

09. View



● 1. View

❑ 정의

A **logical table** based on a table or another view, A view **contains no data of its own**, but is rather **like a “window”** through which data from table **can be viewed or changed**. the view is **stored as a SELECT statement in the data dictionary**.

❑ 동작원리

① Stored Query

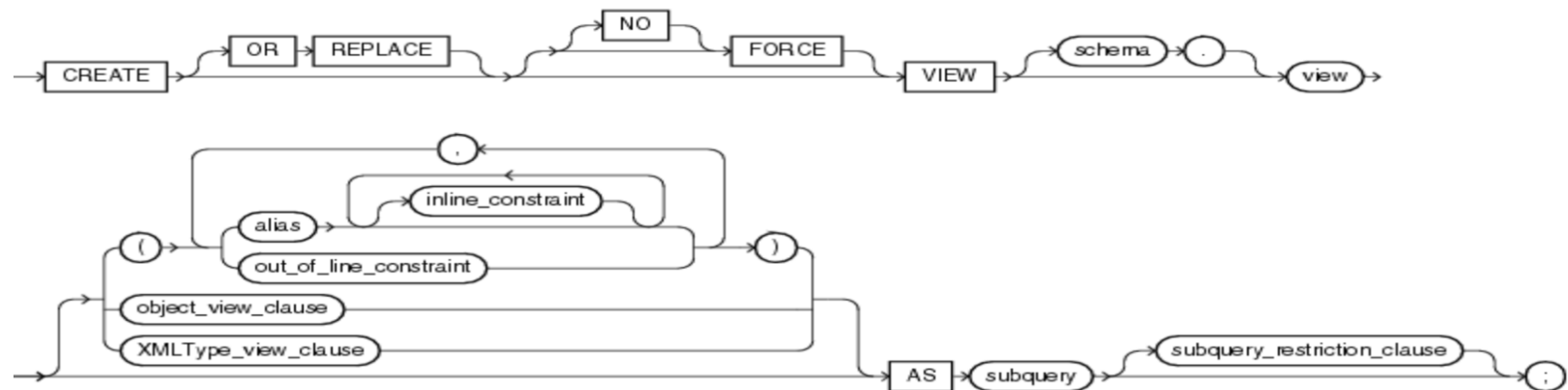
- oracle store view's definition as a text therefore not space, not indexed
- * 데이터를 가지고 있지 않지만 테이블의 역할을 동일하게 수행하기 때문에 가상 테이블(Virtual Table)로 불리기도 한다.

② Merge

- 질의(Query)를 재작성(Rewrite, Merge)하여 수행

❑ Syntax

create_view ::=



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□ 종류

View

Inline View

Materialized View

Partition View

Object View

□ 용도

(1) 보안성(Restrict database access)

① **CREATE VIEW** VW_EMP(ENO,E_NAME,DNO)

AS SELECT EMPNO,ENAME,DEPTNO

FROM EMP

WHERE SAL > 1500;

// Base data의 COLUMN,ROW 제한

* system> grant create view to scott;

② desc vw_emp

// a logical table

select * from tab;

③ select * from vw_emp;

select dno,e_name from vw_emp where dno in (10,20);

select deptno,ename from emp where deptno in (10,20) **and sal > 1500;** // Merge

select dno,e_name,sal from vw_emp where dno in (10,20); // Restrict

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(2) 편리성 (Simplify queries)

① CREATE VIEW VW_SIMPLE
AS SELECT EMP.EMPNO,EMP.ENAME,DEPT.DNAME,SALGRADE.GRADE AS GD
FROM EMP, DEPT, SALGRADE
WHERE EMP.DEPTNO = DEPT.DEPTNO AND
EMP.SAL BETWEEN SALGRADE.LOSAL AND SALGRADE.HISAL;

② desc vw_simple // NOT NULL, DATA TYPE

이름	널?	유형

EMPNO	NOT NULL	NUMBER(4)
ENAME		VARCHAR2(10)
DNAME		VARCHAR2(14)
GD		NUMBER

select * from tab;

③ select * from vw_simple; // 만능뷰(?)

