



MariaDB installation (v10.5) for project 4

Concurrent Programming

Introduction

- What is the MariaDB?
- Installing MariaDB
- Setting for uploading to GitLab
- Test

What is the MariaDB?

- Community-developed fork of the MySQL relational database management system
- Maintain high compatibility with MySQL, ensuring a drop-in replacement capability with library binary parity and exact matching with MySQL APIs and commands
- InnoDB is a default storage engine for current version

Installing MariaDB

- Prepare project4 path

```
$ mkdir -p project4/mariadb
```

Installing MariaDB

- Download source codes in your project4/mariadb directory

```
$ cd project4/mariadb  
$ git clone https://github.com/MariaDB/server.git
```

- (If you have already cloned the repo, just move the directory into project4/mariadb)

```
$ mv server project4/mariadb
```

Download required packages

```
$ sudo apt-get install cmake g++ libxml2-dev openssl libssl-dev curl  
libcurl4-openssl-dev libjpeg-dev libpng-dev libfreetype6-dev libsasl2-dev  
autoconf libncurses5-dev bison libpam0g-dev
```

Download a script file from Piazza

- Download cmake_local.sh file from the Piazza resource page
- Move the file into the mariadb server directory
- Change the file mode as executable

```
$ cp cmake_local.sh project4/mariadb/server  
$ cd project4/mariadb/server  
$ sudo chmod 755 cmake_local.sh
```

Installing MariaDB

- Change PROJECTPATH to your project4 path in the cmake_local.sh file

```
1 set -e
2 # You need to set PROJECTPATH to the location containing the server directory.
3 PROJECTPATH=/path/of/your/project4
4
5 BASEPATH=$PROJECTPATH/server/inst
6 DATAPATH=$PROJECTPATH/data
7 MYCNFPATH=$PROJECTPATH/server/my.cnf
8 MY_USER=$USER
9
10 rm -rf $BASEPATH $DATAPATH
```

Build MariaDB

- `cmake_local.sh` consists of
 - Executing `cmake` with proper parameters we all want to share
 - Building and installing MariaDB with generated `Makefile`
 - Preparing initial database

```
$ ./cmake_local.sh
```

- Two directories will be generated
 - `project4/mariadb/server/inst` # contains executable files for MariaDB
 - `project4/mariadb/data` # contains initial database

Test

- Execute the MariaDB Server

```
$ cd project4/mariadb/server/inst/  
$ ./bin/mysql --defaults-file=./my.cnf
```

```
2019-11-04 16:31:48 0 [Note] InnoDB: Setting file './ibtmp1' size to 12 MB. Physically writing the file full; Please wait ...  
2019-11-04 16:31:48 0 [Note] InnoDB: File './ibtmp1' size is now 12 MB.  
2019-11-04 16:31:48 0 [Note] InnoDB: Waiting for purge to start  
2019-11-04 16:31:48 0 [Note] InnoDB: 10.5.0 started; log sequence number 140892; transaction id 21  
2019-11-04 16:31:48 0 [Note] InnoDB: Loading buffer pool(s) from /opt/p3608-1/jongbin/TA/data/ib_buffer_pool  
2019-11-04 16:31:48 0 [Note] Plugin 'FEEDBACK' is disabled.  
2019-11-04 16:31:48 0 [Note] InnoDB: Buffer pool(s) load completed at 191104 16:31:48  
2019-11-04 16:31:48 0 [Note] Server socket created on IP: '::'.  
2019-11-04 16:31:48 0 [Note] Reading of all Master_info entries succeeded  
2019-11-04 16:31:48 0 [Note] Added new Master_info '' to hash table  
2019-11-04 16:31:48 0 [Note] ./bin/mysql: ready for connections.  
Version: '10.5.0-MariaDB-debug'  socket: '/opt/p3608-1/jongbin/TA/server/inst/mysql.sock'  port: 12943  Source distribution
```

Test

- Open an another terminal to run MariaDB client

```
$ cd project4/mariadb/server/inst/  
$ ./bin/mysql  
MariaDB [(none)]> show databases;  
MariaDB [(none)]> quit
```

```
Welcome to the MariaDB monitor. Commands end with ; or \g.  
Your MariaDB connection id is 8  
Server version: 10.5.0-MariaDB-debug Source distribution  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
[MariaDB [(none)]> SHOW DATABASES;  
+-----+  
| Database      |  
+-----+  
| information_schema |  
| mysql          |  
| performance_schema |  
| test           |  
+-----+  
4 rows in set (0.002 sec)  
  
[MariaDB [(none)]> quit  
Bye
```

Test

- Shutdown MariaDB Server

```
$ cd project4/mariadb/server/inst/  
$ ./bin/mysqladmin shutdown
```

Setting up for uploading a patch to GitLab

Setting up for uploading a patch to GitLab

- You should upload only a *patchfile* into the *project4* directory of the hconnect repository, because the size of the entire project is too large
- Create a *.gitignore* file and append “mariadb” to ignore it

```
$ cd project4  
$ vi .gitignore
```

project4/.gitignore

1 mariadb

Setting up for uploading a patch to GitLab

- You should upload only a *patchfile* into the *project4* directory of the hconnect repository, because the size of the entire project is too large
- Making and uploading a *patchfile*

```
$ cd project4/mariadb/server
$ git diff --no-prefix > patchfile    # Making a patch file
$ cd project4
$ mv mariadb/server/patchfile .          # move the file to project4 directory
$ git add .                            # mariadb directory must be ignored
$ git commit -m "..."
$ git push origin master
```

Thank You