

## 1、配置保留策略

**CONFIGURE RETENTION POLICY TO REDUNDANCY 1; # default**

基于时间: CONFIGURE RETENTION POLICY TO RECOVERY WINDOW OF n DAYS;

基于冗余数量: CONFIGURE RETENTION POLICY TO REDUNDANCY n;

取消备份保留策略: CONFIGURE RETENTION POLICY TO NONE;

恢复初始的默认配置: CONFIGURE RETENTION POLICY CLEAR;

显示保留策略设置: show retention policy;

配置备份集冗余为 3, 如果备份集大于 3, 那么通过 **report obsolete** 命令就可以查看过期的备份集, 然后通过 **delete obsolete** 可以删除过期的备份集, 注意, 如果提示说不能删除, 那么可以通过 **crosscheck backup** 以及 **crosscheck archivelog all** 来交叉检查备份集和归档日志, 然后 **report obsolete, delete obsolete**;

例:

```
SYS@orcl> shutdown immediate
```

```
SYS@orcl> startup mount;
```

```
SYS@orcl> alter database archivelog;
```

```
SYS@orcl> alter database open;
```

```
-----  
[oracle@togogo Desktop]$ rlrwrap rman target /
```

```
RMAN> show all;
```

```
RMAN> CONFIGURE RETENTION POLICY TO REDUNDANCY 2;
```

```
RMAN> crosscheck backup;
```

```
RMAN> backup datafile 5;
```

```
RMAN> report obsolete;
```

```
RMAN retention policy will be applied to the command
```

```
RMAN retention policy is set to redundancy 2
```

```
no obsolete backups found
```

```
RMAN> backup datafile 5;
```

```
RMAN> report obsolete;
```

```
RMAN retention policy will be applied to the command
```

```
RMAN retention policy is set to redundancy 2
```

```
no obsolete backups found
```

```
RMAN> backup datafile 5;
```

```
RMAN> report obsolete;
```

```
已超过冗余数
```

```
RMAN> delete obsolete;
```

## 2、配置备份优化

**CONFIGURE BACKUP OPTIMIZATION OFF; # default**

打开备份优化: CONFIGURE BACKUP OPTIMIZATION ON;

关闭备份优化: CONFIGURE BACKUP OPTIMIZATION OFF;

恢复初始的默认配置: CONFIGURE BACKUP OPTIMIZATION CLEAR;

显示保留策略设置: show backup optimization;

## 3、配置 IO 设备类型

#### CONFIGURE DEFAULT DEVICE TYPE TO DISK; # default

磁盘设备: CONFIGURE DEFAULT DEVICE TYPE TO DISK;

磁带设置: CONFIGURE DEFAULT DEVICE TYPE TO SBT;

恢复初始的默认配置: CONFIGURE DEFAULT DEVICE TYPE CLEAR;

显示保留策略设置: show DEFAULT DEVICE TYPE;

#### 4、配置控制文件自动备份

##### CONFIGURE CONTROLFILE AUTOBACKUP OFF; # default

打开自动备份: CONFIGURE CONTROLFILE AUTOBACKUP ON;

禁止自动备份: CONFIGURE CONTROLFILE AUTOBACKUP OFF;

恢复初始的默认配置: CONFIGURE CONTROLFILE AUTOBACKUP CLEAR;

显示保留策略设置: show CONTROLFILE AUTOBACKUP;

例:

```
RMAN> CONFIGURE CONTROLFILE AUTOBACKUP ON;
```

```
RMAN> backup datafile 5;
```

在恢复目录同时生成控制文件和参数文件的备份

/u01/app/oracle/fast\_recovery\_area/ORCL/autobackup。

#### 5、配置指定备份的控制格式

##### CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE DISK TO '%F'; # default

配置指定备份的控制格式

CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE DISK TO '/u01/app/oracle/backup/%F' ;

将参数文件和控制文件备份到/u01/app/oracle/backup

恢复初始的默认配置: CONFIGURE CONTROLFILE AUTOBACKUP FORMAT for device type disk clear;

显示保留策略设置: show CONTROLFILE AUTOBACKUP FORMAT;

例:

```
CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE DISK TO '/home/oracle/wl_%F' ;
```

如果将此选项改/home/oracle/wl\_%F, 控制文件和参数文件将自动保存在些目录。

#### 6、配置备份的并行度

##### CONFIGURE DEVICE TYPE DISK PARALLELISM 1 BACKUP TYPE TO BACKUPSET; # default

```
configure device type disk parallelism 2 backup type to copy;
```

```
configure device type disk parallelism 2 backup type to compressed backupset;
```

恢复初始的默认配置: configure device type disk clear;

```
configure device type sbt clear;
```

```
CONFIGURE DEVICE TYPE 'SBT_TAPE' BACKUP TYPE TO BACKUPSET PARALLELISM 1;
```

```
CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE SBT_TAPE TO '%F'; # default
```

