**a) Create new user called DAVE and assign RED and TEMP tablespaces to him, also DEFAULT profile. He should be allowed to use only 2M of RED tablespace, and also 1M of INDX tablespace.**

SQL> create user "DAVE" identified by 123 profile "DEFAULT" account unlock default tablespace "RED" temporary tablespace "TEMP";

User created.

SQL> ALTER USER DAVE QUOTA 2M ON RED;

User altered.

SQL> ALTER USER DAVE QUOTA 1M ON INDX;

User altered.

SQL> GRANT CONNECT to DAVE;

Grant succeeded.

SQL> grant CREATE TABLE to DAVE;

Grant succeeded.

**b) Create another user called LARA and assign BLUE and TEMP tablespaces to her, also DEFAULT profile, but no quota initially for her and her account should be locked.**

**Both users should get role that will allow them to connect to SQL and individual privilege for creating tables.**

SQL> create user "LARA" identified by 123 profile "DEFAULT" account lock default tablespace "BLUE" temporary tablespace "TEMP";

User created.

SQL> grant CREATE TABLE to "LARA";

Grant succeeded.

SQL> grant "CONNECT" to "LARA";

Grant succeeded.

**c) Create new profile called ITPROF so that:**

**• One session per user is allowed**

**• Idle CPU time is no more than 1 hour**

**• Three false logins are allowed and that account should remain locked for 2 minutes after the fourth false login**

SQL>create profile "ITPROF" limit

cpu\_per\_session UNLIMITED

cpu\_per\_call UNLIMITED

connect\_time UNLIMITED

idle\_time 60

sessions\_per\_user 1

logical\_reads\_per\_session UNLIMITED

logical\_reads\_per\_call UNLIMITED

private\_sga UNLIMITED

composite\_limit UNLIMITED

password\_life\_time UNLIMITED

password\_grace\_time UNLIMITED

password\_reuse\_max UNLIMITED

password\_reuse\_time UNLIMITED

password\_verify\_function NULL

failed\_login\_attempts 3

password\_lock\_time 2/1440;

Profile created.

**d) Assign this profile now to DAVE and enable all restrictions for profile ITPROF. Then connect to SQL\*PLUS as DAVE and try to connect to SQL\*PLUS as DAVE again (in a second session). What happened?**

SQL> ALTER USER DAVE profile ITPROF;

User altered.

SQL> ALTER SYSTEM SET resource\_limit=true;

System altered.

SQL (on second session)> conn DAVE/123;

ERROR:

ORA-02391: exceeded simultaneous SESSIONS\_PER\_USER limit

**e) As SYSTEM modify profile ITPROF so that only two false logins are allowed and that password life time is only 2 months with the grace period of 5 days. Then try to login as DAVE with the wrong password 3 times. Wait only 1 minute and provide now the right password. What happened and how can you rectify this problem  show both methods?**

SQL> ALTER PROFILE ITPROF LIMIT failed\_login\_attempts 2;

Profile altered.

SQL>ALTER PROFILE ITPROF LIMIT password\_life\_time 60;

Profile altered.

SQL>ALTER PROFILE ITPROF LIMIT password\_grace\_time 5;

Profile altered.

\*Placed the wrong password three time for Dave\*

Method 1:

SQL> ALTER USER DAVE ACCOUNT UNLOCK;

Method 2:

Wait 1min for account to unlock;

**f) As SYSTEM try to create replica of SCOTT’s table EMP in both DAVE’s and LARA’s accounts. Was it successful in both cases? How can you fix this problem? After doing that, verify that LARA (after login) may access her table EMP.**

SQL> CREATE TABLE DAVE.emp AS (SELECT \* FROM SCOTT.emp);

Table created.

SQL> CREATE TABLE LARA.emp AS (SELECT \* FROM SCOTT.emp)

SQL> CREATE TABLE LARA.emp AS (SELECT \* FROM SCOTT.emp);

ERROR at line 1:

ORA-01950: no privileges on tablespace 'BLUE'

\*Lara needs a quota\*

SQL>ALTER USER LARA QUOTA 5m ON BLUE;

User altered.

