09 - Triggers and Events

What is Triggers ?

A trigger is a stored procedure in a database that automatically invokes whenever a special event in the database occurs.
For example, a trigger can be invoked when a row is inserted into a specified table or when specific table columns are updated in simple words a trigger is a collection of SQL statements with particular names that are stored in system memory. It belongs to a specific class of stored procedures that are automatically invoked in response to database server events. Every trigger has a table attached to it.

Why Triggers ?

➢ Keep Data Consist
➢ Logging & Auditing

Syntax and How To Create

DELIMITER $$

create trigger [trigger_name]

[before | after] {insert | update | delete}   on [table_name]

[for each row]

BEGIN

END $$

DELIMITER ;

DELIMITER $$

CREATE TRIGGER   payments_after_insert
AFTER INSERT ON payments
FOR EACH ROW
BEGIN

UPDATE invoices
SET payment_total = payment_total + NEW.amount
WHERE invoice_id = NEW.invoice_id;

END $$

DELIMITER ;

(handwritten note:) new (ins)
old (UPdate)

List All Your Triggers

➢ **SHOW TRIGGERS**

How To Get Triggers that done on a specific Table ?

First try to use this Name conv **TableName_BEFOR/AFTER_OPERATION(INSERT-UPDATE-DELETE)**

SHOW TRIGGERS LIKE '%table_name'

How To Drop Trigger ?

➢ **DROP TRIGGER IF EXISTS** trigger_name;

Events

MySQL Events are tasks that run according to a schedule. Therefore, we sometimes refer to them as scheduled events

```
DELIMITER $$
CREATE EVENT yearly_delete_stale_audit_rows    ──→  name best Practice
ON SCHEDULE

    EVERY 1 YEAR STARTS '2024-01-01' ENDS '2029-01-01'    OPTional
    DO BEGIN
    ………………
    ………………          Automate Task
    ………………
    END $$
    DELIMITER ;
```

You Can See Them USING

➢ **SHOW EVENTS | SHOW EVENTS LIKE 'event_name%'**
➢ **DROP EVENTS**
➢ **ALTER**