



OCP 认证培训教材

基于用户管理的不完全恢复



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基于用户管理的不完全恢复

完全恢复：把数据库恢复到最新的 SCN，出故障前的那一刻，是无损恢复。

不完全恢复：有损恢复，多用于恢复用户误操作，归档日志丢失等情形。

一、不完全恢复特性

1、不完全恢复

不完全恢复仅仅是将数据恢复到某一个特定的时间点或特定的 SCN，而不是当前时间点。不完全恢复会影响整个数据库，需要在 MOUNT 状态下进行（提条件是 Oracl 数据库够到 mount 状态，即参数文件，控制文件存在并且可用）。在不完全恢复成功之后，需要使用 resetlogs 选项来打开数据库。当使用 resetlogs 后，SCN 计数器不会被重置，原来的日志序号 log sequence 会结束，从新开始新的日志序列号。同时 Oracle 还会重置联机重做日志内容，因此 resetlogs 之后建议重新全备数据库（在做不完全恢复前建议在恢复前后做一次备份，避免恢复失败导致不必要的损失）。

2、不完全恢复的情形

介质故障导致部分或全部联机重做日志(online redo log)损坏

用户操作失误导致数据丢失,例如,用户由于疏忽而移除了表,提交了无效的数据到表

由于归档重做日志(archived redo log)丢失而无法进行完全恢复

当前控制文件(control file)丢失,必须使用备份的控制文件打开(open)数据库

3、不完全恢复的步骤

关闭数据库并备份数据库(以防止恢复失败)

启动数据库到 mount 状态

还原所有数据文件，同时可以选择还原控制文件(注意需要还原所有数据文件，而不仅仅是受损文件)

将数据库恢复至某个时间点、序列、或系统改变号

使用 RESETLOGS 关键字打开数据库

二、举例

1、until time 恢复(恢复到指定时间点)

```
conn / as sysdba
```

数据库处于归档模式

```
archive log list;
```

对数据库进行热备份

```
set time on;
```

```
create table dept as select * from scott.dept;
```

```
create table emp as select * from scott.emp;
```

```
truncate table emp;
```

```
insert into dept select 50,'DEV','SZ' from dual;
```

```
commit;
```

```
insert into dept select 60,'HR','GZ' from dual;
```

```
commit;
```

执行检查点进程写入日志

```
alter system checkpoint;
```

```
shutdown immediate;
```

```
ho rm -rf /u01/app/oracle/oradata/orcl/*.dbf
```



```
startup mount;
```

将备份数据进行还原

```
SQL> ho cp /u01/app/oracle/hotbak/*.dbf /u01/app/oracle/oradata/orcl/
```

使用 until time 恢复到指定时间点

```
recover database until time '2012-08-22 12:40:55';
```

介质恢复后, resetlog 方式打开数据库

```
alter database open resetlogs;
```

表成功恢复

```
select count(*) from emp;
```

由于恢复时间点在插入新记录之前, 因此新记录丢失

```
select * from dept;
```

until cancel 恢复(基于放弃的恢复)

```
[oracle@opc ~]$ uniread sqlplus / as sysdba
```

```
SYS@orcl> create table dept as select * from scott.dept;
```

```
SYS@orcl> create table emp as select * from scott.emp;
```

热备数据库

```
SYS@orcl> archive log list;
```

切换日志(数据库处于归档模式)

```
SYS@orcl> alter system switch logfile;
```

```
SYS@orcl> ho ls -hltr
```

```
/u01/app/oracle/flash_recovery_area/ORCL/archivelog/2012_11_27/
```

```
SYS@orcl> insert into dept select 60,'HR','SHANGHAI' from dual;
```

```
SYS@orcl> insert into dept select 70,'INFRA','HONGKONG' from dual;
```

```
SYS@orcl> commit;
```

切换日志

```
SYS@orcl> alter system checkpoint;
```

```
SYS@orcl> alter system archive log current;
```

```
SYS@orcl> ho ls -hltr
```

```
/u01/app/oracle/flash_recovery_area/ORCL/archivelog/2012_11_27/
```

```
SYS@orcl> insert into dept select 80,'MARKET','BEIJING' from dual;
```

```
SYS@orcl> commit;
```

```
SYS@orcl> alter system archive log current;
```

```
SYS@orcl> ho ls -hltr
```

```
/u01/app/oracle/flash_recovery_area/ORCL/archivelog/2012_11_27/
```

```
SYS@orcl> ho strings
```

```
/u01/app/oracle/flash_recovery_area/ORCL/archivelog/2012_11_27/ol_mf_1_5_99c jf3
```

```
hy_.arc |grep BEIJING
```

模拟部分归档日志丢失

```
SYS@orcl> ho rm
```

```
/u01/app/oracle/flash_recovery_area/ORCL/archivelog/2012_11_27/ol_mf_1_4_99c jbb
```

```
lo_.arc
```

```
SYS@orcl> ho rm /u01/app/oracle/oradata/orcl/*.dbf
```

```
SYS@orcl> shutdown abort;
```



```
SYS@orcl> startup mount;
SYS@orcl> ho cp /u01/app/oracle/hotbak/*.dbf /u01/app/oracle/oradata/orcl/
SYS@orcl> recover database until cancel;
输入归档文件
SYS@orcl> alter database open resetlogs;
由于归档丢失，数据丢失
SYS@orcl> select * from dept;
SYS@orcl> select * from emp;
```

unitl scn 恢复(基于系统改变号的恢复)

```
[oracle@opc ~]$ uniread sqlplus / as sysdba
SYS@orcl> create table dept as select * from scott.dept;
SYS@orcl> create table emp as select * from scott.emp;
热备数据库
SYS@orcl> archive log list;
切换日志(数据库处于归档模式)
SYS@orcl> select * from dept;
SYS@orcl> insert into dept select 50,'DEV','SZ' from dual;
SYS@orcl> commit;
SYS@orcl> select current_scn from v$database;
SYS@orcl> insert into dept select 60,'HR','GZ' from dual;
SYS@orcl> commit;
SYS@orcl> delete from emp where deptno=10;
SYS@orcl> commit;
执行检查点进程
SYS@orcl> alter system checkpoint;
SYS@orcl> shutdown immediate;
SYS@orcl> ho rm -rf /u01/app/oracle/oradata/orcl/*.dbf
SYS@orcl> startup mount;
SYS@orcl> ho cp /u01/app/oracle/hotbak/*.dbf /u01/app/oracle/oradata/orcl/
SYS@orcl> recover database until change 498573;
SYS@orcl> alter database open resetlogs;
SYS@orcl> select * from dept;
```