

APPLIES TO:

Disaster Recovery on WINDOWS Platform

SUMMARY

This article explains how to configure the Disaster Recovery on WINDOWS Platform for the Production Environment.

AUTHOR:

K.VENKATA RAMU.

COMPANY:

WILLSYS INFOSYSTEMS Pvt. Ltd.,

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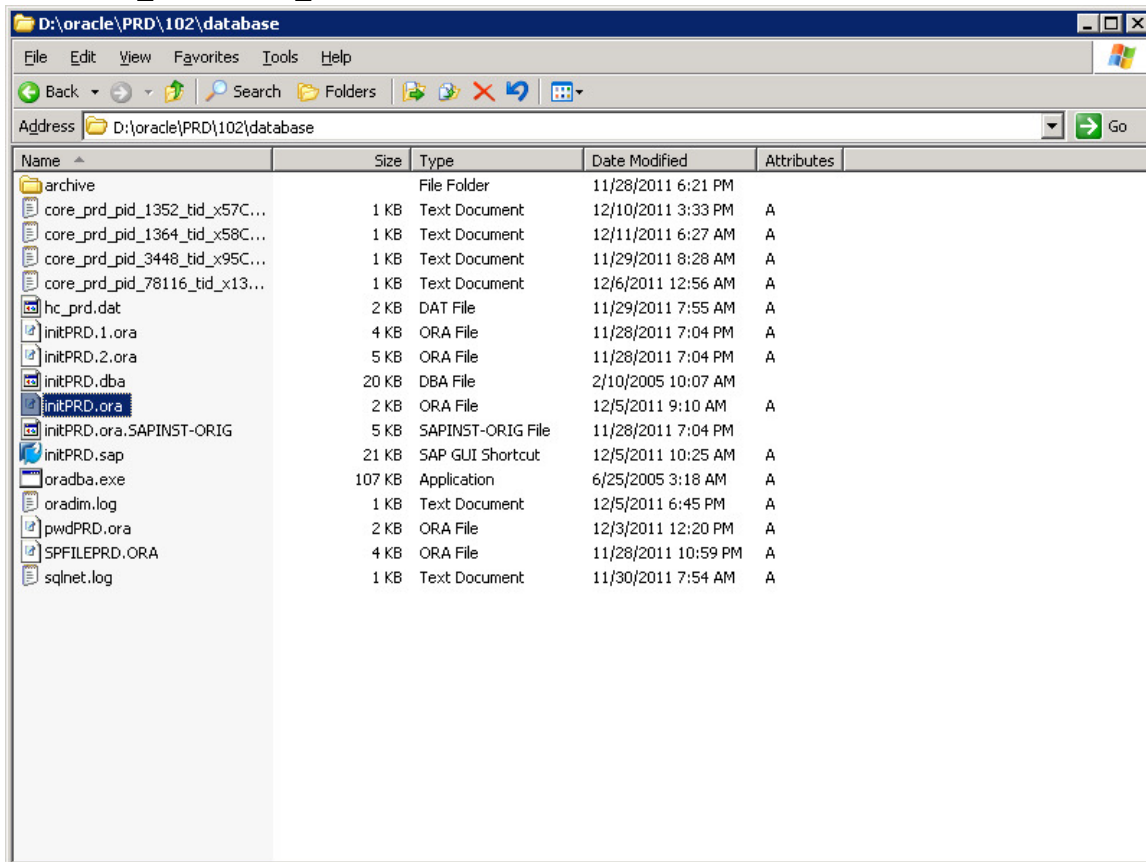
DISASTER RECOVERY

Primary database:

1. Create Control File which should be used to start the standby server
SQL>alter database create standby control file as 'D:\standbyctl.dbf';

2. set up the parameters in "initPRD.ora"

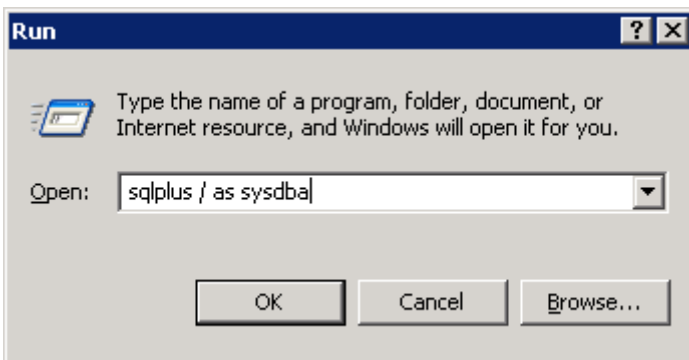
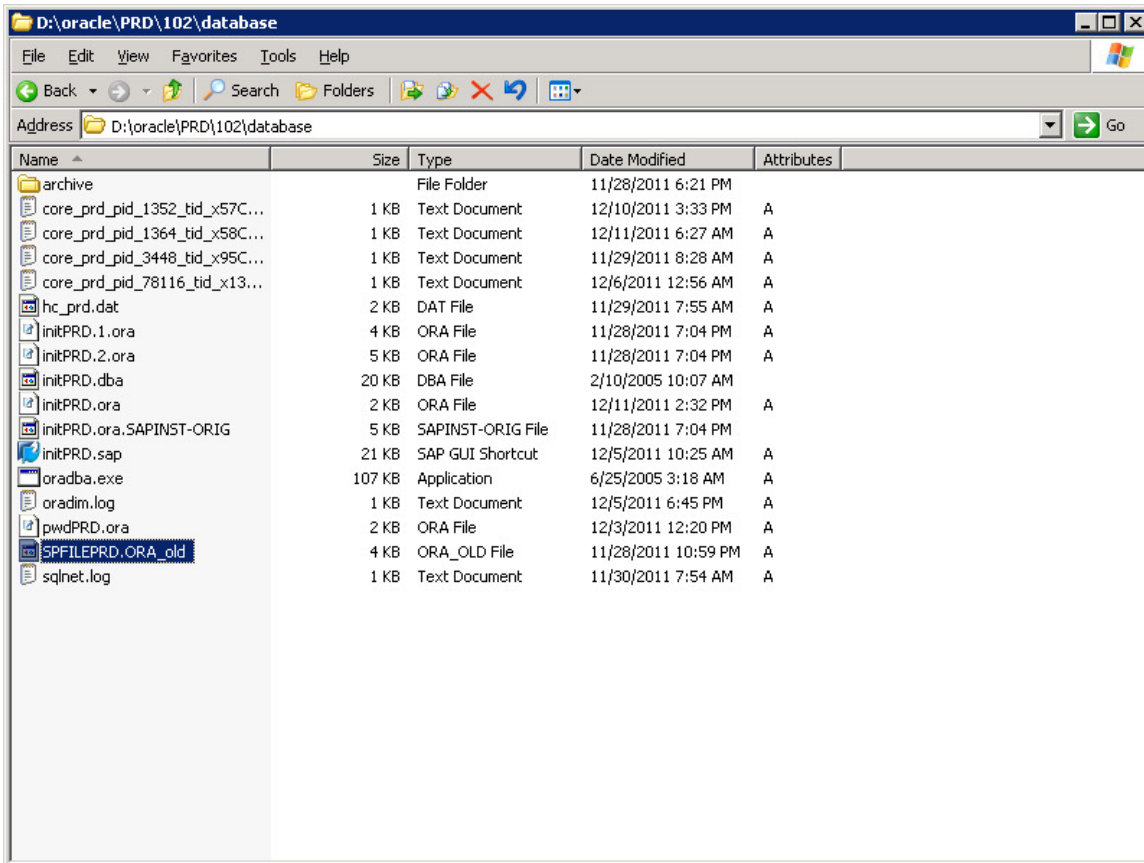
```
LOG_ARCHIVE_DEST_1='LOCATION=D:\Oracle\PRD\OraArch MANDATORY REOPEN=30'  
LOG_ARCHIVE_DEST_2='SERVICE=STDBY LGWR ASYNC AFFIRM'  
LOG_ARCHIVE_DEST_STATE_1=enable  
LOG_ARCHIVE_DEST_STATE_2=enable  
LOG_ARCHIVE_FORMAT=arc%t_%s_%r.arc  
REMOTE_ARCHIVE_ENABLE=true
```



```
initPRD.ora - Notepad
File Edit Format View Help
#####
# This init.ora profile is a transparent copy of Oracle spfile.
# It was created by BRBACKUP at 2011-12-05 09.10.03.
# Please do not change this file! Maintain only the spfile.
# You can use BRSPACE for the altering of database parameters:
# brspace -f dbparam
#####
*_OPTIM_PEEK_USER_BINDS=FALSE
*_background_dump_dest='D:\oracle\PRD\saptrace\background'
*_compatible='10.2.0'
*_control_file_record_keep_time=30
*_control_files='D:\oracle\PRD\origlogA\cntrl\cntrlPRD.dbf', 'D:\oracle\PRD\origlogB\cntrl\cntrlPRD.d
*_core_dump_dest='D:\oracle\PRD\saptrace\background'
*_db_block_size=8192
*_db_cache_size=319291392
*_db_files=254
*_db_name='PRD'
*_dml_locks=4000
*_event='10191 trace name context forever, level 1'
*_FILESYSTEMIO_OPTIONS='setall'
*_job_queue_processes=1
#*_log_archive_dest='D:\oracle\PRD\oraarch\PRDarch'
LOG_ARCHIVE_DEST_1='LOCATION=D:\Oracle\PRD\OraArch MANDATORY REOPEN=30'
LOG_ARCHIVE_DEST_2='SERVICE=STDBY LGWR ASYNC AFFIRM'
LOG_ARCHIVE_DEST_STATE_1=enable
LOG_ARCHIVE_DEST_STATE_2=enable
LOG_ARCHIVE_FORMAT=arc%t_%s_%r.arc
REMOTE_ARCHIVE_ENABLE=true
*_log_buffer=1048576
*_log_checkpoint_interval=0
*_log_checkpoints_to_alert=true
*_open_cursors=800
*_optimizer_features_enable='10.2.0.1'
*_pga_aggregate_target=425721856
*_processes=80
*_recyclebin='off'
*_remote_login_password_file='exclusive'
*_remote_os_authent=true
*_sessions=96
*_sga_max_size=638582784
*_shared_pool_reserved_size=31929139
*_shared_pool_size=319291392
```

3. Rename the init file and spfile.create initfile with above parameters and recreate spfile.
(so that new parameters will effective)