显示设置 show device type;

```
show controlfile autobackup format;
```

例:

```
RMAN> CONFIGURE DEVICE TYPE DISK PARALLELISM 2 BACKUP TYPE TO BACKUPSET;
```

```
RMAN> show all;
```

```
RMAN> backup datafile 5;
```

Starting backup at 20-MAY-14

```

allocated channel: ORA_DISK_1    第一个通道
channel ORA_DISK_1: SID=28 device type=DISK
allocated channel: ORA_DISK_2    第二个通道
channel ORA_DISK_2: SID=36 device type=DISK
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00005 name=/u01/app/oracle/oradata/orcl/example01.dbf
channel ORA_DISK_1: starting piece 1 at 20-MAY-14
channel ORA_DISK_1: finished piece 1 at 20-MAY-14
piece
handle=/u01/app/oracle/fast_recovery_area/ORCL/backupset/2014_05_20/o1_mf_nnndf_TAG20140520T
205433_9qpn49hd_.bkp tag=TAG20140520T205433 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 20-MAY-14
RMAN> CONFIGURE DEVICE TYPE DISK PARALLELISM clear;
RMAN> backup datafile 5;
Starting backup at 20-MAY-14
allocated channel: ORA_DISK_1    一个通道
channel ORA_DISK_1: SID=28 device type=DISK
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00005 name=/u01/app/oracle/oradata/orcl/example01.dbf
channel ORA_DISK_1: starting piece 1 at 20-MAY-14
channel ORA_DISK_1: finished piece 1 at 20-MAY-14
piece
handle=/u01/app/oracle/fast_recovery_area/ORCL/backupset/2014_05_20/o1_mf_nnndf_TAG20140520T
205605_9qpn75gc_.bkp tag=TAG20140520T205605 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 20-MAY-14
设置并行度还可以使用如下方法:

```

默认并行度为 1

```
configure device type disk backup type to backupset PARALLELISM 1;
```

默认并行度为 1

```
configure device type disk backup type to copy PARALLELISM 1;
```

默认并行度为 1

```
configure device type disk backup type to compressed backupset PARALLELISM 1;
```

设置备份集压缩, 并且并行度为 2

```
CONFIGURE DEVICE TYPE DISK BACKUP TYPE TO COMPRESSED BACKUPSET PARALLELISM 2;
```

```
RMAN> backup datafile 5;
```

Starting backup at 20-MAY-14

```
using channel ORA_DISK_1
```

```
using channel ORA_DISK_2
```

```
channel ORA_DISK_1: starting compressed full datafile backup set
```

```
channel ORA_DISK_1: specifying datafile(s) in backup set
```

```

input datafile file number=00005 name=/u01/app/oracle/oradata/orcl/example01.dbf
channel ORA_DISK_1: starting piece 1 at 20-MAY-14
channel ORA_DISK_1: finished piece 1 at 20-MAY-14
piece
handle=/u01/app/oracle/fast_recovery_area/ORCL/backupset/2014_05_20/o1_mf_nnndf_TAG2014
0520T210832_9qpnyjyn_.bkp tag=TAG20140520T210832 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:07
Finished backup at 20-MAY-14
恢复默认值:
RMAN> CONFIGURE DEVICE TYPE DISK clear;

```

例:

设置备份集压缩, 并且并行度为 2, 设置保存到二个目录

```

CONFIGURE DEVICE TYPE DISK BACKUP TYPE TO COMPRESSED BACKUPSET PARALLELISM 2;
CONFIGURE CHANNEL 1 DEVICE TYPE DISK FORMAT '/home/oracle/BACKUP_%U';
CONFIGURE CHANNEL 2 DEVICE TYPE DISK FORMAT '/u01/app/oracle/BACKUP_%U';

```

清除设置

```

CONFIGURE CHANNEL 1 DEVICE TYPE DISK clear;
CONFIGURE CHANNEL 2 DEVICE TYPE DISK clear;

```

通过上面的配置, 我们在发出 backup database 命令之后, 就会分配 2 个通道, 然后把备份集分别存放在/home/oracle/和/u01/app/oracle/目录下, 不会在默认的DB\_RECOVERY\_FILE\_DEST目录下备份, 默认的情况下, 并行度为 1, 而且没有指定压缩备份。如果在上面的设置中把 2 该为 1, 那么就不会再/u01/app/oracle/目录中生成备份集。

RMAN 支持并行备份与恢复, 也可以在配置中指定默认的并行程度。如

```
CONFIGURE DEVICE TYPE DISK PARALLELISM 4;
```

指定在以后的备份与恢复中, 将采用并行度为 4, 同时开启 4 个通道进行备份与恢复, 当然也可以在 run 的运行块中指定通道来决定备份与恢复的并行程度。

并行的数目决定了开启通道的个数。如果指定了通道配置, 将采用指定的通道, 如果没有指定通道, 将采用默认通道配置。

## 7、设置备份文件副本

```
CONFIGURE DATAFILE BACKUP COPIES FOR DEVICE TYPE DISK TO 1; # default
```

```

configure datafile backup copies for device type disk to 3;
configure datafile backup copies for device type sbt to 3;
configure datafile backup copies for device type disk clear;
configure datafile backup copies for device type sbt clear;
显示设置 show datafile backup copies;

