Modulo 6
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ejercicio 1
        Backup completo de la base de datos utilizando RMAN

1. Verificar que se encuentra en modo archive log
2. Ingresar con el usuario oracle a rman y conectarse a la instancia
3. Realizar el primer backup incluyendo los archive redo log
4. Analizar y explicar los siguientes puntos:

    a) Tipos de backup sets que se generaron
    b) Cantidad de backup sets de cada tipo
    c) Ubicación del backup
    d) Número de piece generados
    e) Tamaño del backup generado

5. Mostrar en la FRA los archivos generados
6. Listar los backups que han sido generados
7. Listar los backups por tipo de archivo
8. Obtener un resumen del backup
9. Revisar si hay archivos que pueden eliminarse y eliminarlos si es el caso

2-


```
RMAN> list backup summary;


List of Backups
===============
Key     TY LV S Device Type Completion Time #Pieces #Copies Compressed Tag
------- -- -- - ----------- --------------- ------- ------- ---------- ---
3       B  F  A DISK        27-JAN-24       1       1       NO         TAG20240127T124956
```

3-
RMAN> backup database plus archivelog tag inical_full_backup;
Starting backup at 27-JAN-24
current log archived
using channel ORA_DISK_1
channel ORA_DISK_1: starting archived log backup set
channel ORA_DISK_1: specifying archived log(s) in backup set
input archived log thread=1 sequence=111 RECID=1 STAMP=1159127129
input archived log thread=1 sequence=112 RECID=3 STAMP=1159284226
input archived log thread=1 sequence=113 RECID=5 STAMP=1159308143
input archived log thread=1 sequence=114 RECID=7 STAMP=1159326442
input archived log thread=1 sequence=115 RECID=15 STAMP=1159354224
input archived log thread=1 sequence=116 RECID=17 STAMP=1159354238
input archived log thread=1 sequence=117 RECID=13 STAMP=1159354216
channel ORA_DISK_1: starting piece 1 at 27-JAN-24
channel ORA_DISK_1: finished piece 1 at 27-JAN-24

piece handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27/o1_mf_annnn_INICAL_FULL_BACKUP_lvboz9xh_.bkp tag=INICAL_FULL_BACKUP comment=NONE

channel ORA_DISK_1: backup set complete, elapsed time: 00:00:25

channel ORA_DISK_1: starting archived log backup set

channel ORA_DISK_1: specifying archived log(s) in backup set

input archived log thread=1 sequence=1 RECID=20 STAMP=1159363331

channel ORA_DISK_1: starting piece 1 at 27-JAN-24

channel ORA_DISK_1: finished piece 1 at 27-JAN-24

piece handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27/o1_mf_annnn_INICAL_FULL_BACKUP_lvbp02mf_.bkp tag=INICAL_FULL_BACKUP comment=NONE

channel ORA_DISK_1: backup set complete, elapsed time: 00:00:03

Finished backup at 27-JAN-24

Starting backup at 27-JAN-24

using channel ORA_DISK_1

channel ORA_DISK_1: starting full datafile backup set

channel ORA_DISK_1: specifying datafile(s) in backup set

input datafile file number=00001 name=/u01/app/oracle/oradata/JBADIP02/system01.dbf

input datafile file number=00002 name=/u01/app/oracle/oradata/JBADIP02/sysaux01.dbf

input datafile file number=00004 name=/u01/app/oracle/oradata/JBADIP02/users01.dbf

input datafile file number=00003 name=/u01/app/oracle/oradata/JBADIP02/undotbs01.dbf

channel ORA_DISK_1: starting piece 1 at 27-JAN-24

channel ORA_DISK_1: finished piece 1 at 27-JAN-24

piece handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27/o1_mf_nnndf_TAG20240127T132247_lvbp0gro_.bkp tag=TAG20240127T132247 comment=NONE

channel ORA_DISK_1: backup set complete, elapsed time: 00:02:46

Finished backup at 27-JAN-24

Starting backup at 27-JAN-24

current log archived

using channel ORA_DISK_1

channel ORA_DISK_1: starting archived log backup set

channel ORA_DISK_1: specifying archived log(s) in backup set

input archived log thread=1 sequence=2 RECID=22 STAMP=1159363546

channel ORA_DISK_1: starting piece 1 at 27-JAN-24

channel ORA_DISK_1: finished piece 1 at 27-JAN-24

piece handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27/o1_mf_annnn_INICAL_FULL_BACKUP_lvbp5xl0_.bkp tag=INICAL_FULL_BACKUP comment=NONE

channel ORA_DISK_1: backup set complete, elapsed time: 00:00:09
Finished backup at 27-JAN-24
Starting Control File and SPFILE Autobackup at 27-JAN-24
piece
handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/autobackup/2024_01_27/o1
_mf_s_1159363564_lvbp6sf1_.bkp comment=NONE
Finished Control File and SPFILE Autobackup at 27-JAN-24
RMAN> list backup summary;
List of Backups
===============

