VIEWS

- **Views** are customized presentations of data in one or more tables or other views.
- Views do not actually contain data,
  - but instead derive their data from the tables upon which they are based.
- These tables are referred to as the **base tables** of the view.
- A virtual table that does not physically exist.
  - Rather, it is created by a query joining one or more tables

SYNTAX

```
CREATE VIEW view_name AS

SELECT column1, column2, ...

FROM table_name

WHERE condition;
```

In SQl plus

Perform following if ERROR

ORA-01031: insufficient privileges

Step 1: Open CMD

Step 2: conn system/coe19d002 conn system/ <password>

Step 3:Grant create view to SCOTT; Grant create view to <username>;

```
CREATE TABLE  SUPPLIERS
   (    SUPPLIER_ID NUMBER,
    SUPPLIER_NAME VARCHAR2(40),
    SUPPLIER_ADDRESS VARCHAR2(40)
   );
insert into suppliers values (001,'Ramesh','IIITDMK');
insert into suppliers values (002,'Samesh','IIITDMJ');
insert into suppliers values (003,'Suresh','IIITDMB');
insert into suppliers values (004,'Kanika','IIITDMBH');
```

```
CREATE TABLE  ORDERS
   (    ORDER_NO NUMBER,
    QUANTITY NUMBER,
    PRICE NUMBER
   ) ;

insert into orders values (989, 20, 20000);
insert into orders values (700, 20, 21000);
insert into orders values (686, 20, 22000);
insert into orders values (502, 20, 20000);
```

```
create view name_of_supplier as
select supplier_name from suppliers
where supplier_name like '%a%';

select * from name_of_supplier;
```

View created.

SUPPLIER_NAME
Ramesh
Samesh
Kanika

```
    CREATE VIEW sup_orders AS
SELECT suppliers.supplier_id, orders.quantity, orders.price
FROM suppliers
INNER JOIN orders
ON suppliers.supplier_id = supplier_id
WHERE suppliers.supplier_name like '%i%';
select * from sup_orders;
```

View created.

SUPPLIER_ID	QUANTITY	PRICE
4	20	20000
4	20	21000
4	20	22000
4	20	20000

UPDATE

```
CREATE OR REPLACE VIEW view_name AS
  SELECT columns
  FROM table
  WHERE conditions;
```

modify the definition of an Oracle VIEW without dropping it

```
CREATE or REPLACE VIEW sup_orders AS
 SELECT suppliers.supplier_id, orders.quantity, orders.price
 FROM suppliers
 INNER JOIN orders
 ON suppliers.supplier_id = supplier_id
 WHERE suppliers.supplier_name = 'Suresh';

 SELECT * FROM sup_orders;
```

View created.

SUPPLIER_ID	QUANTITY	PRICE
3	20	20000
3	20	21000
3	20	22000
3	20	20000

DROP VIEW

Drop view view_name

```
drop view sup_orders;
```

Inline view

```
select supplier_name
from (select supplier_name from suppliers where supplier_id=001);
```

Lateral joins the output of the outer query with the output of the underlying lateral subquery

```
SELECT sec.supplier_id,order_no
FROM suppliers sec,
LATERAL (SELECT order_no, price FROM orders stud
         WHERE sec.supplier_id != stud.order_no
         )
```

SUPPLIER_ID	ORDER_NO
1	989
1	700
1	686
1	502
2	989
2	700
2	686
2	502
3	989
3	700
3	686
3	502
4	989
4	700
4	686
4	502

Brands

BRAND_ID	BRAND_NAME
1	Audi
2	BMW
3	Ford
4	Honda
5	Toyota

Cars

CAR_ID	CAR_NAME	BRAND_ID
1	Audi R8 Coupe	1
2	Audi Q2	1
3	Audi S1	1
4	BMW 2-serie Cabrio	2
5	BMW i8	2
6	Ford Edge	3
7	Ford Mustang Fastback	3
8	Honda S2000	4
9	Honda Legend	4
10	Toyota GT86	5
11	Toyota C-HR	5

```
CREATE VIEW cars_master AS
SELECT
    car_id,
    car_name
FROM
    cars;
select * from cars_master;
```

View created.

CAR_ID	CAR_NAME
1	Audi R8 Coupe
2	Audi Q2
3	Audi S1
4	BMW 2-serie Cabrio
5	BMW i8
6	Ford Edge
7	Ford Mustang Fastback
8	Honda S2000
9	Honda Legend
10	Toyota GT86
11	Toyota C-HR

It's possible to delete a row from the cars table via the cars_master view, for example:

```
DELETE
FROM
    cars_master
WHERE
    car_id = 1;
select * from cars_master;
```

```
1 row(s) deleted.
```

cars_master

CAR_ID	CAR_NAME
2	Audi Q2
3	Audi S1
4	BMW 2-serie Cabrio
5	BMW i8
6	Ford Edge
7	Ford Mustang Fastback
8	Honda S2000
9	Honda Legend
10	Toyota GT86
11	Toyota C-HR

Cars

CAR_ID	CAR_NAME	BRAND_ID
2	Audi Q2	1
3	Audi S1	1
4	BMW 2-serie Cabrio	2
5	BMW i8	2
6	Ford Edge	3
7	Ford Mustang Fastback	3
8	Honda S2000	4
9	Honda Legend	4
10	Toyota GT86	5
11	Toyota C-HR	5

```
UPDATE
    cars_master
SET
    car_name = 'Audi RS7 Sportback'
WHERE
    car_id = 2;
select * from cars;
```

1 row(s) updated.

CAR_ID	CAR_NAME	BRAND_ID
2	Audi RS7 Sportback	1
3	Audi S1	1
4	BMW 2-serie Cabrio	2
5	BMW i8	2
6	Ford Edge	3
7	Ford Mustang Fastback	3
8	Honda S2000	4
9	Honda Legend	4
10	Toyota GT86	5
11	Toyota C-HR	5

INSERT

INSERT INTO cars_master

VALUES('Audi S1 Sportback');

ERROR

```
CREATE VIEW all_cars AS
SELECT
    car_id,
    car_name,
    c.brand_id,
    brand_name
FROM
    cars c
INNER JOIN brands b ON
    b.brand_id = c.brand_id;

INSERT INTO all_cars(car_name, brand_id )
VALUES('Audi A5 Cabriolet', 1);
select * from all_cars;
```

```
SELECT
      *
FROM
     USER_UPDATABLE_COLUMNS
WHERE
     TABLE_NAME = 'ALL_CARS
```

OWNER	TABLE_NAME	COLUMN_NAME	UPDATABLE	INSERTABLE	DELETABLE
SQL_YTZGFBWHEMMDCMXGFAQDFNEPN	ALL_CARS	CAR_ID	YES	YES	YES
SQL_YTZGFBWHEMMDCMXGFAQDFNEPN	ALL_CARS	CAR_NAME	YES	YES	YES
SQL_YTZGFBWHEMMDCMXGFAQDFNEPN	ALL_CARS	BRAND_ID	YES	YES	YES
SQL_YTZGFBWHEMMDCMXGFAQDFNEPN	ALL_CARS	BRAND_NAME	NO	NO	NO