MariaDB

- INSTALLATION ET DEBUT
- Installation master/slave

INSTALLATION ET DEBUT

Prèrequis

- Un serveur Linux
- 500 MB de RAM
- 1 CPU
- 10 GB de disque

Installation

- Mettez à jour les repos

```
apt update && apt upgrade -y
```

- Installez le paquet mariadb-server

```
apt install mariadb-server
```

- Testez si le serveur est bien installé

```
root@sql-front-01:~# ss -lntp |grep 3306
LISTEN 0      80         127.0.0.1:3306      0.0.0.0:*
users:(("mariadbd",pid=4326,fd=21))



root@sql-front-01:~# systemctl status mysql
* mariadb.service - MariaDB 10.11.4 database server
     Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; preset: enabled)
     Active: active (running) since Wed 2023-11-08 13:29:24 UTC; 2min 20s ago
       Docs: man:mariadbd(8)
             https://mariadb.com/kb/en/library/systemd/
   Main PID: 4326 (mariadbd)
     Status: "Taking your SQL requests now..."
      Tasks: 11 (limit: 9395)
     Memory: 81.6M
        CPU: 813ms
     CGroup: /system.slice/mariadb.service
             `-4326 /usr/sbin/mariadbd
```

```
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: 2023-11-08 13:29:24 0 [Note] InnoDB: Loading buffer pool(s) from /var/lib/mysql/ib_buffer_pool
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: 2023-11-08 13:29:24 0 [Note] InnoDB: Buffer pool(s) load completed at 231108 13:29:24
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: 2023-11-08 13:29:24 0 [Warning] You need to use --log-bin to make --expire-logs-days or --binlog-expire-logs-seconds work.
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: 2023-11-08 13:29:24 0 [Note] Server socket created on IP: '127.0.0.1'.
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: 2023-11-08 13:29:24 0 [Note] /usr/sbin/mariadbd: ready for connections.
Nov 08 13:29:24 sql-front-01 mariadbd[4326]: Version: '10.11.4-MariaDB-1~deb12u1' socket: '/run/mysqld/mysqld.sock'  port: 3306  Debian 12
Nov 08 13:29:24 sql-front-01 systemd[1]: Started mariadb.service - MariaDB 10.11.4 database server.
Nov 08 13:29:24 sql-front-01 /etc/mysql/debian-start[4341]: Upgrading MySQL tables if necessary.
Nov 08 13:29:24 sql-front-01 /etc/mysql/debian-start[4352]: Checking for insecure root accounts.
Nov 08 13:29:24 sql-front-01 /etc/mysql/debian-start[4356]: Triggering myisam-recover for all MyISAM tables and aria-recover for all Aria tables
```

Gestion des bases de donnée

- Se connecter à MariaDB

```
root@sql-front-01:~# mysql
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 31
Server version: 10.11.4-MariaDB-1~deb12u1 Debian 12

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)]>
```

- Lister les bases de donnée

```
MariaDB [(none)]> show databases;
+--------------------+
```

```
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.001 sec)
```

- Créer une base de donnée

```
MariaDB [(none)]> create database TEST;
Query OK, 1 row affected (0.001 sec)
```

- Supprimer une base de donnée

```
MariaDB [(none)]> drop database TEST;
Query OK, 0 rows affected (0.003 sec)
```

- Sélectionner une base de donnée

```
MariaDB [(none)]> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]>
```

- Lister les tables

```
MariaDB [mysql]> show tables;
+---------------------------+
| Tables_in_mysql           |
+---------------------------+
| column_stats              |
| columns_priv              |
| db                        |
| event                     |
| func                      |
| general_log               |
| global_priv               |
| gtid_slave_pos            |
| help_category             |
```

```
| help_keyword              |
| help_relation             |
| help_topic                |
| index_stats               |
| innodb_index_stats        |
| innodb_table_stats        |
| plugin                    |
| proc                      |
| procs_priv                |
| proxies_priv              |
| roles_mapping             |
| servers                   |
| slow_log                  |
| table_stats               |
| tables_priv               |
| time_zone                 |
| time_zone_leap_second     |
| time_zone_name            |
| time_zone_transition      |
| time_zone_transition_type |
| transaction_registry      |
| user                      |
+---------------------------+
31 rows in set (0.001 sec)
```

Gestion des utilisateurs

- Créer un utilisateur

```
MariaDB [(none)]> create user 'test'@'localhost';
Query OK, 0 rows affected (0.002 sec)
```

- Créer un utilisateur avec mot de passe

```
MariaDB [(none)]> create user 'test1'@'localhost' identified by 'password';
Query OK, 0 rows affected (0.001 sec)
```

