# Practices for Lesson 31: Processes

Practices for Lesson 31: Overview

In this lesson, you will view the os processes associated with an oracle database.

Practice 31-1: Examining the Database Background Processes

Overview

In this practice, you use sql and os commands to view the background processes of an oracle database.

Assumptions

You are logged in as the oracle user and the orclcdb database is the only running database instance.

Tasks

Open a terminal window and use oraenv to set the environment variables for the orclcdb

database. Use the dbstart.sh script to start the database and listener.

Start SQL\*Plus and connect to ORCLCDB database as the SYS user with SYSDBA privileges .

Query the v$instance view to determine the status of the instance & database, then exit SQL\*Plus.

Use the ps and grep commands to view all the processes associated with the orclcdb database. The ps command displays information about a selection of the active os processes, while the -ef flags associated with the command will do a full listing of all processes. The output of ps will be sent to the grep command , which is used to filter the output looking for the specific strings, in this case it will be the orclcdb database name.

(DESCRIPTION=(LOCAL=YES)(ADDRESS=(PROTOCOL=beq)))

Notice the output included the process id of the grep command.

You can determine the number of the processes using the pgrep command. pgrep command works like a combination of the ps & grep command. Using the -lf flag, it will show only active processes that match the string. Using the -c flag, it will show the count of all processes it found.

There are certain processes that are critical for a database instance to function, a few of these processes are: pmon, smon, ckpt, lgwr, lreg, mmon Determine if these processes are running.

Some processes can have one or more process performing the function, such as LGWR can have up to 100 sub processes (LG00 -> LG99). The database writer can have up to 100 processes (DBWn where n can be 0 -> 9 and a -> z, then BWnn where nn can be 37

-> 99). Some processes, such as the archiver process (ARC) are optional. Determine if these processes are running using the ps command.

Determine how many database writers are running.

[0-9] is a single character wildcard for any character in a list, in this case 0 through 9

Notice only one Database Writer process , dbw0, and no additional process (DBWn or

BWnn).

Determine how many Log Writer sub-processes are running.

[w,0-9] is a single character wildcard for characters: w, 0 through 9 for the first character position, [r,0-9] is a single character wildcard for characters: r, 0 through 9 for the second character position.

Notice that three Log Writer processes: lgwr, lg00, lg01

Determine if there are archiver processes arcn (where n is a number 0 through 9).

The lack of output shows the archiver process is not running. This can be confirmed by executing the command archiver log list in SQL\*plus

All the running background processes can be viewed using the v$bgprocess view.

The columns are:

NAME Name of this background process in process list

PSERIAL# Process state object number, 0 indicates the process is not running, anything else represents that processes is running for the instance.

DESCRIPTION Description of the background process

TYPE Null for primary processes, otherwise will list SLAVE for sub-processes.

Exit SQL\*plus

Close the all open terminals.

Practice 31-2: Identifying the Database Server Processes

Overview

In this practice, you use sql and os commands to view the foreground server processes of an oracle database instance. Clients interact with an oracle database instance using foreground processes, also known as server processes.

Assumptions

You are logged in as the oracle user and only the orclcdb database is running.

Tasks

Open a terminal window and use oraenv to set the environment variables for the orclcdb

database. Use the dbstart.sh script to start the database and listener.

Start SQL\*Plus and connect to ORCLCDB database as the SYS user with SYSDBA privileges. Refer to *Practice Environment: Security Credentials* for the ***password*** value.

Examine the v$session view

SCHEMANAME VARCHAR2(128)

OSUSER VARCHAR2(128)

PROCESS VARCHAR2(24)

MACHINE VARCHAR2(64)

PORT NUMBER

TERMINAL VARCHAR2(30)

PROGRAM VARCHAR2(48)

TYPE VARCHAR2(10)

SQL\_ADDRESS RAW(8)

SQL\_HASH\_VALUE NUMBER

SQL\_ID VARCHAR2(13)

SQL\_CHILD\_NUMBER NUMBER

SQL\_EXEC\_START DATE

SQL\_EXEC\_ID NUMBER

PREV\_SQL\_ADDR RAW(8)

