[edit] Laborator 3 - Crearea unei baze de date

- Pornirea unei instante

```
% sqlplus 'sys/oracle AS sysdba'
SQL> startup nomount
```

- Crearea unei baze de date

```
CREATE DATABASE db01
LOGFILE
GROUP 1 ('$HOME/ORADATA/u03/log_01_01_db01.rdo') SIZE 1M,
GROUP 2 ('$HOME/ORADATA/u03/log_02_01_db01.rdo') SIZE 1M
DATAFILE '$HOME/ORADATA/u01/system_01_db01.dbf' SIZE 1M
AUTOEXTEND ON NEXT 5M MAXSIZE 150M
DEFAULT TEMPORARY TABLESPACE temp
TEMPFILE '$HOME/ORADATA/u02/temp_01_db01.dbf' SIZE 1M
AUTOEXTEND ON NEXT 5M MAXSIZE 1M
CHARACTER SET WE8ISO8859P1
NATIONAL CHARACTER SET AL16UTF16
```

- Crearea altei baze de date

```
CREATE DATABASE user01
USER SYS IDENTIFIED BY ORACLE
USER SYSTEM IDENTIFIED BY MANAGER
CONTROLFILE REUSE
LOGFILE
GROUP 1 ('E:/student/redo01.log') SIZE 100M,
GROUP 2 ('E:/student/redo02.log') SIZE 100M,
GROUP 3 ('E:/student/redo03.log') SIZE 100M
MAXLOGFILES 5
MAXLOGMEMBERS 5
MAXLOGHISTORY 1
MAXDATAFILES 100
MAXINSTANCES 1
ARCHIVELOG
FORCE LOGGING
CHARACTER SET US7ASCII
NATIONAL CHARACTER SET AL16UTF16
```

- Crearea celei de-a treia baze de date

```
CREATE DATABASE DBA01
LOGFILE
GROUP 1 ('/$HOME/ORADATA/u01/redo01.log') SIZE 100M,
GROUP 2 ('/$HOME/ORADATA/u02/redo02.log') SIZE 100M,
MAXLOGFILES 5
MAXLOGMEMBERS 5
MAXLOGHISTORY 1
MAXDATAFILES 100
MAXINSTANCES 1
DATAFILE '/$HOME/ORADATA/u01/system01.dbf' SIZE 325M
UNDO TABLESPACE undotbs
DATAFILE '/$HOME/ORADATA/u02/undotbs01.dbf' SIZE 200
DEFAULT TEMPORARY TABLESPACE temp
TEMPFILE '/$HOME/ORADATA/u03/temp01.dbf' SIZE 4M
CHARACTER SET US7ASCII
```

[edit] Laborator 4 - Dictionarul de date

- Structura dictionarului

```
 DESC dictionary
```

- Tabelele care incep cu 'USER'

```
SELECT table_name FROM dictionary WHERE table_name LIKE 'USER%'
```

- Toate tabelele din userul curent:

```
DESC user_tables
SELECT table_name FROM user_tables;
```

- Vizualizarea obiectelor create de un user

```
DESC user_objects;
SELECT object_name FROM user_objects;
```

- Adaugarea unei constrangeri pe o tabela si observarea in obiectele userului

```
ALTER TABLE dept ADD CONSTRAINT deptno_pk PRIMARY KEY (deptno);
ALTER TABLE emp ADD CONSTRAINT emp_fk FOREIGN KEY (deptno) REFERENCES dept(deptno);
SELECT object_name FROM user_objects;
```

- Vizualizarea tuturor constrangerilor aferente userului curent

```
DESC user_constraints
SELECT owner,constraint_name,constraint_type, table_name FROM user_constraints;
```

- Vizualizarea unei structuri tabelare

```
DESC user_tab_columns;
SELECT table_name,column_name,data_type FROM user_tab_columns WHERE table_name='EMP';
```