SQL>create spfile from pfile;



```

c:\> Select D:\oracle\PRD\102\bin\sqlplus.exe

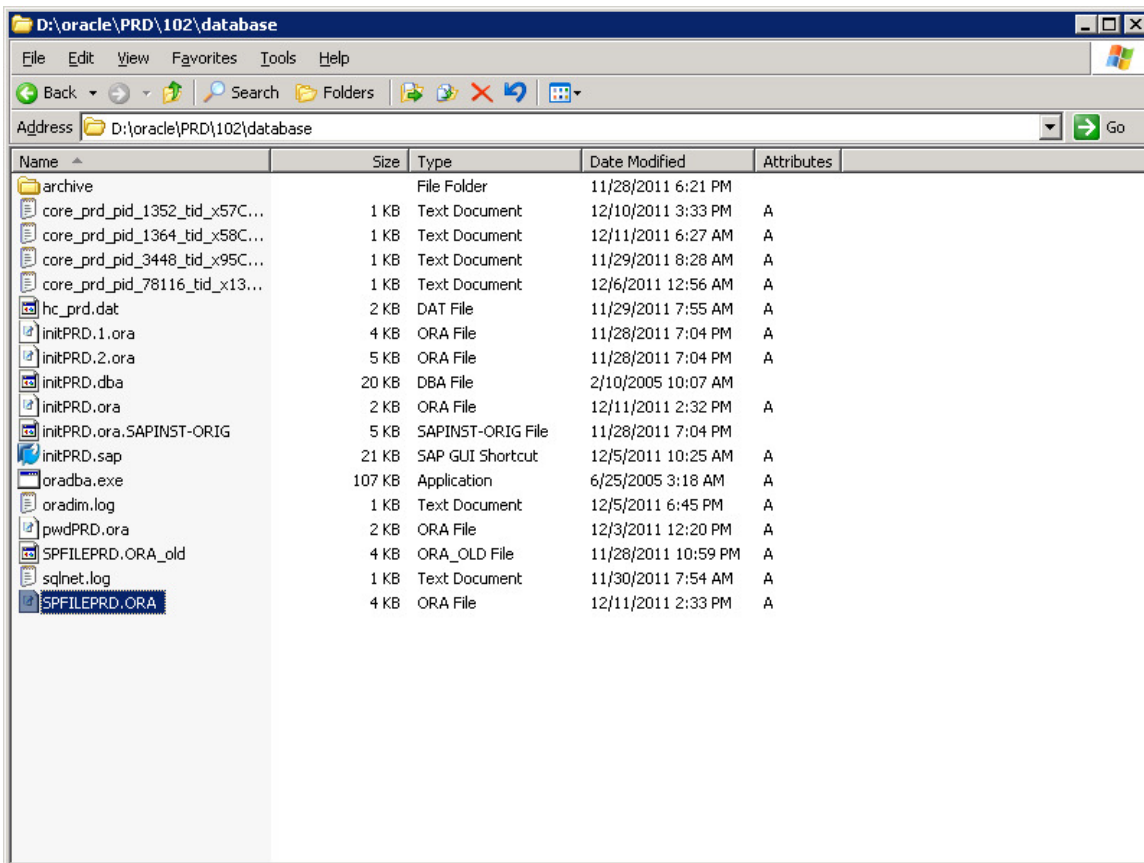
SQL*Plus: Release 10.2.0.2.0 - Production on Sun Dec 11 14:32:53 2011
Copyright (c) 1982, 2005, Oracle. All Rights Reserved.

Connected to an idle instance.

SQL> create spfile from pfile;

File created.

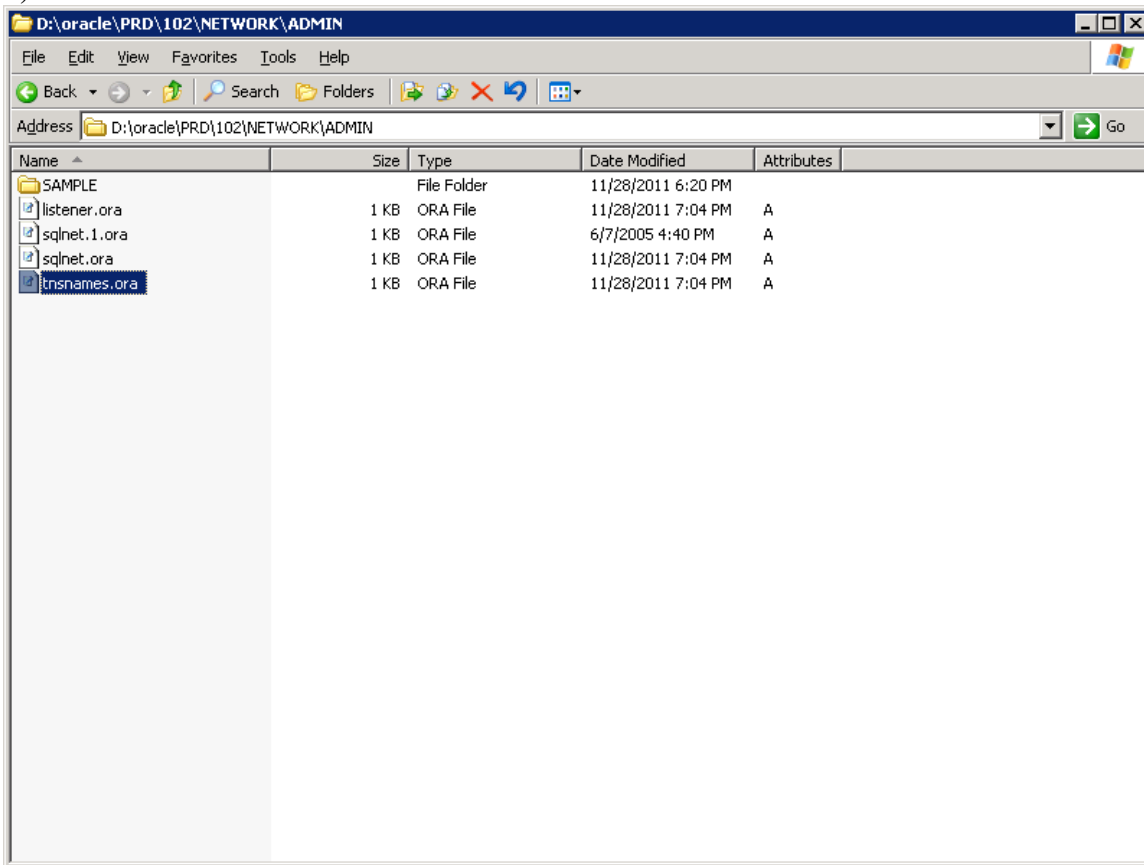
SQL> _
  
```

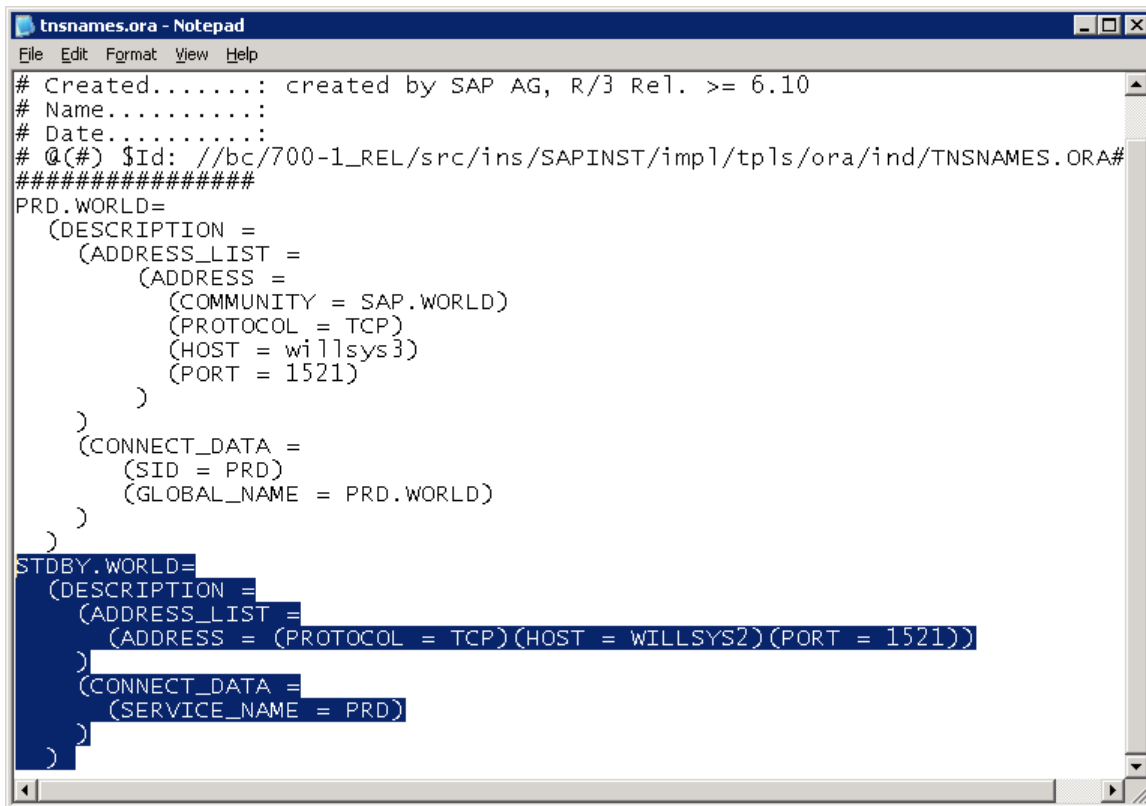


Name	Size	Type	Date Modified	Attributes
archive		File Folder	11/28/2011 6:21 PM	
core_prd_pid_1352_tid_x57C...	1 KB	Text Document	12/10/2011 3:33 PM	A
core_prd_pid_1364_tid_x58C...	1 KB	Text Document	12/11/2011 6:27 AM	A
core_prd_pid_3448_tid_x95C...	1 KB	Text Document	11/29/2011 8:28 AM	A
core_prd_pid_78116_tid_x13...	1 KB	Text Document	12/6/2011 12:56 AM	A
hc_prd.dat	2 KB	DAT File	11/29/2011 7:55 AM	A
initPRD.1.ora	4 KB	ORA File	11/28/2011 7:04 PM	A
initPRD.2.ora	5 KB	ORA File	11/28/2011 7:04 PM	A
initPRD.dba	20 KB	DBA File	2/10/2005 10:07 AM	
initPRD.ora	2 KB	ORA File	12/11/2011 2:32 PM	A
initPRD.ora.SAPINST-ORIG	5 KB	SAPINST-ORIG File	11/28/2011 7:04 PM	
initPRD.sap	21 KB	SAP GUI Shortcut	12/5/2011 10:25 AM	A
oradba.exe	107 KB	Application	6/25/2005 3:18 AM	A
oradm.log	1 KB	Text Document	12/5/2011 6:45 PM	A
pwdPRD.ora	2 KB	ORA File	12/3/2011 12:20 PM	A
SPFILEPRD.ORA_old	4 KB	ORA_OLD File	11/28/2011 10:59 PM	A
sqlnet.log	1 KB	Text Document	11/30/2011 7:54 AM	A
SPFILEPRD.ORA	4 KB	ORA File	12/11/2011 2:33 PM	A

