

```
//Active Learning DBMS Date: 03/09/2020
//PE01-PE08
//TRIGGERS
```

```
//Consider following table :
//Employee(eid,ename,dname,basic_sal,DA,HRA,CA,EA,Tax,Gross_sal,Net_sal)
//Create above table and insert records for only 2 columns eid and ename
initially.Remaining column values should be null.
//Write a trigger which will set the values of Gross_sal and Net_sal automatically
based on the values updated for basic_sal,DA,HRA,CA,EA and Tax columns. (You
//can take hard-coded values for all allowances and tax)
//(Hint : Gross Salary is calculated as sum of all Allowances and basic salary)
```

```
mysql> CREATE TABLE Emp(
-> E_ID INT PRIMARY KEY,
-> E_Name VARCHAR(30),
-> D_Name VARCHAR(30),
-> Basic_Sal INT,
-> DA INT,
-> HRA INT,
-> CA INT,
-> EA INT,
-> Tax INT,
-> GrossSal INT,
-> NetSal INT
-> );
```

Query OK, 0 rows affected (1.29 sec)

```
mysql> INSERT INTO Emp(E_ID, E_Name) VALUES (001, "Rohan"),(002, "Aditya"),
(003,"Virat"), (004, "Shruti");
```

Query OK, 4 rows affected (0.28 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM Emp;
```

E_ID	E_Name	D_Name	Basic_Sal	DA	HRA	CA	EA	Tax	GrossSal	NetSal
1	Rohan	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
2	Aditya	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
3	Virat	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
4	Shruti	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

4 rows in set (0.11 sec)

```
mysql> DELIMITER $$
```

```
mysql> CREATE TRIGGER lmn
-> BEFORE UPDATE
-> ON empdata
-> FOR EACH ROW
```

```

-> BEGIN
-> DECLARE a INT DEFAULT 0;
-> DECLARE b INT DEFAULT 0;
-> SET a = NEW.BasicSal + NEW.DA + NEW.HRA + NEW.CA + NEW.EA;
-> SET b = a - NEW.Tax;
-> SET NEW.GrossSal = a;
-> SET NEW.NetSal = b;
-> END
-> $$

```

Query OK, 0 rows affected (0.33 sec)

```
mysql> DELIMITER ;
```

```
mysql> UPDATE empdata
```

```

-> SET
-> BasicSal = 10000,
-> DA = 150,
-> HRA = 200,
-> CA = 500,
-> EA = 1000,
-> TAX = 500
-> WHERE eid = 1;

```

Query OK, 1 row affected (0.22 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> SELECT * FROM empdata;
```

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| eid | ename | d_name | BasicSal | DA | HRA | CA | EA | Tax | GrossSal |
NetSal |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | Rohan | NULL | 10000 | 150 | 200 | 500 | 1000 | 500 | 11850 |
11350 |
| 2 | Aditya | NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL |
NULL |
| 3 | Virat | NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL |
NULL |
| 4 | Shruti | NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL |
NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+

```

4 rows in set (0.00 sec)

```
mysql> UPDATE empdata
```

```

-> SET
-> BasicSal = 10500,
-> DA = 200,
-> HRA = 500,
-> CA = 700,
-> EA = 1000,
-> TAX = 200
-> WHERE eid = 2;

```

Query OK, 1 row affected (0.07 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> UPDATE empdata
```

```

-> SET
-> BasicSal = 20000,
-> DA = 500,
-> HRA = 100,

```

```
-> CA = 700,  
-> EA = 250,  
-> TAX = 500  
-> WHERE eid = 3;
```

Query OK, 1 row affected (0.17 sec)  
Rows matched: 1 Changed: 1 Warnings: 0

mysql>

mysql> UPDATE empdata

```
-> SET  
-> BasicSal = 40000,  
-> DA = 500,  
-> HRA = 100,  
-> CA = 700,  
-> EA = 250,  
-> TAX = 500  
-> WHERE eid = 4;
```

Query OK, 1 row affected (0.17 sec)  
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT \* FROM empdata;

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
+-----+  
| eid | ename | d_name | BasicSal | DA | HRA | CA | EA | Tax | GrossSal |  
NetSal |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
+-----+  
| 1 | Rohan | NULL | 10000 | 150 | 200 | 500 | 1000 | 500 | 11850 |  
11350 |  
| 2 | Aditya | NULL | 10500 | 200 | 500 | 700 | 1000 | 200 | 12900 |  
12700 |  
| 3 | Virat | NULL | 20000 | 500 | 100 | 700 | 250 | 500 | 21550 |  
21050 |  
| 4 | Shruti | NULL | 40000 | 500 | 100 | 700 | 250 | 500 | 41550 |  
41050 |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
+-----+
```

4 rows in set (0.00 sec)

```
mysql> DELIMITER $$
mysql> CREATE TRIGGER lmn
-> AFTER UPDATE
-> ON empdata
-> FOR EACH ROW
-> BEGIN
-> DECLARE a INT DEFAULT 0;
-> DECLARE b INT DEFAULT 0;
-> SET a = NEW.BasicSal + NEW.DA + NEW.HRA + NEW.CA + NEW.EA;
-> SET b = a - NEW.Tax;
-> SET NEW.GrossSal = a;
-> SET NEW.NetSal = b;
-> END
-> $$
ERROR 1302 (HY000): Updating of NEW row is not allowed in after trigger
mysql> DELIMITER ;
mysql> DELIMITER $$
mysql> CREATE TRIGGER lmn
-> BEFORE UPDATE
-> ON empdata
-> FOR EACH ROW
-> BEGIN
-> DECLARE a INT DEFAULT 0;
-> DECLARE b INT DEFAULT 0;
-> SET a = NEW.BasicSal + NEW.DA + NEW.HRA + NEW.CA + NEW.EA;
-> SET b = a - NEW.Tax;
-> SET NEW.GrossSal = a;
-> SET NEW.NetSal = b;
-> END
-> $$
Query OK, 0 rows affected (0.33 sec)

mysql> UPDATE empdata
-> SET
-> BasicSal = 10000,
-> DA = 150,
-> HRA = 200,
-> CA = 500,
-> EA = 1000,
-> TAX = 500
-> WHERE eid = 1;
-> ^C
mysql> DELIMITER ;
```

```
MySQL 3.0 Command Line Client
-> CA = 700,
-> EA = 1000,
-> TAX = 200
-> WHERE eid = 2;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE empdata
-> SET
-> BasicSal = 20000,
-> DA = 500,
-> HRA = 100,
-> CA = 700,
-> EA = 250,
-> TAX = 500
-> WHERE eid = 3;
Query OK, 1 row affected (0.17 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
mysql> UPDATE empdata
-> SET
-> BasicSal = 40000,
-> DA = 500,
-> HRA = 100,
-> CA = 700,
-> EA = 250,
-> TAX = 500
-> WHERE eid = 4;
Query OK, 1 row affected (0.17 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM empdata;
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| eid | ename | d_name | BasicSal | DA | HRA | CA | EA | Tax | GrossSal | NetSal |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rohan | NULL | 10000 | 150 | 200 | 500 | 1000 | 500 | 11850 | 11350 |
| 2 | Aditya | NULL | 10500 | 200 | 500 | 700 | 1000 | 200 | 12900 | 12700 |
| 3 | Virat | NULL | 20000 | 500 | 100 | 700 | 250 | 500 | 21550 | 21050 |
| 4 | Shruti | NULL | 40000 | 500 | 100 | 700 | 250 | 500 | 41550 | 41050 |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