SQL> CREATE TABLE LARA.emp AS (SELECT \* FROM SCOTT.emp)

Table created.

**g) By joining 2 dictionary views display for users DAVE and LARA their account status, when the account will expire, what profile and tablespaces are assigned and what the current and maximal byte situation is for these tablespaces?**

SQL>SELECT username, u.ACCOUNT\_STATUS, u.expiry\_date, u.profile, q.tablespace\_name, q.max\_bytes

FROM dba\_users u

JOIN DBA\_TS\_QUOTAS q

USING (username)

WHERE username IN (**'**DAVE**'**, **'**LARA**'**);

USERNAME

--------------------------------------------------------------------------------

ACCOUNT\_STATUS EXPIRY\_DA

-------------------------------- ---------

PROFILE

--------------------------------------------------------------------------------

TABLESPACE\_NAME MAX\_BYTES

------------------------------ ----------

LARA

LOCKED 02-OCT-18

DEFAULT

BLUE 5242880

DAVE

OPEN 04-JUN-18

ITPROF

INDX 1048576

DAVE

OPEN 04-JUN-18

ITPROF

RED 2097152

**h) Now give individual privilege to DAVE, so that he can browse and add data in a table in any account and also that he can continue to give this privilege. Then connect as DAVE and give the same privilege to LARA?**

SQL> GRANT INSERT ANY TABLE, SELECT\_CATALOG\_ROLE TO DAVE WITH ADMIN OPTION;

Grant succeeded.

\*IN DAVE’s session\*

SQL> GRANT INSERT ANY TABLE, SELECT\_CATALOG\_ROLE TO LARA WITH ADMIN OPTION;

Grant succeeded.

**i) As SYSTEM, check the appropriate dictionary view and observe only system privileges for those two users (show only relevant columns from this view)**

SQL> SELECT \* FROM dba\_sys\_privs WHERE grantee IN ('DAVE','LARA');

GRANTEE

--------------------------------------------------------------------------------

PRIVILEGE ADM COM

---------------------------------------- --- ---

DAVE

CREATE TABLE NO NO

DAVE

INSERT ANY TABLE YES NO

LARA

CREATE TABLE NO NO

LARA

INSERT ANY TABLE YES NO

**j) Remove the privilege given to DAVE in h), then connect as LARA and try to ADD one row into SCOTT’s table EMP.**

**Was it successful and why? Then repeat step i) and explain what is different now?**

SQL> REVOKE INSERT ANY TABLE, SELECT\_CATALOG\_ROLE FROM DAVE

SQL>INSERT INTO scott.emp (EMPNO, ENAME, JOB) VALUES (4523, ‘LEO’, ‘Cook’);

SQL> SELECT \* FROM dba\_sys\_privs WHERE grantee IN ('DAVE','LARA');

GRANTEE

--------------------------------------------------------------------------------

PRIVILEGE ADM COM

---------------------------------------- --- ---

DAVE

CREATE TABLE NO NO

LARA

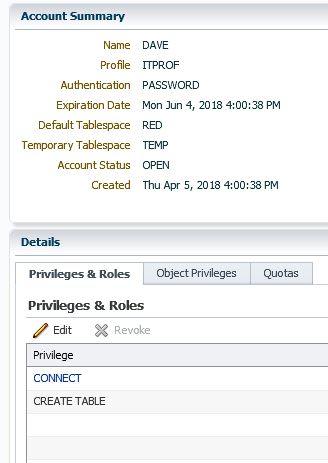
CREATE TABLE NO NO

LARA

INSERT ANY TABLE YES NO

\*Dave does not have his sys privs\*

k) In DB Express display situation for DAVE’s account firstly and then for LARA’s account as two different pages.