- Mettre à jour le mot de passe d'un utilisateur

```
MariaDB [(none)]> set password for  'test'@'localhost' = password ('password');
Query OK, 0 rows affected (0.002 sec)
```

- Donner les droits a un utilisateur sur une base de donnée

```
MariaDB [(none)]> grant usage on test.* to  'test1'@'localhost';
Query OK, 0 rows affected (0.001 sec)
```

- Supprimer un utilisateur

```
MariaDB [(none)]> drop user 'test1'@'localhost';
Query OK, 0 rows affected (0.002 sec)
```

Installation master/slave

Prérequis

- Avoir deux serveurs mariadb

Master

- Ajouter ou modifier ce qui suit dans le fichier */etc/mysql/mariadb.conf.d/50-server.cnf*

```
[mysqld]
bind-address = 0.0.0.0
server-id = 1
log_bin = mysql-bin
```

- Redémarrer mariadb
- Création de l'utilisateur de réplication

```
CREATE USER 'repli'@'%' IDENTIFIED BY 'STRONGPASSWORD';
GRANT REPLICATION SLAVE ON *.* TO 'repli'@'%';
MariaDB [(none)]> show master status;
+------------------+----------+--------------+------------------+
| File             | Position | Binlog_Do_DB | Binlog_Ignore_DB |
+------------------+----------+--------------+------------------+
| mysql-bin.000001 |      663 |              |                  |
+------------------+----------+--------------+------------------+
1 row in set (0.000 sec)
```

SLAVE

- Ajouter ou modifier ce qui suit dans le fichier /etc/mysql/mariadb.conf.d/50-server.cnf

```
[mysqld]
bind-address = 0.0.0.0
server-id = 2
log_bin = mysql-bin
```

- Redémarrer mariadb
- Mise en place de la réplication

```
CHANGE MASTER TO
    -> MASTER_HOST='172.16.0.5',
    -> MASTER_USER='repli',
    -> MASTER_PASSWORD='STRONGPASSWORD',
    -> MASTER_LOG_FILE='mysql-bin.000001',
    -> MASTER_LOG_POS=663;
start slave;
SHOW SLAVE STATUS\G
*************************** 1. row ***************************
               Slave_IO_State: Waiting for master to send event
                  Master_Host: 172.16.0.5
                  Master_User: repli
                  Master_Port: 3306
                Connect_Retry: 60
              Master_Log_File: mysql-bin.000001
          Read_Master_Log_Pos: 663
               Relay_Log_File: mysqld-relay-bin.000002
                Relay_Log_Pos: 555
        Relay_Master_Log_File: mysql-bin.000001
             Slave_IO_Running: Yes
            Slave_SQL_Running: Yes
          Replicate_Rewrite_DB:
              Replicate_Do_DB:
          Replicate_Ignore_DB:
           Replicate_Do_Table:
       Replicate_Ignore_Table:
      Replicate_Wild_Do_Table:
  Replicate_Wild_Ignore_Table:
                   Last_Errno: 0
                   Last_Error:
                 Skip_Counter: 0
          Exec_Master_Log_Pos: 663
              Relay_Log_Space: 865
              Until_Condition: None
               Until_Log_File:
                Until_Log_Pos: 0
           Master_SSL_Allowed: No
           Master_SSL_CA_File:
           Master_SSL_CA_Path:
```

```
               Master_SSL_Cert:
             Master_SSL_Cipher:
                Master_SSL_Key:
         Seconds_Behind_Master: 0
 Master_SSL_Verify_Server_Cert: No
                 Last_IO_Errno: 0
                 Last_IO_Error:
                Last_SQL_Errno: 0
                Last_SQL_Error:
   Replicate_Ignore_Server_Ids:
              Master_Server_Id: 1
                Master_SSL_Crl:
            Master_SSL_Crlpath:
                    Using_Gtid: No
                   Gtid_IO_Pos:
       Replicate_Do_Domain_Ids:
   Replicate_Ignore_Domain_Ids:
                 Parallel_Mode: optimistic
                     SQL_Delay: 0
           SQL_Remaining_Delay: NULL
       Slave_SQL_Running_State: Slave has read all relay log; waiting for more
updates
               Slave_DDL_Groups: 0
Slave_Non_Transactional_Groups: 0
    Slave_Transactional_Groups: 0
1 row in set (0.000 sec)
```

TEST

- Sur le Master céer une BDD

```
create database test;
show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
```

```
| sys                |
| test               |
+--------------------+
5 rows in set (0.001 sec)
```

- Vérifier que la base de donné créée sur le master est bien répliqué

```
show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
| test               |
+--------------------+
5 rows in set (0.001 sec)
```