


```
+-----+  
1 row in set (0.21 sec)
```

```
mysql> select * from inception.liuyang1 limit 10;
```

```
+----+-----+  
| id | n |  
+----+-----+  
| 1 | 1 |  
| 2 | 1 |  
| 3 | 1 |  
| 4 | 1 |  
| 5 | 1 |  
| 6 | 1 |  
| 7 | 1 |  
| 8 | 1 |  
| 9 | 1 |  
|10 | 1 |  
+----+-----+
```

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

```
mysql> show slave status\G;
```

```
***** 1. row *****  
Slave_IO_State: Waiting for master to send event  
Master_Host: 10.0.128.77  
Master_User: repl  
Master_Port: 3306  
Connect_Retry: 60  
Master_Log_File: mysql-bin.000016  
Read_Master_Log_Pos: 25121246  
Relay_Log_File: mysql-relay-bin.000004  
Relay_Log_Pos: 25011569  
Relay_Master_Log_File: mysql-bin.000016  
Slave_IO_Running: Yes  
Slave_SQL_Running: Yes  
Replicate_Do_DB:  
Replicate_Ignore_DB: test  
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: 25121246
```

```
Relay_Log_Space: 25121860
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: 10128529
Master_UUID: e94df219-f231-11e4-b381-1224f923a219
Master_Info_File: /home/mysql3307/binlog/master.info
SQL_Delay: 0
SQL_Remaining_Delay: NULL
Slave_SQL_Running_State: Slave has read all relay log; waiting for the slave I/O thread to
update it
Master_Retry_Count: 86400
Master_Bind:
Last_IO_Error_Timestamp:
Last_SQL_Error_Timestamp:
Master_SSL_Crl:
Master_SSL_Crlpath:
Retrieved_Gtid_Set:
Executed_Gtid_Set:
Auto_Position: 0
1 row in set (0.00 sec)
```

```
ERROR:
No query specified
```

修改特定数据

```
mysql> update inception.liuyang1 set n=100000 where id=10;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

使用 Pt-table-checksum 检查

```
pt-table-checksum --nocheck-binlog-format --nocheck-plan --nocheck-replication-filters --recursion-method=hosts --replicate=pt.checksums --set-vars innodb_lock_wait_timeout=120 -u'root' -p'9325090liu' -h 10.0.128.77 --recursion-method=hosts
IS ERRORS DIFFS ROWS CHUNKS SKIPPED TIME TABLE
08-12T14:44:23 0 0 5 1 0 0.005 10_0_128_77_3307_inceptiondb.$_inception_backup_informations$f
08-12T14:44:23 0 0 3 1 0 0.004 10_0_128_77_3307_inceptiondb.adaptive_office
08-12T14:44:25 0 1 048576 6 0 1.839 inception.liuyang1
08-12T14:44:25 0 0 1 1 0 0.005 inception.statistic
08-12T14:44:25 0 0 0 1 0 0.004 inceptiondb.adaptive_office
08-12T14:44:25 0 0 0 1 0 0.004 mysql.adaptive_office
08-12T14:44:25 0 0 0 1 0 0.007 mysql.columns_priv
08-12T14:44:25 0 0 2 1 0 0.005 mysql.db
08-12T14:44:25 0 0 0 1 0 0.005 mysql.event
08-12T14:44:25 0 0 0 1 0 0.004 mysql.func
08-12T14:44:25 0 0 40 1 0 0.005 mysql.help_category
08-12T14:44:25 0 0 487 1 0 0.005 mysql.help_keyword
08-12T14:44:25 0 0 1092 1 0 0.005 mysql.help_relation
08-12T14:44:25 0 0 535 1 0 0.257 mysql.help_topic
08-12T14:44:25 0 0 0 1 0 0.005 mysql.ndb_binlog_index
08-12T14:44:25 0 0 0 1 0 0.006 mysql.plugin
08-12T14:44:25 0 0 0 1 0 0.006 mysql.proc
08-12T14:44:25 0 0 0 1 0 0.005 mysql.procs_priv
08-12T14:44:25 0 0 2 1 0 0.005 mysql.proxies_priv
08-12T14:44:25 0 0 0 1 0 0.004 mysql.servers
08-12T14:44:25 0 0 0 1 0 0.005 mysql.tables_priv
08-12T14:44:25 0 0 0 1 0 0.005 mysql.time_zone
08-12T14:44:25 0 0 0 1 0 0.004 mysql.time_zone_leap_second
08-12T14:44:25 0 0 0 1 0 0.004 mysql.time_zone_name
08-12T14:44:25 0 0 0 1 0 0.004 mysql.time_zone_transition
08-12T14:44:25 0 0 0 1 0 0.004 mysql.time_zone_transition_type
08-12T14:44:25 0 0 7 1 0 0.006 mysql.user
```

改回原来的值

