

EXPERIMENT NO: - 008

```
# Write a program to demonstrate use of Trigger.
# Suppose, we have a database named 'college_db700' which consists of some triggers used in the
# existing tables.
# Let us create a trigger for the table Emp_data in the empdb database having fields
# Emp_ID, Emp_Name & Emp_Salary with some records inserted as follows.

show databases;
create database college_db700;
use college_db700;
select database ();

create table Emp_data (Emp_ID int not null,
                      Emp_Name varchar (30) not null,
                      Emp_Salary varchar (30) not null,
                      primary key (Emp_ID));
insert into Emp_data values (10, 'Rita', '5000'), (11, 'Sahil', '7500'), (12, 'Rekha', '4800'), (13, 'Nikhil',
'7300');
select * from Emp_data;

# create another table to save the logs when triggers are called for query events.
create table Emp_logs (Info_Update varchar (255));
show tables;

# let us create a trigger first, to show the trigger procedure using the following query:
delimiter $$
# create trigger Emp_updates after update on Emp_data for each row begin

insert into Emp_logs values (concat ('Updated Emp_Salary Info (' , OLD.Emp_ID, ' ', OLD.Emp_Name, '
', OLD.Emp_Salary, ') to (' , NEW.Emp_ID, ' ', NEW.Emp_Name, ' ', NEW.Emp_Salary, '));
end$$ delimiter;
show triggers from college_db700;

# After the emp_updates trigger is produced, then it will be often triggered
# whenever an update event is queried for every row in the emp_data table.
# i.e., when you update any value in the Emp_Salary column then, a new row
# will be inserted to the emp_logs table to list the changes finished.

UPDATE Emp_data SET Emp_Salary = Emp_Salary + 1000 WHERE Emp_Salary < 5000;
# run at shell
Select * from Emp_data;
# Again, look at Emp_logs table and check the transformation effect of
# AFTER UPDATE trigger using the following query.
select * FROM Emp_logs;

# other example of trigger Before Insert

create table instructor1000 (inst_id int, salary Decimal(10,2));
show tables;
delimiter $$
create trigger trigger_BI;
# before insert on instructor1000 for each row begin
set new.salary = new.salary/12;
end $$ delimiter;
show triggers;
```

```
insert into instructor1000 values (201,60000), (219,48000), (240,74000);
select * from instructor1000;
```

#Output: -

Enter password: ****

Welcome to the MySQL monitor.

Commands end with;

or \g.

Your MySQL connection id is 26

Server version: 8.0.27

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```
+      +
| Database |
+      +
| college_db700 |
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+      +
```

7 rows in set (0.01 sec)

```
mysql> create database college_db700; ERROR 1007 (HY000): Can't create database
'college_db700'; database exists mysql> use college_db700;
Database changed
```

```
mysql> select database();
```

```
+      +
| database() |
+      +
| college_db700 |
+      +
```

1 row in set (0.00 sec)

```
mysql> create table Emp_data (
-> Emp_ID int not null,
-> Emp_Name varchar(30) not null,
-> Emp_Salary varchar(30) not null,
-> primary key (Emp_ID));
Query OK, 0 rows affected (0.11 sec)
```

```
mysql> INSERT INTO Emp_data VALUES(10, 'Rita','5000'),
-> (11, 'Sahil','7500'),
-> (12, 'Rekha','4800'),
-> (13, 'Nikhil','7300');
```

Query OK, 4 rows affected (0.01 sec) Records: 4

Duplicates: 0 Warnings: 0

```
mysql> select * from Emp_data;
```

```
+      +      +      +
```

```

| Emp_ID | Emp_Name | Emp_Salary |
+ + + +
| 105000 | Rita | |
| 117500 | Sahil | |
| 12 | Rekha |
|
4800
| 13 | Nikhil | 7300 |
+ + + + 4 rows in set (0.00 sec)

```

```
mysql> CREATE TABLE Emp_logs ( Info_Update VARCHAR(255)); Query OK, 0 rows affected
(0.04 sec)
```

```
mysql> show tables;
+ +
| Tables_in_college_db700 |
+ +
| emp_data |
| emp_logs |
+ + 2 rows in set (0.02 sec)

```

```
mysql> delimiter $$
mysql> CREATE TRIGGER emp_updates AFTER UPDATE
-> ON Emp_data FOR EACH ROW
-> BEGIN
-> INSERT into Emp_logs VALUES (CONCAT('Updated Emp_Salary Info '> ('OLD.Emp_ID,'
'OLD.Emp_Name','OLD.Emp_Salary,') to
('NEW.Emp_ID,'> 'NEW.Emp_Name','NEW.Emp_Salary,'));
->
->
-> /c
-> \c
mysql> CREATE TRIGGER emp_updates AFTER UPDATE
-> ON Emp_data FOR EACH ROW
-> BEGIN
-> INSERT into Emp_logs VALUES (CONCAT('Updated Emp_Salary Info '> ('OLD.Emp_ID,'
'OLD.Emp_Name','OLD.Emp_Salary,') to
('NEW.Emp_ID,'> 'NEW.Emp_Name','NEW.Emp_Salary,')); ->
END$$
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> DELIMITER ; mysql> show triggers from college_db700;
```

