



Event Scheduler in MySQL 5.1

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Events Overview

- Introduced in version 5.1.
- Sometimes referred to as “temporal triggers” by other RDBMS
- Events are named database objects which contain a series of SQL queries and flow control statements that are executed for a specific duration, at a set interval and execution time.
- Very much like built-in crond
- Stored events have the same limitations as other stored routines plus a few extra of their own.

CREATE EVENT Syntax

```
CREATE [DEFINER = { user | CURRENT_USER }] EVENT [IF NOT EXISTS] event_name
  ON SCHEDULE schedule
  [ON COMPLETION [NOT] PRESERVE] [ENABLE | DISABLE | DISABLE ON SLAVE]
  [COMMENT 'comment']
  DO sql_statement;
```

schedule:

```
  AT timestamp [+ INTERVAL interval] ...
| EVERY interval
  [STARTS timestamp [+ INTERVAL interval] ...]
  [ENDS timestamp [+ INTERVAL interval] ...]
```

interval:

```
  quantity {YEAR | QUARTER | MONTH | DAY | HOUR | MINUTE |
            WEEK | SECOND | YEAR_MONTH | DAY_HOUR | DAY_MINUTE |
            DAY_SECOND | HOUR_MINUTE | HOUR_SECOND | MINUTE_SECOND}
```

Event Limitations

Limitations include but not limited to:

- Event names are case-insensitive.
- An event may not be created, altered, or dropped by a stored routine, trigger, or another event. An event also may not create, alter, or drop stored routines or triggers.
- Event timings using the intervals YEAR, QUARTER, MONTH, and YEAR_MONTH are resolved in months; those using any other interval are resolved in seconds. There is no way to cause events scheduled to occur at the same second to execute in a given order
- Each execution of the statements contained in the body of an event takes place in a new connection
- Prior to MySQL 5.1.12, you could not view another user's events in the INFORMATION_SCHEMA.EVENTS table.

Event Limitations (cont.)

- Events do not support times later than the end of the Unix Epoch (2038). Starting with MySQL 5.1.8, dates later than this are specifically disallowed by the Event Scheduler.
- From MySQL 5.1.7 onward, the SQL_MODE used by the event is the same as was in effect when the event was created.
- ON SCHEDULE clause may use built-in functions only, use of stored or user defined functions raises an error.
- DROP SCHEMA removes all events associated with that schema.
- Events are created with DISABLE ON SLAVE default so that they are replicated to slave servers but are not active.
- Events are not replicated amongst SQL nodes of NDB Cluster.

For the full list see:

<http://dev.mysql.com/doc/refman/5.1/en/stored-program-restrictions.html>

Events and User Privileges

- The EVENT grant is a database level privilege
- Permissions for SQL statements within the event body are not checked at creation time. This means that CREATE EVENT and ALTER EVENT commands may succeed but the event execution itself may fail.
- DROP USER removes all events for which that user is the definer.
- However... Revoking the EVENT privilege from a user does not automatically drop or disable any events created by that user.
- An event definer is not migrated as a result of renaming the user who created it.

Event Management Commands

```
SHOW EVENTS [LIKE event_name] \G
```

```
SHOW CREATE EVENT `event_name`\G
```

```
SELECT [fields...] FROM information_schema.EVENTS WHERE  
    EVENT_SCHEMA=DATABASE()\G
```

```
DROP EVENT `event_name`;
```

```
ALTER [DEFINER = { user | CURRENT_USER }]
```

```
    EVENT `event_name`
```

```
    [ ON SCHEDULE schedule]
```

```
    [ ON COMPLETION [NOT] PRESERVE]
```

```
    [RENAME TO new_event_name]
```

```
    [ENABLE | DISABLE | DISABLE ON SLAVE]
```

```
    [COMMENT 'comment']
```

```
    [DO sql_statements]
```

Usage Examples.

Create event to terminate connections with long running queries.

<http://forge.mysql.com/tools/tool.php?id=106>

Create event to perform table maintenance.

<http://forge.mysql.com/tools/tool.php?id=192>

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