

Sql-BEFORE Trigger

Trigger Basics

In SQL, a **Trigger** is a stored procedure that automatically executes in response to certain events on a table. These events can be insertions, deletions, or modifications (updates) made to the data in the table.

Here are some key points about triggers:

BEFORE Trigger

A **BEFORE** trigger is a type of trigger that runs before an action (insertion, deletion, update) takes place on a table. This means that the triggering event (the event that causes the trigger to fire) occurs after the execution of the BEFORE trigger.

Example

Let's consider an example where we have a `Customers` table and we want to insert data into it but also perform some validation before actually inserting the record. We can use a **BEFORE INSERT** trigger for this purpose.

```
CREATE TABLE Customers (  
    CustID INT,  
    Name VARCHAR(255),  
    Email VARCHAR(255)  
);  
  
CREATE TRIGGER ValidateEmail BEFORE INSERT ON Customers FOR EACH ROW BEGIN  
    IF NOT (NEW.Email RLIKE '^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$') THEN  
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Invalid email format';  
    END IF;  
END;
```

In this example, the `ValidateEmail` BEFORE INSERT trigger checks if the provided email address is in a valid format. If it's not, the trigger signals an error, preventing the insertion of the invalid data.

This way, we ensure that only properly formatted emails are inserted into our table, maintaining its integrity.