4. Entry into **tnsnames.ora** to identify the servicenames

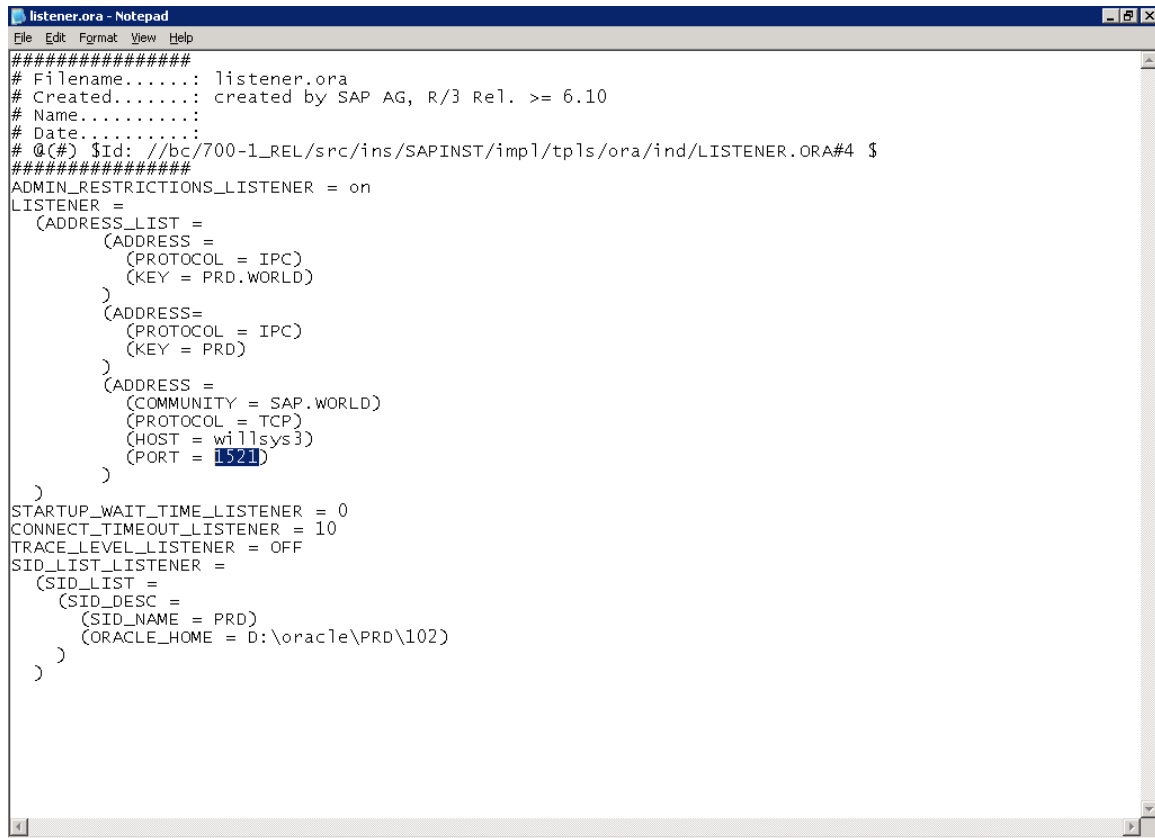
```
STDBY.WORLD=  
(DESCRIPTION =  
  (ADDRESS_LIST =  
    (ADDRESS = (PROTOCOL = TCP)(HOST = WILLSYS2)(PORT = 1521))  
  )  
  (CONNECT_DATA =  
    (SERVICE_NAME = PRD)  
  )  
)
```





```
tnsnames.ora - Notepad
File Edit Format View Help
# Created.....: created by SAP AG, R/3 Rel. >= 6.10
# Name.....:
# Date.....:
# @(#) $Id: //bc/700-1_REL/src/ins/SAPINST/impl/tp1s/ora/ind/TNSNAMES.ORA#
#####
PRD.WORLD=
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = SAP.WORLD)
        (PROTOCOL = TCP)
        (HOST = willsys3)
        (PORT = 1521)
      )
    )
    (CONNECT_DATA =
      (SID = PRD)
      (GLOBAL_NAME = PRD.WORLD)
    )
  )
)
STDBY.WORLD=
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = WILLSYS2)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PRD)
    )
  )
)
```

Check the ports in listener.ora file

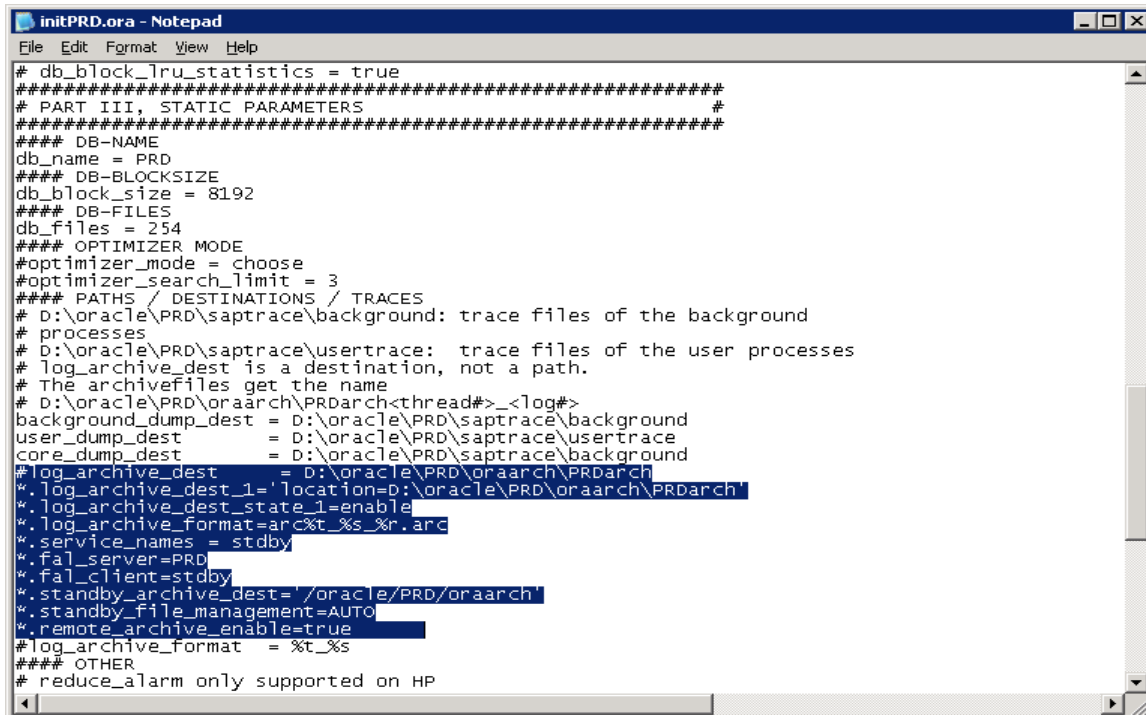
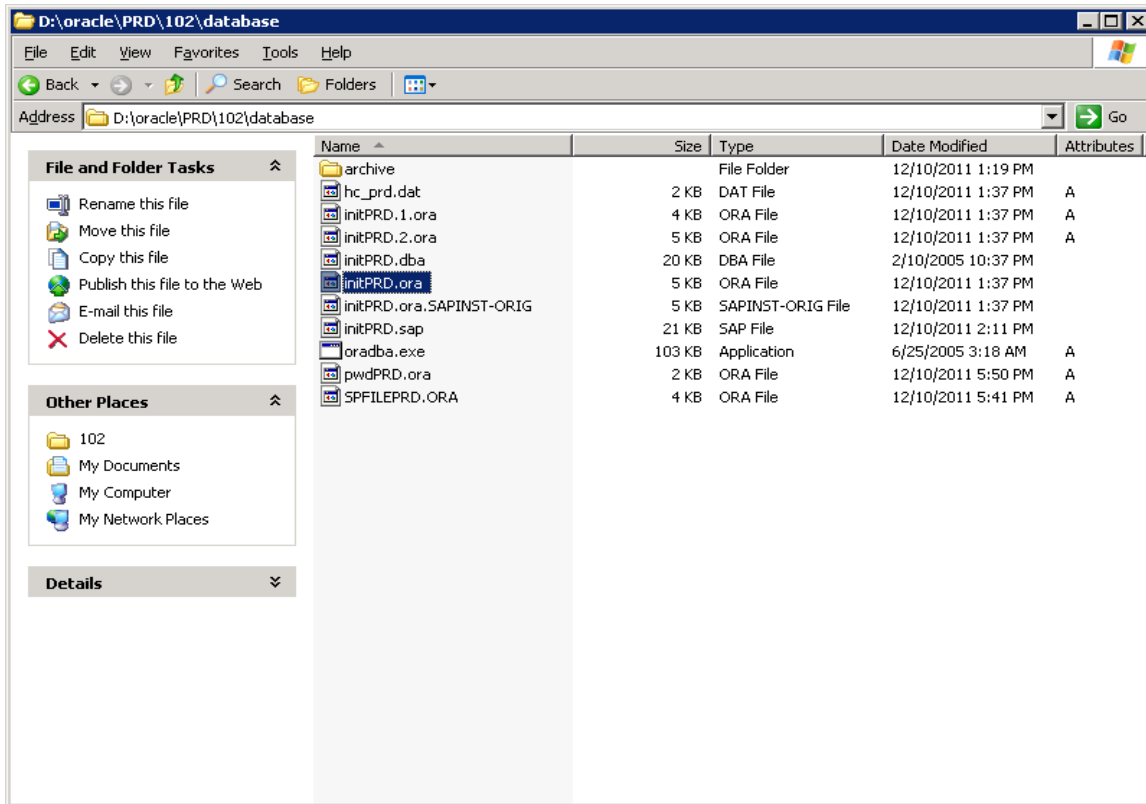


```
#####
# Filename.....: listener.ora
# Created.....: created by SAP AG, R/3 Rel. >= 6.10
# Name.....:
# Date.....:
# @(#) $Id: //bc/700-1_REL/src/ins/SAPINST/impl/tpls/ora/ind/LISTENER.ORA#4 $
#####
ADMIN_RESTRICTIONS_LISTENER = on
LISTENER =
  (ADDRESS_LIST =
    (ADDRESS =
      (PROTOCOL = IPC)
      (KEY = PRD.WORLD)
    )
    (ADDRESS =
      (PROTOCOL = IPC)
      (KEY = PRD)
    )
    (ADDRESS =
      (COMMUNITY = SAP.WORLD)
      (PROTOCOL = TCP)
      (HOST = willsys3)
      (PORT = 1521)
    )
  )
STARTUP_WAIT_TIME_LISTENER = 0
CONNECT_TIMEOUT_LISTENER = 10
TRACE_LEVEL_LISTENER = OFF
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = PRD)
      (ORACLE_HOME = D:\oracle\PRD\102)
    )
  )
)
```

