4. What is snapshot standby database.

Snapshot standby is a feature in Oracle 11g that allows doing a read-write operation on the standby database i. e  
we can convert the physical standby database to snapshot standby for testing purpose.  On that, we can do all types of testing (BOTH READ/WRITE) or can be used as a development database (which is an exact replication of production ). Once the testing is over we can again convert  
the snapshot database to physical standby. Once it is converted physical standby database, whatever changes were done to the snapshot standby will be reverted.

**STEPS TO CONVERT PHYSICAL STANDBY DATABASE TO SNAPSHOT STANDBY DATABASE**

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Converting a Physical Standby Database to a Snapshot Standby Database in Oracle allows you to open the standby database in read-write mode for testing purposes while maintaining protection against data loss.

### Steps to Convert Physical Standby to Snapshot Standby:

1. \*\*Ensure Database is in Sync:\*\*

- Before converting, make sure the standby database is fully synchronized with the primary database.

- Check the sync status using the following SQL query on the standby:

*SELECT THREAD#, SEQUENCE#, APPLIED FROM V$ARCHIVED\_LOG WHERE APPLIED='YES';*

2. \*\*Stop Redo Apply on Standby:\*\*

- If the Redo Apply process is running, you need to stop it:

*ALTER DATABASE RECOVER MANAGED STANDBY DATABASE CANCEL;*

3. \*\*Convert to Snapshot Standby:\*\*

- Convert the physical standby to a snapshot standby database using the following command:

*ALTER DATABASE CONVERT TO SNAPSHOT STANDBY;*

- This command opens the standby database in read-write mode, enabling you to perform tests or other operations that require a writable database.

4. \*\*Open the Database:\*\*

- Open the standby database after conversion:

*ALTER DATABASE OPEN;*

### Post-Conversion Tasks:

- \*\*Perform Tests:\*\* You can now perform any testing or other activities that require the database to be in read-write mode.

- \*\*Protect Redo Logs:\*\* During this period, redo logs from the primary database are still being sent to the standby, but they are not applied.

***### Reverting Back to Physical Standby:***

1. \*\*Shutdown the Snapshot Standby:\*\*

- Close the database:

*SHUTDOWN IMMEDIATE;*

2. \*\*Start and Convert Back:\*\*

- Start up the standby in mount mode:

*STARTUP MOUNT;*

- Convert it back to a physical standby:

*ALTER DATABASE CONVERT TO PHYSICAL STANDBY;*

3. \*\*Start Redo Apply:\*\*

- Start the redo apply process to catch up with the primary database:

*ALTER DATABASE RECOVER MANAGED STANDBY DATABASE USING CURRENT LOGFILE DISCONNECT FROM SESSION;*

4. \*\*Verify Synchronization:\*\*

- Ensure the standby is catching up with the primary database by checking the status of the log apply:

*SELECT THREAD#, SEQUENCE#, APPLIED FROM V$ARCHIVED\_LOG ORDER BY SEQUENCE#;*

### Additional Notes:

- \*\*License Requirements:\*\* Ensure that you have the appropriate Oracle license for using snapshot standby databases.

- \*\*Considerations:\*\* Using a snapshot standby for extended periods can cause lag between the primary and standby databases, as redo logs accumulate.