**Applies to:**

Oracle Server - Enterprise Edition - Version 10.2.0.1 to 11.2.0.3 [Release 10.2 to 11.2]  
Information in this document applies to any platform.  
\*\*\*Checked for relevance on 21-Sep-2012\*\*\*

**Goal**

**Step by Step Guide on How to Create Logical Standby**

**Fix**

**Prerequisite**   
  
**1 :** Before setting up a logical standby database, ensure the logical standby database can maintain the data types and tables in your primary database. See Appendix C of the dataguard documentation for a complete list of data type and storage type considerations.   
  
**2 :** Ensure Table Rows in the Primary Database Can Be Uniquely Identified.   
  
**2.1 :** Find Tables Without Unique Logical Identifier in the Primary Database.   
  
Use following query to display a list of tables that SQL Apply may not be able to uniquely identify:

SQL> SELECT OWNER, TABLE\_NAME FROM DBA\_LOGSTDBY\_NOT\_UNIQUE WHERE (OWNER, TABLE\_NAME) NOT IN (SELECT DISTINCT OWNER, TABLE\_NAME FROM DBA\_LOGSTDBY\_UNSUPPORTED) AND BAD\_COLUMN = 'Y'

**2.2 :** If your application ensures the rows in a table are unique, you can create a disabled primary key RELY constraint on the table. Use ALTER TABLE command to add a disabled primary-key RELY constraint.   
The following example creates a disabled RELY constraint on a table named mytab, for which rows can be uniquely identified using the id and name columns:

SQL> ALTER TABLE mytab ADD PRIMARY KEY (id, name) RELY DISABLE;

**Creating a Logical Standby Database:**   
  
**Step 1 Create a Physical Standby Database**Create a Physical Standby Database and make sure that there is no error in remote archiving to Standby from Primary Database.

Please refer following documentations for creating physical standby database:   
  
For 10.2:   
Oracle® Data Guard Concepts and Administration 10g Release 2 (10.2)   
<http://download.oracle.com/docs/cd/B19306_01/server.102/b14239/create_ps.htm#i63561>

For 11.1:   
Oracle® Data Guard Concepts and Administration 11g Release 1 (11.1)   
<http://download.oracle.com/docs/cd/B28359_01/server.111/b28294/create_ps.htm#i63561>

**Step 2 Make Sure that Physical Standby is in Sync with Primary Database**  
Use following query on Standby to check:

SQL>SELECT ARCH.THREAD# "Thread", ARCH.SEQUENCE# "Last Sequence Received", APPL.SEQUENCE# "Last Sequence Applied"   
FROM    
(SELECT THREAD# ,SEQUENCE# FROM V$ARCHIVED\_LOG WHERE (THREAD#,FIRST\_TIME ) IN (SELECT THREAD#,MAX(FIRST\_TIME) FROM V$ARCHIVED\_LOG GROUP BY THREAD#)) ARCH,    
(SELECT THREAD# ,SEQUENCE# FROM V$LOG\_HISTORY WHERE (THREAD#,FIRST\_TIME ) IN (SELECT THREAD#,MAX(FIRST\_TIME) FROM V$LOG\_HISTORY GROUP BY THREAD#)) APPL    
WHERE    
ARCH.THREAD# = APPL.THREAD#    
ORDER BY 1;

There should not be any difference in Last Seq Received and Last Seq Applied on Physical Standby.   
  
**Step 3 Stop Redo Apply on the Physical Standby Database**

SQL> ALTER DATABASE RECOVER MANAGED STANDBY DATABASE CANCEL;

**Step 4 Set Parameters for Logical Standby in Primary**  
  
**4.1.** Change VALID\_FOR in LOG\_ARCHIVE\_DEST\_1 on Primary to (ONLINE\_LOGFILES,ALL\_ROLES)

LOG\_ARCHIVE\_DEST\_1= 'LOCATION=/u01/arch/online/ VALID\_FOR=(ONLINE\_LOGFILES,ALL\_ROLES) DB\_UNIQUE\_NAME=prim1'

**4.2.** Set LOG\_ARCHIVE\_DEST\_3 for logs which will received on Standby from Primary

LOG\_ARCHIVE\_DEST\_3= 'LOCATION=/u01/arch/standby/ VALID\_FOR=(STANDBY\_LOGFILES,STANDBY\_ROLE) DB\_UNIQUE\_NAME=prim1'   
LOG\_ARCHIVE\_DEST\_STATE\_3=ENABLE

Note: LOG\_ARCHIVE\_DEST\_3 only takes effect when the primary database is transitioned to the logical standby role.   
  
**Step 5 Build a Dictionary in the Redo Data on Primary Database**

SQL> EXECUTE DBMS\_LOGSTDBY.BUILD;

The DBMS\_LOGSTDBY.BUILD procedure waits for all existing transactions to complete. Long-running transactions executed on the primary database will affect the timeliness of this command.   
  
**Step 6 Convert to a Logical Standby Database**

SQL> ALTER DATABASE RECOVER TO LOGICAL STANDBY <db\_name>;

For db\_name, specify a database name to identify the new logical standby database. If you are using a spfile for standby, then command will update the db\_name parameter otherwise it will issues a message reminding you to set the name of the DB\_NAME parameter after shutting down the database.   
  
**Step 7 Create a New Password File for Logical Standby Database**

$ORAPWD FILE=<filename> PASSWORD=<password> ENTRIES=<max\_users>

This step is required in 10.2 only and should not be performed in 11g.   
  
**Step 8 Shutdown and Startup Logical Standby Database in Mount Stage**

SQL> SHUTDOWN;   
SQL> STARTUP MOUNT;

**Step 9 Adjust Initialization Parameter on Logical Standby Database**

LOG\_ARCHIVE\_DEST\_1= 'LOCATION=/u01/arch/online/ VALID\_FOR=(ONLINE\_LOGFILES,ALL\_ROLES) DB\_UNIQUE\_NAME=logstd1'   
LOG\_ARCHIVE\_DEST\_2= 'SERVICE=prim1 LGWR ASYNC VALID\_FOR=(ONLINE\_LOGFILES,PRIMARY\_ROLE) DB\_UNIQUE\_NAME=prim1'   
LOG\_ARCHIVE\_DEST\_3= 'LOCATION=/u01/arch/standby/ VALID\_FOR=(STANDBY\_LOGFILES,STANDBY\_ROLE) DB\_UNIQUE\_NAME=logstd1'   
LOG\_ARCHIVE\_DEST\_STATE\_1=ENABLE   
LOG\_ARCHIVE\_DEST\_STATE\_2=ENABLE   
LOG\_ARCHIVE\_DEST\_STATE\_3=ENABLE

**Step 10 Open the Logical Standby Database**

SQL> ALTER DATABASE OPEN RESETLOGS;

**Step 11 Start Logical Apply on Standby**

SQL> ALTER DATABASE START LOGICAL STANDBY APPLY IMMEDIATE;