

IndianGNU.org - Dec,2009 - ?????? ?????? ?????? ??? ??? ??????????

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???? ?????????? ??? ?????? ??? "?????? ?????? ?????????? ?????????? ?? ?????? ??????" ?????? ~  
<http://www.indiangnu.org/2007/mysql-replication-one-master-multiple-slave/>

\* ?????????? ?? ?? ?????????? ?????? ??? ?????? ?????????? ?????????? ?????????? ?? ?????????? ?? ??? ??????  
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????????????... ???.

```
mysql> show variables like ?%increment_%';
+?????????????+??-+
| Variable_name          | Value |
+?????????????+??-+
| auto_increment_increment | 1     |
| auto_increment_offset   | 1     |
+?????????????+??-+
2 rows in set (0.00 sec)
```

mysql>

\*\* Requirements ~

- a) Master Hosts (2 master in my case) ~
  - master-1 => 10.66.66.194
  - master-2 => 10.66.90.135
- b) Replication Slave (1 slave) ~
  - Slave => 10.66.75.137
- 10
- c) MySQL server (with replication support)

\*\* Let us understand how it works ?

\* Master-1 Server =>

Set following variables...

```
mysql> set auto_increment_increment=5;
mysql> set auto_increment_offset=1;
```

```
mysql> show variables like ?%increment_%';
+?????????????+??-+
| Variable_name          | Value |
+?????????????+??-+
| auto_increment_increment | 2     |
| auto_increment_offset   | 1     |
+?????????????+??-+
```

2 rows in set (0.00 sec)

mysql>

\*\* Create Table ~

```
mysql> create table class ( rollno INT(5) NOT NULL PRIMARY KEY AUTO_INCREMENT , name
VARCHAR(30) );
```

\*\* Add Record now ~

```
mysql> INSERT INTO class VALUES (,"Arun Bagul');
mysql> INSERT INTO class VALUES (,"Ravi Bhure');
mysql> INSERT INTO class VALUES (,"Karthik Appigita');
mysql> INSERT INTO class VALUES (,"Ameya Pandit');
```

```
mysql> SELECT * FROM class;
```

```
+????+??????+
| rollno | name           |
+????+??????+
|      1 | Arun Bagul     |
|      3 | Ravi Bhure     |
|      5 | Karthik Appigita |
|      7 | Ameya Pandit   |
+????+??????+
```

4 rows in set (0.00 sec)

mysql>

\* Master-2 Server =>

Set following variables...

```
mysql> set auto_increment_increment=2;
mysql> set auto_increment_offset=2;
```

```
mysql> show variables like ?%increment_%';
```

```
+????????+??-+
| Variable_name          | Value |
+????????+??-+
| auto_increment_increment | 2     |
| auto_increment_offset   | 2     |
+????????+??-+
```

2 rows in set (0.00 sec)

mysql>

\*\* Create Table ~

```
mysql> create table class ( rollno INT(5) NOT NULL PRIMARY KEY AUTO_INCREMENT , name VARCHAR(30) );
```

\*\* Add Record now ~

```
mysql> INSERT INTO class VALUES (2,'Nilkanth Parab');
mysql> INSERT INTO class VALUES (4,'Nishit Shah');
mysql> INSERT INTO class VALUES (6,'Ram Krishna');
mysql> INSERT INTO class VALUES (8,'Suhail Thakur');
```

```
mysql> SELECT * FROM class;
```

```
+????????????+
| rollno | name           |
+????????????+
|      2 | Nilkanth Parab |
|      4 | Nishit Shah    |
|      6 | Ram Krishna    |
|      8 | Suhail Thakur  |
+????????????+
4 rows in set (0.00 sec)
```

```
mysql>
```

\*\* What is the importance of "auto\_increment\_increment" and "auto\_increment\_offset" ~

```
mysql> desc class;
```

```
+?????????-+??+??+??+????-+
| Field | Type          | Null | Key | Default | Extra          |
+?????????-+??+??+??+????-+
| rollno | int(5)        | NO   | PRI | NULL    | auto_increment |
| name   | varchar(30)  | YES  |     | NULL    |                 |
+?????????-+??+??+??+????-+
```

auto\_increment\_offset => This is BASE value for column with "auto\_increment" attribute (please refer the above example)  
auto\_increment\_increment => This is the increment value for column with "auto\_increment" attribute

\*\* If you combine the both tables (master-1 and master-2) the final table will look like this ~

```
mysql> SELECT * FROM class;
```

```
+????????????+
| rollno | name           |
+????????????+
|      1 | Arun Bagul     |
|      2 | Nilkanth Parab |
|      3 | Ravi Bhure     |
|      4 | Nishit Shah    |
```



```
mysql> desc class;
+????+????-+??+??+??+????-+
| Field | Type          | Null | Key | Default | Extra          |
+????+????-+??+??+??+????-+
| rollno | int(5)        | NO   | PRI | NULL    | auto_increment |
| name   | varchar(30)   | YES  |     | NULL    |                |
+????+????-+??+??+??+????-+
2 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM class;
Empty set (0.00 sec)
mysql>
```

\* Now take dump of "student" DB and export it on all master and Slave server...

```
[root@master-1~]# mysqldump -u root -p -d student > /home/arunsb/student.sql
```

\* SCP the dump file on master-2 and slave server ~

```
[root@master-1~]# scp /home/arunsb/student.sql arunsb@10.66.90.135:/tmp/student.sql
[root@master-1~]# scp /home/arunsb/student.sql arunsb@10.66.75.137:/tmp/student.sql
```

Login on master-2 and slave ~

```
mysql> create database student;
```

```
[root@master-2~]# mysql -u root -p student < /tmp/student.sql
Enter password:
[root@master-2~]#
```

```
[root@master-2~]# mysql -u root -p
Enter password:
```

```
mysql> use student
```

```
mysql> SELECT * FROM class;
Empty set (0.00 sec)
mysql>
```

\*\* Please repeat the same steps on Slave server as well...