**Two(DAVE)**

**a) As DAVE, create a PK constraint for table CUSTOMERS, so that its checking can be delayed (till saving) LATER in the future, but for now it will behave like the non-delayed one. The state should be set to check only incoming data.**

**Also add PK constraint for table ORDERS, so that its checking can be delayed PROMPTLY after its creation, while its state should be set to check both existing and incoming data. Related indexes should go to Tablespace INDX.**

SQL> ALTER TABLE CUSTOMERS ADD CONSTRAINT cust\_pk PRIMARY KEY (cust\_code) INITIALLY DEFERRED USING INDEX TABLESPACE indx;

SQL> ALTER TABLE customers ENABLE NOVALIDATE CONSTRAINT cust\_pk;

SQL> ALTER TABLE orders ADD CONSTRAINT ord\_pk PRIMARY KEY (ORD\_ID) INITIALLY DEFERRED USING INDEX TABLESPACE indx;

SQL> ALTER TABLE orders ENABLE VALIDATE CONSTRAINT ord\_pk;

**b) Also add an UK constraint on column NAME in table CUSTOMERS, so that will have default value for either its state or mode, and sub-default for the other one. Think hard here. You may want to check question g) below in order to make a right choice.**

**The related index will also go to tablespace INDX.**

SQL>ALTER TABLE customers ADD CONSTRAINT cust\_name\_uk UNIQUE (name) INITIALLY DEFERRED USING INDEX TABLESPACE indx DISABLE NOVALIDATE;

SQL>ALTER TABLE customers DISABLE CONSTRAINT cust\_name\_uk;

**c) Create a FK constraint for table ORDERS so that might be LATER manually delayed (at save time). This constraint state follows the default value.**

SQL> ALTER TABLE orders ADD CONSTRAINT fk\_c\_ord FOREIGN KEY(cust\_code) REFERENCES customers(cust\_code) NOT DEFERRABLE;

**\*d) Then declare a CK constraint with condition that date of delivery may not be later than two weeks from the order date and also not before it. This constraint's mode is the default one, while the state follows the sub-default value.**

SQL> ALTER TABLE orders ADD CONSTRAINT CHK\_date CHECK ( TO\_DATE (DATE\_OF\_DELY, 'YYYY-MM-DD' ) - TO\_DATE(ORD\_DATE, 'YYYY-MM-DD' )) <= 14);

**e) As SYSTEM, join two most important constraint dictionary views to display the following: constraint name, type, status, validation, can be deferred or not, is it currently deferred, table name and what column(s) are involved for tables CUSTOMERS and ORDERS in DAVE’s account.**

SQL> SELECT constraint\_name, t.constraint\_type, t.validated, t.deferred, t.deferrable, t.table\_name, c.column\_name

FROM dba\_constraints t JOIN dba\_cons\_columns c

USING (constraint\_name)

WHERE t.owner = 'DAVE' AND t.table\_name IN ('CUSTOMERS', 'ORDERS'); 2 3 4

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

CUST\_PK

P NOT VALIDATED DEFERRED DEFERRABLE

CUSTOMERS

CUST\_CODE

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

ORD\_PK

P VALIDATED DEFERRED DEFERRABLE

ORDERS

ORD\_ID

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

CUST\_NAME\_UK

U NOT VALIDATED DEFERRED DEFERRABLE

CUSTOMERS

NAME

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

ORD\_PK

P VALIDATED DEFERRED DEFERRABLE

ORDERS

ORD\_ID

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

CUST\_PK

P NOT VALIDATED DEFERRED DEFERRABLE

CUSTOMERS

CUST\_CODE

CONSTRAINT\_NAME

--------------------------------------------------------------------------------

C VALIDATED DEFERRED DEFERRABLE

- ------------- --------- --------------

TABLE\_NAME

--------------------------------------------------------------------------------

COLUMN\_NAME

--------------------------------------------------------------------------------

FK\_C\_ORD

R VALIDATED IMMEDIATE NOT DEFERRABLE

ORDERS

CUST\_CODE

**f) As DAVE, try to make a short DML script (yours and original), that will show how it is possible to insert a child record before its parent record, if the child FK constraint checking is delayed till save time.**

**Manually perform the change that will allow this check delay.**

-- Needs Tablespace SHORT or RED as UNIFORM of 80K

-- SET TERMOUT OFF

INSERT INTO customers VALUES('O31','TKB SPORT SHOP','West');

INSERT INTO orders(ord\_id,ord\_date,cust\_code) VALUES(480,'29-NOV-1997','O31');

Commit;

--set termout on

**g) Then make another short script that will show how it is possible to enter same names for different customers (three), if the appropriate constraint is turned off at the creation time.**

>@CustNames

INSERT INTO customers VALUES('E11','POP','West');

INSERT INTO customers VALUES('E12','POP','North');

INSERT INTO customers VALUES('E13','POP','South');

1 row created.

