

## 1、备份数据库

### 备份整个数据库:

备份整个数据库，默认路径/u01/app/oracle/flash\_recovery\_area/ORCL/backupset

```
RMAN> backup database;
```

备份整个数据库，路径/u01/app/oracle/rmanback

```
RMAN> backup database format '/u01/app/oracle/rmanback/whole_%d_%U' ;
```

列出数据文件的备份信息

```
RMAN> list backup summary;
```

```
RMAN> list backup of database;
```

```
RMAN> list backup of database summary;
```

```
RMAN> list backup of datafile 1,2,3,4,5 summary;
```

```
RMAN> list backup by file;
```

列出备份集的详细信息

```
RMAN> list backup;
```

```
RMAN> list backup of spfile;
```

```
RMAN> list backup of controlfile;
```

```
RMAN> list backup of datafile 1,2,3,4,5;
```

```
RMAN> list backup of tablespace system,users;
```

备份的详细列表

```
RMAN> list backup verbose;
```

删除备份文件

```
RMAN> host 'rm -rf /u01/app/oracle/rmanback/*';
```

核对所有备份集

```
RMAN>CROSSCHECK BACKUP;
```

核对所有数据文件的备份集

```
RMAN> CROSSCHECK BACKUP OF DATABASE;
```

核对特定表空间的备份集

```
RMAN>CROSSCHECK BACKUP OF TABLESPACE SYSTEM;
```

核对特定数据文件的备份集

```
RMAN>CROSSCHECK BACKUP OF DATAFILE 4;
```

核对控制文件的备份集

```
RMAN>CROSSCHECK BACKUP OF CONTROLFILE;
```

### 6. 核对 SPFILE 的备份集

```
RMAN> CROSSCHECK BACKUP OF SPFILE;
```

说明: AVAILABLE 表示可用, EXPIRED 表示过期

列出过期的备份文件

```
RMAN> list expired backup;
```

```
RMAN> delete expired backupset;
```

```
RMAN> DELETE BACKUPSET 12;
```

删除备份集

```
RMAN> delete backupset;
```

### 备份整个数据库并压缩备份集:

```
RMAN> backup as compressed backupset database format '/u01/app/oracle/rmanback/whole_%d_%U' ;
```

手动分配一个通道，指定备份片的大小为 2g，压缩备份集，指定备份集中允许容纳的文件数为 3 个，释放通道

```

RMAN> run{
allocate channel ch1 type disk
maxpiecesize=2g;
backup as compressed backupset format '/u01/app/oracle/rmanback/whole_%d_%U' filesperset=3 database;
release channel ch1;}

```

**将并行度改为 3：并行度改为 3 之后，自动启用了 3 个通道：**

```

RMAN> configure device type disk parallelism 3;
RMAN> backup as compressed backupset format '/u01/app/oracle/rmanback/whole_%d_%U' filesperset=3 database;

```

**备份片大小设置为 100m，则一个备份集包含多个备份片，且每个备份片大小为 100m**

```

RMAN> run{
allocate channel ch1 type disk
maxpiecesize=100m;
backup format '/u01/app/oracle/rmanback/whole_%d_%U' database;
release channel ch1;}
RMAN> list backup summary;
RMAN> list backupset tag=TAG20101014T171115;

```

## 2. 备份数据文件

**镜像备份：**

```

RMAN> backup as copy datafile 4 format '/u01/app/oracle/rmanback/df_%d_%U';
RMAN> list copy;
RMAN> list copy of datafile 4;
RMAN> list copy of tablespace users;
RMAN> list copy of database;
RMAN> list copy of archivelog all;
RMAN> host 'rm -rf /u01/app/oracle/rmanback/*';
核对所有数据文件的映像副本
RMAN> CROSSCHECK COPY OF DATABASE;
RMAN> DELETE EXPIRED COPY;
RMAN> DELETE COPY;

```

**备份类型为备份集：**

```

RMAN> backup datafile 4,5 format '/u01/app/oracle/rmanback/df_%d_%U';
RMAN> list backup of database summary;
RMAN> list backup of datafile 4,5;
RMAN> host 'rm -rf /u01/app/oracle/rmanback/*';
RMAN>CROSSCHECK BACKUP OF DATAFILE 4;
RMAN> list backup of datafile 4,5;
RMAN>delete expired backup;
RMAN> backup datafile 4,5 format '/u01/app/oracle/rmanback/df_%d_%U';
删除指定备份片
RMAN> DELETE BACKUPPIECE '/u01/app/oracle/rmanback/df_ORCL_Ocoqmhit_1_1';

