

MySQL Triggers



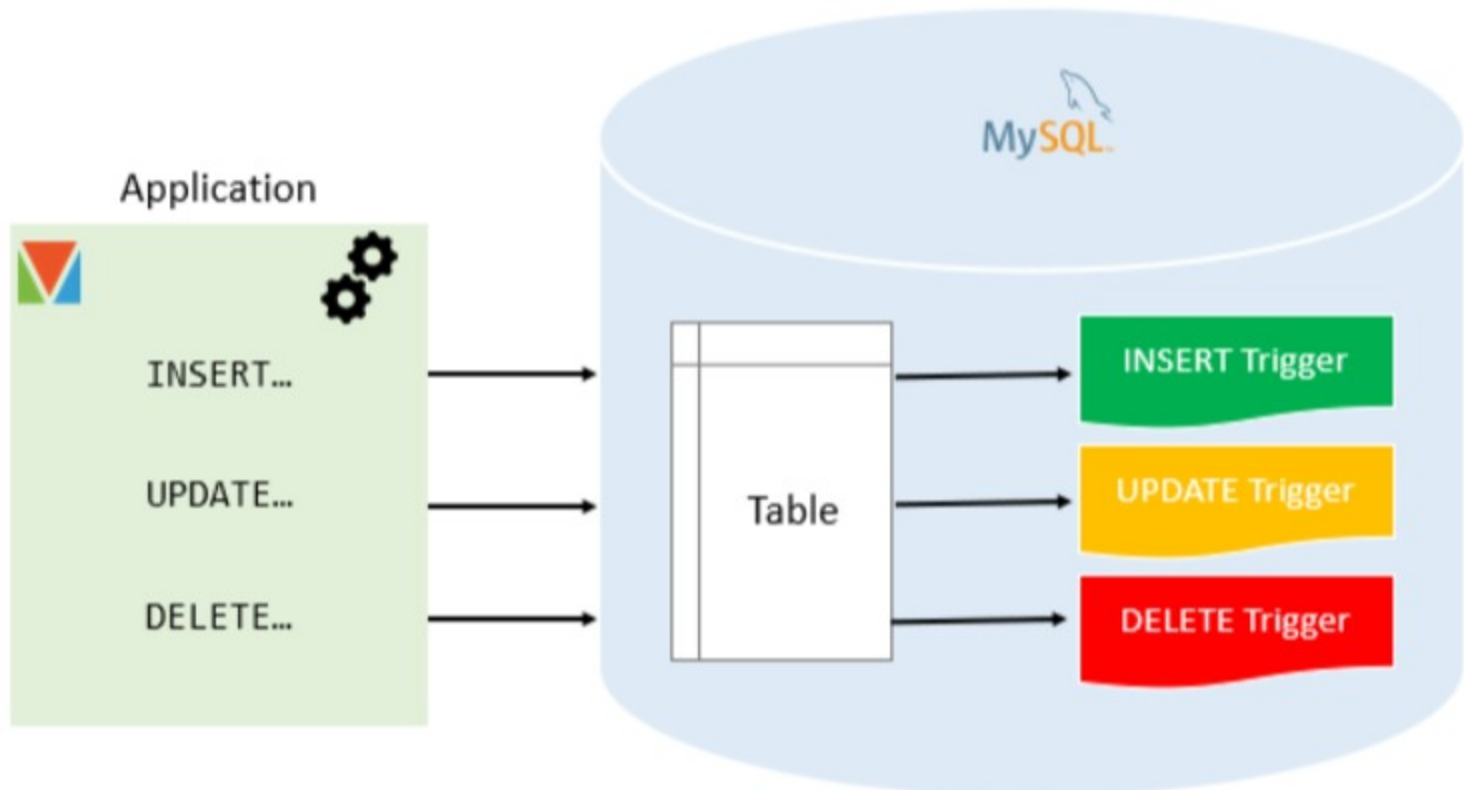
In MySQL, a trigger is a stored program invoked automatically in response to an event such as [insert](#), [update](#), or [delete](#) that occurs in the associated table. For example, you can define a trigger that is invoked automatically before a new row is inserted into a table.

MySQL supports triggers that are invoked in response to the [INSERT](#) , [UPDATE](#) or [DELETE](#) event.

The SQL standard defines two types of triggers: row-level triggers and statement-level triggers.

- A row-level trigger is activated for each row that is inserted, updated, or deleted. For example, if a table has 100 rows inserted, updated, or deleted, the trigger is automatically invoked 100 times for the 100 rows affected.
- A statement-level trigger is executed once for each transaction regardless of how many rows are inserted, updated, or deleted.

MySQL supports only row-level triggers. It doesn't support statement-level triggers.



Advantages of triggers

- Triggers provide another way to check the integrity of data.
- Triggers handle errors from the database layer.
- Triggers give an alternative way to [run scheduled tasks](#). By using triggers, you don't have to wait for the [scheduled events](#) to run because the triggers are invoked automatically *before* or *after* a change is made to the data in a table.
- Triggers can be useful for auditing the data changes in tables.

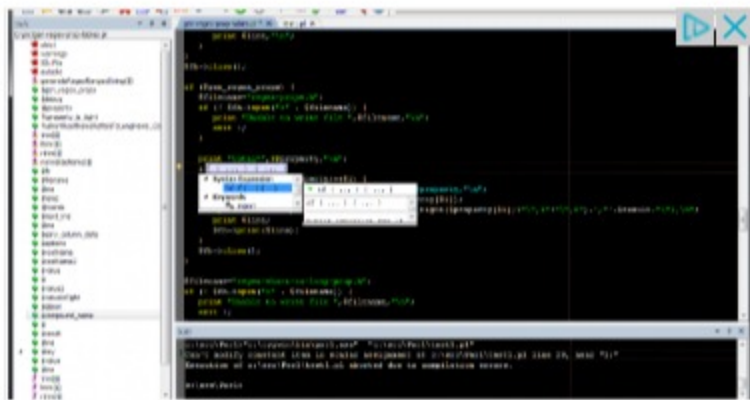
Disadvantages of triggers

- Triggers can only provide extended validations, not all validations. For simple validations, you can use the [NOT NULL](#) , [UNIQUE](#) , [CHECK](#) and [FOREIGN KEY](#) constraints.
- Triggers can be difficult to troubleshoot because they execute automatically in the database, which may not invisible to the client applications.
- Triggers may increase the overhead of the MySQL Server.

Managing MySQL triggers

- [Create triggers](#) – describe steps of how to create a trigger in MySQL.
- [Drop triggers](#) – show you how to drop a trigger.
- [Create a BEFORE INSERT trigger](#) – show you how to create a [BEFORE INSERT](#) trigger to maintain a summary table from another table.
- [Create an AFTER INSERT trigger](#) – describe how to create an [AFTER INSERT](#) trigger to insert data into a table after inserting data into another table.
- [Create a BEFORE UPDATE trigger](#) – learn how to create a [BEFORE UPDATE](#) trigger that validates data before it is updated to the table.
- [Create an AFTER UPDATE trigger](#) – show you how to create an [AFTER UPDATE](#) trigger to log the changes of data in a table.
- [Create a BEFORE DELETE trigger](#) – show how to create a [BEFORE DELETE](#) trigger.
- [Create an AFTER DELETE trigger](#) – describe how to create an [AFTER DELETE](#) trigger.
- [Create multiple triggers for a table that have the same trigger event and time](#) – MySQL 8.0 allows you to define multiple triggers for a table that have the same trigger event and time.
- [Show triggers](#) – list triggers in a database, table by specific patterns.

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