Step 2] Update "my.cnf" config file on master-1, master-2 and slave server -

```
[root@master-1~]# cat /etc/my.cnf
```

```
#####
##MySQL replication setting

#Master setting(1)
```

```
server-id = 1
log-bin = /var/log/mysql/binary/mysql-bin.log
binlog-do-db = student
binlog-ignore-db = mysql
#log = /var/log/mysql/mysql.log
auto_increment_offset=1
auto_increment_increment=5
log-slave-updates
```

```
##slave setting
master-port=3306
master-host=10.66.90.135
master-user=replication
master-password=mypwd
master-connect-retry=60
replicate-do-db=student
#####
```

```
[root@master-1~]#
```

```
[root@master-2~]# cat /etc/mysql/my.cnf
```

```
#####
##MySQL replication setting
```

```
#Master setting(2)
server-id = 2
log-bin = /var/log/mysql/binary/mysql-bin.log
binlog-do-db=student
binlog-ignore-db = mysql
log = /var/log/mysql/mysql.log
auto_increment_offset=2
auto_increment_increment=5
log-slave-updates
```

```
##slave setting
master-port=3306
master-host=10.66.66.194
master-user=replication
master-password=mypwd
master-connect-retry=60
replicate-do-db=student
#####
```

```
[root@master-2~]#
```

\* please create directory for binary log and set permission...

```
[root@master-1~]# mkdir -p /var/log/mysql/binary/
```

```
[root@master-1~]# chown mysql:adm /var/log/mysql/ /var/log/mysql/binary/
```

```
[root@master-2~]# mkdir -p /var/log/mysql/binary/
```

```
[root@master-2~]# chown mysql:adm /var/log/mysql/ /var/log/mysql/binary/
```

\*\* MySQL Replication Slave ~

```
[root@slave~]# cat /etc/my.cnf
```

```
[mysqld]
```

```
#####  
##slave setting  
server-id=4  
master-port=3306  
master-host=10.66.90.135  
master-user=replication  
master-password=mypwd  
master-connect-retry=60  
replicate-do-db=student  
#####
```

```
[root@slave~]#
```

Step 3] Give Replication permission on both masters ~

\*\* Master (1 & 2) ~

```
mysql> GRANT REPLICATION SLAVE ON *.* TO 'replication'@'10.66.%.%' IDENTIFIED BY  
'mypwd';
```

```
Query OK, 0 rows affected (0.00 sec)
```

```
mysql>
```

Step 4] Restart MySQL on both master as well as replication slave server ~

\*\* Please verify setting on master-1 and master-2 server...

\* Master-1

```
mysql> show variables like '%increment_%';
```

```
+?????????+??-+  
| Variable_name          | Value |  
+?????????+??-+  
| auto_increment_increment | 5     |  
| auto_increment_offset   | 1     |  
+?????????+??-+
```

```
2 rows in set (0.00 sec)
```

\* Master-2

```
mysql> show variables like ?%increment_%';
```

```
+????????????+??-+
| Variable_name          | Value |
+????????????+??-+
| auto_increment_increment | 5     |
| auto_increment_offset   | 2     |
+????????????+??-+
2 rows in set (0.00 sec)
```

\*\* Please verify 'master' & 'slave' status on both masters(1 & 2) and slave -

```
mysql> show master status;
mysql> show slave status;
```

\*\* Multi Master replication is started...

Step 5] Add few records on Master-1 & Master-2 server at same time ~

Add records on both master server at same time and check master and replication slave status as shown above....

\*\* Add following on master-1

```
mysql> INSERT INTO class VALUES ('Arun Bagul');
mysql> INSERT INTO class VALUES ('Ravi Bhure');
mysql> INSERT INTO class VALUES ('Karthik Appigita');
mysql> INSERT INTO class VALUES ('Ameya Pandit');
```

\*\* Add following on master-2

```
mysql> INSERT INTO class VALUES ('Nilkanth Parab');
mysql> INSERT INTO class VALUES ('Nishit Shah');
mysql> INSERT INTO class VALUES ('Ram Krishna');
mysql> INSERT INTO class VALUES ('Suhail Thakur');
```

\*\* Please verify the numbers of records on both masters and slave....

```
mysql> SELECT * FROM class;
```

```
+????+????????+
| rollno | name                |
+????+????????+
|      1 | Arun Bagul         |
|      2 | Nilkanth Parab     |
|      6 | Ravi Bhure         |
|     11 | Karthik Appigita  |
|     16 | Ameya Pandit       |
|     17 | Nishit Shah        |
```

22	Ram Krishna
27	Suhail Thakur

+????+???????

8 rows in set (0.00 sec)

mysql>

\* ????? ?????? ?????? ?????? ?????? ?????????? ??? ????????. ??????!

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Arun Bagul

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