

## Mysql Master-slave-configuration

### Take both machine ip

- Master ip : 172.31.35.248
- Slave ip : 172.31.43.145

### Installing My sql on both machines :

To install it, update the package index on your server if you've not done so recently:

- `sudo apt update`

Then install the mysql-server package:

- `sudo apt install mysql-server`

Ensure that the server is running using the systemctl start command:

- `sudo systemctl start mysql.service`

You can refer this doc : [click here](#)

### Configuring Master to Slave Replication of mySql

#### Stop mysql service :

- `sudo systemctl stop mysql.service`

Open configuration file on slave1 and add following lines then save and exit :

```
server-id      = 2
auto-increment-increment = 2
auto-increment-offset = 2
log-slave-updates
replicate-do-db = test101
```

bind-address = 0.0.0.0 .. changed this to this

Open configuration file on master and changed following line then save and exit:

server-id = 1 .. Uncomment & changed this to this  
bind-address = 0.0.0.0 .. changed this to this

---

Start mysql service and check status on both machine:

- sudo systemctl start mysql.service
- sudo systemctl status mysql.service

The image contains two terminal screenshots. The top screenshot shows the master node (ip-172-31-43-145) where the MySQL service is started and its status is checked. The output shows the service is active and running. The bottom screenshot shows the slave node (ip-172-31-35-248) where the MySQL service is also started and its status is checked, showing it is active and running.

```

root@ip-172-31-43-145:~# sudo systemctl start mysql.service
root@ip-172-31-43-145:~#
root@ip-172-31-43-145:~# sudo systemctl status mysql.service
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2023-06-29 06:10:52 UTC; 56s ago
     Process: 15171 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 15179 (mysqld)
      Status: "Server is operational"
        Tasks: 38 (limit: 1141)
       Memory: 397.0M
         CGroup: /system.slice/mysql.service
                └─15179 /usr/sbin/mysqld

Jun 29 06:10:51 ip-172-31-43-145 systemd[1]: Starting MySQL Community Server...
Jun 29 06:10:52 ip-172-31-43-145 systemd[1]: Started MySQL Community Server.
root@ip-172-31-43-145:~#

root@ip-172-31-35-248:~# sudo su -
root@ip-172-31-35-248:~#
root@ip-172-31-35-248:~# sudo systemctl start mysql.service
root@ip-172-31-35-248:~#
root@ip-172-31-35-248:~# sudo systemctl status mysql.service
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2023-06-29 06:11:09 UTC; 24s ago
     Process: 34266 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 34274 (mysqld)
      Status: "Server is operational"
        Tasks: 38 (limit: 1141)
       Memory: 403.3M
         CGroup: /system.slice/mysql.service
                └─34274 /usr/sbin/mysqld

Jun 29 06:11:07 ip-172-31-35-248 systemd[1]: Starting MySQL Community Server...
Jun 29 06:11:09 ip-172-31-35-248 systemd[1]: Started MySQL Community Server.
root@ip-172-31-35-248:~#
  
```

### Check the mysql port on which ip it is running on

- netstat -tulpn | grep "mysql"

```
root@ip-172-31-43-145:~# netstat -tulpn | grep "mysql"
tcp        0      0 0.0.0.0:3306 0.0.0.0:*        LISTEN      15293/mysqld
tcp        0      0 127.0.0.1:3306 0.0.0.0:*        LISTEN      15293/mysqld
root@ip-172-31-43-145:~#
```

### Create replication user on master :

Slave ip : 172.31.43.145

Slave dns: ip-172-31-43-145.ap-south-1.compute.internal

Replication user: vishal

Replication pass: Replication@123

- Login to my sql on master
- Use and replace below slave query acc. to yours then fire them in mysql

create user 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' IDENTIFIED BY 'Replication@123';

grant all privileges on \*.\* to 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' with grant option;

