

Practice

Managing the Fast Recovery Area

Practice Target

In this practice you will examine the FRA configured in `srv1` database.

Practice Assumptions

- This practice assumes that you have the virtual machines `srv1` is up and running and restored from its **CDB** snapshot.

Note: All the steps in this practice are applicable in non-CDB database as well.



Managing the Fast Recovery Area

In this section of the practice, you will examine the routine tasks involved in managing the Fast Recovery Area (FRA).

1. Open Putty and login to `srv1` as `oracle`.
2. Invoke SQL*Plus and login to the database as `sysdba`.

```
sqlplus / as sysdba
```

3. Check out if the FRA is enabled or not.

Because the parameters `DB_RECOVERY_FILE_DEST` and `DB_RECOVERY_FILE_DEST_SIZE` are set, FRA is enabled in the database. We defined those parameters at the time of creating the database.

```
show parameter DB_RECOVERY_FILE_DEST
```

4. Calculate the maximum size assigned to the FRA.

This size is manually set by the DBA. Oracle database is not aware about the actual free disk space in the underlying file system.

```
SELECT TO_CHAR(ROUND(VALUE/1024/1024), '999,999,999') || ' MB' FRA_SIZE  
FROM V$PARAMETER  
WHERE UPPER(NAME)='DB_RECOVERY_FILE_DEST_SIZE';
```

5. Check out how much free disk space is available in the disk partition that hosts the FRA.

`df` is a Linux command which displays the used and free space in the mounted file systems. In our case, the FRA is saved under `/u01` root directory. This directory is created under the root partition `/`. In the output of the command, check out the free space under the root partition.

Of course, in real life, you need to make sure that the underlying file system has enough free space to store the maximum FRA size set in the database. If FRA is saved in an ASM diskgroup, you need to check the free space in that diskgroup. You will learn about ASM disk groups later in the course.

```
host df -h
```

6. Check out the FRA contents at the OS level.

Observe that a directory is created under the FRA of the same name as the database instance name `"ORADB"`.

```
host ls -al /u01/app/oracle/fast_recovery_area
```

7. Check out the contents of the `ORADB` directory.

Observe that subdirectories are created under the `ORADB` directory. Those directories were automatically created by the database engine based on the file types. If in the future the database needs to create other file types (like Flashback logs for example), it automatically creates a subdirectory for them.

```
host ls -al /u01/app/oracle/fast_recovery_area/ORADB
```

8. Check out the total size of the FRA at the file system level.

"`du -sh`" is the command we can issue in Linux to obtain the total size occupied by a directory and all the files and subdirectories in it.

```
host du -sh /u01/app/oracle/fast_recovery_area/ORADB
```

9. Retrieve the size of the FRA as reported by Oracle database.

The query retrieves that maximum FRA size (as assigned by the DBA) and its total current usage.

```
SELECT ROUND(SPACE_LIMIT/1024/1024) SPACE_LIMIT_MB,  
       ROUND(SPACE_USED/1024/1024) SPACE_USED_MB  
FROM V$RECOVERY_FILE_DEST;
```

10. Retrieve the percentage of the total disk quota used by different file types in FRA.

"`set linesize`" is a SQL*Plus command used to widen (or shorten) the maximum number of characters to be displayed in the SQL*Plus command prompt single line.

In production systems, archivelog files take up high percentage of the FRA files. In our environment, the ARCHIVELOG mode is not enabled yet. We will learn about managing archive logs later in the course.

```
set linesize 180  
SELECT FILE_TYPE, PERCENT_SPACE_USED, PERCENT_SPACE_RECLAIMABLE,  
       NUMBER_OF_FILES, CON_ID  
FROM V$RECOVERY_AREA_USAGE;
```



Summary

- It is easy and useful to configure FRA in a database.
- Setting the maximum allowable size for the FRA is manually configured by the DBA.