```
mysql> update inception.liuyang1 set n=1 where id=10;
```

```
Query OK, 1 row affected (0.00 sec)
```

```
Rows matched: 1 Changed: 1 Warnings: 0
```

```
pt-table-checksum --nocheck-binlog-format --nocheck-plan --nocheck-replication-filters --recursion-method=hosts --replicate=pt.checksums --set-vars innodb_lock_wait_timeout=120 -u'root' -p'9325090liu' -h 10.0.128.77 --recursion-method=hosts
IS ERRORS DIFFS ROWS CHUNKS SKIPPED TIME TABLE
08-12T15:17:25 0 0 5 1 0 0.005 10_0_128_77_3307_inceptiondb.$_inception_backup_informations$f
08-12T15:17:25 0 0 3 1 0 0.004 10_0_128_77_3307_inceptiondb.adaptive_office
08-12T15:17:27 0 0 1048576 6 0 1.797 inception.liuyang1
08-12T15:17:27 0 0 1 1 0 0.004 inception.statistic
08-12T15:17:27 0 0 0 1 0 0.004 inceptiondb.adaptive_office
08-12T15:17:27 0 0 0 1 0 0.004 mysql.adaptive_office
08-12T15:17:27 0 0 0 1 0 0.004 mysql.columns_priv
08-12T15:17:27 0 0 2 1 0 0.004 mysql.db
08-12T15:17:27 0 0 0 1 0 0.004 mysql.event
08-12T15:17:27 0 0 0 1 0 0.004 mysql.func
08-12T15:17:27 0 0 40 1 0 0.004 mysql.help_category
08-12T15:17:27 0 0 487 1 0 0.004 mysql.help_keyword
08-12T15:17:27 0 0 1092 1 0 0.004 mysql.help_relation
08-12T15:17:27 0 0 535 1 0 0.256 mysql.help_topic
08-12T15:17:27 0 0 0 1 0 0.005 mysql.ndb_binlog_index
08-12T15:17:27 0 0 0 1 0 0.004 mysql.plugin
08-12T15:17:27 0 0 0 1 0 0.004 mysql.proc
08-12T15:17:27 0 0 0 1 0 0.004 mysql.procs_priv
08-12T15:17:27 0 0 2 1 0 0.004 mysql.proxies_priv
08-12T15:17:27 0 0 0 1 0 0.004 mysql.servers
08-12T15:17:27 0 0 0 1 0 0.005 mysql.tables_priv
08-12T15:17:28 0 0 0 1 0 0.004 mysql.time_zone
08-12T15:17:28 0 0 0 1 0 0.004 mysql.time_zone_leap_second
08-12T15:17:28 0 0 0 1 0 0.004 mysql.time_zone_name
08-12T15:17:28 0 0 0 1 0 0.004 mysql.time_zone_transition
08-12T15:17:28 0 0 0 1 0 0.004 mysql.time_zone_transition_type
08-12T15:17:28 0 0 7 1 0 0.006 mysql.user
```

```
mysql> update liuyang1 set n=101 where id=9;
```

```
Query OK, 1 row affected (0.00 sec)
```

```
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> update liuyang1 set n=102 where id=10;
```