ALTER USER 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' IDENTIFIED WITH mysql\_native\_password BY 'Replication@123';

```
5 master
7 slave1
root@ip-172-31-35-248:~# netstat -tulpn | grep "mysql"
tcp        0      0 127.0.0.1:3306 0.0.0.0:*        LISTEN      34355/mysqld
tcp        0      0 0.0.0.0:3306 0.0.0.0:*        LISTEN      34355/mysqld
root@ip-172-31-35-248:~# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create user 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' IDENTIFIED BY 'Replication@123';
Query OK, 0 rows affected (0.02 sec)

mysql> grant all privileges on *.* to 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' with grant option;
Query OK, 0 rows affected (0.00 sec)

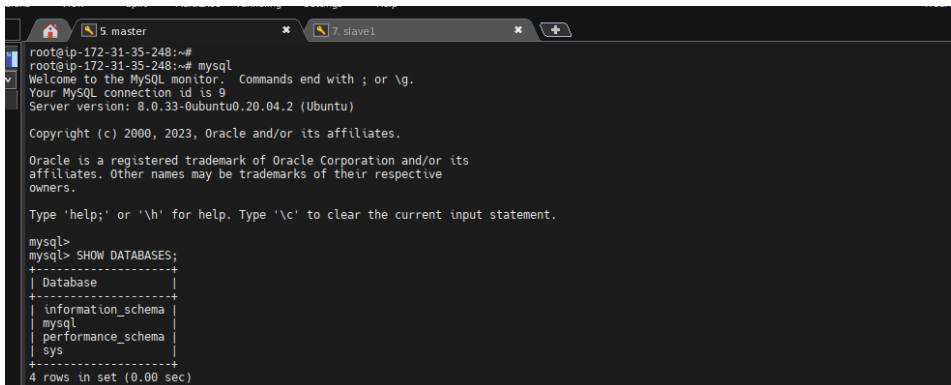
mysql> ALTER USER 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' IDENTIFIED WITH mysql_native_password BY 'Replication@123';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

Check list of tables and create one and insert data in table on Master :

As I mentioned table in slave configuration file: test101

Create same on master and slave by login on to them



```
root@ip-172-31-35-248:~#  
root@ip-172-31-35-248:~# mysql  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 9  
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)  
  
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owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql>  
mysql> SHOW DATABASES;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
4 rows in set (0.00 sec)
```

SHOW DATABASES;

CREATE DATABASE test101;

USE test101;

create table test( tutorial\_id INT NOT NULL AUTO\_INCREMENT, tutorial\_title VARCHAR(100) NOT NULL, tutorial\_author VARCHAR(40) NOT NULL, submission\_date DATE, PRIMARY KEY ( tutorial\_id ));

```
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.00 sec)

mysql> CREATE DATABASE test101;
Query OK, 1 row affected (0.01 sec)

mysql> CREATE DATABASE test101;
ERROR 1007 (HY000): Can't create database 'test101'; database exists
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| test101 |
+-----+
5 rows in set (0.00 sec)

mysql> USE test101;
Database changed
mysql>
mysql> create table test( tutorial_id INT NOT NULL AUTO_INCREMENT, tutorial_title VARCHAR(100) NOT NULL, tutorial_author VARCHAR(40) NOT NULL, submission_date DATE, PRIMARY KEY ( tutorial_id ));
Query OK, 0 rows affected (0.03 sec)
```

select \* from test;

INSERT INTO test (tutorial\_title, tutorial\_author, submission\_date) VALUES ("Learn MySQL", "DB Check-1", NOW());

```
mysql>
mysql>
mysql> select * from test;
Empty set (0.00 sec)

mysql> INSERT INTO test (tutorial_title, tutorial_author, submission_date) VALUES ("Learn MySQL", "DB Check-1", NOW());
Query OK, 1 row affected, 1 warning (0.00 sec)

mysql> SELECT * FROM test;
+-----+-----+-----+-----+
| tutorial_id | tutorial_title | tutorial_author | submission_date |
+-----+-----+-----+-----+
| 1 | Learn MySQL | DB Check-1 | 2023-06-29 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> █
```

## Move to the slave machine :

Master ip : 172.31.35.248

- Check whether you are able to reach to the master over ip and 3306 port:
- telnet 172.31.35.248 3306

```

5 master 7 slave1
root@ip-172-31-43-145:~# netstat -tulpn | grep "mysql"
tcp        0      0 0.0.0.0:3306 0.0.0.0:*        LISTEN      15293/mysqld
tcp        0      0 127.0.0.1:33060 0.0.0.0:*        LISTEN      15293/mysqld
root@ip-172-31-43-145:~# telnet 172.31.35.248 3306
Trying 172.31.35.248...
Connected to 172.31.35.248.
Escape character is '^]'.
[
8.0.33-0ubuntu0.20.04.2
g,>Uz2l01KvuMR!-caching_sha2_password
^ZConnection closed by foreign host.
root@ip-172-31-43-145:~# ^C
root@ip-172-31-43-145:~#
root@ip-172-31-43-145:~#

```

- Login to mysql
- Fire below queries
  - stop slave;
  - show slave status\G
  - exit

