp -a /var/lib/mysql/* /mnt/mariadb_data/
#-a 將文件屬性一併拷貝
```

操作過程

```
[root@ip-20-0-0-22 ~]# cp -a /var/lib/mysql/* /mnt/mariadb_data/
[root@ip-20-0-0-22 ~]# ls -lh /mnt/mariadb_data/
total 109M
-rw-rw---- 1 mysql mysql  16K Nov  4 13:39 aria_log.00000001
-rw-rw---- 1 mysql mysql   52 Nov  4 13:39 aria_log_control
-rw-rw---- 1 mysql mysql  12M Nov  4 13:39 ibdata1
-rw-rw---- 1 mysql mysql  48M Nov  4 13:39 ib_logfile0
-rw-rw---- 1 mysql mysql  48M Nov  4 12:04 ib_logfile1
-rw-r----- 1 mysql root  1.8K Nov  4 13:39 ip-20-0-0-22.err
-rw-rw---- 1 mysql mysql    0 Nov  4 12:07 multi-master.info
drwx--x--x 2 mysql mysql 4.0K Nov  4 12:04 mysql
drwx------ 2 mysql mysql 4.0K Nov  4 12:04 performance_schema
[root@ip-20-0-0-22 ~]# ls -lh /var/lib/mysql/
total 109M
-rw-rw---- 1 mysql mysql  16K Nov  4 13:39 aria_log.00000001
-rw-rw---- 1 mysql mysql   52 Nov  4 13:39 aria_log_control
-rw-rw---- 1 mysql mysql  12M Nov  4 13:39 ibdata1
-rw-rw---- 1 mysql mysql  48M Nov  4 13:39 ib_logfile0
-rw-rw---- 1 mysql mysql  48M Nov  4 12:04 ib_logfile1
-rw-r----- 1 mysql root  1.8K Nov  4 13:39 ip-20-0-0-22.err
-rw-rw---- 1 mysql mysql    0 Nov  4 12:07 multi-master.info
drwx--x--x 2 mysql mysql 4.0K Nov  4 12:04 mysql
drwx------ 2 mysql mysql 4.0K Nov  4 12:04 performance_schema
[root@ip-20-0-0-22 ~]#
```

4. 備份MariaDB配置文件 `/etc/my.cnf`

```
cp -a /etc/my.cnf /etc/my.cnf_bak
```

操作過程

```
[root@ip-20-0-0-22 ~]# cp -a /etc/my.cnf /etc/my.cnf_bak
[root@ip-20-0-0-22 ~]# ls -lh /etc | grep my.cnf*
-rw-r--r--  1 root root   202 Oct 28 20:35 my.cnf
-rw-r--r--  1 root root   202 Oct 28 20:35 my.cnf_bak
drwxr-xr-x  2 root root  4.0K Nov   4 12:04 my.cnf.d
[root@ip-20-0-0-22 ~]#
```

5. 編輯MariaDB配置文件 `/etc/my.cnf`
   添加如下信息

```
# The MySQL server
[mysqld]
#port= 3306
#socket = /var/lib/mysql/mysql.sock
character_set_server=utf8
datadir = /mnt/mariadb_data
```

6. 更改目錄 `/mnt/mariadb_data` 的屬主、屬組

