Lab 14: Renaming a PDB and Setting Parameter Values for PDBs

Overview

In this lab, you will rename a PDB and set parameter values for PDBs using the environment created in Lab 13.

Part A: Renaming a PDB

Tasks

1. **Re-create** `ORCLPDB3`

    a. Open a terminal window and set the environment variables for `CDBLAB`:

    ```
    . oraenv
    ORACLE_SID = [CDBLAB] ? CDBLAB
    The Oracle base remains unchanged with value /u01/app/oracle
    ```

    b. Start SQL*Plus and log in as a user with SYSDBA privileges:

    ```
    sqlplus / as sysdba
    ```

    c. Create the new PDB `ORCLPDB3` from the seed:

    ```
    CREATE PLUGGABLE DATABASE ORCLPDB3
    ADMIN USER pdb_admin IDENTIFIED BY password
    FILE_NAME_CONVERT = ('/u01/app/oracle/oradata/CDBLAB/pdbseed',
    '/u01/app/oracle/oradata/CDBLAB/orclpdb3');
    ```

    Expected Output:

    ```
    Pluggable database created.
    ```

2. **Connect to** `CDBLAB` **and List the PDBs**

    a. List the PDBs to confirm the creation of `ORCLPDB3`:

    ```
    SHOW PDBS;
    ```

    Expected Output:

    ```
    CON_ID CON_NAME  OPEN MODE  RESTRICTED
    ------ ---------- ---------- ----------
    2      PDB$SEED  READ ONLY  NO
    3      ORCLPDB1  READ WRITE NO
    4      ORCLPDB2  READ WRITE NO
    5      ORCLPDB3  MOUNTED    NO
    ```

3. **Rename** `ORCLPDB3` **to** `PDB3_ORCL`

    a. Open `ORCLPDB3` in read/write mode:

    ```
    ALTER PLUGGABLE DATABASE ORCLPDB3 OPEN;
    ```

    b. Connect to `ORCLPDB3` as `sysdba`:

```
CONNECT sys@orclpdb3 AS SYSDBA
Enter password: password
```

c. Rename `ORCLPDB3` to `PDB3_ORCL` :

```
ALTER PLUGGABLE DATABASE RENAME GLOBAL_NAME TO pdb3_orcl;
```

Expected Output:

```
ORA-65045: pluggable database not in a restricted mode
```

4. **Open `ORCLPDB3` in Restricted Mode**

   a. Close `ORCLPDB3` :

```
ALTER PLUGGABLE DATABASE ORCLPDB3 CLOSE IMMEDIATE;
```

   b. Open `ORCLPDB3` in restricted mode:

```
ALTER PLUGGABLE DATABASE ORCLPDB3 OPEN RESTRICTED;
```

Expected Output:

```
Pluggable database altered.
```

5. **Change the Global Database Name**

   a. Connect to `ORCLPDB3` as `sysdba` :

```
CONNECT sys@orclpdb3 AS SYSDBA
Enter password: password
```

   b. Rename `ORCLPDB3` to `PDB3_ORCL` :

```
ALTER PLUGGABLE DATABASE RENAME GLOBAL_NAME TO pdb3_orcl;
```

Expected Output:

```
Pluggable database altered.
```

6. **Verify the PDB Renaming**

   a. List the PDBs to verify the renaming:

```
SHOW PDBS;
```

Expected Output:

```
CON_ID CON_NAME    OPEN MODE  RESTRICTED
------ ----------- ---------- ----------
2      PDB$SEED    READ ONLY  NO
3      PDB3_ORCL   READ WRITE YES
4      ORCLPDB2    READ WRITE NO
5      ORCLPDB3    READ WRITE NO
```

7. **Open** `PDB3_ORCL`

    a. Close `PDB3_ORCL` :

    ```
    ALTER PLUGGABLE DATABASE PDB3_ORCL CLOSE IMMEDIATE;
    ```

    b. Open `PDB3_ORCL` :

    ```
    ALTER PLUGGABLE DATABASE PDB3_ORCL OPEN;
    ```

    Expected Output:

    ```
    Pluggable database altered.
    ```

8. **Verify the Open Mode**

    a. List the PDBs to confirm the open mode:

    ```
    SHOW PDBS;
    ```

    Expected Output:

    ```
    CON_ID CON_NAME    OPEN MODE   RESTRICTED
    ------ ----------- ---------- ----------
    2      PDB$SEED    READ ONLY  NO
    3      PDB3_ORCL   READ WRITE NO
    4      ORCLPDB2    READ WRITE NO
    5      ORCLPDB3    READ WRITE NO
    ```

Part B: Setting Parameter Values for PDBs

Tasks

1. **Verify the Parameter Modifiability**

    a. Connect to `CDBLAB` :

    ```
    . oraenv
    ORACLE_SID = [CDBLAB] ? CDBLAB
    The Oracle base remains unchanged with value /u01/app/oracle
    $ sqlplus / as sysdba
    ```

    b. Verify if `OPTIMIZER_USE_SQL_PLAN_BASELINES` is modifiable at the PDB level:

