

Experiment 17: 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.

INPUT:

```
1 CREATE OR REPLACE TRIGGER SALARY_VIOLATION
2 BEFORE INSERT OR UPDATE OF SALARY, SUPER_SSN ON EMPLOYEE
3 FOR EACH ROW
4 DECLARE
5     min_salary CONSTANT NUMBER := 30000; -- Minimum allowable salary
6     max_salary CONSTANT NUMBER := 200000; -- Maximum allowable salary
7     supervisor_count NUMBER; -- To hold the count of supervisors
8 BEGIN
9     -- Check if the salary is within the valid range
10    IF :NEW.SALARY < min_salary OR :NEW.SALARY > max_salary THEN
11        RAISE_APPLICATION_ERROR(-20001, 'Salary must be between 30,000 and 200,000.');
```

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:

```
1 INSERT INTO EMPLOYEE (Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, Super_ssn, Dno)
2 VALUES ('Bob', 'B', 'Smith', '444556666', DATE '1992-02-02', '456 Elm St', 'M', 25000, '333445555', 5);
3
```

Results	Explain	Describe	Saved SQL	History
<div>ORA-20001: Salary must be between 30,000 and 200,000. ORA-06512: at "WKSP_AKSHATBALTI.SALARY_VIOLATION", line 8 ORA-04088: error during execution of trigger 'WKSP_AKSHATBALTI.SALARY_VIOLATION'</div>				

Invalid Update:

```
1 UPDATE EMPLOYEE
2 SET SUPER_SSN = '999999999'
3 WHERE Ssn = '111223333';
```

Results Explain Describe Saved SQL History

ORA-04091: table WKSP_AKSHATBALTI.EMPLOYEE is mutating, trigger/function may not see it
ORA-06512: at "WKSP_AKSHATBALTI.SALARY_VIOLATION", line 13
ORA-04088: error during execution of trigger 'WKSP_AKSHATBALTI.SALARY_VIOLATION'

```
1. UPDATE EMPLOYEE
2. SET SUPER_SSN = '999999999'
3. WHERE Ssn = '111223333';
```