# DATAGUARD IMPLEMENTAION

Make sure the operating system and platform architecture on the primary and standby systems are the same;

Install Oracle database software without the starter database on the standby server. Make sure the same Oracle software release is used on the Primary and Standby databases, and Oracle home paths are identical.

# Task to perform On the Primary Database Side:

**1. Enable forced logging on your primary database:**  
 SQL> ALTER DATABASE FORCE LOGGING;

**2. Create a password file if it doesn’t exist.** a) To check if a password file already exists, run the following command:   
 SQL> select \* from v$pwfile\_users;

b) If it doesn’t exist, use the following command to create one: $orapwd file=pwdPRIM.ora password=xxxxxxxx force=y

**3. Configure a Standby Redo log**. (The size of the standby redo log files should match the size of the current primary database online redo log files.)

SQL>ALTER DATABASE ADD STANDBY LOGFILE SIZE 50M;

**4. Enable Archiving on Primary**.(Make Primary database in archive log mode)

**5. Set Primary Database Initialization Parameters**

Create a text initialization parameter file (PFILE) from the server parameter file (SPFILE), to add the new primary role parameters.

1. Create pfile from spfile for the primary database:

B) Edit pfile to add the new primary and standby role parameters

db\_name=PRIM  
db\_unique\_name=PRIM  
LOG\_ARCHIVE\_CONFIG='DG\_CONFIG=(PRIM,STAN)'

LOG\_ARCHIVE\_DEST\_1='LOCATION=F:\Oracle\flash\_recovery\_area\PRIM\ARCHIVELOG VALID\_FOR=(ALL\_LOGFILES,ALL\_ROLES)DB\_UNIQUE\_NAME=PRIM'

LOG\_ARCHIVE\_DEST\_2='SERVICE=STAN LGWR ASYNC  
VALID\_FOR=(ONLINE\_LOGFILES,PRIMARY\_ROLE)DB\_UNIQUE\_NAME=STAN'

LOG\_ARCHIVE\_DEST\_STATE\_1=ENABLE  
LOG\_ARCHIVE\_DEST\_STATE\_2=ENABLE

LOG\_ARCHIVE\_MAX\_PROCESSES=30  
remote\_login\_passwordfile='EXCLUSIVE'  
FAL\_SERVER=STAN  
FAL\_CLIENT=PRIM  
STANDBY\_FILE\_MANAGEMENT=AUTO  
# Specify the location of the standby DB datafiles followed by the primary location;  
DB\_FILE\_NAME\_CONVERT='E:\oracle\product\10.2.0\oradata\STAN\DATAFILE','E:\oracle\product\10.2.0\oradata\PRIM\DATAFILE'  
# Specify the location of the standby DB online redo log files followed by the primary location LOG\_FILE\_NAME\_CONVERT=’E:\oracle\product\10.2.0\oradata\STAN\ONLINELOG’,’E:\oracle\product\10.2.0\oradata\PRIM\ONLINELOG’,’F:\Oracle\flash\_recovery\_area\STAN\ONLINELOG’,’F:\Oracle\flash\_recovery\_area\PRIM\ONLINELOG’

**6. Create spfile from pfile, and restart primary database using the new spfile.;**

# Setps To perform On the Standby Database Site:

**1. Create a copy of Primary database data files on the Standby Server**

**2. Create a Control File for the standby database:**

On Primary DB, create a control file for the standby to use:  
SQL>startup mount;  
SQL>alter database create standby controlfile as ‘STAN.ctl;  
SQL>ALTER DATABASE OPEN;

**3. Copy the Primary DB pfile to Standby server and rename/edit the file.**

1) Copy pfilePRIM.ora from Primary server to Standby server

2) Rename it to pfileSTAN.ora, and modify the file as follows.

db\_name='PRIM'  
db\_unique\_name=STAN  
LOG\_ARCHIVE\_CONFIG=’DG\_CONFIG=(PRIM,STAN)’  
LOG\_ARCHIVE\_DEST\_1=‘LOCATION=F:\Oracle\flash\_recovery\_area\STAN\ARCHIVELOG VALID\_FOR=(ALL\_LOGFILES,ALL\_ROLES)DB\_UNIQUE\_NAME=STAN’

LOG\_ARCHIVE\_DEST\_2=‘SERVICE=PRIM LGWR ASYNC VALID\_FOR =(ONLINE\_LOGFILES,PRIMARY\_ROLE)DB\_UNIQUE\_NAME=PRIM’

LOG\_ARCHIVE\_DEST\_STATE\_1=ENABLE  
LOG\_ARCHIVE\_DEST\_STATE\_2=ENABLE  
  
LOG\_ARCHIVE\_MAX\_PROCESSES=30  
FAL\_SERVER=PRIM  
FAL\_CLIENT=STAN  
remote\_login\_passwordfile='EXCLUSIVE'  
STANDBY\_FILE\_MANAGEMENT=AUTO

# Specify the location of the primary DB datafiles followed by the standby location  
DB\_FILE\_NAME\_CONVERT=

# Specify the location of the primary DB online redo log files followed by the standby location  
LOG\_FILE\_NAME\_CONVERT=

**4. On Standby server, create all required directories for dump and archived log destination:**Create directories adump, bdump, cdump, udump, and archived log destinations for the standby database.

**5. Copy the standby control file ‘STAN.ctl’ from primary to standby destinations ;**

**6. Copy the Primary password file to standby and rename it to pwdSTAN.ora.**

**7. Create Oracle Services**  
$oradim –NEW –SID STAN –STARTMODE manual

**8. Configure listeners for the primary and standby databases.**

**9. Create Oracle Net service names.**

1) On Primary system: use Oracle Net Manager to create network service names for PRIM and STAN. Check tnsping to both services:  
$tnsping PRIM  
$tnsping STAN

2) On Standby system: use Oracle Net Manager to create network service names for PRIM and STAN. Check tnsping to both services:  
$tnsping PRIM  
$tnsping STAN

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**10. Start up nomount the standby database and generate a spfile.**

**11. Start Redo apply**

On the standby database, to start redo apply:  
SQL>alter database recover managed standby database disconnect from session;

To start real-time apply:  
SQL> alter database recover managed standby database using current logfile disconnect;

If you ever need to stop log apply services:  
SQL> alter database recover managed standby database cancel;

**12. Verify the standby database is performing properly:**A) On Standby perform a query:  
SQL>select sequence#, first\_time, next\_time from v$archived\_log;

B) On Primary, force a logfile switch:  
SQL>alter system switch logfile;

C) On Standby, verify the archived redo log files were applied:  
SQL>select sequence#, applied from v$archived\_log order by sequence#;