```

5 master 7 slave1
root@ip-172-31-43-145:~#
root@ip-172-31-43-145:~#
root@ip-172-31-43-145:~# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 157
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> show slave status\G
Empty set, 1 warning (0.00 sec)

mysql> exit
Bye
root@ip-172-31-43-145:~#

```

Now login on slave using master replication user credential

Master ip : 172.31.35.248

Replication user: vishal

Replication pass: Replication@123

- mysql -p Replication@123 -uvishal -h 172.31.35.248
- stop slave;
- show slave status\G
- exit

```
mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> show slave status\G
Empty set, 1 warning (0.00 sec)

mysql> exit
Bye
root@ip-172-31-43-145:~# mysql -p Replication@123 -u vishal -h 172.31.35.248
Enter password:
ERROR 1045 (28000): Access denied for user 'vishal'@'ip-172-31-43-145.ap-south-1.compute.internal' (using password: NO)
root@ip-172-31-43-145:~# mysql -pReplication@123 -uvishal -h 172.31.35.248
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> show slave status\G
Empty set, 1 warning (0.00 sec)

mysql> exit
Bye
```

On master slave get below details by firing below query:

- Get file name and position
- File: binlog.000005
- Position: 2006

```
root@ip-172-31-35-248:~#
root@ip-172-31-35-248:~# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SHOW MASTER STATUS\G
***** 1. row *****
      File: binlog.000005
      Position: 2006
      Binlog_Do_DB:
      Binlog_Ignore_DB:
      Executed_Gtid_Set:
1 row in set (0.00 sec)

mysql>
```

Now login in mysql using slave credential on slave machine

Fire below queries copy and paste details acquired from master machine :

- Master ip : 172.31.35.248'
- File name: binlog.000005
- Position: 2006

CHANGE MASTER TO MASTER\_HOST = '172.31.35.248', MASTER\_USER = 'vishal', MASTER\_PASSWORD = 'Replication@123', MASTER\_LOG\_FILE = 'binlog.000005', MASTER\_LOG\_POS = 2006;

```

root@ip-172-31-43-145:~#
root@ip-172-31-43-145:~# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 160
Server version: 8.0.33-0ubuntu0.20.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> stop slave;
Query OK, 0 rows affected, 2 warnings (0.00 sec)

mysql> CHANGE MASTER TO MASTER_HOST = '172.31.35.248', MASTER_USER = 'vishal', MASTER_PASSWORD = 'Replication@123', MASTER_LOG
FILE = 'binlog.000005', MASTER_LOG_POS = 2006;
Query OK, 0 rows affected, 8 warnings (0.02 sec)

mysql> start slave;
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql>

```

```

mysql> show slave status\G
***** 1. row *****
Slave_IO_State: Waiting for source to send event
Master_Host: 172.31.35.248
Master_User: vishal
Master_Port: 3306
Connect_Retry: 60
Master_Log_File: binlog.000005
Read_Master_Log_Pos: 2006
Relay_Log_File: ip-172-31-43-145-relay-bin.000002
Relay_Log_Pos: 323
Relay_Master_Log_File: binlog.000005
Slave_IO_Running: Yes
Slave_SQL_Running: Yes
Replicate_Do_DB: test101
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: 2006
Relay_Log_Space: 544
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:

```

Check replication :

On master ADD another entry under test101 database:

- SHOW DATABASES;



- use test101;
- select \* from test;
- INSERT INTO test (tutorial\_title, tutorial\_author, submission\_date) VALUES ("Learn AWS", "DB Check-1", NOW());
- select \* from test;

```
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| test101 |
+-----+
5 rows in set (0.00 sec)

mysql> use test101;
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
mysql> select * from test;
+-----+-----+-----+-----+
| tutorial_id | tutorial_title | tutorial_author | submission_date |
+-----+-----+-----+-----+
| 2 | Learn MySQL | DB Check-1 | 2023-06-29 |
| 4 | Learn MySQL | DB Check-1 | 2023-06-29 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> INSERT INTO test (tutorial_title, tutorial_author, submission_date) VALUES ("Learn AWS", "DB Check-1", NOW());
Query OK, 1 row affected, 1 warning (0.00 sec)

mysql> select * from test;
+-----+-----+-----+-----+
| tutorial_id | tutorial_title | tutorial_author | submission_date |
+-----+-----+-----+-----+
| 2 | Learn MySQL | DB Check-1 | 2023-06-29 |
| 4 | Learn MySQL | DB Check-1 | 2023-06-29 |
| 6 | Learn AWS | DB Check-1 | 2023-06-29 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

Check with slave now

It has to replicate