Lab 2 --- Understanding Oracle's architecture and key parameter files

Purpose: This lab reinforces your classroom discussions concerning Oracle architecture

Requirements: Complete the required tasks and submit the required responses in the **same** word document renamed as ***lab2_fname_lname*** (e.g., ***Lab2_Doug_King***) via Brightspace by the end of the lab and demonstrate your work to the lab professor.

A complete and on-time submission will earn **2 marks**.

Resources: https://docs.oracle.com/cd/B28359_01/server.111/b28318/startup.htm#CNCPT1293

https://docs.oracle.com/database/121/CNCPT/startup.htm#CNCPT601

https://docs.oracle.com/cd/B28359_01/server.111/b31189/ch12042.htm

https://docs.oracle.com/cd/B28359_01/server.111/b28286/statements_6008.htm#SQLRF01308

Lab Submission tasks:

1. **Demo / Problem Solving: During Week 2's lab, you will be required to confirm your Oracle 12c installation is working properly.**

2. **Concepts: Refer to the above noted resources. Copy your answers to your submission document.**
    a. Without using virtual tables or similar mechanisms, a database instance can be associated with mounted database(s).
    b. To start a database instance, configuration parameters must be read. This information is contained in binary format in SPfile and in text format in Pfile.
    c. During STARTUP, the instance knows where the data files are located by reading the control file.
    d. The main difference between a TRANSACTIONAL SHUTDOWN and an IMMEDIATE SHUTDOWN is, in a TRANSACTIONAL SHUTDOWN allows active transactions to complete first while immediate shutdown doesn't wait for them to complete.

3. **Review the Startup/Shutdown Process (Write the queries and their results):**
    a. Logon as **SYS as SYSDBA**.
    b. Enter **SHOW PARAMETERS**

i. From the SHOW PARAMETERS results, determine where the SPFILE file is located. Record this location in your lab file below.

C:\APP\KARKA\PRODUCT\12.1.0\DBHOME_1\DATABASE\SPFILEORCL.ORA

c. **Create a PFILE:** Enter: ***CREATE PFILE from SPFILE;***

d. Locate and resulting **PFILE** and in your lab document, specify:

i. the name of the pfile

INITorcl.ora

ii. Open the file and determine the **oracle_base** name

C:\app\karka'#ORACLE_BASE

iii. the location of the **control_files**

C:\app\karka\oradata\orcl\control01.ctl','C:\app\karka\oradata\orcl\control02.ctl

e. Enter: **SHUTDOWN**

f. Enter: **STARTUP**

g. Indicate, in your lab document, the sequence of objects being started.

Total System Global Area, Fixed Size, Variable Size, Database Buffers, Redo Buffers
ORACLE instance started -> Database mounted -> Database opened

4. **DATA DICTIONARY:** From the SQL prompt, enter **DESC DICT-** this command describes the structure (the columns) of the internal data dictionary.

Hint: Throughout the course, when you forget the names of special tables you can return to the dictionary and determine the name.

In your lab document answer the following questions **(Write the queries and their results)**:

a. List the number of rows that are in this table (you may not want to select the rows as there are a lot).
Query: SELECT COUNT(*) FROM DICT;
Result: 3288

b. List the name of the view or table that describes Tablespaces:
Query: DESCRIBE V_$TABLESPACE
Result: SYSTEM, SYSAUX, UNDOTBS1, TEMP, USERS, EXAMPLE

c. List the name of the view or table that describes Datafiles:
Query: DESCRIBE V_$DATAFILE
Write a query that joins the **V_$DATAFILE** and **V_$TABLESPACE** tables, then use the query results to answer the following questions:
Query: SELECT t.NAME "TABLESPACE", f.name "DATAFILE"from V*$TABLESPACE t,* V$DATAFILE f where t.TS# = f.TS#;

i. What is the location and name of the datafile associated with the SYSTEM tablespace. C:\APP\KARKA\ORADATA\ORCL\SYSTEM01.DBF
ii. What is the location and name of the datafile associated with the USERS tablespace. C:\APP\KARKA\ORADATA\ORCL\USERS01.DBF

You're done. Submit your lab.