

oracle 10g DG搭建

环境：

oracle 10g

主库服务器：192.168.100.119 实例名：MYSTEEL 主库已经安装好oracle软件并创建好数据库

备库服务器：192.168.100.118 实例名：MYSTEEL_ST 备库安装好oracle软件

搭建的是物理备库，使用RMAN duplicate，原理是利用从主库传到备库的归档日志，在备库应用这些日志来实现主备库数据同步。10g DG与11g DG搭建主要区别在RMAN duplicate那一步，11g可从active database直接复制，而10g需要先将主库做个全备，并将全备拷贝到备库才能duplicate.

一、准备：

主库：

1. 开启归档

```
shutdown immediate
```

```
startup mount
```

```
alter database archivelog;
```

2. 开启强制日志写

```
alter database force logging;
```

3. 配置静态监听 listener.ora

```
vi $ORACLE_HOME/network/admin/listener.ora
```

添加以下：

```
SID_LIST_LISTENER =
```

```
(SID_LIST =
```

```
(SID_DESC =
```

```
(GLOBAL_DBNAME = MYSTEEL_ST)
```

```
(ORACLE_HOME = /oracle/database/app/10g)
```

```
(SID_NAME = MYSTEEL_ST)
```

```
)
```

```
)
```

```
LISTENER =
```

```
(DESCRIPTION_LIST =
```

```
(DESCRIPTION =
```

```
(ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.118) (PORT = 1521))
```

```
)
```

```
)
```

4. 配置tnsnames.ora

```
vi $ORACLE_HOME/network/admin/tnsnames.ora
```

添加以下：

```
MYSTEEL =
```

```
(DESCRIPTION =
```

```
(ADDRESS_LIST =
```

```
(ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.119) (PORT = 1521))
```

```
)
```

```
(CONNECT_DATA =
```

```
(SERVICE_NAME = MYSTEEL)
```

```
)
```

```
)
```

```
MYSTEEL_ST =
```

```
(DESCRIPTION =
```

```
(ADDRESS_LIST =
```

```
(ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.118) (PORT = 1521))
```

```
)
```

```
(CONNECT_DATA =
```

```
(SERVICE_NAME = MYSTEEL_ST)
```

```
)
```

```
)
```

5. 增加standby logfile

```

alter database add standby logfile '/oracle/oradata/MYSTEEL/redo04.log' size 100M;
alter database add standby logfile '/oracle/oradata/MYSTEEL/redo05.log' size 100M;
alter database add standby logfile '/oracle/oradata/MYSTEEL/redo06.log' size 100M;
alter database add standby logfile '/oracle/oradata/MYSTEEL/redo07.log' size 100M;

```

6. 修改参数文件

```
create pfile from spfile;
```

```
vi $ORACLE_HOME/dbs/initMYSTEEL.ora
```

添加以下：

```

DB_UNIQUE_NAME=MYSTEEL
LOG_ARCHIVE_CONFIG='DG_CONFIG=(MYSTEEL, MYSTEEL_ST)'
LOG_ARCHIVE_DEST_1=
  'LOCATION=/oracle/archlog/
  VALID_FOR=(ALL_LOGFILES, ALL_ROLES)
  DB_UNIQUE_NAME=MYSTEEL'
LOG_ARCHIVE_DEST_2=
  'SERVICE=MYSTEEL_ST LGWR ASYNC
  VALID_FOR=(ONLINE_LOGFILES, PRIMARY_ROLE)
  DB_UNIQUE_NAME=MYSTEEL_ST'
LOG_ARCHIVE_DEST_STATE_1=ENABLE
LOG_ARCHIVE_DEST_STATE_2=ENABLE
REMOTE_LOGIN_PASSWORDFILE=EXCLUSIVE
LOG_ARCHIVE_FORMAT=%t_%s_%r.arc
LOG_ARCHIVE_MAX_PROCESSES=30
FAL_SERVER=MYSTEEL_ST
FAL_CLIENT=MYSTEEL
DB_FILE_NAME_CONVERT='MYSTEEL_ST','MYSTEEL'
LOG_FILE_NAME_CONVERT='MYSTEEL_ST','MYSTEEL'
STANDBY_FILE_MANAGEMENT=AUTO
create spfile from pfile;

```

备库：

1. 配置静态监听 listener.ora

```
vi $ORACLE_HOME/network/admin/listener.ora
```

添加以下：

```

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = MYSTEEL_ST)
      (ORACLE_HOME = /oracle/database/app/10g)
      (SID_NAME = MYSTEEL_ST)
    )
  )

LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.118) (PORT = 1521))
    )
  )