SQL>

1 row created.

SQL>

1 row created.

**h) Now try to set the UK constraint in DAVE’s table CUSTOMERS to the default state. What happened?**

SQL>ALTER TABLE customers ENABLE CONSTRAINT cust\_name\_uk;

ERROR at line 1:

ORA-02299: cannot validate (DAVE.CUST\_NAME\_UK) - duplicate keys found

**i) Then enable it so that it does NOT check the existing data. If not possible, fix this obstacle by creating a new object in DAVE’s schema.**

SQL>ALTER TABLE customers ENABLE NOVALIDATE CONSTRAINT cust\_name\_uk;

**j) Next, try to enter a row with an existing customer name. What happened?**

SQL> INSERT INTO customers VALUES('E14','POP','South');

ERROR: duplicate keys found

**k) Perform the five step recipe for consolidating the situation with the Name column in DAVE’s CUSTOMERS table (get rid of all customers with duplicate names by modifying duplicates).**

You should download first the script utlexcpt.sql in order to create the 'container' table (if not done before).

Script—

create table exceptions (row\_id rowid,

owner varchar2(30),

table\_name varchar2(30),

constraint varchar2(30));

End Script—

SQL>ALTER TABLE customers ENABLE CONSTRAINT cust\_name\_uk EXCEPTIONS INTO exceptions;

SQL> SELECT rowid, cust\_code, name, REGION

FROM customers

WHERE rowid IN (SELECT row\_id FROM exceptions

WHERE table\_name = 'CUSTOMERS');

ROWID CUS NAME REGIO

------------------ --- -------------------------------------------------- -----

AAB9p6AAMAAAACXAAC E13 POP South

AAB9p6AAMAAAACXAAB E12 POP North

AAB9p6AAMAAAACXAAA E11 POP West

AAB9p6AAMAAAACVAAF A06 SHAPE UP West

AAB9p6AAMAAAACVAAE A05 SHAPE UP South

AAB9p6AAMAAAACVAAI O31 TKB SPORT SHOP West

AAB9p6AAMAAAACVAAA A01 TKB SPORT SHOP West

UPDATE customers SET NAME = 'POP1' WHERE rowid = 'AAB9p6AAMAAAACXAAC';

UPDATE customers SET NAME = 'POP2' WHERE rowid = 'AAB9p6AAMAAAACXAAB';

UPDATE customers SET NAME = 'POP3' WHERE rowid = 'AAB9p6AAMAAAACXAAA';

UPDATE customers SET NAME = 'SHAPE UP1' WHERE rowid = 'AAB9p6AAMAAAACVAAF';

UPDATE customers SET NAME = 'SHAPE UP2' WHERE rowid = 'AAB9p6AAMAAAACVAAE';

UPDATE customers SET NAME = 'TKB SPORT SHOP1' WHERE rowid = 'AAB9p6AAMAAAACVAAI';

UPDATE customers SET NAME = 'TKB SPORT SHOP2' WHERE rowid = 'AAB9p6AAMAAAACVAAA';

SQL>

1 row updated…..

SQL> ALTER TABLE customers ENABLE CONSTRAINT cust\_name\_uk;

Table altered

SQL>TRUNCATE TABLE exceptions;

**Three**

**a) Configure following options in RMAN**

**• Number of copies before becoming obsolete is 2**

**• Turn on auto backup of Control File**

**• Default folder to hold backup sets is /home/oracle/BACKUP and default name for these sets is hot\_%u\_%s\_%p**

**• Exclude all MGMT tablespaces from every backup**

>CONFIGURE RETENTION POLICY TO REDUNDANCY 2;

>CONFIGURE CONTROLFILE AUTOBACKUP ON;

> CONFIGURE CHANNEL DEVICE TYPE DISK FORMAT '/home/oracle/BACKUP/full\_%u\_%s\_%p';

