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

AAAOZUAAEAAAAHEAAA

AAAOZUAAEAAAAHFAAA

SQL> SELECT ROWID FROM DEPT1;

ROWID

AAAOZUAAEAAAAHEAAA

AAAOZUAAEAAAAHFAAA

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

SQL> DESC USER_CLUSTERS;

SQL> SELECT CLUSTER_NAME FROM USER_CLUSTERS;

CLUSTER_NAME

EMP_DEPT

NOTE: **TO VIEW CLUSTERED TABLES IN ORALCE THEN WE USE DATADICTIONARY 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

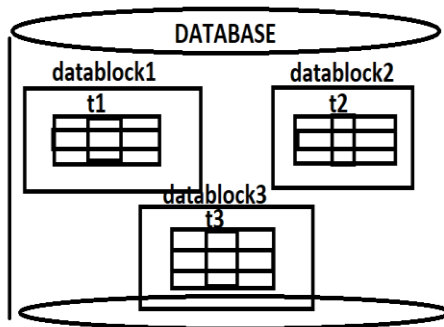**> TO OVERCOME THE ABOVE ERROR, WE SHOULD USE**

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

SQL> DROP CLUSTER EMP_DEPT INCLUDING TABLES;
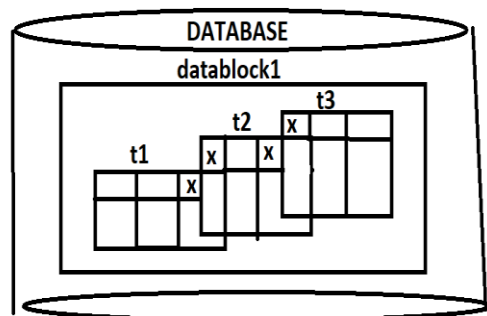
CLUSTER DROPPED.

NON - CLUSTER TABLES (DEFAULT):

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DATABASE

datablock1

t1

datablock2

t2

datablock3

t3

select * from t1,t2,t3 where t1.cc=t2.cc and t2.cc=t3.cc;

to degrade joins performance

CLUSTER TABLES :

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DATABASE

datablock1

t3

t2

x

x

t1

x

select * from t1,t2,t3 where t1.cc=t2.cc and t2.cc=t3.cc;

to improve joins performance