

??

??? Production DB-1?????? downtime?????????? DB-2?

??? DB-1

```
su - oracle
sqlplus / as sysdba
SQL> create pfile='/opt/oracle/oradata/orabak/win/pfilewin.ora' from spfile='/opt/oracle/product/
10.2.0.5.4/db_1/dbs/spfilewin.ora';
SQL> alter system archive log current;
SQL> exit
```

rman target / nocatalog

```
RMAN> configure controlfile autobackup format for device type disk to '/opt/oracle/oradata/orabak/win/
rmandata/%F';
RMAN> configure controlfile autobackup on;
RMAN> configure channel device type disk format = '/opt/oracle/oradata/orabak/win/rmandata/%U';
RMAN> crosscheck archivelog all;
RMAN> delete noprompt force expired archivelog all;
RMAN> backup database plus archivelog delete input;
RMAN> configure controlfile autobackup off;
```

RMAN> list backup;

```
...
BS Key Type LV Size Device Type Elapsed Time Completion Time
-----
27 Full 6.98M DISK 00:00:00 25-MAR-14
BP Key: 17 Status: AVAILABLE Compressed: NO Tag: TAG20140325T181523
Piece Name: /opt/oracle/oradata/orabak/win/rmandata/Orp433j1_1_1
Control File Included: Ckp SCN: 18439027 Ckp time: 25-MAR-14
SPFILE Included: Modification time: 24-MAR-14
```

....

RMAN> exit

```
cd /oracle/oradata/orabak/win/rmandata/
mv Orp433j1_1_1 cf_Orp433j1_1_1
```

TIPS:

- pfile ????????
- RMAN ????????
- ?????????? delete????????? Archive log??????????????
- ??? c-.... ?? control file ???

??? DB-2

?? RHEL ??

- ? Oracle Home Clone ????????? Oracle
- ????????? DB
- ??????????SID ?????DB??

???

?????????pfile ? RMAN?????????

/opt/oracle/win_ora_backup/

????

ORACLE_SID=win

ORACLE_BASE=/opt/oracle

ORACLE_HOME=/opt/oracle/product/10.2.0.5.4/db_1

?? pfile?

- SID ?????DB??
- ?? Archive log ?????
- db_files ????????? 200?

*.audit_file_dest='/opt/oracle/admin/win/adump'

*.background_dump_dest='/opt/oracle/admin/win/bdump'

*.compatible='10.2.0.1.0'

*.control_files='/opt/oracle/oradata/win/control01.ctl','/opt/oracle/oradata/win/control02.ctl','/opt/oracle/oradata/win/control03.ctl'

*.core_dump_dest='/opt/oracle/admin/win/cdump'

*.db_16k_cache_size=16777216

*.db_block_size=8192

*.db_domain=''

*.db_files=1000

*.db_file_multiblock_read_count=16

*.db_name='win'

*.db_recovery_file_dest='/opt/oracle/flash_recovery_area'

*.db_recovery_file_dest_size=2147483648

*.dispatchers='(PROTOCOL=TCP) (SERVICE=winXDB)'

*.job_queue_processes=10

*.log_archive_dest_1='location=/opt/oracle/arclog'

*.log_archive_format='win_%s_%t_%r.arc'

*.open_cursors=300

*.pga_aggregate_target=93323264

*.processes=150

*.remote_login_passwordfile='EXCLUSIVE'

