Report

Laboratory Work 3

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1. Prerequisites

1.1. Passwords Index

Password Group	Login Name	Password
Operation System	root	"rootadmin"
	oracle	"oracleadmin"
Oracle System	sys	"sysadmin"
	system	"sysadmin"
Oracle Users	All DB users	"%PWD%"

1.2. Folder Paths Index

Path Group	Path Description	Path
Operation System	Oracle RDBMS – BIN	/oracle/app/oracle
	Oracle Inventory	/oracle/app/oraInventory
	Oracle Database Storage	/oracle/oradata
	Oracle Install Directory	/oracle/install
Oracle	ORACLE_BASE	/oracle/app/oracle
	ORACLE_HOME	$ORACLE_BASE/product/11.2
FTP	ftp Incoming Folder	/ftp/incoming

2. Business analysis tasks – Reports

2.1. Task 01: Export Geo Location Reference

<u>The Main Task</u> is to export Geo Location Reference on Denormalized table.

Create Denormalized export table on SB_MBackUp schema.

<u>Required points:</u>

- **Create Denormalized table data using CONNENT_BY**
- **Add Additional Columns to table:**

  Geo_id types: Branch, ROOT, Leaf

  Count of childs of Branch or Root, for Leafs this Field you have fill by NULL

Full path of Dependencies by Example: ROOT -> BRANCH -> BRANCH -> LEAF

```
10  alter session set current_schema=u_dw_references;
11  select
12      *
13  from
14      t_geo_object_links;
15
16  ----------------------------------------------------
17  select * from geo_data_structure;
```

Script Output | Query Result | Query Result 1

SQL | All Rows Fetched: 38 in 0.01 seconds

	PARENT_GEO_ID	CHILD_GEO_ID	LINK_TYPE_ID
24	247	270	2
25	248	258	2
26	248	264	2
27	248	268	2
28	248	269	2
29	271	272	4
30	271	273	4
31	272	274	5
32	272	275	5
33	272	278	5

SQL Worksheet | History — DmitryOffice

Worksheet | Query Builder

```
16  ----------------------------------------------------
17  select * from geo_data_structure;
18  ----------------------------------------------------
```

Script Output | Query Result | Query Result 1

SQL | Fetched 150 rows in 0.015 seconds

	GEO_ID	GEO_TYPE_ID	GEO_CODE_ID	GEO_TYPE_CODE	GEO_TYPE_DESC	PARENT_GEO_ID	CHILD_GEO_ID	LINK_TYPE_ID
133	386	12	212	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
134	432	12	156	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
135	520	12	830	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
136	420	12	680	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
137	280	52	201	COUNTRY SUB GROUP	Referene: List of All Countries Sub Groups	(null)	(null)	(null)
138	298	12	414	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
139	450	12	170	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
140	342	12	180	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
141	343	12	275	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
142	401	12	188	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
143	422	12	116	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
144	255	11	30	REGIONS	Referene: List of All Continets - Regions	(null)	(null)	(null)
145	261	11	5	REGIONS	Referene: List of All Continets - Regions	(null)	(null)	(null)
146	378	12	882	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
147	434	12	48	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)
148	354	12	360	COUNTRY	Referene: List of All Countries	(null)	(null)	(null)

```
107  alter session set current_schema=u_dw_references;
108  SELECT
109      count(*)
110  FROM
111      geo_denormalized_data
112  WHERE GEO_ID IS NULL;
```

Script Output | Query Result | Query Result 1 | Query R

Task completed in 0.07 seconds

```
Session altered.


  COUNT(*)
----------
         0
```

SQL Worksheet | History

0.48199999 seconds

Worksheet | Query Builder

```
92  LEFT OUTER JOIN lc_geo_systems lgs ON lgs.geo_id = connect_geo_sys_id
93  LEFT OUTER JOIN lc_geo_parts   lgp ON lgp.geo_id = connect_geo_part_id
94  LEFT OUTER JOIN lc_geo_regions lgr ON lgr.geo_id = connect_geo_reg_id
```