```

如果觉得单个备份集不放心, 可以设置多个备份集的拷贝, 如

```

CONFIGURE DATAFILE BACKUP COPIES FOR DEVICE TYPE DISK TO 2;
CONFIGURE ARCHIVELOG BACKUP COPIES FOR DEVICE TYPE DISK TO 2;

```

如果指定了多个拷贝, 可以在通道配置或者备份配置中指定多个拷贝地点

```

RMAN> backup datafile 5 format '/home/oracle/%U', '/u01/app/oracle/%U';
或
RMAN> CONFIGURE CHANNEL DEVICE TYPE DISK FORMAT '/home/oracle/backup1/%U',
'/home/oracle/backup2/%U';

```

例:

```

RMAN> CONFIGURE DATAFILE BACKUP COPIES FOR DEVICE TYPE DISK TO 2;
RMAN> show all;
RMAN> backup datafile 5;

```

```

Starting backup at 21-MAY-14
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=00005 name=/u01/app/oracle/oradata/orcl/example01.dbf
channel ORA_DISK_1: starting piece 1 at 21-MAY-14
RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03009: failure of backup command on ORA_DISK_1 channel at 05/21/2014 14:49:54
ORA-19806: cannot make duplex backups in recovery area
RMAN> backup datafile 5 format '/home/oracle/%U', '/u01/app/oracle/%U';

```

## 8、生成备份副本 archivelog backup copies

### CONFIGURE ARCHIVELOG BACKUP COPIES FOR DEVICE TYPE DISK TO 1; # default

```

configure archivelog backup copies for device type disk|stb to 3;
configure archivelog backup copies for device type disk|stb clear
show archivelog backup copies;

```

例:

```

RMAN> CONFIGURE ARCHIVELOG BACKUP COPIES FOR DEVICE TYPE DISK TO 2;
RMAN> show all;
RMAN> backup archivelog all;

```

```

Starting backup at 21-MAY-14
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=7 RECID=2 STAMP=848159004
channel ORA_DISK_1: starting piece 1 at 21-MAY-14
RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03009: failure of backup command on ORA_DISK_1 channel at 05/21/2014 15:43:25
ORA-19806: cannot make duplex backups in recovery area

```

```
RMAN> backup archivelog all format '/home/oracle/ba1/1f_%d_%U', '/home/oracle/ba2/1f_%d_%U';
```

## 9、备份集大小

### CONFIGURE MAXSETSIZE TO UNLIMITED; # default

```
configure maxsetsize to 1G|1000M|1000000K|unlimited;
configure maxsetsize clear;
show maxsetsize;
```

例:

```
CONFIGURE MAXSETSIZE TO 800M;
backup database;
```

## 10、配置加密备份集

### CONFIGURE ENCRYPTION FOR DATABASE OFF; # default

```
configure encryption for database off|on;
configure encryption for tablespace tablespacename off|on;
configure encryption for database clear;
configure encryption for tablespace tablespacename clear;
```

例:

```
RMAN> configure encryption for database on;
RMAN> set encryption on identified by "abc" only;
RMAN> backup datafile 5;
RMAN> shutdown immediate
RMAN> startup mount;
RMAN> set decryption identified by "abc";
RMAN> restore datafile 5;
RMAN> recover datafile 5;
RMAN> alter database open;
```

11、配置默认加密算法，视图 `v$rman_encryption_algorithms` 中获取 `rman` 中支持的加密算法，视图中列出的加密算法可以在执行备份操作时指定，或是通过 `configure` 进行配置。

### CONFIGURE ENCRYPTION ALGORITHM 'AES128'; # default

```
configure encryption algorithm 'AES256';
configure encryption algorithm clear;
show encryption algorithm;
```

12、配置归档文件删除策略，当设置为 `applied on standby` 时，会出错，但用户仍然可以手动删除。None 不启用归档文件删除策略。

### CONFIGURE ARCHIVELOG DELETION POLICY TO NONE; # default

```
CONFIGURE ARCHIVELOG DELETION POLICY TO none;
CONFIGURE ARCHIVELOG DELETION POLICY TO applied on standby;
CONFIGURE ARCHIVELOG DELETION POLICY clear;
show ARCHIVELOG DELETION POLICY;
```

13、配置控制文件的快照文件存放的路径和文件名，这个快照文件是在备份期间产生的，用于控制文件的读一致性。

```
CONFIGURE SNAPSHOT CONTROLFILE NAME TO '/u01/app/oracle/product/10.2.0/db_1/dbs/snapcf_orcl.f';
```

```
# default
```

```
CONFIGURE SNAPSHOT CONTROLFILE NAME TO '/u01/app/oracle/snapcf_orcl.f';
```

```
CONFIGURE SNAPSHOT CONTROLFILE name clear;
```

```
show SNAPSHOT CONTROLFILE name;
```