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| **Oracle® Database Backup and Recovery Advanced User's Guide 10*g* Release 2 (10.2)** Part Number B14191-02 | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | [[Go to Documentation Home](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/index.htm) Home](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/index.htm) | [[Go to Book List](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/nav/portal_booklist.htm) Book List](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/nav/portal_booklist.htm) | [[Go to Table of Contents](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14191/toc.htm) Contents](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14191/toc.htm) | [[Go to Index](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14191/index.htm) Index](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14191/index.htm) | [[Go to Master Index](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/mix.102/b14387/toc.htm) Master Index](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/mix.102/b14387/toc.htm) | [[Go to Feedback page](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/dcommon/html/feedback.htm) Contact Us](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/dcommon/html/feedback.htm) | |

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**Using RMAN Incremental Backups to Refresh a Standby Database**

You can create an incremental backup of the target database containing changes to the database since the creation of the duplicate or the previous syncrhonization. You can apply the incremental backup to the standby database.

**Note:**

This technique cannot be used to update a duplicate database.

RMAN enables you to synchronize a standby database with a primary database by creating an incremental backup at the source database that contains all changed blocks since the duplicate was created or last refreshed. You then apply the incremental backup to the standby database, which updates it with all changes.

This capability faciliates the temporary conversion of a physcial standby database into a reporting database, as described in [*Oracle Data Guard Concepts and Administration*](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/server.102/b14239/toc.htm).. In particular, this capability makes it possible to reverse the effects of converting the standby into a reporting database. After the standby database has been used for reporting or testing, Flashback Database can reverse any changes resulting from that work, returning the database to its contents when it was still a standby. An incremental backup created with BACKUP INCREMENTAL... FROM SCN can be used to refresh the standby with changes at the primary since the conversion. and then managed recovery can resume. The effect is to return the reporting database to its role as standby.

For more details on this scenario, see [*Oracle Data Guard Concepts and Administration*](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/server.102/b14239/toc.htm).

**Using BACKUP INCREMENTAL... FROM SCN**

The incremental backup is created at the source database by means of the BACKUP INCREMENTAL FROM SCN=*n* form of the BACKUP command. For example:

BACKUP DEVICE TYPE SBT INCREMENTAL FROM SCN 750923 DATABASE;

BACKUP INCREMENTAL FROM SCN 750923 DATABASE;

BACKUP DEVICE TYPE DISK INCREMENTAL FROM SCN 750983 DATABASE

FORMAT '/tmp/incr\_standby\_%U';

RMAN uses the selected SCN as the basis for this incremental backup. For all files being backed up, RMAN includes all data blocks that were changed at SCNs greater than or equal to the FROM SCN in the incremental backup.

**Note:**

* RMAN does not consider the incremental backup as part of a backup strategy at the source database. The backup is not suitable for use in a normal RECOVER DATABASE operation at the source database.
* The backup sets produced by this command are written to ?/dbs by default, even if the flash recovery area or some other backup destination is defined as the default for disk backups.
* You must create this incremental backup on disk for it to be useful. When you move the incremental backup to the standby, you must catalog it at the standby as described in["Step 3: Catalog the Incremental Backup Files at the Standby Database"](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14191/rcmdupdb008.htm#BGBIJJHE). Backups on tape cannot be cataloged.

**See Also:**

[*Oracle Database Backup and Recovery Reference*](https://web.stanford.edu/dept/itss/docs/oracle/10gR2/backup.102/b14194/rcmsynta009.htm#RCMRF107) for more details on BACKUP command syntax

**Refreshing a Standby Database With INCREMENTAL FROM SCN Backups: Example**

This example shows the steps required to update a standby database using incremental backups. The assumption is that you have already activated the standby, performed your tests or other operations at the standby, , and then used Flashback Database to undo the effects of those changes. The task here is to refresh the standby with the latest changes to the primary , so that it can resume its role as a standby database.

**Step 1: Create the Incremental Backup**

Create the needed incremental backup at the source database, using BACKUP with the INCREMENTAL FROM SCN clause.

Assume that the incremental backup to be used in updating the duplicate database is to be created on disk, with the filenames for backup pieces determined by the format /tmp/incr\_for\_standby/bkup\_%U.

RMAN> BACKUP DEVICE TYPE DISK INCREMENTAL FROM SCN 750983 DATABASE

FORMAT '/tmp/incr\_for\_standby/bkup\_%U';

**Step 2: Make the Incremental Backup Accessible at the Standby Database**

Make the backup pieces containing the incremental backup available in some directory accessible on the system containing the standby database. For this example, assume that the destination directory is called/standbydisk1/incrback/ and ensure that it contains nothing besides the incremental backups from Step 1.

**Step 3: Catalog the Incremental Backup Files at the Standby Database**

Use the RMAN CATALOG command to register the backup sets in the RMAN repository at the duplicate. With an RMAN client connected to the standby database and the recovery catalog (if you use one at the standby), mount the standby and run the following command:

RMAN> CATALOG START WITH '/standbydisk1/incrback/';

The backups are now available for use in recovery of the standby.

**Step 4: Apply the Incremental Backup to the Standby Database**

Use the RMAN RECOVER command with the NOREDO option to apply the incremental backup to the standby database. All changed blocks captured in the incremental backup are updated at the standby database, bringing it up to date with the primary database. With an RMAN client connected to the standby database, run the following command:

RMAN> RECOVER DATABASE NOREDO;

You can now resume managed recovery at the standby. Any redo logs required at the standby with changes since those contained in the incremental are automatically requested from the primary and applied.

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