```
Query OK, 1 row affected (0.00 sec)
```

```
Rows matched: 1 Changed: 1 Warnings: 0
```

```

pt-table-checksum --nocheck-binlog-format --nocheck-plan --nocheck-replication-filters --recursion-method=hosts --replicate=pt.checksums --set-vars innodb_lock_wait_timeout=120 -u'root' -p
'8325090liu' -h 10.0.128.77
TS ERRORS DIFFS ROWS CHUNKS SKIPPED TIME TABLE
08-13T14:05:02 0 0 5 1 0 0.005 10_0_128_77_3307_inceptiondb.$_finception_backup_informations_
08-13T14:05:02 0 0 3 1 0 0.005 10_0_128_77_3307_inceptiondb.adaptive_office
08-13T14:05:04 0 1 1048576 6 0 2.205 inception.liuyang1
08-13T14:05:04 0 0 1 1 0 0.005 inception.statistic
08-13T14:05:04 0 0 0 1 0 0.006 inceptiondb.adaptive_office
08-13T14:05:04 0 0 0 1 0 0.004 mysql.adaptive_office
08-13T14:05:04 0 0 0 1 0 0.004 mysql.columns_priv
08-13T14:05:04 0 0 2 1 0 0.005 mysql.db
08-13T14:05:04 0 0 0 1 0 0.006 mysql.event
08-13T14:05:04 0 0 0 1 0 0.005 mysql.func
08-13T14:05:04 0 0 40 1 0 0.004 mysql.help_category
08-13T14:05:04 0 0 487 1 0 0.005 mysql.help_keyword
08-13T14:05:04 0 0 1092 1 0 0.005 mysql.help_relation
08-13T14:05:05 0 0 535 1 0 0.258 mysql.help_topic
08-13T14:05:05 0 0 0 1 0 0.005 mysql.ndb_binlog_index
08-13T14:05:05 0 0 0 1 0 0.005 mysql.plugin
08-13T14:05:05 0 0 0 1 0 0.005 mysql.proc
08-13T14:05:05 0 0 0 1 0 0.005 mysql.procs_priv
08-13T14:05:05 0 0 2 1 0 0.006 mysql.proxies_priv
08-13T14:05:05 0 0 0 1 0 0.005 mysql.servers
08-13T14:05:05 0 0 0 1 0 0.006 mysql.tables_priv
08-13T14:05:05 0 0 0 1 0 0.005 mysql.time_zone
08-13T14:05:05 0 0 0 1 0 0.005 mysql.time_zone_leap_second
08-13T14:05:05 0 0 0 1 0 0.005 mysql.time_zone_name
08-13T14:05:05 0 0 0 1 0 0.005 mysql.time_zone_transition
08-13T14:05:05 0 0 0 1 0 0.005 mysql.time_zone_transition_type
08-13T14:05:05 0 0 7 1 0 0.007 mysql.user

```

mysql> update liuyang1 set n=103 where id=10000;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```

pt-table-checksum --nocheck-binlog-format --nocheck-plan --nocheck-replication-filters --recursion-method=hosts --replicate=pt.checksums --set-vars innodb_lock_wait_timeout=120 -u'root' -p
'8325090liu' -h 10.0.128.77
TS ERRORS DIFFS ROWS CHUNKS SKIPPED TIME TABLE
08-13T14:06:28 0 0 5 1 0 0.006 10_0_128_77_3307_inceptiondb.$_finception_backup_informations_
08-13T14:06:28 0 0 3 1 0 0.017 10_0_128_77_3307_inceptiondb.adaptive_office
08-13T14:06:30 0 2 1048576 7 0 2.316 inception.liuyang1
08-13T14:06:30 0 0 1 1 0 0.006 inception.statistic
08-13T14:06:30 0 0 0 1 0 0.004 inceptiondb.adaptive_office
08-13T14:06:30 0 0 0 1 0 0.004 mysql.adaptive_office
08-13T14:06:30 0 0 0 1 0 0.004 mysql.columns_priv
08-13T14:06:30 0 0 2 1 0 0.005 mysql.db
08-13T14:06:30 0 0 0 1 0 0.005 mysql.event
08-13T14:06:30 0 0 0 1 0 0.004 mysql.func
08-13T14:06:30 0 0 40 1 0 0.004 mysql.help_category
08-13T14:06:30 0 0 487 1 0 0.005 mysql.help_keyword
08-13T14:06:30 0 0 1092 1 0 0.005 mysql.help_relation
08-13T14:06:30 0 0 535 1 0 0.258 mysql.help_topic
08-13T14:06:30 0 0 0 1 0 0.005 mysql.ndb_binlog_index
08-13T14:06:30 0 0 0 1 0 0.004 mysql.plugin
08-13T14:06:30 0 0 0 1 0 0.005 mysql.proc
08-13T14:06:30 0 0 0 1 0 0.004 mysql.procs_priv
08-13T14:06:30 0 0 2 1 0 0.004 mysql.proxies_priv
08-13T14:06:30 0 0 0 1 0 0.004 mysql.servers
08-13T14:06:30 0 0 0 1 0 0.004 mysql.tables_priv
08-13T14:06:30 0 0 0 1 0 0.004 mysql.time_zone
08-13T14:06:30 0 0 0 1 0 0.004 mysql.time_zone_leap_second
08-13T14:06:31 0 0 0 1 0 0.004 mysql.time_zone_name
08-13T14:06:31 0 0 0 1 0 0.004 mysql.time_zone_transition
08-13T14:06:31 0 0 0 1 0 0.004 mysql.time_zone_transition_type
08-13T14:06:31 0 0 7 1 0 0.005 mysql.user