```
chown -R mysql:mysql /mnt/mariadb_data/
#-R 遞歸
```

操作過程

```
[root@ip-20-0-0-22 ~]# ls -lh /mnt | grep mariadb_data
drwxr-xr-x 4 root root 4.0K Nov  4 13:51 mariadb_data
[root@ip-20-0-0-22 ~]# chown -R mysql:mysql /mnt/mariadb_data/
[root@ip-20-0-0-22 ~]# ls -lh /mnt | grep mariadb_data
drwxr-xr-x 4 mysql mysql 4.0K Nov  4 13:51 mariadb_data
[root@ip-20-0-0-22 ~]# ls -lh /mnt/mariadb_data/
total 109M
-rw-rw---- 1 mysql mysql  16K Nov  4 13:39 aria_log.00000001
-rw-rw---- 1 mysql mysql   52 Nov  4 13:39 aria_log_control
-rw-rw---- 1 mysql mysql  12M Nov  4 13:39 ibdata1
-rw-rw---- 1 mysql mysql  48M Nov  4 13:39 ib_logfile0
-rw-rw---- 1 mysql mysql  48M Nov  4 12:04 ib_logfile1
-rw-r----- 1 mysql mysql 1.8K Nov  4 13:39 ip-20-0-0-22.err
-rw-rw---- 1 mysql mysql    0 Nov  4 12:07 multi-master.info
drwx--x--x 2 mysql mysql 4.0K Nov  4 12:04 mysql
drwx------ 2 mysql mysql 4.0K Nov  4 12:04 performance_schema
[root@ip-20-0-0-22 ~]#
```

7. 重新啓動mysql服務

```
service mysql start
```

操作過程

```
[root@ip-20-0-0-22 ~]# service mysql status
 ERROR! MySQL is not running
[root@ip-20-0-0-22 ~]# service mysql start
Starting MySQL. SUCCESS!
[root@ip-20-0-0-22 ~]#
```

測試成功

```
[root@ip-20-0-0-22 mariadb_data]# pwd
/mnt/mariadb_data
[root@ip-20-0-0-22 mariadb_data]# ls
aria_log.00000001  ibdata1      ib_logfile1      multi-master.info  mysql.sock
aria_log_control   ib_logfile0  ip-20-0-0-22.err  mysql
performance_schema
[root@ip-20-0-0-22 mariadb_data]# mysql -uroot -p -e 'create database if not
exists database_test;'
Enter password:
[root@ip-20-0-0-22 mariadb_data]# ls
aria_log.00000001  database_test  ib_logfile0  ip-20-0-0-22.err   mysql
performance_schema
aria_log_control   ibdata1        ib_logfile1  multi-master.info  mysql.sock
[root@ip-20-0-0-22 mariadb_data]# mysql -uroot -p -e 'drop database if exists
database_test;'
Enter password:
[root@ip-20-0-0-22 mariadb_data]# ls
aria_log.00000001  ibdata1      ib_logfile1      multi-master.info  mysql.sock
aria_log_control   ib_logfile0  ip-20-0-0-22.err  mysql
performance_schema
[root@ip-20-0-0-22 mariadb_data]#
```

Create User Account

註：此爲示例。生產環境不建議授予 `all privileges` 權限，也不建議主機項設置爲 `%`(任意主機)。

> 用戶賬戶：`'viscovery'@'%'`
> 用戶密碼：`viscovery1qaz2wsx`

操作過程

```
MariaDB [(none)]> select User,Host from mysql.user;
+------+-----------+
| User | Host      |
+------+-----------+
| root | 127.0.0.1 |
| root | ::1       |
| root | localhost |
+------+-----------+
3 rows in set (0.00 sec)

MariaDB [(none)]> grant all on *.* to 'viscovery'@'%' identified by
'viscovery1qaz2wsx';
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> show grants for 'viscovery'@'%'\G
*************************** 1. row ***************************
Grants for viscovery@%: GRANT ALL PRIVILEGES ON *.* TO 'viscovery'@'%'
IDENTIFIED BY PASSWORD '*0E5F297108F9EB91DD13E50683ED4F36F8379F69'
1 row in set (0.00 sec)

MariaDB [(none)]> flush privileges;
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> select User,Host from mysql.user;
+-----------+-----------+
| User      | Host      |
+-----------+-----------+
| viscovery | %         |
| root      | 127.0.0.1 |
| root      | ::1       |
| root      | localhost |
+-----------+-----------+
4 rows in set (0.00 sec)

MariaDB [(none)]>
```

Configure MariaDB

編輯文件 `/etc/my.cnf` ，進行MariaDB參數配置。
根據Server的CPU和RAM具體調製。