Key	TY	LV	S	Device Type	Completion Time	#Pieces	#Copies	Compressed	Tag
3	B	F	A	DISK	27-JAN-24	1	1	NO	TAG20240127T124956
4	B	A	A	DISK	27-JAN-24	1	1	NO	INICAL_FULL_BACKUP
5	B	A	A	DISK	27-JAN-24	1	1	NO	INICAL_FULL_BACKUP
6	B	F	A	DISK	27-JAN-24	1	1	NO	TAG20240127T132247
7	B	A	A	DISK	27-JAN-24	1	1	NO	INICAL_FULL_BACKUP
8	B	F	A	DISK	27-JAN-24	1	1	NO	TAG20240127T132559

RMAN> list backup by file;
List of Datafile Backups
========================

File	Key	TY	LV	S	Ckp SCN	Ckp Time	#Pieces	#Copies	Compressed	Tag
1	6	B	F	A	2999451	27-JAN-24	1	1	NO	TAG20240127T132247
2	6	B	F	A	2999451	27-JAN-24	1	1	NO	TAG20240127T132247
3	6	B	F	A	2999451	27-JAN-24	1	1	NO	TAG20240127T132247
4	6	B	F	A	2999451	27-JAN-24	1	1	NO	TAG20240127T132247

List of Archived Log Backups
============================

Thrd	Seq	Low SCN	Low Time	BS Key	S	#Pieces	#Copies	Compressed	Tag
1	111	2782570	20-JAN-24	4	A	1	1	NO	INICAL_FULL_BACKUP
1	112	2801980	24-JAN-24	4	A	1	1	NO	INICAL_FULL_BACKUP
1	113	2907864	26-JAN-24	4	A	1	1	NO	INICAL_FULL_BACKUP
1	114	2935708	26-JAN-24	4	A	1	1	NO	INICAL_FULL_BACKUP
1	115	2957526	27-JAN-24	4	A	1	1	NO	INICAL_FULL_BACKUP

```
1    116    2971078     27-JAN-24 4        A 1    1        NO
INICAL_FULL_BACKUP
1    117    2988264     27-JAN-24 4        A 1    1        NO
INICAL_FULL_BACKUP
1    1      2990921     27-JAN-24 5        A 1    1        NO
INICAL_FULL_BACKUP
1    2      2999416     27-JAN-24 7        A 1    1        NO
INICAL_FULL_BACKUP
```

List of Control File Backups
=============================

CF Ckp SCN	Ckp Time	BS Key	S	#Pieces	#Copies	Compressed	Tag
2999541	27-JAN-24	8	A	1	1	NO	TAG20240127T132559
2997432	27-JAN-24	3	A	1	1	NO	TAG20240127T124956

List of SPFILE Backups
======================

Modification Time	BS Key	S	#Pieces	#Copies	Compressed	Tag
27-JAN-24	8	A	1	1	NO	TAG20240127T132559
27-JAN-24	3	A	1	1	NO	TAG20240127T124956

4 -

a) Tipos de backup sets que se generaron
archive log, full datafile

b) Cantidad de backup sets de cada tipo
9 de tipo archive log
4 de tipo datafile

c) Ubicación del backup
/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27

d) Número de piece generados
1

e) Tamaño del backup generado

300 M aprox

```
[oracle@pc-joba JBADIP02]$ tree
├── autobackup
│   ├── 2024_01_26
│   └── 2024_01_27
│       ├── o1_mf_s_1159363564_lvbp6sf1_.bkp
│       ├── o1_mf_s_1159365017_lvbqn1vf_.bkp
│       └── o1_mf_s_1159365054_lvbqoof2_.bkp
├── backupset
│   └── 2024_01_27
│       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvboz9xh_.bkp
│       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvbp02mf_.bkp
│       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvbp5xl0_.bkp
│       ├── o1_mf_nnndf_BK_TBSP_BS_lvbqnjcd_.bkp
│       └── o1_mf_nnndf_TAG20240127T132247_lvbp0gro_.bkp
├── flashback
│   ├── o1_mf_lv8mr281_.flb
│   ├── o1_mf_lv8mrkn8_.flb
│   ├── o1_mf_lv9018w1_.flb
│   ├── o1_mf_lv9kllpy_.flb
│   ├── o1_mf_lv9wrcgv_.flb
│   └── o1_mf_lvbbc5rk_.flb

6 directories, 14 files
[oracle@pc-joba JBADIP02]$ ls -lh backupset/2024_01_27/
total 1.7G
-rw-r-----. 1 oracle oinstall 280M Jan 27 13:22 o1_mf_annnn_INICAL_FULL_BACKUP_lvboz9xh_.bkp
-rw-r-----. 1 oracle oinstall  13M Jan 27 13:22 o1_mf_annnn_INICAL_FULL_BACKUP_lvbp02mf_.bkp
-rw-r-----. 1 oracle oinstall  13K Jan 27 13:25 o1_mf_annnn_INICAL_FULL_BACKUP_lvbp5xl0_.bkp
-rw-r-----. 1 oracle oinstall 1.2M Jan 27 13:50 o1_mf_nnndf_BK_TBSP_BS_lvbqnjcd_.bkp
-rw-r-----. 1 oracle oinstall 1.4G Jan 27 13:25 o1_mf_nnndf_TAG20240127T132247_lvbp0gro_.bkp
[oracle@pc-joba JBADIP02]$ pwd
/unam-diplomado-bd/fast-recovery-area/JBADIP02
[oracle@pc-joba JBADIP02]$
```

```
2997432       27-JAN-24 3          A 1    1      NO    TAG20240127T124956
List of SPFILE Backups
======================
Modification Time BS Key  S #Pieces #Copies Compressed Tag
---------------- ------- - ------- ------- ---------- ---
27-JAN-24      8      A 1     1       NO   TAG20240127T132559
27-JAN-24      3      A 1     1       NO   TAG20240127T124956

4 -

a) Tipos de backup sets que se generaron
archive log, full datafile

b) Cantidad de backup sets de cada tipo

c) Ubicación del backup
/unam-diplomado-bd/fast-recovery-area/JBADIP02/backupset/2024_01_27

d) Número de piece generados

5 -
```