    ```
    SELECT ispdb_modifiable FROM v$parameter WHERE name =
    'optimizer_use_sql_plan_baselines';
    ```

    Expected Output:

    ```
    ISPDB
    -----
    TRUE
    ```

2. **Check the Current Parameter Value in** `CDBLAB`

a. Check the current value of `OPTIMIZER_USE_SQL_PLAN_BASELINES`:

```
SHOW PARAMETER optimizer_use_sql_plan_baselines;
```

Expected Output:

```
NAME                             TYPE         VALUE
-------------------------------- ----------- -----
optimizer_use_sql_plan_baselines boolean      TRUE
```

3. **Check and Modify the Parameter in `PDB3_ORCL`**

a. Connect to `PDB3_ORCL` as `sysdba`:

```
CONNECT sys@pdb3_orcl AS SYSDBA
Enter password: password
```

b. Check the current value of the parameter:

```
SHOW PARAMETER optimizer_use_sql_plan_baselines;
```

Expected Output:

```
NAME                             TYPE         VALUE
-------------------------------- ----------- -----
optimizer_use_sql_plan_baselines boolean      TRUE
```

c. Change the parameter value to `FALSE`:

```
ALTER SYSTEM SET optimizer_use_sql_plan_baselines=FALSE SCOPE=BOTH;
```

Expected Output:

```
System altered.
```

4. **Create and Verify a New PDB**

a. Create a new PDB named `TEST`:

```
CONNECT / AS SYSDBA
CREATE PLUGGABLE DATABASE test
ADMIN USER admin IDENTIFIED BY password
CREATE_FILE_DEST='/u01/app/oracle/oradata/CDBLAB/test';
ALTER PLUGGABLE DATABASE test OPEN;
```

Expected Output:

```
Pluggable database created.
Pluggable database altered.
```

b. Add a service name `TEST` to the `tnsnames.ora` file.

c. Connect to the `TEST` PDB and verify the parameter value:

```
CONNECT sys@test AS SYSDBA
SHOW PARAMETER optimizer_use_sql_plan_baselines;
```

Expected Output:

```
NAME                                 TYPE          VALUE
-------------------------------- ----------- -----
optimizer_use_sql_plan_baselines boolean       TRUE
```

5. **Close and Reopen** `PDB3_ORCL`

   a. Close `PDB3_ORCL`:

```
CONNECT sys@pdb3_orcl AS SYSDBA
ALTER PLUGGABLE DATABASE CLOSE IMMEDIATE;
```

   b. Open `PDB3_ORCL`:

```
ALTER PLUGGABLE DATABASE OPEN;
SHOW PARAMETER optimizer_use_sql_plan_baselines;
```

Expected Output:

```
NAME                                 TYPE          VALUE
-------------------------------- ----------- -----
optimizer_use_sql_plan_baselines boolean       FALSE
```

6. **Verify the Parameter Value After CDB Restart**

   a. Shut down and restart the CDB:

```
CONNECT / AS SYSDBA
SHUTDOWN IMMEDIATE;
STARTUP;
```

Expected Output:

```
ORACLE instance started.
```

   b. Open all PDBs:

```
ALTER PLUGGABLE DATABASE ALL OPEN;
SHOW PDBS;
```

Expected Output:

```
CON_ID CON_NAME   OPEN MODE   RESTRICTED
```

---

2 PDB$SEED READ ONLY NO 3 PDB3_ORCL READ WRITE NO 4 TEST READ WRITE NO

```
c. Verify the parameter value in `PDB3_ORCL`:
```

```sql
CONNECT sys@pdb3_orcl AS SYSDBA
SHOW PARAMETER optimizer_use_sql_plan_baselines;
```

Expected Output:

```
NAME                                TYPE        VALUE
----------------------------------- ----------- -----
optimizer_use_sql_plan_baselines    boolean     FALSE
```

7. **Drop the PDBs**

   a. Close and drop the `TEST` and `PDB3_ORCL` PDBs:

   ```
   ALTER PLUGGABLE DATABASE test CLOSE IMMEDIATE;
   ALTER PLUGGABLE DATABASE pdb3_orcl CLOSE IMMEDIATE;
   DROP PLUGGABLE DATABASE test INCLUDING DATAFILES;
   DROP PLUGGABLE DATABASE pdb3_orcl INCLUDING DATAFILES;
   ```

   Expected Output:

   ```
   Pluggable database dropped.
   ```

8. **Verify the PDBs**

   a. Verify that the PDBs are dropped:

   ```
   SHOW PDBS;
   ```

   Expected Output:

   ```
   CON_ID CON_NAME    OPEN MODE  RESTRICTED
   ------ ----------- ---------- ----------
   2      PDB$SEED    READ ONLY  NO
   3      ORCLPDB1    READ WRITE NO
   4      ORCLPDB2    READ WRITE NO
   ```

9. **Close All Terminals**

   a. Exit SQL*Plus and close all terminal windows:

   ```
   EXIT;
   ```

This lab guides you through renaming a PDB and modifying initialization parameters at the PDB level, ensuring a thorough understanding of these operations.