

Course Name: DBMS Lab

Course Code: CSEG2146

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Experiment 17:

Title: To understand the concepts of Trigger.

Objective: Students will be able to implement the concept of trigger.

1. CREATE TRIGGER SALARY_VIOLATION BEFORE INSERT OR UPDATE OF SALARY, SUPERVISOR SSN ON EMPLOYEE of experiment 3

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CREATE OR REPLACE TRIGGER SALARY_VIOLATION

BEFORE INSERT OR UPDATE OF SALARY, SUPER_SSN ON EMPLOYEE

FOR EACH ROW

DECLARE

min_salary CONSTANT NUMBER := 30000; -- Minimum allowable salary

max_salary CONSTANT NUMBER := 200000; -- Maximum allowable salary

supervisor_count NUMBER; -- To hold the count of supervisors

BEGIN

-- Check if the salary is within the valid range

IF :NEW.SALARY < min_salary OR :NEW.SALARY > max_salary THEN

RAISE_APPLICATION_ERROR(-20001, 'Salary must be between 30,000 and 200,000.');

END IF;

-- Check if the supervisor's SSN is valid (exists in EMPLOYEE table or is NULL)

IF :NEW.SUPER_SSN IS NOT NULL THEN

SELECT COUNT(*)

INTO supervisor_count

FROM EMPLOYEE

WHERE SSN = :NEW.SUPER_SSN;

IF supervisor_count = 0 THEN

RAISE_APPLICATION_ERROR(-20002, 'Supervisor SSN must reference an existing employee or be NULL.');

END IF;

END IF;

END IF;

END IF;

END IF;
```

Valid Insert:

```
1 INSERT INTO EMPLOYEE (Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super_ssn, Dno)
2 VALUES ('Alice', 'A', 'Doe', '111223333', DATE '1990-01-01', '123 Main St', 'F', 50000, '333445555', 5);
3 Results Explain Describe Saved SQL History

1 row(s) inserted.
```

Invalid Insert:

```
INSERT INTO EMPLOYEE (Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super_ssn, Dno)

VALUES ('Bob', 'B', 'Smith', '444556666', DATE '1992-02-02', '456 Elm St', 'M', 25000, '333445555', 5);

Results Explain Describe Saved SQL History

ORA-20001: Salary must be between 30,000 and 200,000.
ORA-66512: at "WKSP_AKSHATBALTI.SALARY_VIOLATION", line 8
ORA-04088: error during execution of trigger 'WKSP_AKSHATBALTI.SALARY_VIOLATION'
```