

MariaDB

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INSTALLATION ET DEBUT

Prérequis

- 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:(("mariadb",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:mariadb(8)
           https://mariadb.com/kb/en/library/systemd/
  Main PID: 4326 (mariadb)
    Status: "Taking your SQL requests now..."
     Tasks: 11 (limit: 9395)
  Memory: 81.6M
     CPU: 813ms
    CGroup: /system.slice/mariadb.service
           └─4326 /usr/sbin/mariadb

Nov 08 13:29:24 sql-front-01 mariadb[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 mariadb[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 mariadb[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 mariadb[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 mariadb[4326]: 2023-11-08 13:29:24 0 [Note]
/usr/sbin/mariadb: ready for connections.
Nov 08 13:29:24 sql-front-01 mariadb[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 créer 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 données créée sur le master est bien répliquée

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