- Toate obiectele altor useri la care are acces userul curent

```
SELECT table_name FROM dictionary WHERE table_name LIKE 'ALL%';
DESC all_objects
SELECT owner,object_name,object_type FROM all_objects WHERE owner='SCOTT';
SELECT table_name FROM dictionary WHERE table_name LIKE 'DBA%';
```

- Vizualizare informatii despre userii creati pe baza de date

```
DESC dba_users
SELECT username,password FROM dba_users;
```

- Vizualizare informatii despre tablespace-uri si indecsi creati in baza de date

```
DESC dba_tablespaces
SELECT tablespace_name,block_size,max_extents,STATUS FROM dba_tablespaces;
DESC dba_indexes;
SELECT owner,index_name,index_type,table_name FROM dba_indexes;
```

[edit] Laborator 5 - Fisiere de control

- Informatii despre fisierele de control obtinute din view-ul pentru fisiere

```
DESC v$controlfile
SELECT * FROM v$controlfile;
```

- Informatii despre fisierele de control din view-ul pentru parametri

```
DESC v$parameter;
SELECT * FROM v$parameter WHERE name='control_files';
```

- Informatii despre numarul inregistrarilor alocate si cele folosite pentru fisierele de control

```
DESC v$controlfile_record_section;
SELECT * FROM v$controlfile_record_section WHERE type='DATAFILE';
```

- Informatii despre backup-uri facute pe fisierele de control

```
DESC v$backup;
SELECT * FROM v$backup;
```

- Informatii despre fisierele de date

```
DESC v$datafile
SELECT * FROM v$datafile;
```

- Informatii despre fisierele temporare:

```
DESC v$tempfile;
SELECT * FROM v$tempfile;
```

- Informatii despre tablespace-uri

```
DESC v$tablespace;
SELECT * FROM v$tablespace;
```

- Informatii despre baza de date

```
DESC v$database;
SELECT * FROM v$database;
```

[edit] Laborator 6 - Fisiere Redo-Log

- Informatii despre grupuri si membri

```
DESC v$logfile
SELECT * FROM v$logfile;
```

- Informatii legate de modul de lucru al bazei de date (arhivare sau fara arhivare a fisierelor de log)

```
DESC v$database;
SELECT name,log_mode FROM v$database;
```

- Informatii legate de starea instantei si a grupurilor:

```
DESC v$thread;
```

```
SELECT groups, sequence#, instance, STATUS FROM v$thread;
```

- Informatii despre starea fisierelor de log:

```
DESC v$log;
SELECT GROUP#,members,archived,STATUS FROM v$log;
```

- Adaugarea unui membru la un grup (adaugarea unui nou fisier de log):

```
ALTER DATABASE ADD LOGFILE MEMBER 'e:\temp\log2.rdo' TO GROUP 1;
```

- Stergerea unui membru din grup (stergerea unui fisier de log VALID):

```
SELECT * FROM v$logfile;
ALTER DATABASE DROP LOGFILE MEMBER 'c:\temp\LOG2.RDO';
```

[edit] Laborator 7 - Gestiunea tablespaceurilor si a fisierelor de date

- Crearea unui tablespace permanent 'UBD' cu un fisier de date UBD1 cu dimensiunea de 1 M, cu specificarea tipului si dimensiunea extensiei si fara specificarea extensiei (implicit AUTOALLOCATE)

```
CREATE TABLESPACE userdata DATAFILE 'E:/Student /userdata01.dbf' SIZE 1M EXTENT MANAGEMENT LOCAL UNIFORM SIZE 128K;
CREATE TABLESPACE UBD DATAFILE 'E:/Student/ubd1.dbf' SIZE 1M;
```

- Informatii despre tablespace-uri (la nivel de baza de date)

```
DESC DBA_TABLESPACES
SELECT tablespace_name, block_size, STATUS FROM DBA_TABLESPACES;
```

- Starea unui tablespace (existent sau sters din baza de date)

```
DESC V$TABLESPACE;
SELECT * FROM V$TABLESPACE;
```

- Informatii despre tablespace-uri si fiserele de date aferente (la nivelul bazei de date):

```
DESC DBA_DATA_FILES;
SELECT tablespace_name,file_name,STATUS FROM DBA_DATA_FILES;
```

