Indian Institute of Information Technology Sri City

Database Management Systems LAB-08

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TOPIC: Triggers

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MYSQL TRIGGER:

- 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 special kind of stored procedures that are executed automatically on firing of some event.

- Used for Data integrity, schedule tasks and audit the changed table data.

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 }

DEFINER clause specifies the MySQL account to be used when checking access privileges at trigger activation time

trigger_name: All triggers must have unique names within a schema.

trigger_event: trigger_event indicates the kind of operation that activates the trigger.

tbl_name : The trigger becomes associated with the table named tbl_name, which must refer to a permanent table.

trigger_body: trigger_body is the statement to execute when the trigger activates.

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.

EXAMPLE:

drop table trig_logs;

create table trig_logs(logs varchar(100));

#Creating the trigger

delimiter $$

CREATE DEFINER=`root`@`localhost` TRIGGER `trig_cust` AFTER INSERT ON `customers`

FOR EACH ROW BEGIN

insert into trig_logs values("A new row in Customers table has been inserted");

end $$

#Display all the triggers

Show triggers;

insert into customers values(1253, '1989-01-10','m','Raj','Bangalore', 'India');

select * from trig_logs;

#Create trigger on item and sales tables

Example-1:

delimiter $$

CREATE DEFINER=`root`@`localhost` TRIGGER `sales_BEFORE_INSERT` BEFORE

INSERT ON `sales` FOR EACH ROW BEGIN set new.total=new.qtysold*new.price;

END $$

Example-2:

```
delimiter $$
CREATE DEFINER=`root`@`localhost` TRIGGER `sales_BEFORE_INSERT` BEFORE
INSERT ON `sales` FOR EACH ROW BEGIN
insert into trig_logs values("Updating Sales.total column...");
set new.total=new.qtysold*new.price;
insert into trig_logs values("Updating item.quntity
column..."); update item
set quantity =quantity-new.qtysold
where itemid=new.itemid;
END $$
```

References:

1. https://www.mysqltutorial.org/mysql-triggers/mysql-before-insert-trigger/
2. https://dev.mysql.com/doc/refman/8.0/en/trigger-syntax.html