> CONFIGURE exclude for tablespace MGMT;

**b) Perform WHOLE, FULL and COLD database backup. This one may be used later as a base for Incremental backups. Allow only 4 files per set (peace)**

**Now show all backup sets created so far**

RMAN> shutdown immediate

database closed

database dismounted

Oracle instance shut down

RMAN> startup mount

connected to target database (not started)

Oracle instance started

database mounted

Total System Global Area 1342177280 bytes

Fixed Size 2924160 bytes

Variable Size 469762432 bytes

Database Buffers 855638016 bytes

Redo Buffers 13852672 bytes

RMAN> list backup;

List of Backup Sets

===================

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

16 Full 1.51G DISK 00:00:07 15-APR-18

BP Key: 16 Status: AVAILABLE Compressed: NO Tag: TAG20180415T222749

Piece Name: /home/oracle/BACKUP/full\_0ht0ec35\_17\_1

List of Datafiles in backup set 16

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

3 Full 27786700 15-APR-18 /opt/oracle/oradata/student/sysaux01.dbf

12 Full 27786700 15-APR-18 /opt/oracle/oradata/DISK2/red01.dbf

13 Full 27786700 15-APR-18 /opt/oracle/oradata/DISK4/red02.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

17 Full 934.72M DISK 00:00:02 15-APR-18

BP Key: 17 Status: AVAILABLE Compressed: NO Tag: TAG20180415T222749

Piece Name: /home/oracle/BACKUP/full\_0it0ec3l\_18\_1

List of Datafiles in backup set 17

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

1 Full 27786700 15-APR-18 /opt/oracle/oradata/student/system01.dbf

10 Full 27786700 15-APR-18 /opt/oracle/oradata/student/joke02.dbf

11 Full 27786700 15-APR-18 /opt/oracle/oradata/DISK4/blue01.dbf

14 Full 27786700 15-APR-18 /opt/oracle/oradata/student/indx01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

18 Full 40.98M DISK 00:00:00 15-APR-18

BP Key: 18 Status: AVAILABLE Compressed: NO Tag: TAG20180415T222749

Piece Name: /home/oracle/BACKUP/full\_0jt0ec3s\_19\_1

List of Datafiles in backup set 18

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

4 Full 27786700 15-APR-18 /opt/oracle/oradata/student/undotbs01.dbf

6 Full 27786700 15-APR-18 /opt/oracle/oradata/student/users01.dbf

8 Full 27786700 15-APR-18 /opt/oracle/oradata/student/mine01.dbf

9 Full 27786700 15-APR-18 /opt/oracle/oradata/student/joke01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

19 Full 9.64M DISK 00:00:00 15-APR-18

BP Key: 19 Status: AVAILABLE Compressed: NO Tag: TAG20180415T222813

Piece Name: /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973549514\_ff82kxos\_.bkp

SPFILE Included: Modification time: 15-APR-18

SPFILE db\_unique\_name: STUDENT

Control File Included: Ckp SCN: 27786700 Ckp time: 15-APR-18

**c) Perform HOT and Incremental-Cumulative backup of tablespaces MINE and RED**

**Then show all backups of tablespace MINE**

> BACKUP TABLESPACE mine, users FILESPERSET=2;

> BACKUP TABLESPACE RED, users FILESPERSET=2;

> BACKUP INCREMENTAL LEVEL 0 CUMULATIVE TABLESPACE mine;

> BACKUP INCREMENTAL LEVEL 0 CUMULATIVE TABLESPACE red;

>LIST BACKUP OF TABLESPACE mine;

List of Backup Sets

===================

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

26 Full 5.71M DISK 00:00:00 15-APR-18

BP Key: 26 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224639

Piece Name: /home/oracle/BACKUP/full\_0tt0ed6f\_29\_1

List of Datafiles in backup set 26

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

8 Full 27788608 15-APR-18 /opt/oracle/oradata/student/mine01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

31 Incr 0 1.41M DISK 00:00:00 15-APR-18

BP Key: 31 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224800

Piece Name: /home/oracle/BACKUP/full\_12t0ed90\_34\_1

List of Datafiles in backup set 31

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

8 0 Incr 27788833 15-APR-18 /opt/oracle/oradata/student/mine01.dbf

**d) Perform HOT and Incremental-Differential backup of datafile that belongs to tablespace USERS. Then show all backups of that datafile**