```

2. 配置tnsnames.ora

```
vi $ORACLE_HOME/network/admin/tnsnames.ora
```

添加以下：

```

MYSTEEL =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.119) (PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = MYSTEEL)
    )
  )

```

```

    )
)
MYSTEEL_ST =
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.100.118) (PORT = 1521))
  )
  (CONNECT_DATA =
    (SERVICE_NAME = MYSTEEL_ST)
  )
)

```

3. 拷贝主库参数文件，密码文件到备库并改名

```

scp initMYSTEEL.ora 192.168.100.118:/oracle/database/app/10g/dbs/initMYSTEEL_ST.ora
scp orapwMYSTEEL 192.168.100.118:/oracle/database/app/10g/dbs/orapwMYSTEEL_ST

```

4. 修改备库参数文件

```
vi $ORACLE_HOME/dbs/initMYSTEEL_ST.ora
```

将主备库名称调换：

```
%s;MYSTEEL_ST;AAAA;g
```

```
%s;MYSTEEL;MYSTEEL_ST;g
```

```
%s;AAAA;MYSTEEL;g
```

修改备库参数db_name='MYSTEEL'

```
create spfile from pfile;
```

5. 根据参数文件内容在备库创建相应的目录

略

二、duplicate

主库：

RMAN检查有无过期归档，若有则删除

```
change archivelog all crosscheck;
```

```
delete expired archivelog all;
```

```
crosscheck backup;
```

```
delete noprompt expired backup;
```

```
crosscheck archivelog all;
```

```
delete noprompt expired archivelog all;
```

1. 做全库备份，加备库控制文件，归档日志

```

backup full format='/oracle/archlog/full10g_%d_%T_%s' database include current controlfile for standby plus archivelog
format='/oracle/archlog/arch_%d_%T_%s';

```

2. 将主库的全备拷贝到备库

```
cd /oracle/archlog/
```

```
scp arch* 192.168.100.118:/oracle/archlog/
```

```
scp full* 192.168.100.118:/oracle/archlog/
```

3. 在主库duplicate 开始RMAN复制

```
rman target / auxiliary sys/oracle@mysteel_st
```

```
duplicate target database for standby nofilenamecheck dorecover;
```

三、备库创建standby redo log(这一步我本来以为不用，因为在11g里RMAN duplicate自动拷贝standby redo log到备库了，但10g里面没有)recover，在主库写数据并在备库测试看能否查到

备库：

```
ALTER DATABASE ADD STANDBY LOGFILE '/oracle/oradata/MYSTEEL/redo04.log' size 100M;
```

```
ALTER DATABASE ADD STANDBY LOGFILE '/oracle/oradata/MYSTEEL/redo05.log' size 100M;
```

```
ALTER DATABASE ADD STANDBY LOGFILE '/oracle/oradata/MYSTEEL/redo06.log' size 100M;
```

```
ALTER DATABASE ADD STANDBY LOGFILE '/oracle/oradata/MYSTEEL/redo07.log' size 100M;
```

主备库：

```
select open_mode, database_role, protection_mode, switchover_status from v$database;
```

主库：

```
archive log list;
```

```
alter system switch logfile;
```

备库：

```
archive log list;
```

主备库：

```

select process, pid, status, client_process from v$managed_standby;
备库 :
alter database recover managed standby database disconnect from session;
alter database recover managed standby database cancel;
@aslf
select open_mode, database_role, protection_mode, switchover_status from v$database;
alter database open;
select open_mode, database_role, protection_mode, switchover_status from v$database;

```

分别在主备库查看相应进程是否起来

```

select process, pid, status, client_process from v$managed_standby;

```

```

recover database until cancel using backup controlfile;

```

DG下的备份与恢复

归档日志和数据文件可以在备库进行备份，备份集可以用于主库的恢复。控制文件和SPFILE则必须在主库进行备份。

此错误的因为主库中有活动的会话造成的，解决的办法为：

1. 杀掉活动会话，重新执行该命令
2. 在该命令后面加上with session shutdown即

删除standby redo log :

```

SYS@MYSTEEL_ST> set linesize 200

```

```

SYS@MYSTEEL_ST> col member for a50

```

```

SYS@MYSTEEL_ST> /

```

GROUP#	STATUS	TYPE	MEMBER

1	ONLINE		/oracle/oradata/MYSTEEL_ST/redo01.log
2	ONLINE		/oracle/oradata/MYSTEEL_ST/redo02.log
3	ONLINE		/oracle/oradata/MYSTEEL_ST/redo03.log
4	STANDBY		/oracle/oradata/MYSTEEL_ST/redo04.log
5	STANDBY		/oracle/oradata/MYSTEEL_ST/redo05.log
6	STANDBY		/oracle/oradata/MYSTEEL_ST/redo06.log
7	STANDBY		/oracle/oradata/MYSTEEL_ST/redo07.log