Standby Server:

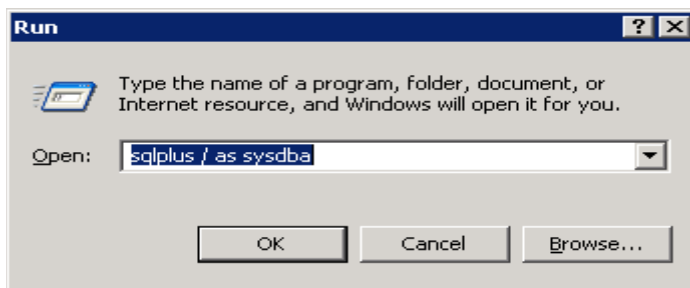
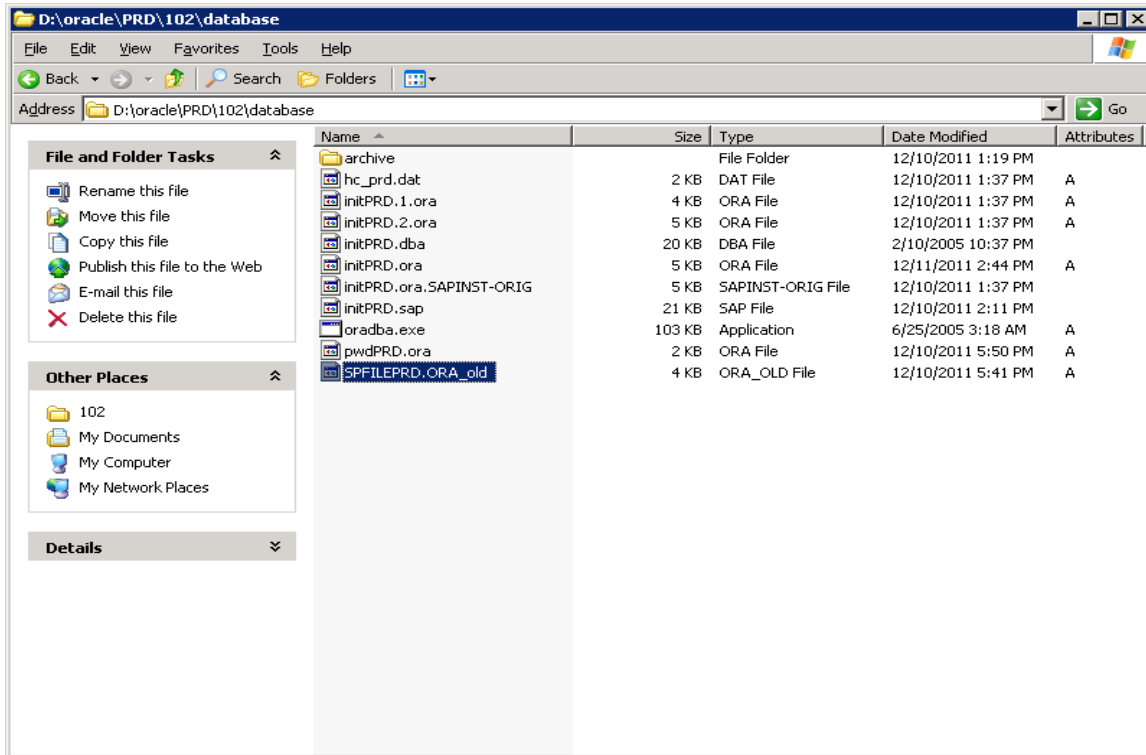
5. provide the following entries in standby server in **initPRD.ora**

- *.log_archive_dest_1='location=/oracle/PRD/oraarch/PRDarch'
- *.log_archive_dest_state_1=enable
- *.log_archive_format=arc%t_%s.arc
- *.service_names = stdbby
- *.fal_server=PRD
- *.fal_client=stdby
- *.standby_archive_dest='/oracle/PRD/oraarch'
- *.standby_file_management=AUTO
- *.remote_archive_enable=true



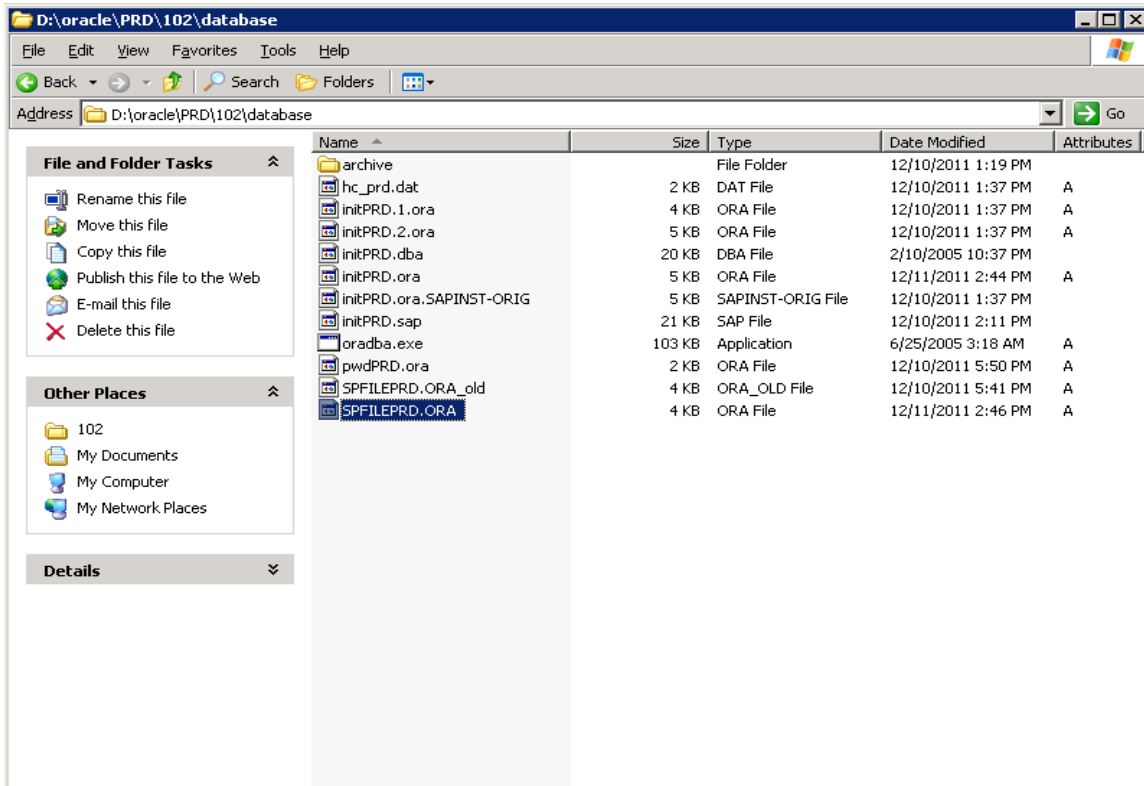
6. Rename the init file and spfile.create initfile with above parameters and recreate spfile.

SQL>create spfile from pfile; (so that new parameters will effective)



```

c:\D:\oracle\PRD\102\bin\sqlplus.exe
SQL*Plus: Release 10.2.0.2.0 - Production on Sun Dec 11 14:45:35 2011
Copyright (c) 1982, 2005, Oracle. All Rights Reserved.
Connected to an idle instance.
SQL> create spfile from pfile;
File created.
SQL> _
  
