**My first Triggers by example**

emp (πίνακας υπαλλήλων)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Empno | Ename | Job | Hiredate | Mgr | Sal | Comm | Deptno |
| 10 | CODD | ANALYST | 1/1/89 | 15 | 3000 |  | 10 |
| 15 | ELMASRI | ANALYST | 2/5/95 | 15 | 1200 | 150 | 10 |
| 20 | NAVATHE | SALESMAN | 7/7/77 | 20 | 2000 |  | 20 |
| 30 | DATE | PROGRAMMER | 4/5/04 | 15 | 1800 | 200 | 10 |

dept (πίνακας τμημάτων)

|  |  |  |
| --- | --- | --- |
| Deptno | Dname | Loc |
| 10 | ACCOUNTING | ATHENS |
| 20 | SALES | LONDON |
| 30 | RESEARCH | ATHENS |
| 40 | PAYROLL | LONDON |

DROP DATABASE my\_first\_triggers\_db;

CREATE DATABASE my\_first\_triggers\_db;

USE my\_first\_triggers\_db;

CREATE TABLE DEPT(DEPTNO INT(2) NOT NULL,

 DNAME VARCHAR(14), LOC VARCHAR(14));

CREATE TABLE EMP(EMPNO INT(4) NOT NULL,

 ENAME VARCHAR(10), JOB VARCHAR(25),

 HIREDATE DATE, MGR INT(4), SAL FLOAT(7,2), COMM FLOAT(7,2),

 DEPTNO INT(2));

SHOW TABLES;

INSERT INTO DEPT(DEPTNO, DNAME, LOC) VALUES (10, 'ACCOUNTING', 'ATHENS');

INSERT INTO DEPT(DEPTNO, DNAME, LOC) VALUES (20, 'SALES', 'LONDON');

INSERT INTO DEPT(DEPTNO, DNAME, LOC) VALUES (30, 'RESEARCH', 'ATHENS');

INSERT INTO DEPT(DEPTNO, DNAME, LOC) VALUES (40, 'PAYROLL', 'LONDON');

INSERT INTO EMP VALUES (10, 'CODD', 'ANALYST', '1989/01/01', 15, 3000, NULL, 10);

INSERT INTO EMP VALUES (15, 'ELMASRI', 'ANALYST', '1995/05/02', 15, 1200, 150, 10);

INSERT INTO EMP VALUES (20, 'NAVATHE', 'SALESMAN', '1977/07/07', 20, 2000, NULL, 20);

INSERT INTO EMP VALUES (30, 'DATE', 'PROGRAMMER', '2004/05/04', 15, 1800, 200, 10);

SELECT \* FROM EMP;

SELECT \* FROM DEPT;

CREATE TABLE employee(empno INT(4) NOT NULL, ename VARCHAR(10),

 deptno INT(2));

CREATE TABLE department(deptno INT(2) NOT NULL, dname VARCHAR(14));

INSERT INTO department SELECT deptno, dname FROM dept;

INSERT INTO employee SELECT empno, ename, deptno FROM emp;

SELECT \* FROM department;

SELECT \* FROM employee;

delimiter //

CREATE TRIGGER dept\_insert

BEFORE INSERT ON department

FOR EACH ROW

BEGIN

SET NEW.dname = UPPER(NEW.dname);

END;

//

delimiter ;

delimiter //

CREATE TRIGGER dept\_update

BEFORE UPDATE ON department

FOR EACH ROW

BEGIN

SET NEW.dname = UPPER(NEW.dname);

END;

//

delimiter ;

/\* testing \*/

INSERT INTO department VALUES(70, 'Learn');

SELECT \* FROM department;

UPDATE department SET dname = 'Payroll' WHERE deptno=70;

SELECT \* FROM department;

UPDATE department SET dname = 'Learn' WHERE deptno=70;

SELECT \* FROM department;

ALTER TABLE department ADD (no\_of\_employees INT(3));

/\* Initialization of the new column \*/

UPDATE department

SET no\_of\_employees =

 (SELECT COUNT(\*)

 FROM employee

 WHERE employee.deptno = department.deptno);

SELECT \* FROM department;

delimiter //

CREATE TRIGGER emp\_insert

AFTER INSERT ON employee

FOR EACH ROW

BEGIN

UPDATE department

SET no\_of\_employees = IFNULL(no\_of\_employees, 0) + 1

WHERE deptno= NEW.deptno;

END;

//

delimiter ;

INSERT INTO employee VALUES(7985, 'NAVATHE', 10);

SELECT \* FROM department;

SELECT \* FROM employee;

delimiter //

CREATE TRIGGER emp\_delete

AFTER DELETE ON employee

FOR EACH ROW

BEGIN

UPDATE department

SET no\_of\_employees = IFNULL(no\_of\_employees, 0) - 1

WHERE deptno= OLD.deptno;

END;

//

delimiter ;

DELETE FROM employee WHERE empno = 7985;

SELECT \* FROM department;

SELECT \* FROM employee;

delimiter //

CREATE TRIGGER emp\_update

AFTER UPDATE ON employee

FOR EACH ROW

BEGIN

UPDATE department

SET no\_of\_employees = IFNULL(no\_of\_employees, 0) + 1

WHERE deptno= NEW.deptno;

UPDATE department

SET no\_of\_employees = IFNULL(no\_of\_employees, 0) - 1

WHERE deptno= OLD.deptno;

END;

//

delimiter ;

UPDATE employee
SET deptno= 10
WHERE empno=20;

SELECT \* FROM department;

SELECT \* FROM employee;

**/\* see triggers \*/
DESCRIBE Information\_schema.TRIGGERS;**

SELECT TRIGGER\_NAME, EVENT\_MANIPULATION, TRIGGER\_SCHEMA
FROM INFORMATION\_SCHEMA.TRIGGERS
WHERE TRIGGER\_SCHEMA = 'my\_first\_triggers\_db'
ORDER BY TRIGGER\_NAME;

**DROP TRIGGER dept\_insert;**

**DROP TRIGGER dept\_update;**

**DROP TRIGGER emp\_insert;**

**DROP TRIGGER emp\_delete;**

**DROP TRIGGER emp\_update;**

**DROP TABLE employee;**

**DROP TABLE department;**