*.sga_max_size=536870912

*.sga_target=536870912

*.undo_management='AUTO'

```
*.undo_tablespace='UNDOTBS1'
*.user_dump_dest='/opt/oracle/admin/win/udump'
```

```
?? spfile
???????? $ORACLE_HOME/dbs??????? spfile<SID>.ora
```

```
sqlplus / as sysdba
```

```
SQL> create spfile='/opt/oracle/product/10.2.0.5.4/db_1/dbs/spfilewin.ora' from pfile='/opt/oracle/
win_ora_backup/pfilewin.ora';
SQL> exit;
```

```
????
```

```
su - oracle
mkdir -p /opt/oracle/admin/win2/{a,b,c,u}dump
mkdir -p /opt/oracle/oradata/win2
mkdir -p /opt/oracle/flash_recovery_area/WIN2
mkdir /opt/oracle/arclog
```

```
RMAN: ?? control file
```

```
?? control file ?????????? c-.....
```

```
rman target / nocatalog
```

```
RMAN> startup nomount
RMAN> restore controlfile from '/opt/oracle/win_ora_backup/rmandata/cf_17p4a9le_1_1';
RMAN> alter database mount;
RMAN> exit
```

```
??????????? Archive log ?? SCN#
```

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

```
List of Backup Sets
```

```
=====
```

BS Key	Size	Device	Type	Elapsed Time	Completion Time
32	49.50K	DISK		00:00:01	28-MAR-14
BP Key: 22 Status: AVAILABLE Compressed: NO Tag: TAG20140328T112713					
Piece Name: /opt/oracle/oradata/orabak/win/rmandata/10p4a8kh_1_1					

```
List of Archived Logs in backup set 32
```

Thrd	Seq	Low SCN	Low Time	Next SCN	Next Time

```
1 2470 18669840 28-MAR-14 18669945 28-MAR-14
```

```
BS Key Size Device Type Elapsed Time Completion Time
```

```
-----
33 298.00K DISK 00:00:01 28-MAR-14
BP Key: 23 Status: AVAILABLE Compressed: NO Tag: TAG20140328T113520
Piece Name: /opt/oracle/oradata/orabak/win/rmandata/11p4a93o_1_1
```

List of Archived Logs in backup set 33

```
Thrd Seq Low SCN Low Time Next SCN Next Time
```

```
-----
1 2471 18669945 28-MAR-14 18670539 28-MAR-14
```

```
BS Key Size Device Type Elapsed Time Completion Time
```

```
-----
36 43.50K DISK 00:00:01 28-MAR-14
BP Key: 26 Status: AVAILABLE Compressed: NO Tag: TAG20140328T113820
Piece Name: /opt/oracle/oradata/orabak/win/rmandata/14p4a99c_1_1
```

List of Archived Logs in backup set 36

```
Thrd Seq Low SCN Low Time Next SCN Next Time
```

```
-----
1 2472 18670539 28-MAR-14 18670638 28-MAR-14
```

```
BS Key Size Device Type Elapsed Time Completion Time
```

```
-----
37 38.00K DISK 00:00:01 28-MAR-14
BP Key: 27 Status: AVAILABLE Compressed: NO Tag: TAG20140328T114159
Piece Name: /opt/oracle/oradata/orabak/win/rmandata/15p4a9g7_1_1
```

List of Archived Logs in backup set 37

```
Thrd Seq Low SCN Low Time Next SCN Next Time
```

```
-----
1 2473 18670638 28-MAR-14 18670699 28-MAR-14
1 2474 18670699 28-MAR-14 18670780 28-MAR-14 <=====
```

?????? SQL

sqlplus / as sysdba

SQL> select group#, first_change#, status, archived from v\$log;

```
GROUP# FIRST_CHANGE# STATUS ARC
-----
1 18670699 INACTIVE YES
3 18670638 INACTIVE YES
2 18670780 CURRENT NO <=====
```

NOTE: ?? 18670780?????????

RMAN: ? CATALOG ??????????

NOTE: ?????????????????????? CATALOG ??????????