```

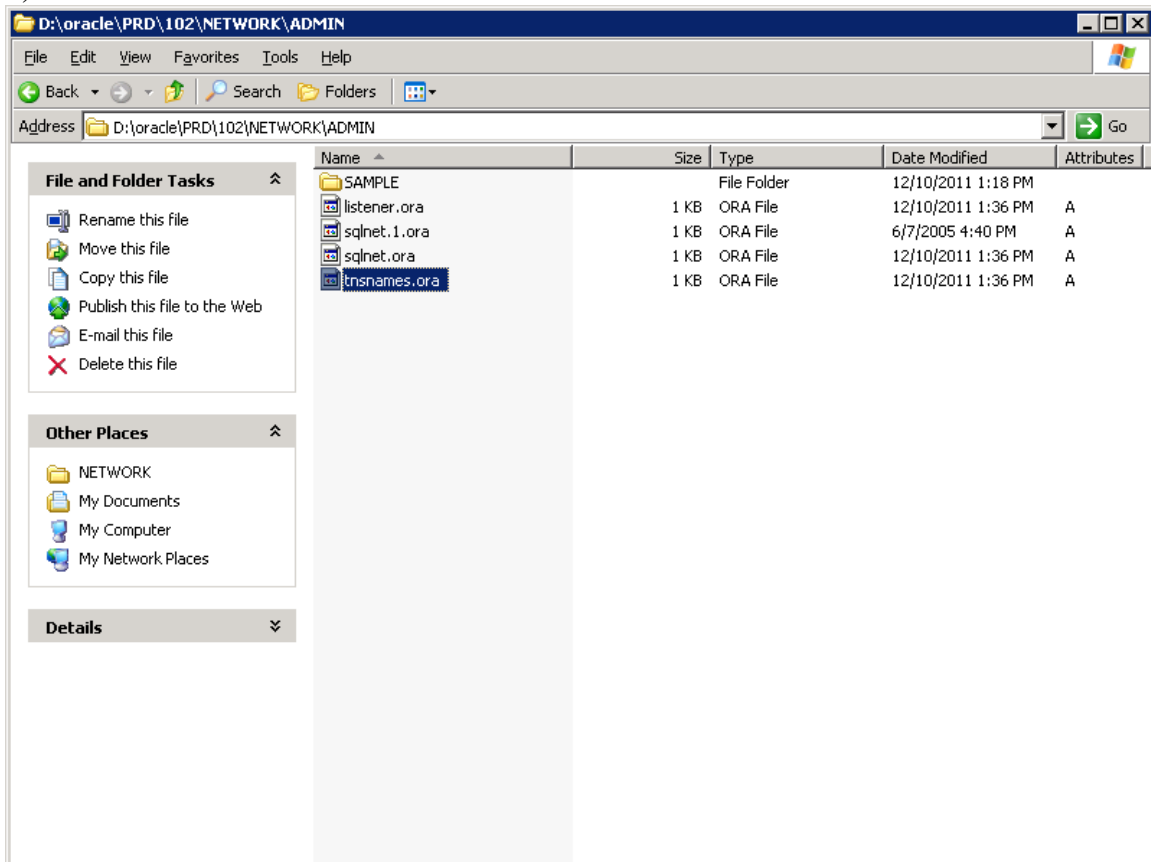


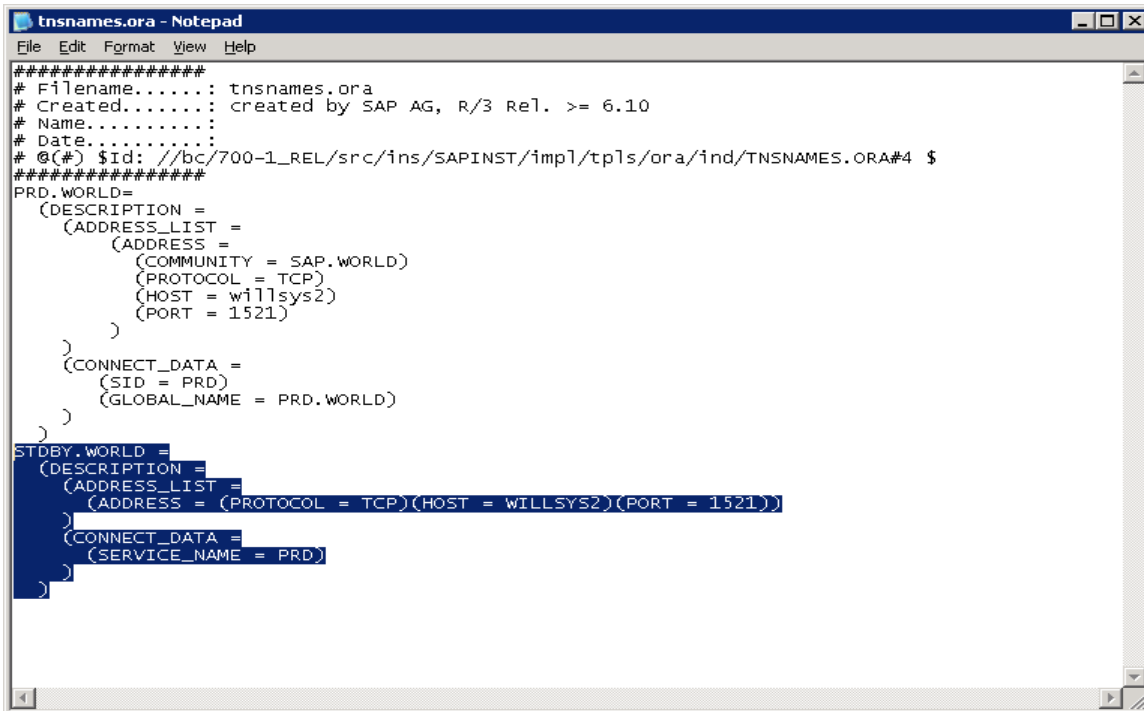
D:\oracle\PRD\102\database

Name	Size	Type	Date Modified	Attributes
archive		File Folder	12/10/2011 1:19 PM	
hc_prd.dat	2 KB	DAT File	12/10/2011 1:37 PM	A
initPRD.1.ora	4 KB	ORA File	12/10/2011 1:37 PM	A
initPRD.2.ora	5 KB	ORA File	12/10/2011 1:37 PM	A
initPRD.dba	20 KB	DBA File	2/10/2005 10:37 PM	
initPRD.ora	5 KB	ORA File	12/11/2011 2:44 PM	A
initPRD.ora.SAPINST-ORIG	5 KB	SAPINST-ORIG File	12/10/2011 1:37 PM	
initPRD.sap	21 KB	SAP File	12/10/2011 2:11 PM	
oradba.exe	103 KB	Application	6/25/2005 3:18 AM	A
pwdPRD.ora	2 KB	ORA File	12/10/2011 5:50 PM	A
SPFILEPRD.ORA_old	4 KB	ORA_OLD File	12/10/2011 5:41 PM	A
SPFILEPRD.ORA	4 KB	ORA File	12/11/2011 2:46 PM	A

7. open the “**tnsnames.ora**” and add the below entries

```
stdby.WORLD =  
(DESCRIPTION =  
  (ADDRESS_LIST =  
    (ADDRESS = (PROTOCOL = TCP)(HOST = DISPRDIWPP)(PORT = 1521))  
  )  
  (CONNECT_DATA =  
    (SERVICE_NAME = NOP)  
  )  
)
```



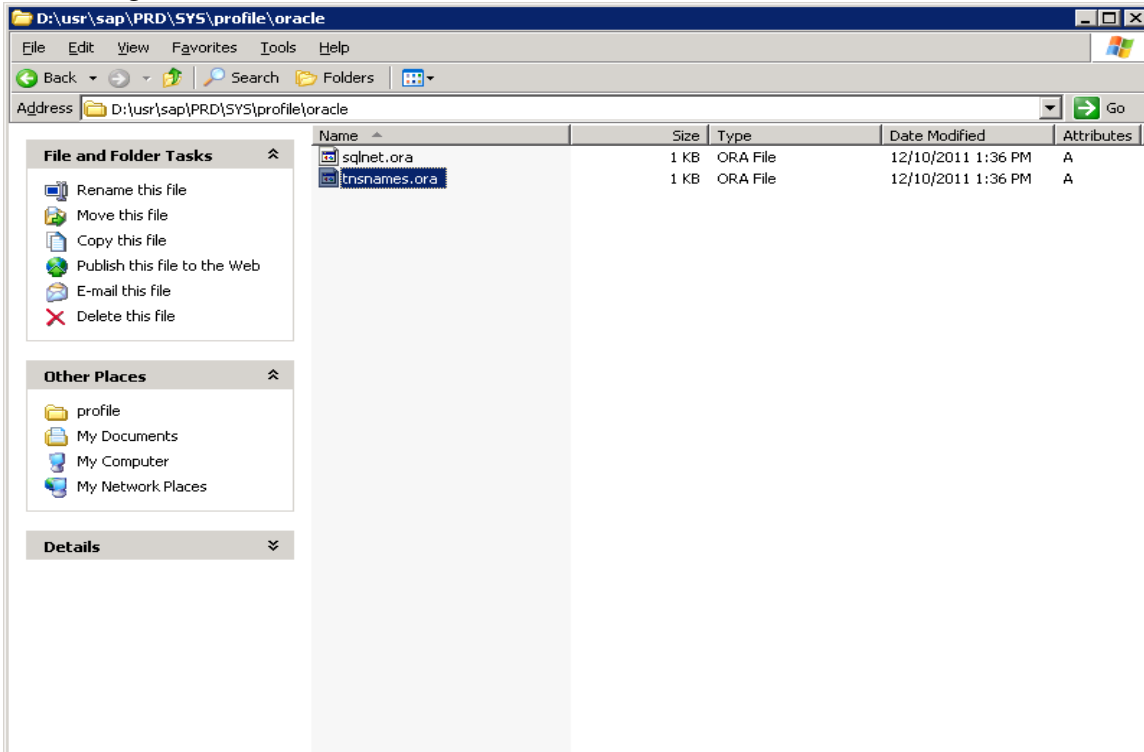


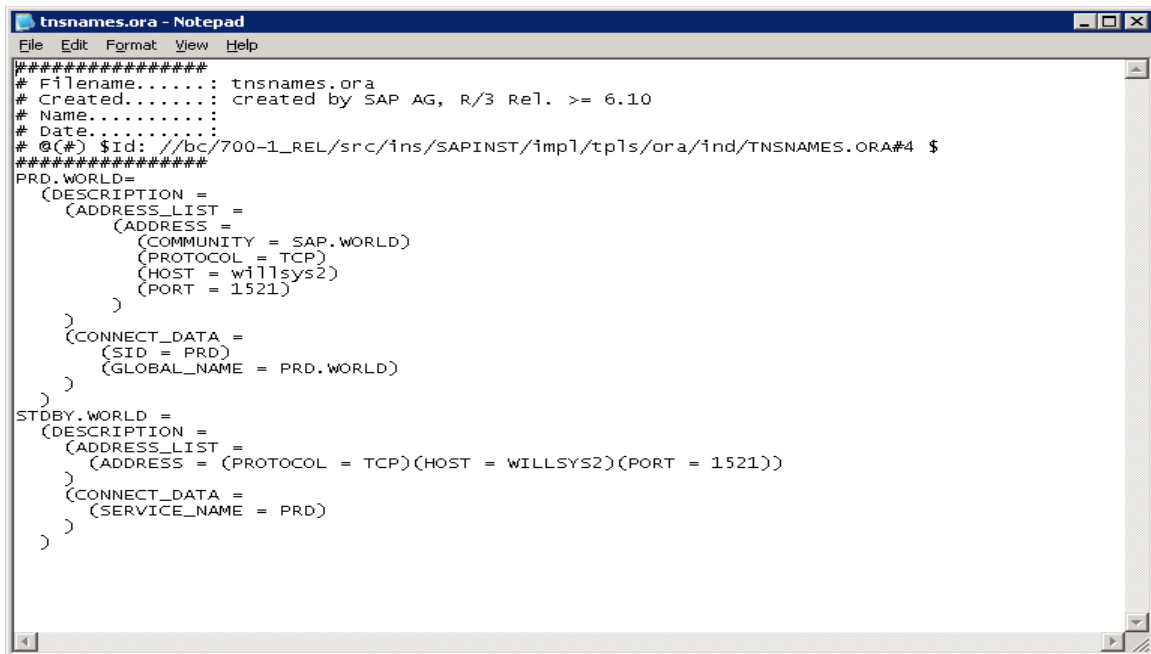
```

#####
# Filename.....: tnsnames.ora
# Created.....: created by SAP AG, R/3 Rel. >= 6.10
# Name.....:
# Date.....:
# @(#) $Id: //bc/700-1_REL/src/ins/SAPINST/impl/tp1s/ora/ind/TNSNAMES.ORA#4 $
#####
PRD.WORLD=
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = SAP.WORLD)
        (PROTOCOL = TCP)
        (HOST = willsys2)
        (PORT = 1521)
      )
    )
    (CONNECT_DATA =
      (SID = PRD)
      (GLOBAL_NAME = PRD.WORLD)
    )
  )
STDBY.WORLD =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = WILLSYS2)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PRD)
    )
  )

