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Database Duplication Overview

Objectives

After completing this lesson, you should be able to:

- List the purposes of creating a duplicate database
- Choose a technique for duplicating a database

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Using a Duplicate Database

- Use a duplicate database to:
  - Test backup and recovery procedures
  - Recover objects by creating an export and importing the objects into the production database
- Create a duplicate database:
  - With the RMAN `DUPLICATE` command
  - On the same or separate hosts
  - With the identical content or subset of source
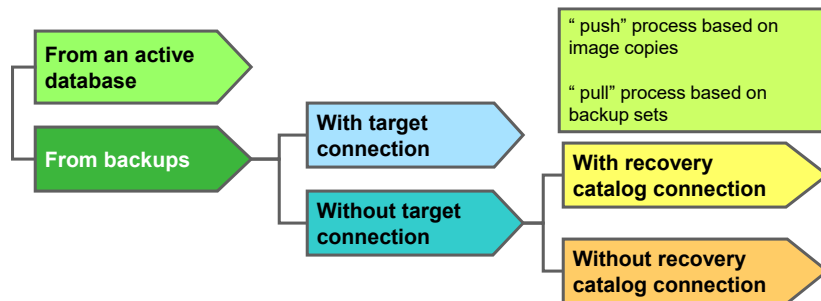 - Performed by auxiliary channels for backup-based duplication

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Choosing Database Duplication Techniques

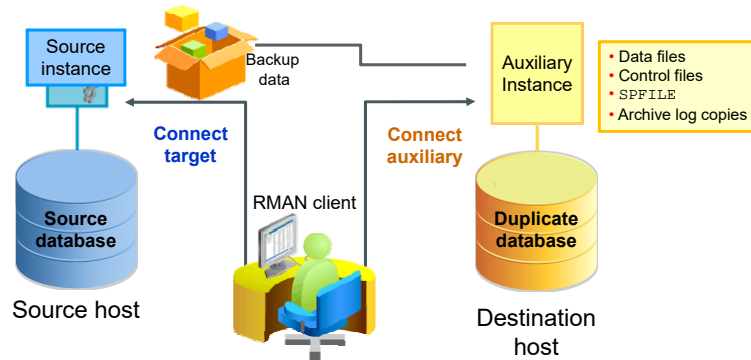Choosing a technique to duplicate your database—always with connection to the auxiliary instance:

From an active database

From backups → **With target connection** → " push" process based on image copies / " pull" process based on backup sets

Without target connection → **With recovery catalog connection** / **Without recovery catalog connection**

Via RMAN command line or Enterprise Manager Cloud Control

Duplicating an Active Database with "Push"

- "Push" method based on image copies
- Via Enterprise Manager or RMAN command line
- With network (use the `FROM ACTIVE DATABASE` clause)
- With a customized `SPFILE`

Comparing the "Push" and "Pull" Methods of Duplication

- The push process is based on image copies.
- The pull process is based on backup sets.
  - RMAN uses the pull method when it finds:
    - `USING BACKUPSET`
    - `SECTION SIZE`
    - Encryption
    - Compression
  - The pull method requires connections to target and auxiliary instances.

```
RMAN> SET ENCRYPTION …;
RMAN> DUPLICATE TARGET DATABASE TO orcldb
                FROM ACTIVE DATABASE
                  [USING BACKUPSET]
                  [SECTION SIZE …]
                  [USING COMPRESSED BACKUPSET]  …;
```
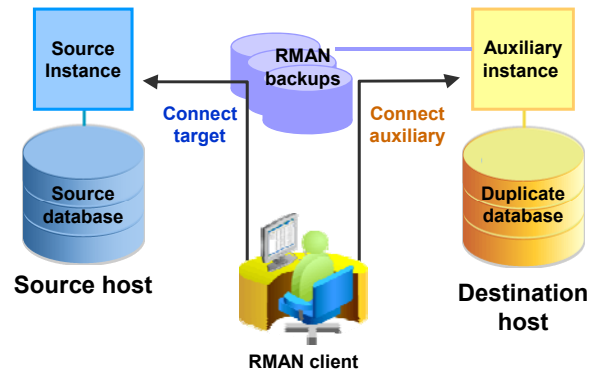
Duplicating a Database with a Target Connection

- RMAN connects to the target (source database instance).
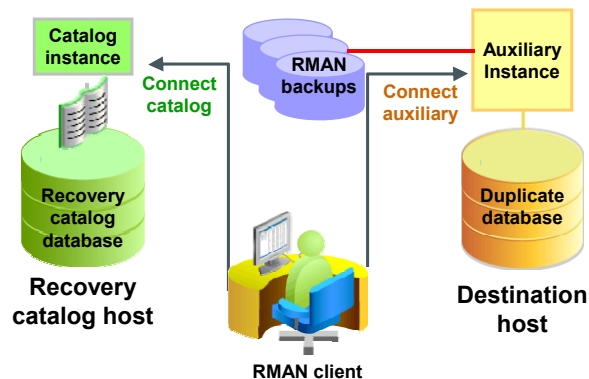- RMAN connects to the auxiliary instance.

Duplicating a Database with a Recovery Catalog

- RMAN connects to a recovery catalog instance for backup metadata.
- RMAN connects to the auxiliary instance, which must have access to the RMAN backups.
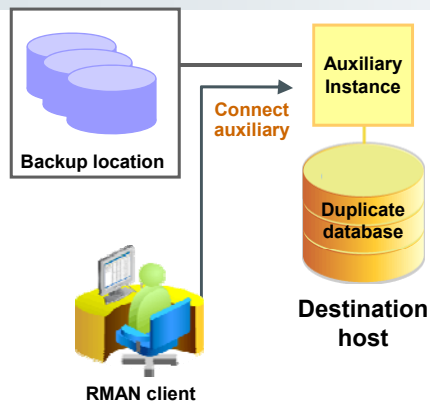
Duplicating a Database Without a Recovery Catalog or Target Connection

RMAN connects to the auxiliary instance, which must have access to a backup location.

Backup location

Connect auxiliary

Auxiliary Instance

Duplicate database

Destination host

RMAN client

Summary

In this lesson, you should have learned how to:

- List the purposes of creating a duplicate database
- Choose a technique for duplicating a database