

SISTEM TERDISTRIBUSI

“Membuat Replikasi Master-Slave untuk Database MariaDB atau MySQL”



Disusun oleh :

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PROGRAM STUDI SISTEM KOMPUTER

FAKULTAS ILMU KOMPUTER

UNIVERSITAS SRIWIJAYA

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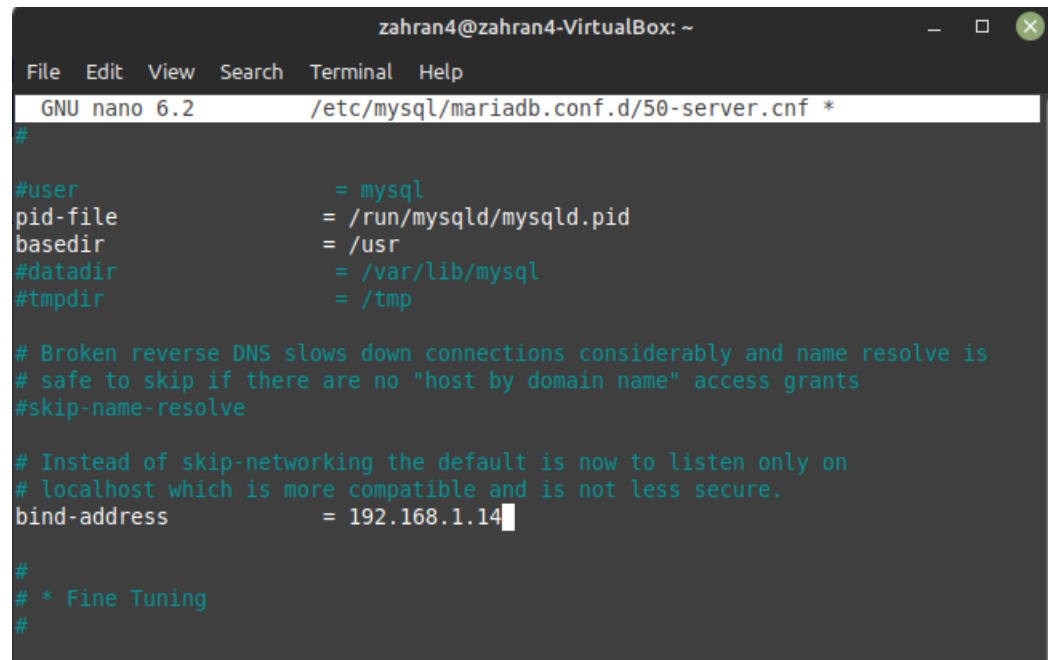
Perangkat yang digunakan pada percobaan replikasi:

1. Linux Mint
2. MySql / MariaDB
3. IP Master: 192.168.1.14
4. IP Slave: 192.168.1.23

Konfigurasi Server MariaDB Master

Ubah konfigurasi MariaDB pada CLI

```
zahrn4@zahrn4-VirtualBox:~$ sudo nano /etc/mysql/mariadb.conf.d/50-server.cnf
[sudo] password for zahrn4:
```



```
zahrn4@zahrn4-VirtualBox: ~
File Edit View Search Terminal Help
GNU nano 6.2 /etc/mysql/mariadb.conf.d/50-server.cnf *
#
#user                        = mysql
pid-file                    = /run/mysqld/mysqld.pid
basedir                    = /usr
#datadir                    = /var/lib/mysql
#tmpdir                     = /tmp
# Broken reverse DNS slows down connections considerably and name resolve is
# safe to skip if there are no "host by domain name" access grants
#skip-name-resolve
# Instead of skip-networking the default is now to listen only on
# localhost which is more compatible and is not less secure.
bind-address                = 192.168.1.14
#
# * Fine Tuning
#
```

```
#log-queries-not-using-indexes
#min_examined_row_limit = 1000
# The following can be used as easy to replay backup logs or for replication.
# note: if you are setting up a replication slave, see README.Debian about
# other settings you may need to change.
server-id                   = 1
log_bin                    = /var/log/mysql/mysql-bin.log
expire_logs_days            = 10
#max_binlog_size            = 100M
```

Restart service MariaDB

```
zahrn4@zahrn4-VirtualBox:~$ sudo systemctl restart mysql
zahrn4@zahrn4-VirtualBox:~$
```