```

And change the tnsnames.ora file in another location





```

#####
# Filename.....: tnsnames.ora
# Created.....: created by SAP AG, R/3 Rel. >= 6.10
# Name.....:
# Date.....:
# @(#) $Id: //bc/700-1_REL/src/ins/SAPINST/impl/tp1s/ora/ind/TNSNAMES.ORA#4 $
#####
PRD.WORLD=
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = SAP.WORLD)
        (PROTOCOL = TCP)
        (HOST = willsys2)
        (PORT = 1521)
      )
    )
    (CONNECT_DATA =
      (SID = PRD)
      (GLOBAL_NAME = PRD.WORLD)
    )
  )
STDBY.WORLD =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = WILLSYS2)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = PRD)
    )
  )

```

8. open and edit the **“listener.ora”** and add the below entries

```

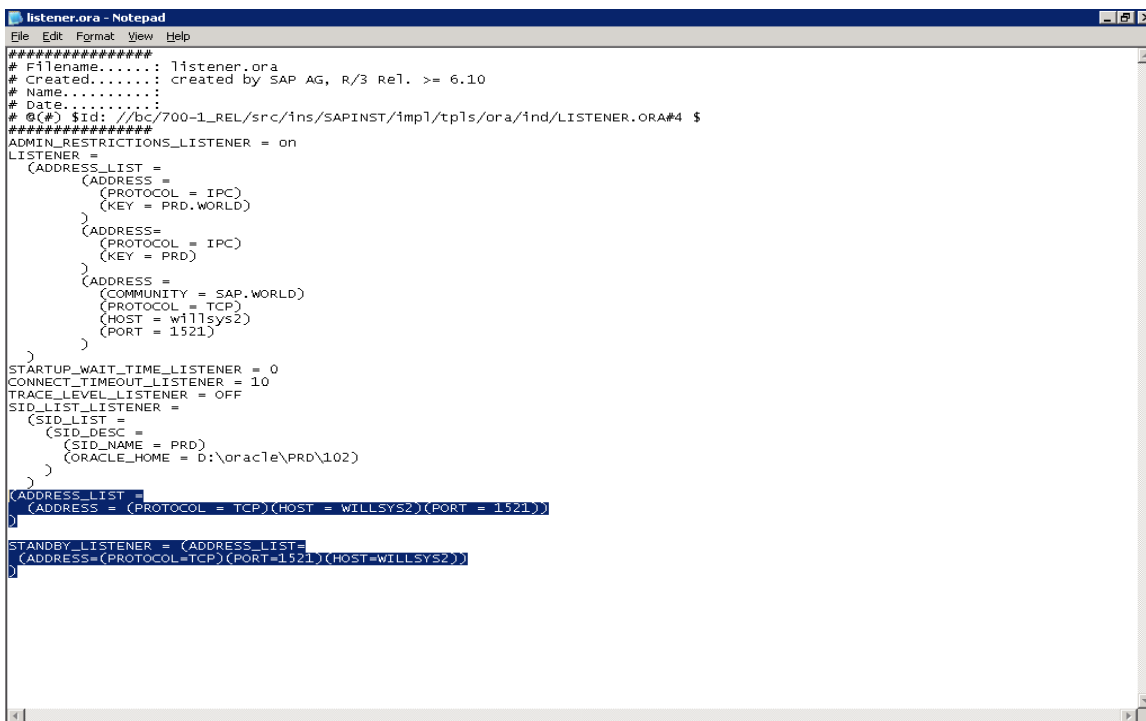
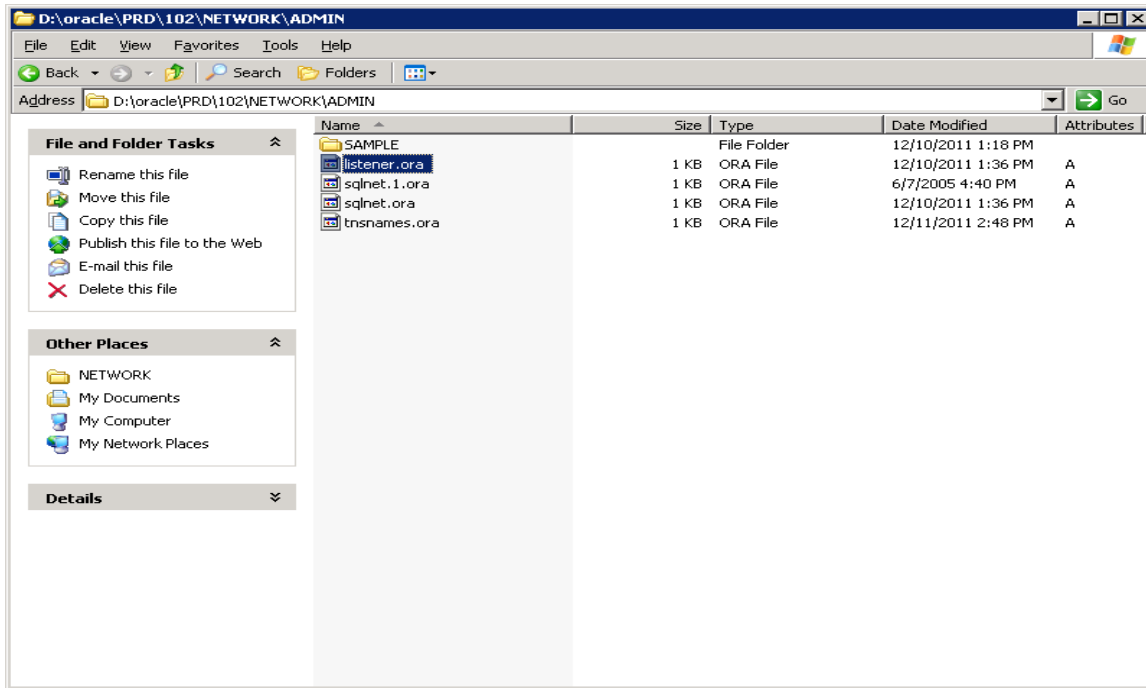
(ADDRESS_LIST =
  (ADDRESS = (PROTOCOL = TCP)(HOST = DISPRDIWPP)(PORT = 1521))
)

```

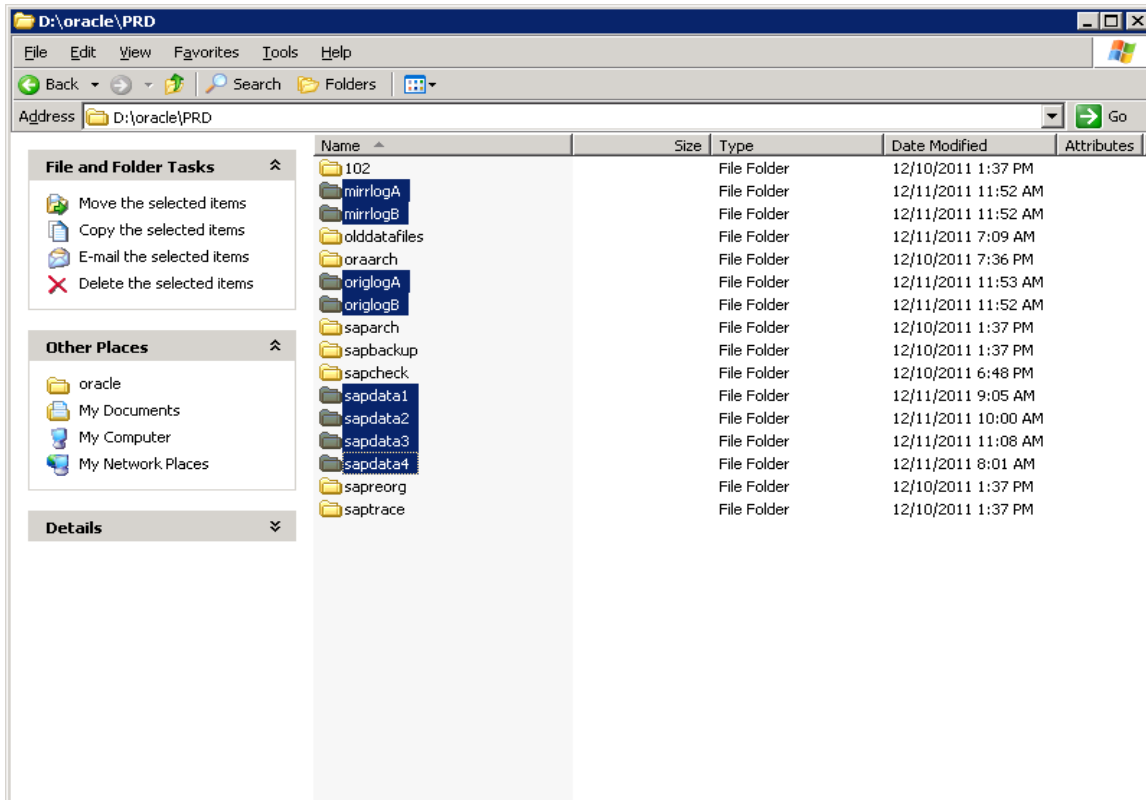
```

STANDBY_LISTENER = (ADDRESS_LIST=
  (ADDRESS=(PROTOCOL=tcp)(PORT=1521)(HOST=DISPRDIWPP))
)

```



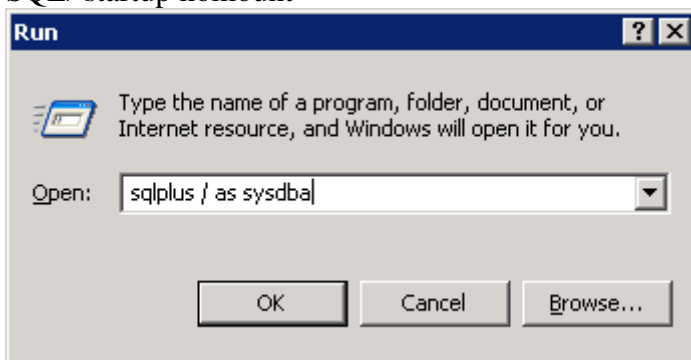
- Copy sapdata1,sapdata2,sapdata3,sapdata4,origlogA and B, mirrlogA A and B From Primary Server to Secondary Server
- Copy the standby Control file generated in step 1 to standby server control file locations