7 rows selected.

```

SYS@MYSTEEL_ST>

```

```

SYS@MYSTEEL_ST> alter database drop standby logfile group 4;

```

Database altered.

```

SYS@MYSTEEL_ST> alter database drop standby logfile group 5;

```

Database altered.

```

SYS@MYSTEEL_ST> alter database drop standby logfile group 6;

```

Database altered.

```

SYS@MYSTEEL_ST> alter database drop standby logfile group 7;

```

Database altered.

```

SYS@MYSTEEL_ST>

```

RMAN duplicate 报错 :

contents of Memory Script:

```

{
  set until scn 2984600010;
  recover
  standby
  clone database
  delete archivelog

```

```
;
}
executing Memory Script
```

executing command: SET until clause

Starting recover at 16-JUL-17
using channel ORA_AUX_DISK_1
using channel ORA_AUX_DISK_2
using channel ORA_AUX_DISK_3

starting media recovery

Oracle Error:

ORA-01547: warning: RECOVER succeeded but OPEN RESETLOGS would get error below
ORA-01152: file 1 was not restored from a sufficiently old backup
ORA-01110: data file 1: '/oracle/oradata/MYSTEEL_ST/system01.dbf'

RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03002: failure of Duplicate Db command at 07/16/2017 14:51:23
RMAN-03015: error occurred in stored script Memory Script
RMAN-06053: unable to perform media recovery because of missing log
RMAN-06025: no backup of log thread 1 seq 155487 lowscn 2984599621 found to restore

RMAN> set until scn 2984599620;

RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03031: this option of set command needs to be used inside a run block

RMAN> run {
2> set until scn 2984599620;
3> recover
4>
5> standby
6> clone database
7>
8> delete archivelog
9> ;
10> }

executing command: SET until clause

Starting recover at 16-JUL-17
using channel ORA_AUX_DISK_1
using channel ORA_AUX_DISK_2
using channel ORA_AUX_DISK_3

starting media recovery

channel ORA_AUX_DISK_1: starting archive log restore to default destination
channel ORA_AUX_DISK_1: restoring archive log
archive log thread=1 sequence=155486
channel ORA_AUX_DISK_1: reading from backup piece /oracle/archlog/arch_MYSTEEL_20170716_32
channel ORA_AUX_DISK_1: restored backup piece 1

```
piece handle=/oracle/archlog/arch_MYSTeel_20170716_32 tag=TAG20170716T143007
channel ORA_AUX_DISK_1: restore complete, elapsed time: 00:00:02
archive log filename=/oracle/archlog/1_155486_783618130.arc thread=1 sequence=155486
channel clone_default: deleting archive log(s)
archive log filename=/oracle/archlog/1_155486_783618130.arc recid=1 stamp=949504762
media recovery complete, elapsed time: 00:00:08
Finished recover at 16-JUL-17
```

RMAN>

给recover加并行：

```
alter database recover managed standby database parallel 2 disconnect from session;
```

在主库设置延时5分钟：

```
alter system set log_archive_dest_2='SERVICE=STANDBY LGWR SYNC AFFIRM delay=5VALID_FOR=(ONLINE_LOGFILES, PRIMARY_ROLE)
DB_UNIQUE_NAME=STANDBY';
```

搭建完了之后发现主库LNS进程没起来，可能是因为主库太久没有找到备库就把LNS进程杀掉了？（第一次搭建DG失败（也并不是真的失败，就是上面的RMAN报错，当时不知道如何解决，其实后来发现不用铲掉重建的），又删掉重来的）

解决方法：

```
alter system set LOG_ARCHIVE_DEST_STATE_1=ENABLE;
```

```
alter system set LOG_ARCHIVE_DEST_STATE_2=ENABLE;
```

参考：<http://blog.csdn.net/magic5650/article/details/43954239>

<http://lib.csdn.net/article/oracle/29720>

<http://mikixiyou.iteye.com/blog/1718555>