- Informatii despre fisierele de date (la nivel de baza de date):

```
DESC V$DATAFILE;
SELECT file#,name,creation_time,STATUS,enabled FROM V$DATAFILE;
```

- Informatii despre fisierele de date temporare la nivel de baza de date

```
DESC DBA_TEMP_FILES;
SELECT file_name,tablespace_name, STATUS FROM DBA_TEMP_FILES;
```

- Informatii despre fisierele temporare la nivel de user

```
DESC V$TEMPFILE;
SELECT file#,name, creation_time, STATUS FROM V$TEMPFILE;
```

[edit] Laborator 8 - Segmente si blocuri de date

- Informatii despre parametrii si starea unui tablespace.

```
DESC dba_tablespaces;
SELECT tablespace_name,block_size,initial_extent,min_extents, max_extents, STATUS
FROM dba_tablespaces WHERE tablespace_name='PBD_DATA';
```

- Informatii despre segmentele (obiectele) unui tablespace

```
SELECT owner,segment_name,segment_type, tablespace_name, blocks, extents
FROM dba_segments WHERE owner='SCOTT' AND segment_type='TABLE';
```

- Informatii despre extensiile segmentelor

```
DESC dba_extents;
SELECT owner, segment_name, segment_type, tablespace_name, bytes FROM dba_extents WHERE owner='SCOTT' AND segment_name='EMP';
SELECT segment_name, extent_id, file_id,block_id FROM dba_extents WHERE owner='SCOTT' AND segment_name='EMP';
```

- Informatii despre blocurile libere dintr-un tablespace

```
DESC dba_free_space;
SELECT tablespace_name, count(*), max(blocks), sum(blocks) FROM dba_free_space GROUP BY tablespace_name;
```

- Unificarea spatiilor contigue dintr-un tablespace

```
ALTER TABLESPACE PBD COALESCE ;
SELECT tablespace_name, total_extents, percent_extents_coalesced FROM dba_free_space_coalesced;
```

[edit] Laborator 9 - Segmente de undo

- Crearea si stergerea unui segment de rollback

```
CREATE ROLLBACK SEGMENT ubd TABLESPACE BD_DATA STORAGE (initial 100k next 100k optimal 4M minextents 20 maxextents 100);
DROP ROLLBACK SEGMENT ubd;
```

- Informatii din dictionar privind segmentele de rollback

```
DESC dba_rollback_segs
SELECT segment_name, tablespace_name, owner,STATUS FROM dba_rollback_segs;
```

- Segmentele folosite de instanta curenta

```
DESC v$rollname;
SELECT * FROM v$rollname;
```

- Statistici despre segmentele de rollback

```
DESC v$rollstat;
SELECT usn, rssize, extents, STATUS FROM v$rollstat;
```

- Informatii despre useri si sesiuni

```
DESC v$session
SELECT username, sid, saddr FROM v$session;
```

- Informatii despre tranzactii(adresele tranzactiilor pot fi join-ate cu sesiunile prin ses_addr).

```
DESC v$transaction;
INSERT INTO emp VALUES (999, 'TEST','TRANZACT',1111,sysdate, 100,0,10);
SELECT addr, xidusn, used_ublk,start_uext, start_ubafil FROM v$transaction;
```

- Informatii despre segmentele temporare de sortare (folosite in comenzile SQL de sortare).

```
DESC v$sort_segment;
SELECT tablespace_name,max_sort_size,extent_size,max_sort_blocks FROM v$sort_segment;
```

- Informatii despre sesiuni si tablespace-ul in care se afla segmentele temporare de sortare folosite in sesiunea curenta

```
DESC v$sort_usage;
SELECT username,user,tablespace,contents,extents,blocks FROM v$sort_usage;
```

- Setarea zonei de memorie utilizata pentru sortare in sesiunea curenta la 10K.

```
ALTER SYSTEM SET sort_area_size=10240 DEFERRED;
```