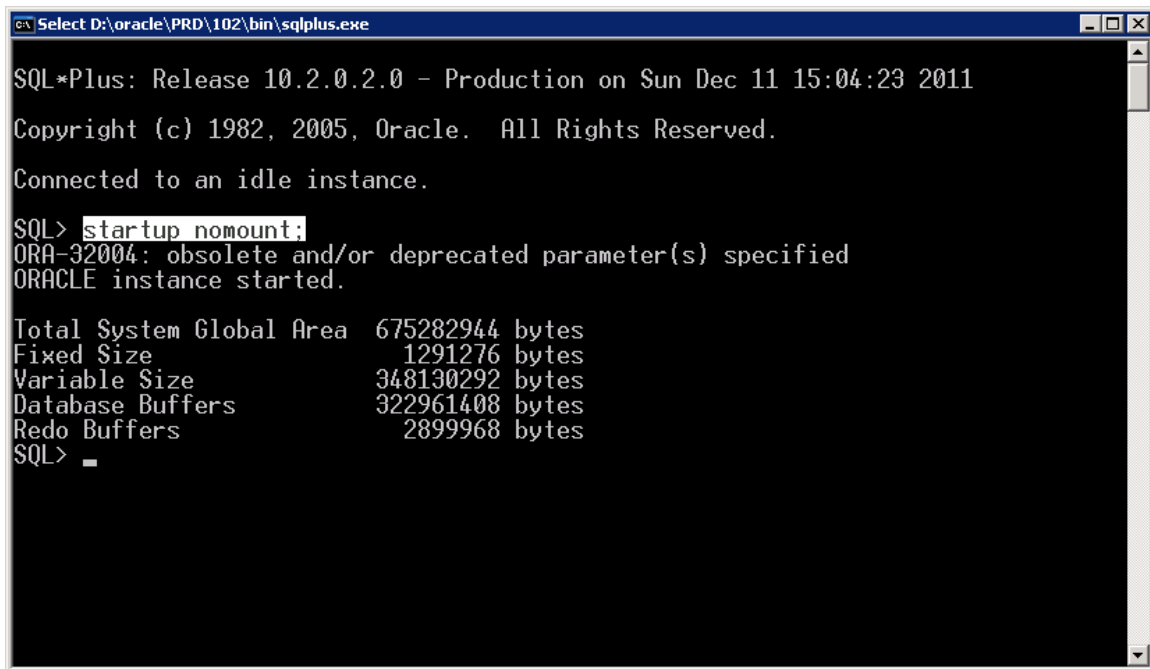


10. Start the primary as usual and check for any errors in alter_Sid.log

11. Now Start the standby database in Nomount mode,

SQL>startup nomount





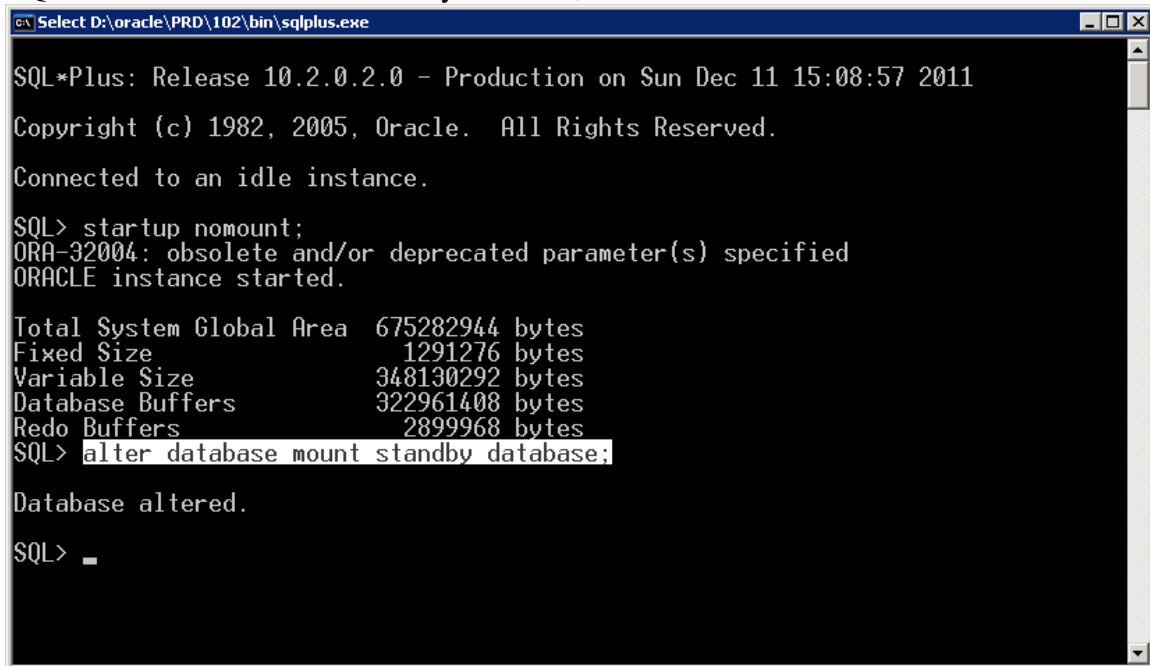
```
cx\ Select D:\oracle\PRD\102\bin\sqlplus.exe
SQL*Plus: Release 10.2.0.2.0 - Production on Sun Dec 11 15:04:23 2011
Copyright (c) 1982, 2005, Oracle. All Rights Reserved.
Connected to an idle instance.
SQL> startup nomount;
ORA-32004: obsolete and/or deprecated parameter(s) specified
ORACLE instance started.

Total System Global Area 675282944 bytes
Fixed Size 1291276 bytes
Variable Size 348130292 bytes
Database Buffers 322961408 bytes
Redo Buffers 2899968 bytes
SQL> _
```

12.start database in standby mount mode.

---command---

SQL>alter database mount standby database;



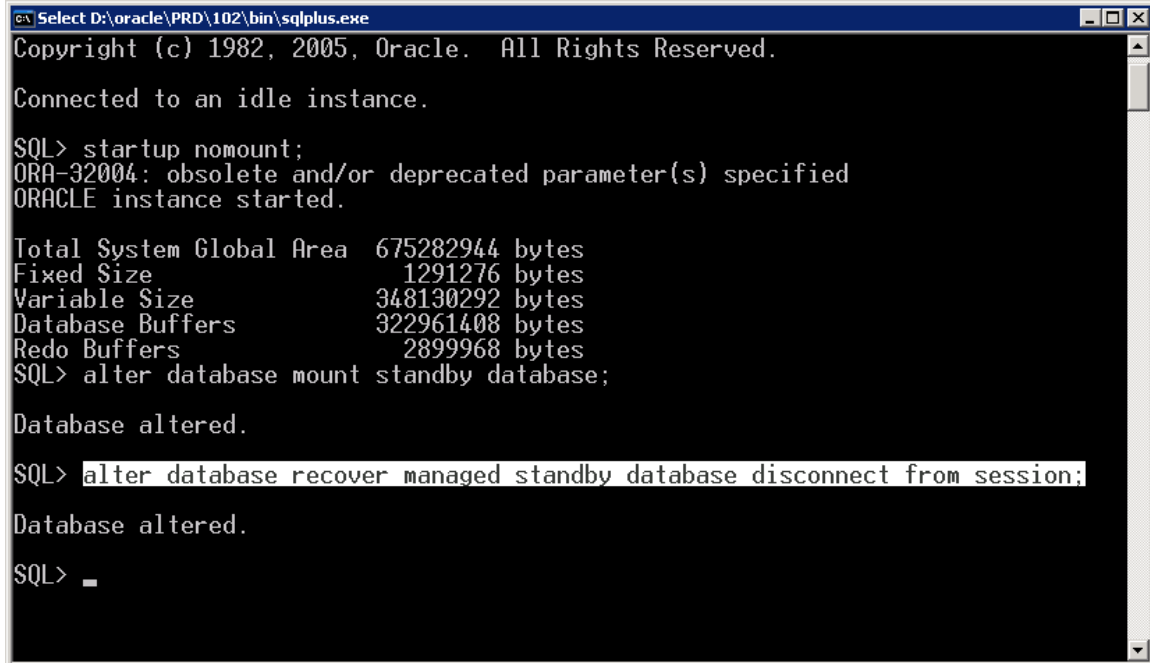
```
cx\ Select D:\oracle\PRD\102\bin\sqlplus.exe
SQL*Plus: Release 10.2.0.2.0 - Production on Sun Dec 11 15:08:57 2011
Copyright (c) 1982, 2005, Oracle. All Rights Reserved.
Connected to an idle instance.
SQL> startup nomount;
ORA-32004: obsolete and/or deprecated parameter(s) specified
ORACLE instance started.

Total System Global Area 675282944 bytes
Fixed Size 1291276 bytes
Variable Size 348130292 bytes
Database Buffers 322961408 bytes
Redo Buffers 2899968 bytes
SQL> alter database mount standby database;

Database altered.
SQL> _
```

13.Start the managed recovery operation:

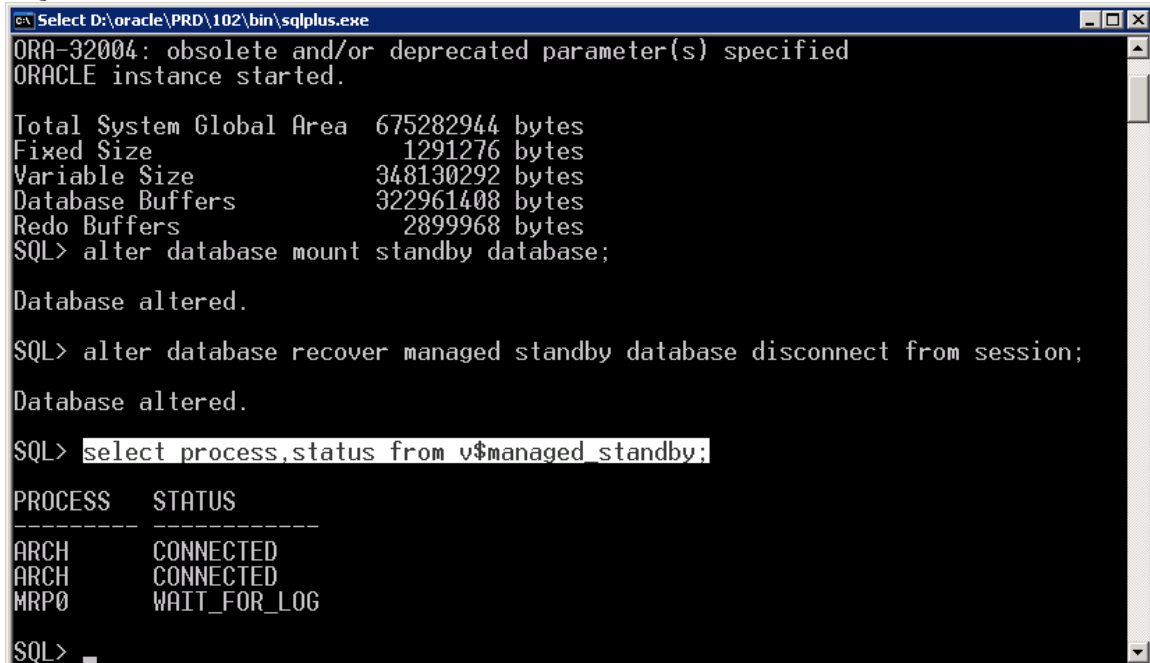
```
SQL> ALTER DATABASE RECOVER MANAGED STANDBY DATABASE  
DISCONNECT FROM SESSION;
```



```
SQL> alter database recover managed standby database disconnect from session;  
Database altered.  
SQL> _
```