>BACKUP INCREMENTAL LEVEL 0 DATAFILE 6; // 6 is users

> list backup of datafile 6;

List of Backup Sets

===================

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

26 Full 5.71M DISK 00:00:00 15-APR-18

BP Key: 26 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224639

Piece Name: /home/oracle/BACKUP/full\_0tt0ed6f\_29\_1

List of Datafiles in backup set 26

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

6 Full 27788608 15-APR-18 /opt/oracle/oradata/student/users01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

28 Full 4.32M DISK 00:00:00 15-APR-18

BP Key: 28 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224714

Piece Name: /home/oracle/BACKUP/full\_0vt0ed7i\_31\_1

List of Datafiles in backup set 28

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

6 Full 27788662 15-APR-18 /opt/oracle/oradata/student/users01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

35 Incr 0 4.32M DISK 00:00:00 15-APR-18

BP Key: 35 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225330

Piece Name: /home/oracle/BACKUP/full\_16t0edja\_38\_1

List of Datafiles in backup set 35

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

6 0 Incr 27790462 15-APR-18 /opt/oracle/oradata/student/users01.dbf

**e) Display all files that are due for backup regarding retention policy established in a)**

>REPORT NEED BACKUP;

RMAN retention policy will be applied to the command

RMAN retention policy is set to redundancy 2

Report of files with less than 2 redundant backups

File #bkps Name

---- ----- -----------------------------------------------------

1 0 /opt/oracle/oradata/student/system01.dbf

file 2 is excluded from whole database backup

3 0 /opt/oracle/oradata/student/sysaux01.dbf

4 0 /opt/oracle/oradata/student/undotbs01.dbf

file 5 is excluded from whole database backup

file 7 is excluded from whole database backup

9 0 /opt/oracle/oradata/student/joke01.dbf

10 0 /opt/oracle/oradata/student/joke02.dbf

11 0 /opt/oracle/oradata/DISK4/blue01.dbf

14 0 /opt/oracle/oradata/student/indx01.dbf

**f) Perform HOT and Incremental-Cumulative backup of database**

>backup incremental level 0 database plus archivelog filesperset=5;

**g) Display all backup sets that are beyond retention policy established in a). Then delete all these sets.**

>REPORT OBSOLETE;

RMAN retention policy will be applied to the command

RMAN retention policy is set to redundancy 2

Report of obsolete backups and copies

Type Key Completion Time Filename/Handle

-------------------- ------ ------------------ --------------------

Backup Set 26 15-APR-18

Backup Piece 26 15-APR-18 /home/oracle/BACKUP/full\_0tt0ed6f\_29\_1

Backup Set 27 15-APR-18

Backup Piece 27 15-APR-18 /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973550800\_ff83njdz\_.bkp

Backup Set 28 15-APR-18

Backup Piece 28 15-APR-18 /home/oracle/BACKUP/full\_0vt0ed7i\_31\_1

Backup Set 29 15-APR-18

Backup Piece 29 15-APR-18 /home/oracle/BACKUP/full\_10t0ed7k\_32\_1

Backup Set 30 15-APR-18

Backup Piece 30 15-APR-18 /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973550837\_ff83oo9h\_.bkp

Backup Set 32 15-APR-18

Backup Piece 32 15-APR-18 /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973550881\_ff83q227\_.bkp

Backup Set 34 15-APR-18

Backup Piece 34 15-APR-18 /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973550905\_ff83qsr6\_.bkp

> DELETE OBSOLETE;

**h) Now show all backup sets remained. Also, show the content of /home/oracle/BACKUP folder**

>List backup;

List of Backup Sets

===================

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

31 Incr 0 1.41M DISK 00:00:00 15-APR-18

BP Key: 31 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224800

Piece Name: /home/oracle/BACKUP/full\_12t0ed90\_34\_1

List of Datafiles in backup set 31

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

8 0 Incr 27788833 15-APR-18 /opt/oracle/oradata/student/mine01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