[edit] Laborator 10 - Administrarea tabelelor

- Vizualizarea ID-rilor pentru fiecare linie din tabela.

```
CREATE TABLE emp_test AS SELECT * FROM scott.emp;
SELECT rowid, empno, ename FROM emp_test;
```

- Alocarea unei extensii la o tabela

```
ALTER TABLE scott.emp_test
ALLOCATE EXTENT(SIZE 500K
DATAFILE 'e:/DISK3/DATA01.DBF');
```

- Stergerea unei coloane dintr-o tabela

```
ALTER TABLE scott.emp_test
DROP COLUMN comm
CASCADE CONSTRAINTS CHECKPOINT 1000;
```

- Redenumirea unei coloane dintr-o tablela

```
ALTER TABLE scott.emp_test
RENAME COLUMN sal
TO salary;
```

- Dezactivarea unei coloane dintr-o tabela

```
ALTER TABLE scott.emp_test
SET UNUSED COLUMN comm
CASCADE CONSTRAINTS;
```

- Stergerea din dictionar a coloanelor dezactivate dintr-o tabela

```
ALTER TABLE scott.emp_test
DROP UNUSED COLUMNS CHECKPOINT 1000;
```

-
```
DESC dba_unused_col_tabs;
SELECT * FROM dba_unused_col_tabs;
```

- Informatii despre tabelele din baza de date

```
DESC dba_tables;
```

```
SELECT owner, tablespace_name,table_name FROM dba_tables WHERE owner = 'SCOTT';
```

- Informatii despre obiectele din baza de date

```
DESC dba_objects;
SELECT object_name, created FROM DBA_OBJECTS WHERE object_name LIKE 'EMP%' AND owner = 'SCOTT';
```

[edit] Laborator 11 - Administrarea indecsilor

- Crearea unui index de tip B-Tree

```
CREATE INDEX scott.emp_name_idx
ON scott.emp(ename)
PCTFREE 30
STORAGE(INITIAL 200K NEXT 200K
PCTINCREASE 0 MAXEXTENTS 50)
TABLESPACE bd_data;
```

- Crearea unui index de tip BITMAP

```
CREATE BITMAP INDEX scott.dept_name_idx
ON scott.dept(dname)
PCTFREE 30
STORAGE(INITIAL 200K NEXT 200K
PCTINCREASE 0 MAXEXTENTS 50)
TABLESPACE bd_data;
```

- Alocarea unei extensii pentru un index de tip B-Tree

```
ALTER INDEX emp_name_idx
ALLOCATE EXTENT (SIZE 200K
DATAFILE 'e:/DISK6/indx01.dbf');
```

- Eliberarea spatiului nealocat pentru un index de tip B-Tree

```
ALTER INDEX emp_name_idx
DEALLOCATE UNUSED;
```

- Mutarea unui index in alt tablespace

```
ALTER INDEX emp_name_idx REBUILD
TABLESPACE SYSTEM;
```

- Informatii din dictionar despre indecsi

```
DESC dba_indexes
SELECT index_name, index_type, table_name, STATUS FROM dba_indexes WHERE owner='SCOTT' ;
```

- Informatii din dictionar despre coloanele indecsilor

```
DESC dba_ind_columns;
SELECT index_name, table_owner, table_name, column_name FROM dba_ind_columns WHERE index_owner='SCOTT'
```

- Startarea si stoparea monitorizarii unui index

```
ALTER INDEX emp_name_idx MONITORING USAGE;
ALTER INDEX emp_name_idx NOMONITORING USAGE;
```

- Informatii din dictionar despre indecsii monitorizati

```
DESC v$object_usage;
SELECT * FROM v$object_usage;
```

- Startarea analizei structurii unui index

```
ANALYZE INDEX emp_name_idx VALIDATE STRUCTURE;
```

- Informatii din dictionar despre starea indecsilor

```
DESC index_stats;
SELECT name, blocks, used_space, pct_used, distinct_keys, lf_rows, del_lf_rows FROM index_stats;
```