14. Check the recovery operation by using the following commands

```
SQL>SELECT PROCESS, STATUS FROM V$MANAGED_STANDBY;
```

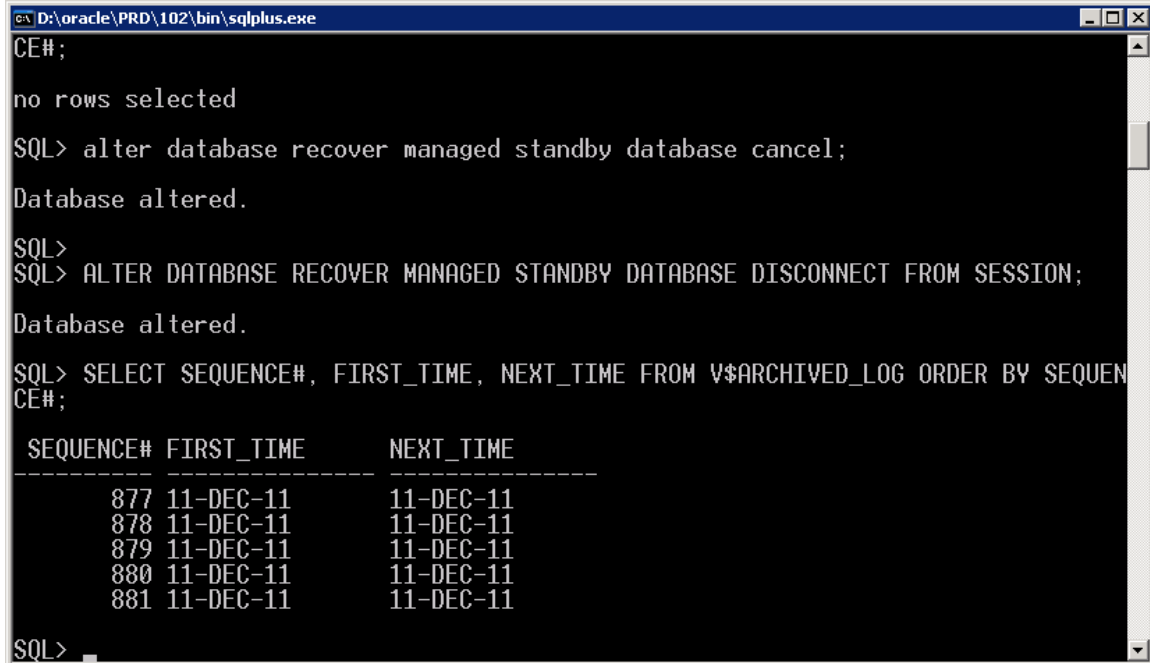


```
SQL> alter database mount standby database;  
Database altered.  
SQL> alter database recover managed standby database disconnect from session;  
Database altered.  
SQL> select process,status from v$managed standby;
```

PROCESS	STATUS
ARCH	CONNECTED
ARCH	CONNECTED
MRP0	WAIT_FOR_LOG

```
SQL> _
```

```
SQL>SELECT SEQUENCE#, FIRST_TIME, NEXT_TIME FROM  
V$ARCHIVED_LOG ORDER BY SEQUENCE#;
```



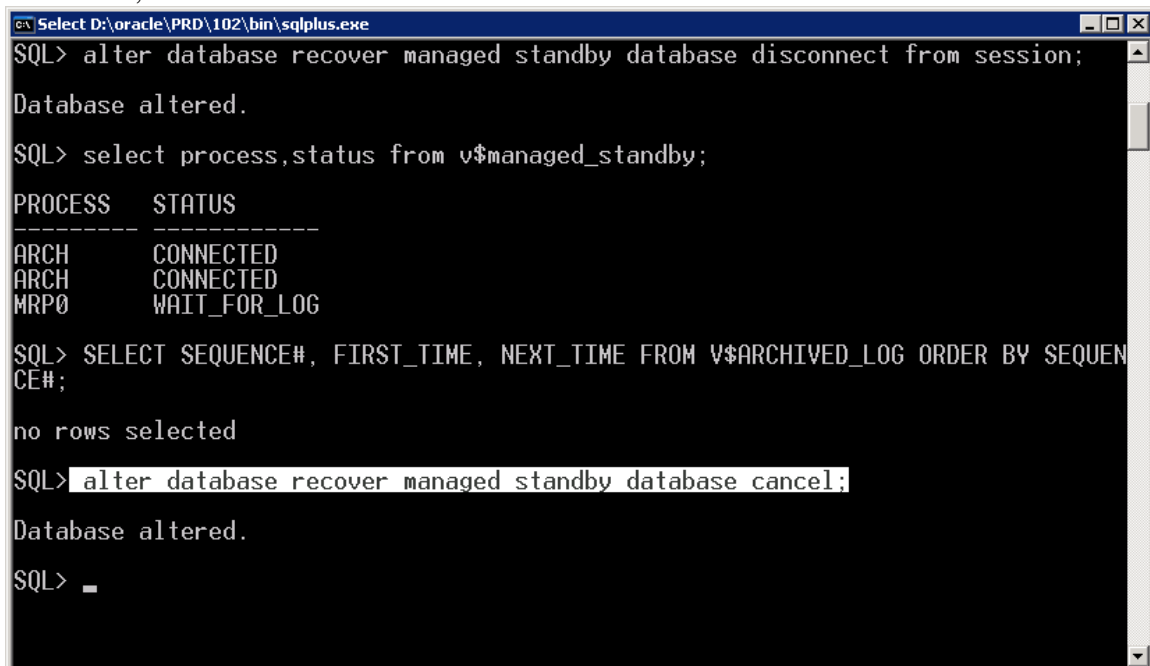
```
SQL> alter database recover managed standby database cancel;  
Database altered.  
SQL>  
SQL> ALTER DATABASE RECOVER MANAGED STANDBY DATABASE DISCONNECT FROM SESSION;  
Database altered.  
SQL> SELECT SEQUENCE#, FIRST_TIME, NEXT_TIME FROM V$ARCHIVED_LOG ORDER BY SEQUEN  
CE#;
```

SEQUENCE#	FIRST_TIME	NEXT_TIME
877	11-DEC-11	11-DEC-11
878	11-DEC-11	11-DEC-11
879	11-DEC-11	11-DEC-11
880	11-DEC-11	11-DEC-11
881	11-DEC-11	11-DEC-11

```
SQL>
```

15. Cancel managed recovery operations by using command

```
SQL> ALTER DATABASE RECOVER MANAGED STANDBY DATABASE  
CANCEL;
```

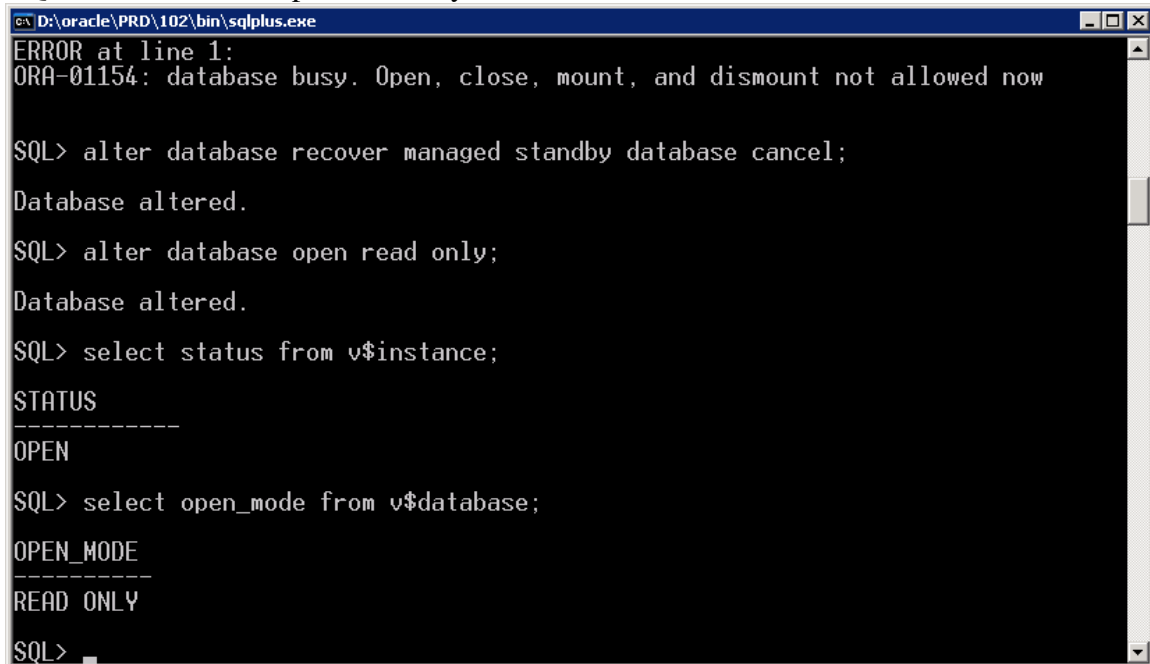


```
SQL> alter database recover managed standby database disconnect from session;  
Database altered.  
SQL> select process,status from v$managed_standby;
```

PROCESS	STATUS
ARCH	CONNECTED
ARCH	CONNECTED
MRP0	WAIT_FOR_LOG

```
SQL> SELECT SEQUENCE#, FIRST_TIME, NEXT_TIME FROM V$ARCHIVED_LOG ORDER BY SEQUEN  
CE#;  
no rows selected  
SQL> alter database recover managed standby database cancel;  
Database altered.  
SQL>
```

SQL>Alter database open read only;



```
c:\D:\oracle\PRD\102\bin\sqlplus.exe
ERROR at line 1:
ORA-01154: database busy. Open, close, mount, and dismount not allowed now

SQL> alter database recover managed standby database cancel;
Database altered.

SQL> alter database open read only;
Database altered.

SQL> select status from v$instance;
STATUS
-----
OPEN

SQL> select open_mode from v$database;
OPEN_MODE
-----
READ ONLY

SQL>
```

16. ALTER SYSTEM ARCHIVE LOG CURRENT;
To switch log file (execute in the primary server)

Note: Do not open the database, if it is opened then the 9th step has to be repeated again

Related Content:

www.help.sap.com

www.sdn.sap.com/irj/sdn/index.

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