```

## 3. 备份表空间：

```

RMAN>backup tablespace users format '/u01/app/oracle/rmanback/tb_%d_%U';
RMAN> list backup of tablespace users summary;
RMAN> list backup of tablespace users;

```

```
RMAN> DELETE BACKUPSET 13;
```

**临时表空间不需要备份(出错):**

```
RMAN> backup tablespace temp;
```

#### 4. 备份控制文件

**自动备份控制文件置为 on 状态, 将自动备份控制文件和参数文件**

```
RMAN> backup tablespace users format '/u01/app/oracle/rmanback/tb_%d_%U';
```

验证是否备份控制文件

```
RMAN> list backup of controlfile;
```

```
RMAN> list backup of tablespace users;
```

```
RMAN> DELETE BACKUPSET 14;
```

```
RMAN> configure controlfile autobackup on;
```

```
RMAN> backup tablespace users format '/u01/app/oracle/rmanback/tb_%d_%U';
```

验证是否备份控制文件

```
RMAN> list backup of controlfile;
```

```
RMAN> DELETE BACKUPSET 15;
```

```
RMAN> DELETE BACKUPSET 16;
```

注: 在备份 system01.dbf 或 system 表空间时将会自动备份控制文件和参数文件, 即使自动备份控制文件参数为 off

**单独备份控制文件及参数文件:**

```
RMAN> backup current controlfile;
```

或

```
RMAN> backup current controlfile format '/u01/app/oracle/rmanback/sp_%d_%U';
```

```
RMAN> list backup of controlfile;
```

```
RMAN> DELETE BACKUPSET;
```

**备份数据文件时包含控制文件**

```
RMAN> backup datafile 4 include current controlfile;
```

或

```
RMAN> backup datafile 4 include current controlfile format '/u01/app/oracle/rmanback/sp_%d_%U';
```

```
RMAN> sql "alter database backup controlfile to '/u01/app/oracle/rmanback/orclcontrol.bak'";
```

```
RMAN> sql "alter database backup controlfile to trace as '/u01/app/oracle/rmanback/orclcontrol.sql'";
```

**单独备份 spfile**

```
RMAN> backup spfile format '/u01/app/oracle/rmanback/sp_%d_%U';
```

```
RMAN> backup copies 2 device type disk spfile format '/u01/app/oracle/rmanback/sp_%d_%U';
```

```
RMAN> DELETE BACKUPSET
```

#### 5. 备份归档日志文件

备份归档日志时仅仅备份归档过的数据文件(不备份联机重做日志文件), 备份归档日志时总是对归档日志做完整备份, RMAN 对归档日志备份前会自动做一次日志切换, 且从一组归档日志中备份未损坏的归档日志, RMAN 会自动判断哪些归档日志需要进行备份, 归档日志的备份集不能包含其它类型的文件。

delete input 删除所有已经备份过的归档日志

```
RMAN> backup archivelog all format '/u01/app/oracle/rmanback/lf_%d_%U';
```

```
RMAN> backup format '/u01/app/oracle/rmanback/lf_%d_%U' archivelog all delete input;
```

```
RMAN> list backup of archivelog all;
```

```
RMAN> list backup of archivelog all summary;
```

```
RMAN> list backup of archivelog from sequence 4;
```

```
RMAN> list backup of archivelog from sequence 5;
```

```

RMAN> list backup of archivelog until sequence 5;
RMAN> list backup of archivelog from scn 500360;
RMAN> list backup of archivelog until scn 514173;
RMAN> list backup of archivelog from sequence 4 until sequence 6;
RMAN> list backup of archivelog from scn 500360 until scn 514173;
RMAN> DELETE BACKUPSET 22

```

使用 plus archivelog 时备份数据库完成的动作 (backup database plus archivelog)

1. 首先执行 alter system archive log current 命令 (对当前日志归档)
2. 执行 backup archivelog all 命令 (对所有归档日志进行备份)
3. 执行 backup database 命令中指定的数据文件、表空间等
4. 再次执行 alter system archive log current
5. 备份在备份操作期间产生的新的归档日志

执行下面的命令, 并观察备份列出的信息, 可以看到使用 plus archivelog 时使用了上面描述的步骤来进行备份

```

RMAN> backup database plus archivelog format '/u01/app/oracle/rmanback/lg_%d_%U' delete input;

```