L10-W11-DBS301-savepoint rollback etc

You will **create 2 tables** firstly, then **remove / restore** these tables and also to **add / modify /remove** certain database objects like **views** in this lab.

1. Create table CITIES **from table LOCATIONS,** but only for location numbers less than 2000 (do NOT create this table from scratch).

🡪 You will have exactly 10 rows here.

When you describe CITIES, the output is shown below:

SQL> DESC cities

Name Null? Type

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LOCATION\_ID NUMBER(4)

STREET\_ADDRESS VARCHAR2(40)

POSTAL\_CODE VARCHAR2(12)

CITY NOT NULL VARCHAR2(30)

STATE\_PROVINCE VARCHAR2(25)

COUNTRY\_ID CHAR(2)

CREATE TABLE CITIES AS

SELECT \*  
FROM LOCATIONS  
WHERE location\_id < 2000;

2. Create table TOWNS **from table LOCATIONS,** but only for location numbers less than 1500 (do NOT create this table from scratch). This table will have same structure as table CITIES.

🡪 You will have exactly 5 rows here.

CREATE TABLE TOWNS AS

SELECT \*

FROM LOCATIONS

WHERE location\_id < 1500;

SELECT \*

FROM towns;

LOCATION\_ID STREET\_ADDRESS POSTAL\_CODE CITY STATE\_PROVINCE COUNTRY\_ID

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1000 1297 Via Cola di Rie 00989 Roma IT

1100 93091 Calle della Testa 10934 Venice IT

1200 2017 Shinjuku-ku 1689 Tokyo Tokyo Prefecture JP

1300 9450 Kamiya-cho 6823 Hiroshima JP

1400 2014 Jabberwocky Rd 26192 Southlake Texas US

3. Now you will empty your RECYCLE BIN with one powerful command. Then remove your table TOWNS, so that will remain in the recycle bin. Check that it is really there and what time was removed.

PURGE RECYCLEBIN;

PURGE RECYCLEBIN succeeded.

DROP TABLE TOWNS;

DROP TABLE TOWNS succeeded.

SELECT \*

FROM RECYCLEBIN;

OBJECT\_NAME ORIGINAL\_NAME OPERATION TYPE TS\_NAME CREATETIME

DROPTIME DROPSCN PARTITION\_NAME CAN\_UNDROP CAN\_PURGE RELATED BASE\_OBJECT PURGE\_OBJECT SPACE

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BIN$Qe++mMAPb4LgUKjASwI/wg==$0 TOWNS DROP TABLE USER\_DATA 2016-11-22:09:14:29

2016-11-22:21:35:39 2048574380 YES YES 450499 450499 450499 8

4. Restore your table TOWNS from recycle bin and describe it. Check what is in your recycle bin now.

FLASHBACK TABLE TOWNS TO BEFORE DROP;

DESC TOWNS;

Name Null Type

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LOCATION\_ID NUMBER(4)

STREET\_ADDRESS VARCHAR2(40)

POSTAL\_CODE VARCHAR2(12)

CITY NOT NULL VARCHAR2(30)

STATE\_PROVINCE VARCHAR2(25)

COUNTRY\_ID CHAR(2)

SELECT \*

FROM RECYCLEBIN;

0 rows selected

5. Now remove table TOWNS so that does NOT remain in the recycle bin. Check that is really NOT there and then try to restore it. Explain what happened?

DROP TABLE TOWNS PURGE;

SELECT \*

FROM RECYCLEBIN;

0 rows selected

SQL Error: ORA-38305: object not in RECYCLE BIN

38305. 00000 - "object not in RECYCLE BIN"

The DROP TABLE statement moves a table to the recycle bin and also you can use FLASHBACK TABLE statement to bring it back. Unless you specify the PURGE statement, it can drop a table entirely and you can never bring it back.

6. Create simple view called CAN\_CITY\_VU, based on table CITIES so that will contain only columns Street\_Address, Postal\_Code, City and State\_Province for locations only in CANADA. Then display all data from this view.