Script Output | Query Result

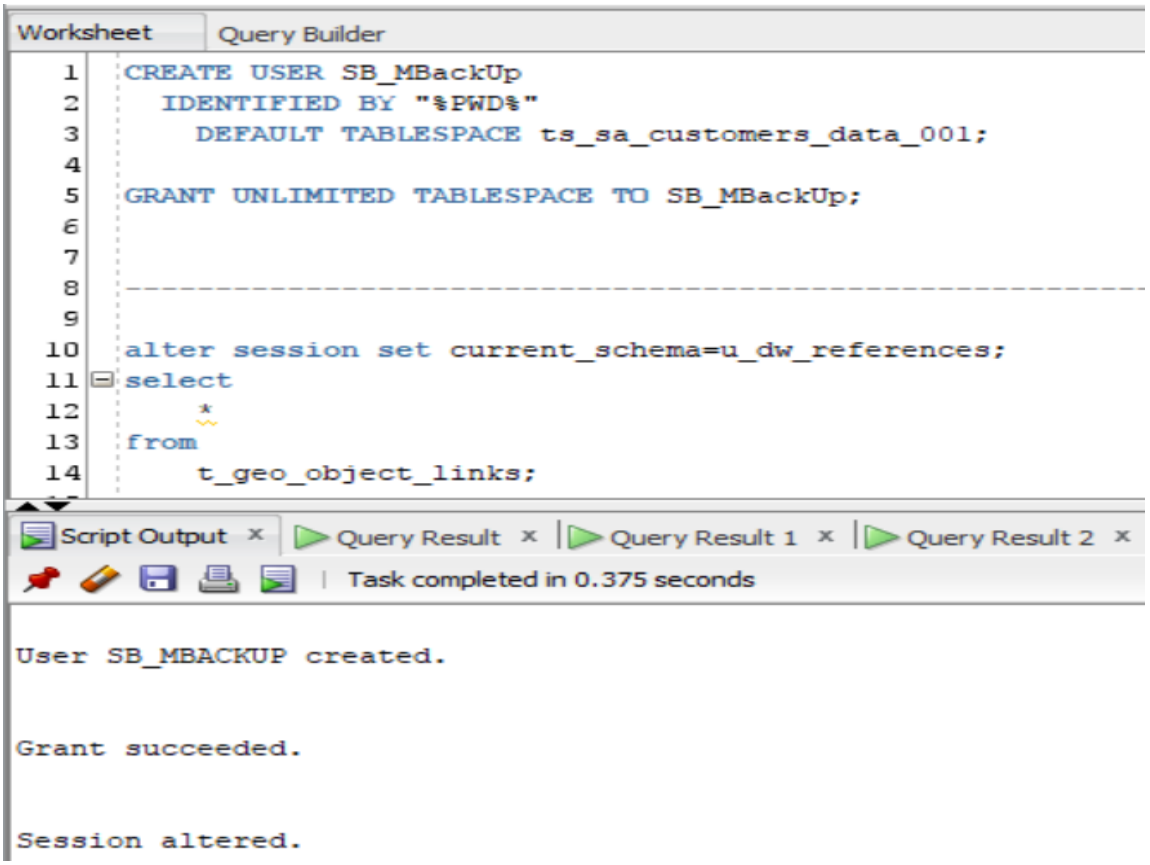
SQL | Fetched 50 rows in 0.021 seconds

	GEO_ID	PARENT_GEO_ID	CHILD_AMOUNT	LVL	ID_TYPE	PATH
1	242	(null)	6	1	ROOT	/242
2	243	242	3	2	BRANCH(1)	/242/243
3	261	243	(null)	3	BRANCH(2)	/242/243/261
4	266	243	(null)	3	BRANCH(2)	/242/243/266
5	267	243	(null)	3	BRANCH(2)	/242/243/267
6	244	242	5	2	BRANCH(1)	/242/244
7	250	244	(null)	3	BRANCH(2)	/242/244/250
8	251	244	(null)	3	BRANCH(2)	/242/244/251
9	254	244	(null)	3	BRANCH(2)	/242/244/254
10	259	244	(null)	3	BRANCH(2)	/242/244/259
11	262	244	(null)	3	BRANCH(2)	/242/244/262
12	245	242	1	2	BRANCH(1)	/242/245
13	260	245	(null)	3	BRANCH(2)	/242/245/260
14	246	242	5	2	BRANCH(1)	/242/246
15	252	246	(null)	3	BRANCH(2)	/242/246/252
16	253	246	(null)	3	BRANCH(2)	/242/246/253

