

CLUSTER:

> CLUSTER IS A DB OBJECT WHICH CONTAIN GROUP OF TABLES TOGETHER AND ALSO IT SHARES SAME DATABLOCK.

> GENERALLY, CLUSTER ARE USED TO IMPROVE PERFORMANCE OF THE JOINS AND ALSO CLUSTERS ARE CREATED BY DBA ONLY.

> CLUSTER TABLE MUST HAVE A COMMON COLUMN NAME. THIS COMMON COLUMN IS ALSO CALLED AS CLUSTER KEY. GENERALLY CLUSTER ARE CREATED AT THE TIME OF TABLE CREATION.

STEPS TO CREATE CLUSTER IN ORACLE:

STEP1: CREATE CLUSTER:

SYNTAX:

**CREATE CLUSTER <CLUSTER NAME> (<COMMON COLUMN NAME>
<DT>[SIZE]);**

EX:

**SQL> CREATE CLUSTER EMP_DEPT (DEPTNO INT);
CLUSTER CREATED.**

STEP2: CREATE INDEX ON CLUSTER:

SYNTAX:

CREATE INDEX <INDEX NAME> ON CLUSTER <CLUSTER NAME>;

EX:

**SQL> CREATE INDEX ABC ON CLUSTER EMP_DEPT;
INDEX CREATED.**

STEP3: CREATE CLUSTER TABLES:

SYNTAX:

**CREATE TABLE
<TN>(<COL1><DT>[SIZE],<COL2><DT>[SIZE].....)
CLUSTER <CLUSTER NAME> (COMMON COLUMN NAME);**

EX:

**SQL> CREATE TABLE EMP1(EMPNO INT, ENAME VARCHAR2(20),
DEPTNO INT) CLUSTER EMP_DEPT(DEPTNO);**

TABLE CREATED.

**SQL> CREATE TABLE DEPT1(DEPTNO INT, DNAME VARCHAR2(20),
LOC VARCHAR2(20)) CLUSTER EMP_DEPT(DEPTNO);**

TABLE CREATED.

SQL> DESC EMP1;

NAME	NULL?	TYPE
-----	-----	-----
EMPNO		NUMBER (38)
ENAME		VARCHAR2(20)
DEPTNO		NUMBER (38)

SQL> DESC DEPT1;

NAME	NULL?	TYPE
-----	-----	-----
DEPTNO		NUMBER (38)
DNAME		VARCHAR2(20)
LOC		VARCHAR2(20)

SQL> INSERT INTO EMP1 VALUES(1,'A',10);

SQL> INSERT INTO EMP1 VALUES(2,'B',20);

SQL> SELECT * FROM EMP1;

EMPNO	ENAME	DEPTNO
-----	-----	-----
1	A	10
2	B	20

```
SQL> INSERT INTO DEPT1 VALUES (10,'X','HYD');
SQL> INSERT INTO DEPT1 VALUES (20,'Z','UP');
SQL> SELECT * FROM DEPT1;
```

DEPTNO	DNAME	LOC
10	X	HYD
20	Z	UP

NOTE: THESE TWO TABLES HAVING COMMON COLUMN(DEPTNO) AND HAVING IN THE SAME MEMORY SO THAT THEIR ROWID'S ARE SAME.

```
SQL> SELECT ROWID FROM EMP1;
ROWID
```

```
-----
AAAOZUA AEAAAAHEAAA
AAAOZUA AEAAAAHFAAA
```

```
SQL> SELECT ROWID FROM DEPT1;
ROWID
```

```
-----
AAAOZUA AEAAAAHEAAA
AAAOZUA AEAAAAHFAAA
```

NOTE: TO VIEW ALL CLUSTER OBJECTS IN ORACLE THEN WE FOLLOW THE FOLLOWING DATADITIONARY IS "USER_CLUSTERD".

```
SQL> DESC USER_CLUSTERS;
SQL> SELECT CLUSTER_NAME FROM USER_CLUSTERS;
```

CLUSTER_NAME

EMP_DEPT

**NOTE: TO VIEW CLUSTERED TABLES IN ORACLE THEN WE USE
DATA DICTIONARY IS "USER_TABLES".**

SQL> DESC USER_TABLES;

**SQL> SELECT TABLE_NAME FROM USER_TABLES WHERE
CLUSTER_NAME='EMP_DEPT';**

TABLE_NAME

DEPT1

EMP1

DROPPING CLUSTER WITH TABLES:

SYNTAX:

SQL> DROP CLUSTER <CLUSTER NAME>;

SQL> DROP CLUSTER EMP_DEPT;

ERROR AT LINE 1:

ORA-00951: CLUSTER NOT EMPTY

> TO OVERCOME THE ABOVE ERROR, WE SHOULD USE

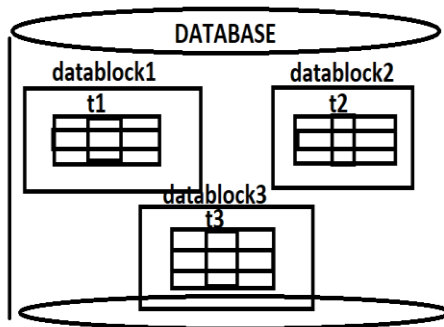
**" INCLUDING TABLES " CLAUSE TO DROP CLUSTER ALONG WITH
TABLES.**

SQL> DROP CLUSTER EMP_DEPT INCLUDING TABLES;

CLUSTER DROPPED.

NON - CLUSTER TABLES (DEFAULT);

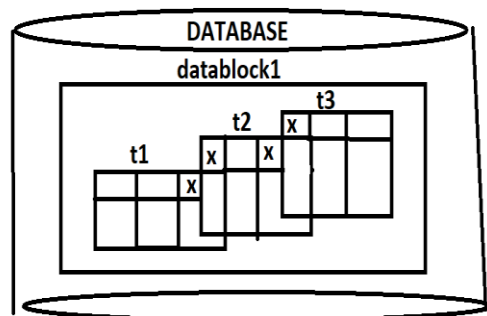
=====



select * from t1,t2,t3 where t1.cc=t2.cc and t2.cc=t3.cc;
to degrade joins performance

CLUSTER TABLES :

=====



select * from t1,t2,t3 where t1.cc=t2.cc and t2.cc=t3.cc;
to improve joins performance