PREV\_HASH\_VALUE NUMBER

PREV\_SQL\_ID VARCHAR2(13)

PREV\_CHILD\_NUMBER NUMBER

PREV\_EXEC\_START DATE

PREV\_EXEC\_ID NUMBER

PLSQL\_ENTRY\_OBJECT\_ID NUMBER

PLSQL\_ENTRY\_SUBPROGRAM\_ID NUMBER

PLSQL\_OBJECT\_ID NUMBER

PLSQL\_SUBPROGRAM\_ID NUMBER

MODULE VARCHAR2(64)

MODULE\_HASH NUMBER

ACTION VARCHAR2(64)

ACTION\_HASH NUMBER

CLIENT\_INFO VARCHAR2(64)

FIXED\_TABLE\_SEQUENCE NUMBER

ROW\_WAIT\_OBJ# NUMBER

ROW\_WAIT\_FILE# NUMBER

ROW\_WAIT\_BLOCK# NUMBER

ROW\_WAIT\_ROW# NUMBER

TOP\_LEVEL\_CALL# NUMBER

LOGON\_TIME DATE

LAST\_CALL\_ET NUMBER

PDML\_ENABLED VARCHAR2(3)

FAILOVER\_TYPE VARCHAR2(13)

FAILOVER\_METHOD VARCHAR2(10)

FAILED\_OVER VARCHAR2(3)

RESOURCE\_CONSUMER\_GROUP VARCHAR2(32)

PDML\_STATUS VARCHAR2(8)

PDDL\_STATUS VARCHAR2(8)

PQ\_STATUS VARCHAR2(8)

CURRENT\_QUEUE\_DURATION NUMBER

CLIENT\_IDENTIFIER VARCHAR2(64)

BLOCKING\_SESSION\_STATUS VARCHAR2(11)

BLOCKING\_INSTANCE NUMBER

BLOCKING\_SESSION NUMBER

FINAL\_BLOCKING\_SESSION\_STATUS VARCHAR2(11)

FINAL\_BLOCKING\_INSTANCE NUMBER

FINAL\_BLOCKING\_SESSION NUMBER

SEQ# NUMBER

EVENT# NUMBER

EVENT VARCHAR2(64)

P1TEXT VARCHAR2(64)

P1 NUMBER

P1RAW RAW(8)

P2TEXT VARCHAR2(64)

P2 NUMBER

P2RAW RAW(8)

P3TEXT VARCHAR2(64)

P3 NUMBER

P3RAW RAW(8)

WAIT\_CLASS\_ID NUMBER

WAIT\_CLASS# NUMBER

WAIT\_CLASS VARCHAR2(64)

WAIT\_TIME NUMBER

SECONDS\_IN\_WAIT NUMBER

STATE VARCHAR2(19)

WAIT\_TIME\_MICRO NUMBER

TIME\_REMAINING\_MICRO NUMBER

TIME\_SINCE\_LAST\_WAIT\_MICRO NUMBER

SERVICE\_NAME VARCHAR2(64)

SQL\_TRACE VARCHAR2(8)

SQL\_TRACE\_WAITS VARCHAR2(5)

SQL\_TRACE\_BINDS VARCHAR2(5)

SQL\_TRACE\_PLAN\_STATS VARCHAR2(10)

SESSION\_EDITION\_ID NUMBER

CREATOR\_ADDR RAW(8)

CREATOR\_SERIAL# NUMBER

ECID VARCHAR2(64)

SQL\_TRANSLATION\_PROFILE\_ID NUMBER

Determine the SESSION\_ID of your current session by using a sys\_content environment query. This will be used to query the V$SESSION view. Note: your value of SESSION\_ID may be different.

Use the SESSION\_ID to view details of your session:

The PROCESS column shows the OS Process id, referred to as PID, and the PORT column displays the port number used for the connection. **Note:** In this example, Oracle Networking connected through the listener and was assigned port 51468 for the session. The value for both your PORT and PROCESS may be different.

Use the ps command to display the information about the OS Process Id for your session.

Process Id 24117 is a the sqlplus / as sysdba

Process ID 28395 is a child process of 24117, it is the os bash session spawned with the

host command.

Exit SQL\*plus.

Close all terminals.