

ASSIGNMENT-VIEWS

Views

- A **view** is a logical representation of a table or combination of tables.
- Views can provide a different representation (such as subsets or supersets) of the data that resides within other tables and views.
- Views are very powerful because they allow you to tailor the presentation of data to different types of users.
- A view derives its data from the tables on which it is based. These tables are called **base tables**. Base tables might in turn be actual tables or might be views themselves.
- All operations performed on a view actually affect the base table of the view.
- Use views in almost the same way as tables. i.e We can query, update, insert into, and delete from views, just as we can standard tables.

Example:

```
CREATE VIEW emp_emp AS
    SELECT e1.ename, e2.empno, e2.deptno
    FROM emp e1, emp e2
    WHERE e1.empno = e2.empno;

CREATE VIEW emp_dept AS
    SELECT emp.empno, emp.ename, emp.deptno, emp.sal, dept.dname, dept.loc
    FROM emp, dept
    WHERE emp.deptno = dept.deptno
        AND dept.loc IN ('DALLAS', 'NEW YORK', 'BOSTON');
```

UPDATE Statements

The following example shows an `UPDATE` statement that successfully modifies the `emp_dept` view:

```
UPDATE emp_dept
    SET sal = sal * 1.10
    WHERE deptno = 10;
```

The following `UPDATE` statement would be disallowed on the `emp_dept` view:

```
UPDATE emp_dept
    SET loc = 'BOSTON'
    WHERE ename = 'SMITH';
```

This statement fails with an error (ORA-01779 cannot modify a column which maps to a non key-preserved table), because it attempts to modify the base `dept` table, and the `dept` table is not key-preserved in the `emp_dept` view.

```
UPDATE emp_dept  
    SET deptno = 10  
 WHERE ename = 'SMITH';
```

The statement fails because it is trying to update a join column.

Verify the following

- 1. Insert , update, delete on simple views that reflects views and base table.**
- 2. Insert, delete, update on simple views that violate the constraint such as primary key. Note: primary key of a table is a foreign key on other table.**
- 3. Insert, update, delete on complex views that reflects views and base table**
- 4. Drop view and perform query on base table and vice versa.**
- 5. Drop column in base table after creation of view with the respective column and perform select query on view.**
- 6. Rename column in base table after creation of view with the respective column and perform select query on view.**
- 7. Rename table in base table after creation of view and perform select query on view.**
- 8. Modify data type of a column in base table after creation of view with the respective column and perform select query on view.**
- 9. Create a view from existing view**

EMPLOYEE

Fname	Minit	Lname	Ssn	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000	888665555	5
Alicia	J	Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000	987654321	4
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000	888665555	4
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000	987654321	4
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000	NULL	1

DEPARTMENT

Dname	Dnumber	Mgr_ssn	Mgr_start_date
Research	5	333445555	1988-05-22
Administration	4	987654321	1995-01-01
Headquarters	1	888665555	1981-06-19