RMAN> catalog start with '/opt/oracle/win_ora_backup/rmandata';

Starting implicit crosscheck backup at 28-MAR-14
 allocated channel: ORA_DISK_1
 channel ORA_DISK_1: sid=156 devtype=DISK
 Crosschecked 9 objects
 Finished implicit crosscheck backup at 28-MAR-14

Starting implicit crosscheck copy at 28-MAR-14
 using channel ORA_DISK_1
 Finished implicit crosscheck copy at 28-MAR-14

searching for all files in the recovery area
 cataloging files...
 no files cataloged

searching for all files that match the pattern /opt/oracle/win_ora_backup/rmandata

List of Files Unknown to the Database

=====
 File Name: /opt/oracle/win_ora_backup/rmandata/cf_17p4a9le_1_1
 File Name: /opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1
 File Name: /opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1

Do you really want to catalog the above files (enter YES or NO)? yes
 cataloging files...
 cataloging done

List of Cataloged Files

=====
 File Name: /opt/oracle/win_ora_backup/rmandata/cf_17p4a9le_1_1
 File Name: /opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1
 File Name: /opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1

RMAN: ??? CROSSCHECK

RMAN> CROSSCHECK backup;

using channel ORA_DISK_1
 crosschecked backup piece: found to be 'EXPIRED'
 backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/0up4a8ev_1_1 recid=20
 stamp=843391455
 crosschecked backup piece: found to be 'EXPIRED'

```

backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/0vp4a8ke_1_1 recid=21
stamp=843391632
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/10p4a8kh_1_1 recid=22
stamp=843391634
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/11p4a93o_1_1 recid=23
stamp=843392121
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/12p4a93q_1_1 recid=24
stamp=843392122
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/13p4a999_1_1 recid=25
stamp=843392299
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/14p4a99c_1_1 recid=26
stamp=843392301
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/15p4a9g7_1_1 recid=27
stamp=843392520
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/16p4a9g9_1_1 recid=28
stamp=843392521
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1 recid=30 stamp=843409037
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/opt/oracle/win_ora_backup/rmandata/cf_17p4a9le_1_1 recid=29 stamp=843409037
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1 recid=31 stamp=843409037
Crosschecked 12 objects

```

```
RMAN> CROSSCHECK backup of database;
```

```

using channel ORA_DISK_1
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/0up4a8ev_1_1 recid=20
stamp=843391455
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/12p4a93q_1_1 recid=24
stamp=843392122
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/16p4a9g9_1_1 recid=28
stamp=843392521
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1 recid=30 stamp=843409037
Crosschecked 4 objects

```

```
RMAN> CROSSCHECK backup of controlfile;
```

```

using channel ORA_DISK_1
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/0vp4a8ke_1_1 recid=21
stamp=843391632
crosschecked backup piece: found to be 'EXPIRED'
backup piece handle=/opt/oracle/oradata/orabak/win/rmandata/13p4a999_1_1 recid=25
stamp=843392299
crosschecked backup piece: found to be 'AVAILABLE'
backup piece handle=/opt/oracle/win_ora_backup/rmandata/cf_17p4a9le_1_1 recid=29 stamp=843409037
Crosschecked 3 objects

```

```
RMAN> CROSSCHECK archivelog all;
```

```

released channel: ORA_DISK_1
allocated channel: ORA_DISK_1
channel ORA_DISK_1: sid=156 devtype=DISK
specification does not match any archive log in the recovery catalog

```

```

[optional] ]?? datafile ?????? DB ??????????????
????

```

```

RMAN> ALTER DATABASE rename file '/opt/oracle/oradata/<old>/redo01.log' to '/opt/oracle/
oradata/<new>/redo01.log';
RMAN> ALTER DATABASE rename file '/opt/oracle/oradata/<old>/redo02.log' to '/opt/oracle/
oradata/<new>/redo02.log';
RMAN> ALTER DATABASE rename file '/opt/oracle/oradata/<old>/redo03.log' to '/opt/oracle/
oradata/<new>/redo03.log';

```

```

[optional]????? BLOCK CHANGE TRACKING?????????????
????

```

```

RMAN> ALTER DATABASE disable block change tracking;
RMAN> ALTER DATABASE enable block change tracking using file '/opt/oracle/oradata/neo/
block_change_tracking.f';

```

TIPS:

This will avoid errors like ORA-19751 and ORA-19750

```

RMAN: ??????
[optional] ]?? datafile ??????????????????????
????