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(3) 독립성(Data Independence)

- * 테이블구조 변경시 View를 사용하는 응용 프로그램을 변경하지 않아도 되는.
(Isolate applications from changes in definitions of base tables)

① **CREATE TABLE** BASE_TBL(EMPNO_NEW,ENAME_NEW)
AS SELECT EMPNO,ENAME
FROM EMP
WHERE JOB IN ('CLERK','SALESMAN');

② desc base_tbl
select * from tab;

③ CREATE VIEW VW_IND AS SELECT * FROM BASE_TBL;
SELECT * FROM VW_IND;

④ ALTER TABLE BASE_TBL ADD(NEW_COL DATE); // base table 구조 변경

⑤ SELECT * FROM VW_IND; // Independence of base table change
SELECT EMPNO_NEW,ENAME_NEW FROM VW_IND;

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(4) 다변성 (different appearances for the same data)

* 동일한 데이터도 USER, 시간에 따라 다른 데이터 결과를 보여줄수 있다 EX) DBA_TABLES, USER_TABLE

- ① CREATE TABLE DBA_TBLS // System 계정에서 실습
AS SELECT OWNER, TABLE_NAME FROM DBA_TABLES;

SELECT * FROM DBA_TBLS;
SELECT OWNER, COUNT(*) // System , Scott owner의 테이블 갯수 확인.
FROM DBA_TBLS
GROUP BY OWNER;
- ② CREATE OR REPLACE VIEW VW_DIFF // View 생성
AS SELECT * FROM DBA_TBLS WHERE OWNER = USER;

SELECT * FROM VW_DIFF; // System owner의 데이터만 조회
SELECT count(*) FROM VW_DIFF;
- ③ GRANT SELECT ON VW_DIFF TO PUBLIC; // DBMS내의 모든 사용자에게 SELECT 권한부여
- ④ SELECT * FROM VW_DIFF; // Scott 계정에서 실습
SELECT count(*) FROM VW_DIFF; // Scott owner의 데이터만 조회 ??

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❏ View Merge (in all possible case)

① [VIEW 정의]

```
CREATE VIEW VW_DEPTTEMP
AS SELECT E.EMPNO,E.ENAME,E.SAL,D.DNAME
   FROM EMP E, DEPT D
   WHERE E.DEPTNO = D.DEPTNO;
```

② [VIEW 질의]

```
SELECT * FROM VW_DEPTTEMP WHERE DNAME = 'SALES';
```

③ [VIEW 처리]

```
SELECT E.EMPNO,E.ENAME,E.SAL,D.DEPTNO,D.DNAME
   FROM EMP E, DEPT D
   WHERE E.DEPTNO = D.DEPTNO AND D.DNAME = 'SALES';
```

④ [Stored Query]

```
SELECT VIEW_NAME,TEXT FROM USER_VIEWS;
```

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❏ Object dependency

① [Base Table]

```
CREATE TABLE BASE_TBL(EMPNO_NEW,ENAME_NEW)
AS SELECT EMPNO,ENAME
FROM EMP
WHERE JOB IN ('CLERK','SALESMAN');
```

[View]

```
CREATE VIEW VW_IND AS SELECT * FROM BASE_TBL;
```

- ② SELECT OBJECT_NAME,STATUS FROM USER_OBJECTS WHERE OBJECT_NAME ='VW_IND'; // Valid
DROP TABLE BASE_TBL;
SELECT OBJECT_NAME,STATUS FROM USER_OBJECTS WHERE OBJECT_NAME ='VW_IND'; // Invalid

③ Base Table 재생성

- ④ SELECT OBJECT_NAME,STATUS FROM USER_OBJECTS WHERE OBJECT_NAME ='VW_IND'; // Valid

⑤ drop view vw_ind;

* Data dictionary에 view의 정의가 SQL 형태로 저장되어 있기 때문에 drop view는 Data dictionary에서 VIEW의 정의 삭제.

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□ 과제

- 1) 기 생성된 VW_EMP를 BASE TABLE로 하여 JOB이 CLERK과 MANAGER인 조건의 VIEW를 생성하십시오
- 2) 과제1에서 생성한 VIEW를 Am 09:30분부터 Pm 14:56 까지만 SELECT 되도록 변경하십시오
- 3) 예제로 작성한 모든 VIEW를 DROP 할수 있는 SQL Script 파일을 생성 하십시오
- 4) VIEW에서 보이는 데이터에 DML 연산이 가능하도록 View를 생성하는 방법을 확인 하십시오
- 5) Mview(Materialized)의 정의, 특징 ,용도, 생성방법을 조사하여 발표 하십시오.