Buat user untuk akses replikasi

```
root@zahrn4-VirtualBox:/home/zahrn4# systemctl restart mysql
root@zahrn4-VirtualBox:/home/zahrn4# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 32
Server version: 10.6.16-MariaDB-0ubuntu0.22.04.1-log Ubuntu 22.04

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)]> GRANT REPLICATION SLAVE ON *.* TO 'replica'@'192.168.1.23' IDENTIFIED BY 'secret';
Query OK, 0 rows affected (0,007 sec)
```

Kunci database agar tidak ada perubahan pada saat konfigurasi replikasi

```
MariaDB [(none)]> FLUSH TABLES WITH READ LOCK;
Query OK, 0 rows affected (0,032 sec)
```

Tampilkan status pada master, File dan Position dibutuhkan pada saat konfigurasi Slave.

```
MariaDB [(none)]> SHOW MASTER STATUS;
+-----+-----+-----+-----+
| File           | Position | Binlog_Do_DB | Binlog_Ignore_DB |
+-----+-----+-----+-----+
| mysql-bin.000001 |      732 |              |                  |
+-----+-----+-----+-----+
1 row in set (0,000 sec)
```

Konfigurasi Server MariaDB Slave

Mengubah konfigurasi MariaDB pada Slave

```
zahrhun@zahrhun-VirtualBox: ~  
File Edit View Search Terminal Help  
GNU nano 6.2 /etc/mysql/mariadb.conf.d/50-server.cnf *  
#  
#user = mysql  
pid-file = /run/mysqld/mysqld.pid  
basedir = /usr  
#datadir = /var/lib/mysql  
#tmpdir = /tmp  
  
# Broken reverse DNS slows down connections considerably and name resolve is  
# safe to skip if there are no "host by domain name" access grants  
#skip-name-resolve  
  
# Instead of skip-networking the default is now to listen only on  
# localhost which is more compatible and is not less secure.  
bind-address = 192.168.1.23  
#  
# * Fine Tuning  
#
```

```
GNU nano 6.2 /etc/mysql/mariadb.conf.d/50-server.cnf  
#log_error = /var/log/mysql/error.log  
# Enable the slow query log to see queries with especially long duration  
#slow_query_log_file = /var/log/mysql/mariadb-slow.log  
#long_query_time = 10  
#log_slow_verbosity = query_plan,explain  
#log-queries-not-using-indexes  
#min_examined_row_limit = 1000  
  
# The following can be used as easy to replay backup logs or for replication.  
# note: if you are setting up a replication slave, see README.Debian about  
# other settings you may need to change.  
server-id = 2  
log_bin = /var/log/mysql/mysql-bin.log  
expire_logs_days = 10  
#max_binlog_size = 100M
```

Konfigurasi koneksi ke Master

```
root@zahrun-VirtualBox:/home/zahrun# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 33
Server version: 10.6.16-MariaDB-0ubuntu0.22.04.1-log Ubuntu 22.04

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)]> CHANGE MASTER TO MASTER_HOST='192.168.1.14',MASTER_USER='replica',MASTER_PASSWORD='secret',MASTER_LOG_FILE='mysql-bin.000001',MASTER_LOG_POS=732;
Query OK, 0 rows affected (0.030 sec)
```

Jalankan slave

```
MariaDB [(none)]> START SLAVE;
Query OK, 0 rows affected (0.004 sec)
```

Jalankan slave dan Tampilkan status slave

```
MariaDB [(none)]> SHOW SLAVE STATUS \G
***** 1. row *****
Slave_IO_State: Waiting for master to send event
Master_Host: 192.168.1.14
Master_User: replica
Master_Port: 3306
Connect_Retry: 60
Master_Log_File: mysql-bin.000001
Read_Master_Log_Pos: 732
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_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: 732
Relay_Log_Space: 865
Until_Condition: None
Until_Log_File:
Until_Log_Pos: 0
```

Pengujian

Pembuatan Database CRUD Record Pada Server Master.

```
MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0,002 sec)

MariaDB [(none)]> CREATE DATABASE data_zahran1;
Query OK, 1 row affected (0,006 sec)

MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| data_zahran1 |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0,000 sec)

MariaDB [(none)]> 
```

Setiap selesai menjalankan suatu perintah pada server Master periksa pada server Slave apakah terjadi hal yang sama pada server Master.

```
MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| data_zahran1 |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0,000 sec)

MariaDB [(none)]> 
```

Tampilan database pada server Slave