<u>Task Results:</u>

Create required objects:

- **Create New Schema SB_MBackUp and New Default TableSpace**
- **Put objects script to Git.**



- **Prepare Document with Screenshot of Data on Denormalized table**
- **Prepare load script and put it to GIT**

2.2. Task 02: Analyze Business hierarchy Reference Analyses

<u>The Main Task</u> is to create hierarch analyses of any Dimension, according yours Solution Proposal and DWH Solution Concept from Module 6. Introduction to DWH

<u>Required points:</u>

- **Create Denormalized table data using CONNENT_BY**
- **Use START WITH Clause**
- **Use CONNECT_BY_ROOT to analyses any Branch levels**
- **Analyze Main Root Branch, and 2 Sub Branches**

```
CREATE TABLE SA_EMPLOYEES (
    first_name          VARCHAR2(40) NOT NULL,
    last_name           VARCHAR2(40) NOT NULL,
    email               VARCHAR2(40) NOT NULL,
    phone               VARCHAR2(40) NOT NULL,
    POSITION_NAME       VARCHAR2(40) NOT NULL,
    POSITION_GRADE      VARCHAR2(40) NOT NULL,
    HIRE_DATE           DATE NOT NULL
);
```

```
CREATE TABLE SA_EMPLOYEES (
    employee_id             NUMBER(5) not null,
    first_name_EMPLOYEE     VARCHAR2(40) NOT NULL,
    last_name_EMPLOYEE      VARCHAR2(40) NOT NULL,
    email_EMPLOYEE          VARCHAR2(40) NOT NULL,
    phone_EMPLOYEE          VARCHAR2(40) NOT NULL,
    POSITION_NAME_ACTUAL    VARCHAR2(40) NOT NULL,
    POSITION_DEGREE         VARCHAR2(40) NOT NULL,
    SALES_TYPE              VARCHAR2(40) NOT NULL,
    HIRE_DATE               DATE NOT NULL,
    salary                  int not null,
    chief_id                int not null,
    position_name_previous  VARCHAR2(40) NOT NULL,
    position_change_date    DATE not null
);
```

Here, as you san see, I added more data into sa_employees table (Left - previous version, right - new)

```
alter session set current_schema = SA_PRODUCTS;
select
    *
from
    sa_employees
CONNECT BY PRIOR
    employee_id = chief_id
START WITH
    chief_id = 0;
```

Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3 | Query Result 6

SQL | Fetched 150 rows in 0.141 seconds

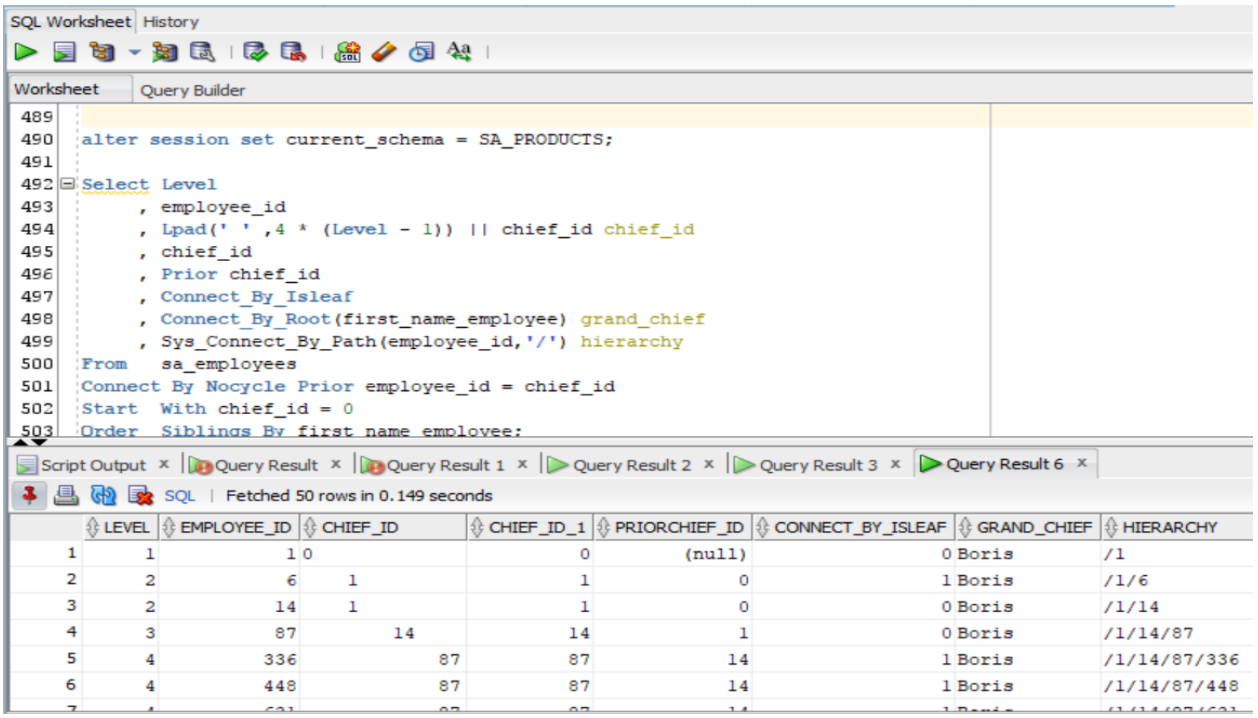
PLOYEE	POSITION_NAME_ACTUAL	POSITION_DEGREE	SALES_TYPE	HIRE_DATE	SALARY	CHIEF_ID	POSITION_NAME_PREVIOUS	POSITION_CHANGE_DATE
	Product-line sales manager	Senior	B2B	07-JUL-21	8699	0	Product-line sales manager	24-AUG-21
	Sales Manager	Middle	B2B	29-MAR-21	4842	1	Manager	15-NOV-21
	Manager	Junior	Enterprice	08-MAY-21	4589	2	regional sales manager	15-SEP-21
	Manager	Top	B2C	28-AUG-21	6158	71	regional sales manager	21-NOV-21
	Product-line sales manager	Middle	Direct	24-JUN-21	3101	71	Sales Manager	02-DEC-21
	Manager	Middle	Enterprice	17-MAY-20	6477	71	Product-line sales manager	23-JUN-20

```
alter session set current_schema = SA_PRODUCTS;
select
    *
from
    sa_employees
CONNECT BY PRIOR
    employee_id = chief_id
START WITH
    chief_id = 0;
```

Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3 | Query Result 6

SQL | Fetched 150 rows in 0.141 seconds

EMPLOYEE_ID	FIRST_NAME_EMPLOYEE	LAST_NAME_EMPLOYEE	EMAIL_EMPLOYEE	PHONE_EMPLOYEE	POSITION_NAME_ACTUAL	POSITION_DEGREE	
1	Boris	Brown	nagibator@apple.com	5226460	Product-line sales manager	Senior	B
2	Miron	Johnaton	genius@apple.com	7190334	Sales Manager	Middle	B
71	Abrigel	Brown	gooof@apple.com	7439171	Manager	Junior	E
175	John	Alumos	helloljdnjn267@apple.com	8284268	Manager	Top	B
267	Vika	Grey	dffsfsmd@apple.com	4652698	Product-line sales manager	Middle	D
421	Artem	Smith	genesis12@apple.com	8546011	Manager	Middle	E



In the pictures above you can see how **employees** related with **chiefs**. And who is a chief for every employee, who is a **grand chief** and their 4 - staged **hierarchy**.

<u>Task Results:</u>

Create required objects:

- **Prepare Document with Screenshot of analyses Data result**
- **Prepare script and put it to GIT**

Note. All scripts stored on GitHub.

Laboratory work summary:

At this lab we have learned how we can carry out a hierarchy schema using different statements, such as :

- Connect_by
- Connect_by_root

Specified with such clauses as **Start With** and **Level** pseudocolumn which shows parent and child rows. **Now we have** much more understanding about hierarchy usage.