```

+ + + +
+ + +
+

```

Trigger	Event	Table	Statement	Timing	Created	sql_mode	Definer	character_set_client	collation_connection	Database Collation
---------	-------	-------	-----------	--------	---------	----------	---------	----------------------	----------------------	--------------------

Trigger	Event	Table	Statement	Timing	Created	sql_mode	Definer	character_set_client	collation_connection	Database Collation
---------	-------	-------	-----------	--------	---------	----------	---------	----------------------	----------------------	--------------------

```

+      +      +      +
| emp_updates | UPDATE | emp_data | BEGIN
INSERT into Emp_logs VALUES (CONCAT('Updated Emp_Salary Info (',OLD.Emp_ID,'
',OLD.Emp_Name,',',OLD.Emp_Salary,') to
(',NEW.Emp_ID,',',NEW.Emp_Name,',',NEW.Emp_Salary,')'));
END | AFTER | 2021-12-05 14:08:57.93 |
STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION |
root@localhost | cp850 | cp850_general_ci | utf8mb4_0900_ai_ci |

```

Trigger	Event	Table	Statement	Timing	Created	sql_mode	Definer	character_set_client	collation_connection	Database Collation
---------	-------	-------	-----------	--------	---------	----------	---------	----------------------	----------------------	--------------------

+ 1 row in set (0.04 sec)

```

mysql> UPDATE Emp_data SET Emp_Salary = Emp_Salary + 1000 WHERE
-> Emp_Salary<5000; # run at shell Query OK, 1 row affected
(0.02 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```

```

mysql> select * from Emp_data;
+      +      +      +
| Emp_ID | Emp_Name | Emp_Salary |
+      +      +      +
|      10 | Rita     | 5000       |
|      11 | Sahil    | 7500       |
|      12 | Rekha    | 5800       |
|      13 | Nikhil   | 7300       |
+      +      +      +
+ 4 rows in set (0.00 sec)

```

```

mysql> SELECT * FROM Emp_logs;
+      +

```

```
| Info_Update |
+      +
| Updated Emp_Salary Info (12 Rekha 4800) to
(12
Rekha 5800) |
+      + 1 row in set (0.00 sec)
```

```
mysql> create table instructor1000(inst_id int,salary Decimal(10,2)); Query OK, 0 rows affected (0.03
sec)
```

```
mysql> show tables;
+      +
| Tables_in_college_db700 |
+      +
| emp_data                |
| emp_logs                |
| instructor1000          |
+      + 3 rows in set (0.01 sec)
```

```
mysql> create trigger trigger_BI before insert
-> on instructor1000 for each row -> begin
-> set new.salary=new.salary/12;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to
your MySQL server version for the right syntax to use near " at line 4 mysql> delimiter $$
mysql> create trigger trigger_BI before insert
-> on instructor1000 for each row
-> begin
-> set new.salary=new.salary/12;
-> end $$
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> delimiter ; mysql> show triggers;
```

```
+      +      +      +
+      +      +
+      +
```

```
+      +      +      +
| Trigger      | Event | Table | Statement
| Timing | Created      | sql_mode      | Definer      | character_set_client |
collation_connection | Database Collation |
```

+ + + +

+ + +
+

+ + + +

```
| emp_updates | UPDATE | emp_data | BEGIN
INSERT into Emp_logs VALUES (CONCAT('Updated Emp_Salary Info (',OLD.Emp_ID,'
',OLD.Emp_Name,',',OLD.Emp_Salary,') to
(',NEW.Emp_ID,',',NEW.Emp_Name,',',NEW.Emp_Salary,')'));
END | AFTER | 2021-12-05 14:08:57.93 |
STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION
|
root@localhost | cp850 | cp850_general_ci | utf8mb4_0900_ai_ci |
| trigger_BI | INSERT | instructor1000 | begin set new.salary=new.salary/12;
end | BEFORE |
2021-12-05 14:19:59.41 | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION |
root@localhost
|
cp850 | cp850_general_ci | utf8mb4_0900_ai_ci |
```

+ + + +

+ + +
+ 2 rows in set (0.00 sec)

+ + + +

```
mysql> insert into instructor1000
values(201,60000),(219,48000),(240,74000); Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

```
mysql> select * from instructor1000;
```

```
+ + +
| inst_id | salary |
+ + +
| 201 | 5000.00 |
| 219 | 4000.00 |
| 240 | 6166.67 |
+ + +
```

3 rows in set (0.00 sec)