33 Incr 0 1.38M DISK 00:00:00 15-APR-18

BP Key: 33 Status: AVAILABLE Compressed: NO Tag: TAG20180415T224824

Piece Name: /home/oracle/BACKUP/full\_14t0ed9o\_36\_1

List of Datafiles in backup set 33

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

12 0 Incr 27788881 15-APR-18 /opt/oracle/oradata/DISK2/red01.dbf

13 0 Incr 27788881 15-APR-18 /opt/oracle/oradata/DISK4/red02.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

35 Incr 0 4.32M DISK 00:00:00 15-APR-18

BP Key: 35 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225330

Piece Name: /home/oracle/BACKUP/full\_16t0edja\_38\_1

List of Datafiles in backup set 35

File LV Type Ckp SCN Ckp Time Name

---- -- ---- ---------- --------- ----

6 0 Incr 27790462 15-APR-18 /opt/oracle/oradata/student/users01.dbf

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

36 Full 9.64M DISK 00:00:00 15-APR-18

BP Key: 36 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225331

Piece Name: /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973551211\_ff841coy\_.bkp

SPFILE Included: Modification time: 15-APR-18

SPFILE db\_unique\_name: STUDENT

Control File Included: Ckp SCN: 27790469 Ckp time: 15-APR-18

BS Key Size Device Type Elapsed Time Completion Time

------- ---------- ----------- ------------ ---------------

37 52.59M DISK 00:00:00 15-APR-18

BP Key: 37 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225808

Piece Name: /home/oracle/BACKUP/full\_18t0eds0\_40\_1

List of Archived Logs in backup set 37

Thrd Seq Low SCN Low Time Next SCN Next Time

---- ------- ---------- --------- ---------- ---------

1 1351 27768897 15-APR-18 27787818 15-APR-18

1 1352 27787818 15-APR-18 27792070 15-APR-18

BS Key Type LV Size Device Type Elapsed Time Completion Time

------- ---- -- ---------- ----------- ------------ ---------------

38 Incr 0 2.47G DISK 00:00:07 15-APR-18

BP Key: 38 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225809

Piece Name: /home/oracle/BACKUP/full\_19t0eds1\_41\_1

List of Datafiles in backup set 38

File LV Type Ckp SCN Ckp Time Name

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1 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/system01.dbf

3 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/sysaux01.dbf

4 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/undotbs01.dbf

6 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/users01.dbf

8 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/mine01.dbf

9 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/joke01.dbf

10 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/joke02.dbf

11 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/DISK4/blue01.dbf

12 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/DISK2/red01.dbf

13 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/DISK4/red02.dbf

14 0 Incr 27792078 15-APR-18 /opt/oracle/oradata/student/indx01.dbf

BS Key Size Device Type Elapsed Time Completion Time

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39 6.00K DISK 00:00:00 15-APR-18

BP Key: 39 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225825

Piece Name: /home/oracle/BACKUP/full\_1at0edsh\_42\_1

List of Archived Logs in backup set 39

Thrd Seq Low SCN Low Time Next SCN Next Time

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1 1353 27792070 15-APR-18 27792087 15-APR-18

BS Key Type LV Size Device Type Elapsed Time Completion Time

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40 Full 9.64M DISK 00:00:00 15-APR-18

BP Key: 40 Status: AVAILABLE Compressed: NO Tag: TAG20180415T225826

Piece Name: /opt/oracle/fast\_recovery\_area/STUDENT/autobackup/2018\_04\_15/o1\_mf\_s\_973551506\_ff84blhq\_.bkp

SPFILE Included: Modification time: 15-APR-18

SPFILE db\_unique\_name: STUDENT

Control File Included: Ckp SCN: 27792096 Ckp time: 15-APR-18

[oracle@oracloud12c ARCHIVE]$ cd ../BACKUP

[oracle@oracloud12c BACKUP]$ ls

full\_12t0ed90\_34\_1 full\_16t0edja\_38\_1 full\_19t0eds1\_41\_1

full\_14t0ed9o\_36\_1 full\_18t0eds0\_40\_1 full\_1at0edsh\_42\_1