MySQL Triggers Implementation

Summary: in this tutorial, you will learn about **MySQL triggers implementation**. In addition, we will show you how MySQL stores trigger definitions and the limitations of triggers in MySQL.

Introduction to MySQL triggers

In MySQL, a trigger is a set of SQL statements that is invoked automatically when a change is made to the data on the associated table. A trigger can be defined to be invoked either

MySQL Tutorial Newsletter

Sign up to receive updates about MySQL Tutorials and find out what's new in MySQL.

Enter your email address...

MySQL Quick Start

before or after the data is changed by INSERT, UPDATE or DELETE statement. Before MySQL version 5.7.2, you can to define maximum six triggers for each table.

- `BEFORE INSERT` – activated before data is inserted into the table.
- `AFTER INSERT` – activated after data is inserted into the table.
- `BEFORE UPDATE` – activated before data in the table is updated.
- `AFTER UPDATE` – activated after data in the table is updated.
- `BEFORE DELETE` – activated before data is removed from the table.
- `AFTER DELETE` – activated after data is removed from the table.

However, from MySQL version 5.7.2+, you can define multiple triggers for the same trigger event and action time.

When you use a statement that makes changes to the table but does not use `INSERT` , `DELETE` or `UPDATE` statement, the trigger is not invoked. For example, the TRUNCATE statement removes the whole data of a table but does not invoke the trigger associated with that table.

There are some statements that use the `INSERT` statement behind the scenes such as `REPLACE` statement and LOAD DATA statement. If you use these statements, the corresponding triggers associated with the tables will be invoked.

Triggers defined for a table must have a unique name. You can have the same trigger name that defines for different tables but it is not recommended. In practice, the names of triggers follow the following naming convention:

Install MySQL Database Server

Download MySQL Sample Database

Load Sample Database

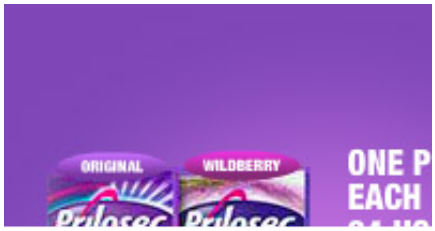
MySQL Programming Interfaces

PHP MySQL Tutorial

Python MySQL Tutorial

Perl MySQL Tutorial

MySQL JDBC Tutorial



Other Tutorials

MySQL Full-Text Search

MySQL Cheat Sheet

MySQL Books

MySQL Hosting

MySQL Resources

```
1 (BEFORE | AFTER)_tableName_(INSERT| UPDATE | DELETE)
```

MySQL Triggers Storage

MySQL stores triggers in a data directory e.g., `/data/classicmodels/` with the files named `tablename.TRG` and `triggername.TRN` :

- The `tablename.TRG` file maps the trigger to the corresponding table.
- the `triggername.TRN` file contains the trigger definition.

You can back up the MySQL triggers by copying the trigger files to the backup folder. You can also backup the triggers using the *mysqldump* tool.

MySQL Trigger Limitations

MySQL triggers cover all features defined in the standard SQL. However, there are some limitations that you should know before using them in your applications.

MySQL triggers cannot:

- Use `SHOW` , `LOAD DATA` , `LOAD TABLE` , `BACKUP DATABASE`, `RESTORE` , `FLUSH` and `RETURN` statements.
- Use statements that commit or rollback implicitly or explicitly such as `COMMIT` , `ROLLBACK` , `START TRANSACTION` , `LOCK/UNLOCK TABLES` , `ALTER` , `CREATE` , `DROP` , `RENAME` , etc.
- Use prepared statements such as `PREPARE` , `EXECUTE` , etc.
- Use dynamic SQL statements.

From MySQL version 5.1.4, a trigger can call a stored procedure or stored function, which was a limitation is the previous

versions.

In this tutorial, we have shown you how triggers are implemented in MySQL. We also discussed about trigger's storage as well as trigger's limitations in MySQL.

Related Tutorials

- Introduction to SQL Trigger
- Create Trigger in MySQL
- Managing Triggers in MySQL

Share this:

« Previous Tutorial:
Introduction to SQL Trigger

Next Tutorial:
Create Trigger in MySQL »

?

About MySQL Tutorial Website

MySQLTutorial.org is a website dedicated to MySQL database. We regularly publish useful MySQL tutorials to help web developers and database administrators learn MySQL fast and use MySQL effectively.

Our MySQL tutorials are

Recent MySQL Tutorials

Create Multiple Triggers For The Same Trigger Event And Action Time

MySQL CASE Function

MySQL Table Locking

Writing and Reading MySQL BLOB Using JDBC

Calling MySQL Stored Procedures from JDBC

Site Links

About Us

Contact Us

Request a Tutorial

Privacy Policy

practical and easy-to-follow, with SQL script and screenshots available.More About Us

MySQL is trademark of Oracle Corp.

MySQL JDBC Transaction

Inserting Data Into Table Using JDBC PreparedStatement

Updating Data in MySQL Using JDBC PreparedStatement

Querying Data From MySQL Using JDBC

Connecting to MySQL Using JDBC Driver