```

```

mysql> SELECT
-> db,
-> tbl,
-> SUM(this_cnt) AS total_rows,
-> COUNT(*) AS chunks
-> FROM
-> checksums
-> WHERE (
-> master_cnt <> this_cnt
-> OR master_crc <> this_crc
-> OR ISNULL(master_crc) <> ISNULL(this_crc)
-> )
-> GROUP BY db,
-> tbl ;
+-----+-----+-----+-----+
| db      | tbl      | total_rows | chunks |
+-----+-----+-----+-----+
| inception | liuyang1 | 203049    | 2      |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

```

直接使用 pt-table-sync 修复

\$pt-table-sync --sync-to-master --charset=utf8 h=10.0.128.77,u=root,p=8325090liu,P=3307

```
--print --databases inception
```

```
REPLACE INTO `inception`.`liuyang1`(`id`, `n`) VALUES ('9', '1') /*percona-toolkit src_db:inception  
src_tbl:liuyang1 src_dsn:A=utf8,P=3306,h=10.0.128.77,p=...,u=root dst_db:inception  
dst_tbl:liuyang1 dst_dsn:A=utf8,P=3307,h=10.0.128.77,p=...,u=root lock:1 transaction:1  
changing_src:1 replicate:0 bidirectional:0 pid:27057 user:mysql host:a3-oracle-128-77.sh*/;
```

```
REPLACE INTO `inception`.`liuyang1`(`id`, `n`) VALUES ('10', '1') /*percona-toolkit src_db:inception  
src_tbl:liuyang1 src_dsn:A=utf8,P=3306,h=10.0.128.77,p=...,u=root dst_db:inception  
dst_tbl:liuyang1 dst_dsn:A=utf8,P=3307,h=10.0.128.77,p=...,u=root lock:1 transaction:1  
changing_src:1 replicate:0 bidirectional:0 pid:27057 user:mysql host:a3-oracle-128-77.sh*/;
```

```
REPLACE INTO `inception`.`liuyang1`(`id`, `n`) VALUES ('100000', '1') /*percona-toolkit  
src_db:inception src_tbl:liuyang1 src_dsn:A=utf8,P=3306,h=10.0.128.77,p=...,u=root  
dst_db:inception dst_tbl:liuyang1 dst_dsn:A=utf8,P=3307,h=10.0.128.77,p=...,u=root lock:1  
transaction:1 changing_src:1 replicate:0 bidirectional:0 pid:27057 user:mysql  
host:a3-oracle-128-77.sh*/;
```

```
$pt-table-sync --sync-to-master --charset=utf8 h=10.0.128.77,u=root,p=8325090liu,P=3307  
--execute --databases inception
```

```
mysql> select * from inception.liuyang1 where id in (9,10,100000);  
+-----+-----+  
| id | n |  
+-----+-----+  
| 9 | 1 |  
| 10 | 1 |  
| 100000 | 1 |  
+-----+-----+  
3 rows in set (0.00 sec)
```

```
mysql> SELECT db, tbl, SUM(this_cnt) AS total_rows, COUNT(*) AS chunks, ts FROM checksums WHERE ( master_cnt <> this_cnt OR master_crc <> this_crc OR ISNULL(master_c  
rc) <> ISNULL(this_crc) ) GROUP BY db, tbl;  
+-----+-----+-----+-----+-----+  
| db | tbl | total_rows | chunks | ts |  
+-----+-----+-----+-----+-----+  
| inception | liuyang1 | 203049 | 2 | 2015-08-13 14:06:28 |  
+-----+-----+-----+-----+-----+  
1 row in set (0.00 sec)
```

腾讯目前的做法为 checksum (7 天内) chunks <5 可以默认进行切换。