CREATE VIEW CAN\_CITY\_VU AS

SELECT street\_address, postal\_code, city, state\_province

FROM CITIES

WHERE UPPER(country\_id) = 'CA';

STREET\_ADDRESS POSTAL\_CODE CITY STATE\_PROVINCE

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147 Spadina Ave M5V 2L7 Toronto Ontario

6092 Boxwood St YSW 9T2 Whitehorse Yukon

7. Modify your simple view so that will have following aliases instead of original column names: Str\_Adr, P\_Code, City and Prov and also will include cities from ITALY as well. Then display all data from this view.

CREATE OR REPLACE VIEW CAN\_CITY\_VU (Str\_Adr, P\_Code, City, Prov) AS

SELECT street\_address, postal\_code, city, state\_province

FROM CITIES

WHERE UPPER(country\_id) IN('CA','IT');

STR\_ADR P\_CODE CITY PROV

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1297 Via Cola di Rie 00989 Roma

93091 Calle della Testa 10934 Venice

147 Spadina Ave M5V 2L7 Toronto Ontario

6092 Boxwood St YSW 9T2 Whitehorse Yukon

8. Create complex view called CITY\_DNAME\_VU, based on tables LOCATIONS and DEPARTMENTS, so that will contain only columns Department\_Name, City and State\_Province for locations in ITALY or CANADA. Include situations even when city does NOT have department established yet. Then display all data from this view.

CREATE VIEW CITY\_DNAME\_VU AS

SELECT department\_name, city, state\_province

FROM LOCATIONS LEFT JOIN DEPARTMENTS USING(location\_id)

WHERE country\_id IN('IT','CA');

SELECT \*

FROM CITY\_DNAME\_VU;

DEPARTMENT\_NAME CITY STATE\_PROVINCE

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Marketing Toronto Ontario

Whitehorse Yukon

Roma

Venice

9. Modify your complex view so that will have following aliases instead of original column names: DName, City and Prov and also will include all cities outside United States

Include situations even when city does NOT have department established yet. Then display all data from this view.

CREATE OR REPLACE VIEW CITY\_DNAME\_VU (DName, City, Prov) AS

SELECT department\_name, city, state\_province

FROM locations LEFT JOIN departments USING(location\_id)

WHERE UPPER(country\_id) != 'US';

DNAME CITY PROV

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Roma

Venice

Tokyo Tokyo Prefecture

Hiroshima

Marketing Toronto Ontario

Whitehorse Yukon

Beijing

Bombay Maharashtra

Sydney New South Wales

Singapore

London

Sales Oxford Oxford

Stretford Manchester

Munich Bavaria

Sao Paulo Sao Paulo

Geneva Geneve

Bern BE

Utrecht Utrecht

Mexico City Distrito Federal,

10. Check in the Data Dictionary what Views (their names and definitions) are created so far in your account. Then drop your CITY\_DNAME\_VU and check Data Dictionary again. What is different?

SELECT SUBSTR(OBJECT\_NAME, 0, 15) "Object Name", OBJECT\_TYPE, CREATED

FROM USER\_OBJECTS

WHERE OBJECT\_TYPE = 'VIEW';

SELECT view\_name

FROM user\_views;

Object Name OBJECT\_TYPE CREATED

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ALLDEPTS VIEW 16-11-15

ALLDEPTSUMM VIEW 16-11-15

ALLEMPS VIEW 16-11-15

CAN\_CITY\_VU VIEW 16-11-22

CITY\_DNAME\_VU VIEW 16-11-22

DROP VIEW CITY\_DNAME\_VU;

DROP VIEW CITY\_DNAME\_VU succeeded.

SELECT SUBSTR(OBJECT\_NAME, 0, 15) "Object Name", OBJECT\_TYPE, CREATED

FROM USER\_OBJECTS

WHERE OBJECT\_TYPE = 'VIEW';

Object Name OBJECT\_TYPE CREATED

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ALLDEPTS VIEW 16-11-15

ALLDEPTSUMM VIEW 16-11-15

ALLEMPS VIEW 16-11-15

CAN\_CITY\_VU VIEW 16-11-22

The view ‘CITY\_DNAME\_VU’ is deleted.