

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	<u>Ssn</u>	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	<u>Dnumber</u>	Mgr_ssn	Mgr_start_date
Research	5	333445555	1988-05-22
Administration	4	987654321	1995-01-01
Headquarters	1	888665555	1981-06-19