MySQL Unit 14 – Triggers

A trigger is a set of actions that are run automatically when a specified change operation (SQL INSERT, UPDATE, or DELETE statement) is performed on a specified table. Triggers are useful for tasks such as enforcing business rules, validating input data, and keeping an audit trail.

Trigger/Database Trigger: a stored program executed automatically to respond to a specific event 🡪insert, update or delete occurred in a table

**Syntax:**

CREATE

[DEFINER = { user | CURRENT\_USER }]

TRIGGER trigger\_name

trigger\_time trigger\_event

ON tbl\_name FOR EACH ROW

trigger\_body

trigger\_time: { BEFORE | AFTER }

trigger\_event: { INSERT | UPDATE | DELETE }

* CREATE TRIGGER:
* CREATE TRIGGER trigger-name, trigger-action-time, the triggering-event, and what to do when the trigger activates
* CREATE TRIGGER ins\_sum BEFORE INSERT ON account

FOR EACH ROW SET @sum = @sum + NEW.amount;

* Trigger name: ins\_sum
* Trigger action time: when the trigger activates 🡪 BEFORE
* Triggering event: type of operation that activates the trigger 🡪 INSERT
* What to do when the trigger activates: SET @sum = @sum + NEW.amount;

**trigger\_name:** All triggers must have unique names within a schema. Triggers in different schemas can have the same name.

**trigger\_time:** trigger\_time is the trigger action time. It can be BEFORE or AFTER to indicate that the trigger activates before or after each row to be modified.

**trigger\_event:** trigger\_event indicates the kind of operation that activates the trigger. These trigger\_event values are permitted:

* The trigger activates whenever a new row is inserted into the table; for example, through INSERT, LOAD DATA, and REPLACE statements.
* The trigger activates whenever a row is modified; for example, through UPDATE statements.
* The trigger activates whenever a row is deleted from the table; for example, through DELETE and REPLACE statements. DROP TABLE and TRUNCATE TABLE statements on the table do not activate this trigger, because they do not use DELETE. Dropping a partition does not activate DELETE triggers, either.
* DROP TRIGGER
* DROP TRIGGER trigger-name
* Must specify the schema name if the trigger is not in the default schema

🡪 DROP TRIGGER schema-name.trigger-name

Triggers allow you to enforce rules

DROP TRIGGER IF EXISTS \_\_\_\_\_\_\_\_\_\_\_\_\_

DELIMITER $$

CREATE TRIGGER \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

BEFORE UPDATE ON Student //executes before the row is updated

FOR EACH ROW

BEGIN

SET NEW.Sex = UPPER(NEW.Sex) ;

END $$

DELIMITER ;