

Triggers in MySQL

A **trigger** is a special kind of stored program that is **automatically executed (triggered)** when a specific event occurs in a table — such as `INSERT`, `UPDATE`, or `DELETE`.

Triggers are commonly used for:

- Logging changes
 - Enforcing additional business rules
 - Automatically updating related data
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Basic Trigger Structure

```
CREATE TRIGGER trigger_name
AFTER INSERT ON table_name
FOR EACH ROW
BEGIN
    -- statements to execute
END;
```

Triggers can be fired:

- `BEFORE` or `AFTER` an event
 - On `INSERT`, `UPDATE`, or `DELETE`
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Scenario: Log Every New User Insertion

Suppose we want to log every time a new user is inserted into the `users` table. We'll create a separate table called `user_log` to store log entries.

Step 1: Create the Log Table

```
CREATE TABLE user_log (
    id INT AUTO_INCREMENT PRIMARY KEY,
    user_id INT,
    name VARCHAR(100),
    created_on TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Step 2: Create the Trigger

We now define a trigger that runs after a new user is added.

```
DELIMITER $$

CREATE TRIGGER after_user_insert
AFTER INSERT ON users
FOR EACH ROW
BEGIN
    INSERT INTO user_log (user_id, name)
    VALUES (NEW.id, NEW.name);
END$$

DELIMITER ;
```

Explanation:

- `AFTER INSERT` means the trigger fires after the user is inserted.
- `NEW` refers to the new row being added to the `users` table.
- We insert the new user's ID and name into the `user_log` table.

Step 3: Test the Trigger

```
CALL AddUser('Ritika Jain', 'ritika@example.com', 'Female', '1996-03-12', 74000);
```

Now check the `user_log` table:

```
SELECT * FROM user_log;
```

You should see Ritika's info automatically logged.

Dropping a Trigger

If you need to remove a trigger:

```
DROP TRIGGER IF EXISTS after_user_insert;
```

Summary

Trigger Component	Description
BEFORE / AFTER	When the trigger runs
INSERT / UPDATE / DELETE	What kind of action triggers it
NEW.column	Refers to the new row (for INSERT , UPDATE)
OLD.column	Refers to the old row (for UPDATE , DELETE)
FOR EACH ROW	Executes for each affected row