5 -

```
[oracle@pc-joba ~]$ tree /unam-diplomado-bd/fast-recovery-area/
/unam-diplomado-bd/fast-recovery-area/
└── JBADIP02
    ├── autobackup
    │   ├── 2024_01_26
    │   └── 2024_01_27
    │       ├── o1_mf_s_1159361396_lvbn2whl_.bkp
    │       └── o1_mf_s_1159363564_lvbp6sf1_.bkp
    ├── backupset
    │   └── 2024_01_27
    │       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvboz9xh_.bkp
    │       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvbp02mf_.bkp
    │       ├── o1_mf_annnn_INICAL_FULL_BACKUP_lvbp5xl0_.bkp
    │       └── o1_mf_nnndf_TAG20240127T132247_lvbp0gro_.bkp
    └── flashback
        ├── o1_mf_lv8mr281_.flb
        ├── o1_mf_lv8mrkn8_.flb
        ├── o1_mf_lv9018w1_.flb
        ├── o1_mf_lv9kllpy_.flb
        ├── o1_mf_lv9wrcgv_.flb
        └── o1_mf_lvbbc5rk_.flb

7 directories, 12 files
[oracle@pc-joba ~]$
```

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```
RMAN> delete obsolete;

RMAN retention policy will be applied to the command
RMAN retention policy is set to redundancy 1
using channel ORA_DISK_1
Deleting the following obsolete backups and copies:
Type                 Key    Completion Time   Filename/Handle
-------------------- ------ ----------------- -------------------
Archive Log          2      24-JAN-24         /unam-diplomado-bd/disk-042/archivelogs/jbadip02/disk_b/arch_gbldip02_1_111_1153327870.arc
Archive Log          1      24-JAN-24         /unam-diplomado-bd/disk-041/archivelogs/jbadip02/disk_a/arch_gbldip02_1_111_1153327870.arc
Backup Set           3      27-JAN-24
  Backup Piece       3      27-JAN-24         /unam-diplomado-bd/fast-recovery-area/JBADIP02/autobackup/2024_01_27/o1_mf_s_1159361396_lvbn2whl_.
bkp

Do you really want to delete the above objects (enter YES or NO)? y
deleted archived log
archived log file name=/unam-diplomado-bd/disk-042/archivelogs/jbadip02/disk_b/arch_gbldip02_1_111_1153327870.arc RECID=2 STAMP=1159127129
deleted archived log
archived log file name=/unam-diplomado-bd/disk-041/archivelogs/jbadip02/disk_a/arch_gbldip02_1_111_1153327870.arc RECID=1 STAMP=1159127129
deleted backup piece
backup piece handle=/unam-diplomado-bd/fast-recovery-area/JBADIP02/autobackup/2024_01_27/o1_mf_s_1159361396_lvbn2whl_.bkp RECID=3 STAMP=115936140
2
Deleted 3 objects


RMAN> list backup summary;


List of Backups
===============
Key     TY LV S Device Type Completion Time #Pieces #Copies Compressed Tag
------- -- -- - ----------- --------------- ------- ------- ---------- ---
4       B  A  A DISK        27-JAN-24       1       1       NO         INICAL_FULL_BACKUP
5       B  A  A DISK        27-JAN-24       1       1       NO         INICAL_FULL_BACKUP
6       B  F  A DISK        27-JAN-24       1       1       NO         TAG20240127T132247
7       B  A  A DISK        27-JAN-24       1       1       NO         INICAL_FULL_BACKUP
8       B  F  A DISK        27-JAN-24       1       1       NO         TAG20240127T132559
```

CONCLUSIONES

¿El ejercicio aportó y/o mejoró la comprensión del concepto ?

con este ejercicio iniciamos con el acercamiento a RMAN con comandos básicos, además con esta herramienta fue posible crear el primer full backup además de respaldar los archive logs.

Problemas identificados durante su elaboración así como la forma en la que se solucionaron

no se tuvo problemas

Comentarios, sugerencias.