```

```

RMAN> run {
set newname for datafile 1 to "/opt/oracle/oradata/<new>/system01.dbf";
set newname for datafile 2 to "/opt/oracle/oradata/<new>/undotbs01.dbf";

```

```

set newname for datafile 3 to "/opt/oracle/oradata/<new>/sysaux01.dbf";
set newname for datafile 4 to "/opt/oracle/oradata/<new>/data01.dbf";
set newname for datafile 5 to "/opt/oracle/oradata/<new>/index01.dbf";
set newname for datafile 6 to "/opt/oracle/oradata/<new>/users01.dbf";
set newname for datafile 7 to "/opt/oracle/oradata/<new>/streams.dbf";
set newname for datafile 8 to "/opt/oracle/oradata/<new>/data01brig.dbf";
set newname for datafile 9 to "/opt/oracle/oradata/<new>/index02.dbf";
}

```

TIP:

????? rename?? restore database ???????

RMAN> switch datafile all;

????

?? datafiles

RMAN> restore database;

Starting restore at 28-MAR-14
using channel ORA_DISK_1

```

channel ORA_DISK_1: starting datafile backupset restore
channel ORA_DISK_1: specifying datafile(s) to restore from backup set
restoring datafile 00001 to /opt/oracle/oradata/win/system01.dbf
restoring datafile 00002 to /opt/oracle/oradata/win/undotbs01.dbf
restoring datafile 00003 to /opt/oracle/oradata/win/sysaux01.dbf
restoring datafile 00004 to /opt/oracle/oradata/win/users01.dbf
restoring datafile 00005 to /opt/oracle/oradata/win/example01.dbf
restoring datafile 00006 to /opt/oracle/oradata/win/CDB.dbf
channel ORA_DISK_1: reading from backup piece /opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1
channel ORA_DISK_1: restored backup piece 1
piece handle=/opt/oracle/win_ora_backup/rmandata/16p4a9g9_1_1 tag=TAG20140328T114201
channel ORA_DISK_1: restore complete, elapsed time: 00:02:47
Finished restore at 28-MAR-14

```

TIPS:

restore database preview; ???????

?? Archive Logs

RMAN> recover database;

Starting recover at 28-MAR-14

using channel ORA_DISK_1

starting media recovery

channel ORA_DISK_1: starting archive log restore to default destination

channel ORA_DISK_1: restoring archive log

archive log thread=1 sequence=2475

channel ORA_DISK_1: reading from backup piece /opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1

channel ORA_DISK_1: restored backup piece 1

piece handle=/opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1 tag=TAG20140328T114449

channel ORA_DISK_1: restore complete, elapsed time: 00:00:02

archive log filename=/opt/oracle/arclog/win_2475_1_827060640.arc thread=1 sequence=2475

unable to find archive log

archive log thread=1 sequence=2476

RMAN-00571: =====

RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====

RMAN-00571: =====

RMAN-03002: failure of recover command at 03/28/2014 16:23:01

RMAN-06054: media recovery requesting unknown log: thread 1 seq 2476 lowscn 18670902

RMAN> recover database until sequence 2476;

Starting recover at 28-MAR-14

using channel ORA_DISK_1

starting media recovery

channel ORA_DISK_1: starting archive log restore to default destination

channel ORA_DISK_1: restoring archive log

archive log thread=1 sequence=2475

channel ORA_DISK_1: reading from backup piece /opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1

channel ORA_DISK_1: restored backup piece 1

piece handle=/opt/oracle/win_ora_backup/rmandata/18p4a9lh_1_1 tag=TAG20140328T114449

channel ORA_DISK_1: restore complete, elapsed time: 00:00:02

archive log filename=/opt/oracle/arclog/win_2475_1_827060640.arc thread=1 sequence=2475

media recovery complete, elapsed time: 00:00:01

Finished recover at 28-MAR-14

????? Archive logs ?????????????? redo log ??? DB?

NOTE: ?? resetlogs ?????????? DB ? Archive Logs

RMAN> alter database open resetlogs;

?? redo logs ??? DB

[optional] ?????????????? Archive Log

??????? Production DB ?????????????????????????????? downtime?

?????????DB ?????????????????? 'resetlogs'?

???????? recover

? DB-1 ???? archive logs (??? DB ?????????)

RMAN > backup archivelog all delete input format '/opt/oracle/oradata/orabak/win/backup_arc/arc_20140328-1729';

???? arc_20140328-1729 ??? DB-2 ??? /opt/oracle/win_ora_backup/backup_arc/

? DB-2 ???? Archive log

RMAN> catalog start with '/opt/oracle/win_ora_backup/backup_arc';

RMAN> list backup of archivelog all;

...

...

List of Archived Logs in backup set 41

Thrd	Seq	Low SCN	Low Time	Next SCN	Next Time
1	2476	18670902	28-MAR-14	18682143	28-MAR-14
1	2477	18682143	28-MAR-14	18683392	28-MAR-14
1	2478	18683392	28-MAR-14	18683480	28-MAR-14 <=====

1 2476 18670902 28-MAR-14 18682143 28-MAR-14

1 2477 18682143 28-MAR-14 18683392 28-MAR-14

1 2478 18683392 28-MAR-14 18683480 28-MAR-14 <=====

RMAN> recover database until sequence 2478;

Starting recover at 28-MAR-14

allocated channel: ORA_DISK_1

channel ORA_DISK_1: sid=159 devtype=DISK

starting media recovery

channel ORA_DISK_1: starting archive log restore to default destination

channel ORA_DISK_1: restoring archive log

archive log thread=1 sequence=2476

channel ORA_DISK_1: restoring archive log

archive log thread=1 sequence=2477

channel ORA_DISK_1: reading from backup piece /opt/oracle/win_ora_backup/backup_arc/arc_20140328-1729

channel ORA_DISK_1: restored backup piece 1

piece handle=/opt/oracle/win_ora_backup/backup_arc/arc_20140328-1729 tag=TAG20140328T173021

channel ORA_DISK_1: restore complete, elapsed time: 00:00:01

archive log filename=/opt/oracle/archlog/win_2476_1_827060640.arc thread=1 sequence=2476

archive log filename=/opt/oracle/archlog/win_2477_1_827060640.arc thread=1 sequence=2477

media recovery complete, elapsed time: 00:00:05

Finished recover at 28-MAR-14

TIPS:

ArchiveLog ??????????ArchiveLog ?????? /opt/oracle/arclog ?????????? log ??

????????? restore

```
RMAN> run {
RMAN> set archivelog destination to '/opt/oracle/arclog';
RMAN> restore archivelog from logseq=210 until logseq=212;
RMAN> }
```

FAQ

RMAN-06556: datafile 1 must be restored from backup older than scn 18438912

? recover databae ??????????

Ans????? Control file ??????

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

...

...

List of Archived Logs in backup set 37

Thrd	Seq	Low SCN	Low Time	Next SCN	Next Time
1	2473	18670638	28-MAR-14	18670699	28-MAR-14
1	2474	18670699	28-MAR-14	18670780	28-MAR-14 <=====

```
RMAN> restore database until sequence 2475;
????
```

```
RMAN> restore database until sequence 2476;
???
```

????

- http://www.dba-oracle.com/t_rman_clo...y_database.htm
- <http://www.beyondoracle.com/2009/01/...ase-with-rman/>
- [Restore database to another host using RMAN](#)
- [Restore RMAN backup to another server for testing disaster recovery procedures as well as for cloning](#)
- [oracle.doc] [Advanced RMAN Recovery Techniques](#)
- [??RMAN????????????](#)