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Performing Database Recovery

Objectives

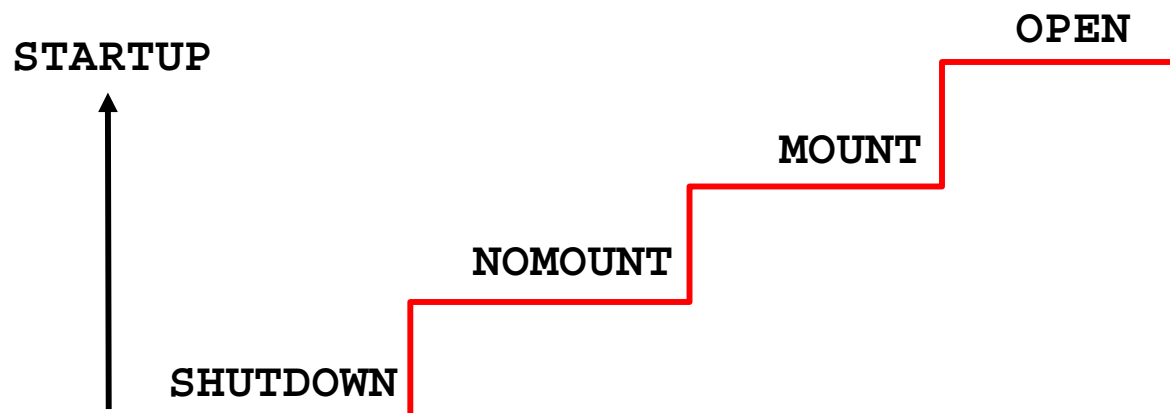
After completing this lesson, you should be able to recover from the loss of a:

- **Control file**
- **Redo log file**
- **Data file**

Opening a Database

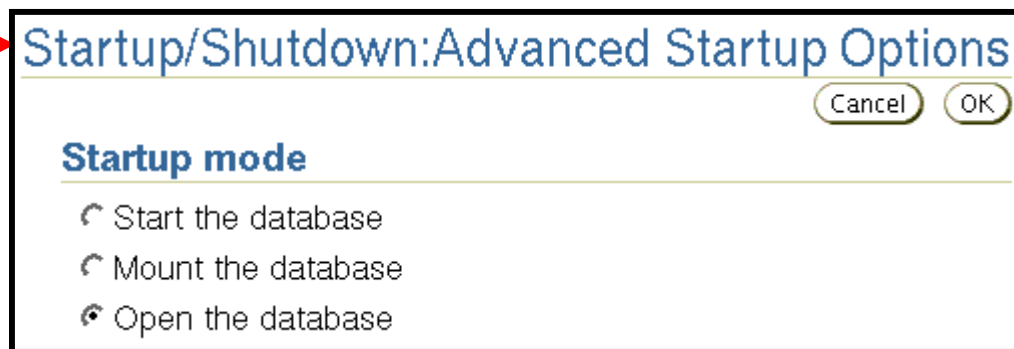
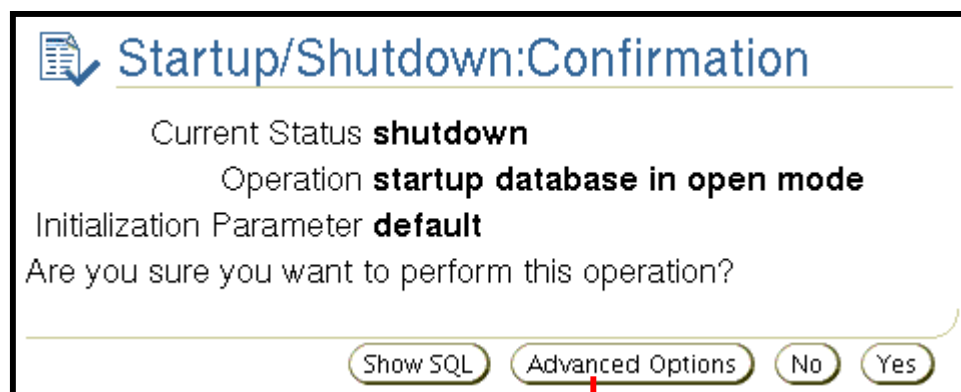
To open a database:

- All control files must be present and synchronized
- All online data files must be present and synchronized
- At least one member of each redo log group must be present



Changing Instance Status

Use Database Control to alter the instance's status.



Keeping a Database Open

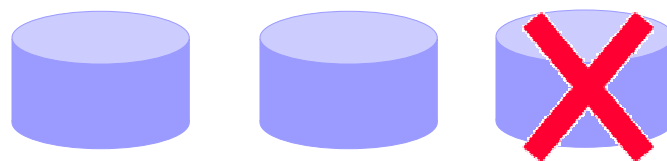
After the instance is open, it fails in the case of the loss of:

- **Any control file**
- **A data file belonging to the system or undo tablespaces**
- **An entire redo log group. As long as at least one member of the group is available, the instance remains open.**

Loss of a Control File

If a control file is lost or corrupted, the instance normally aborts, at which time you must perform the following steps:

- 1. Shut down the instance, if it is still open.**
- 2. Restore the missing control file by copying an existing control file.**
- 3. Start the instance.**



Control files

Loss of a Redo Log File

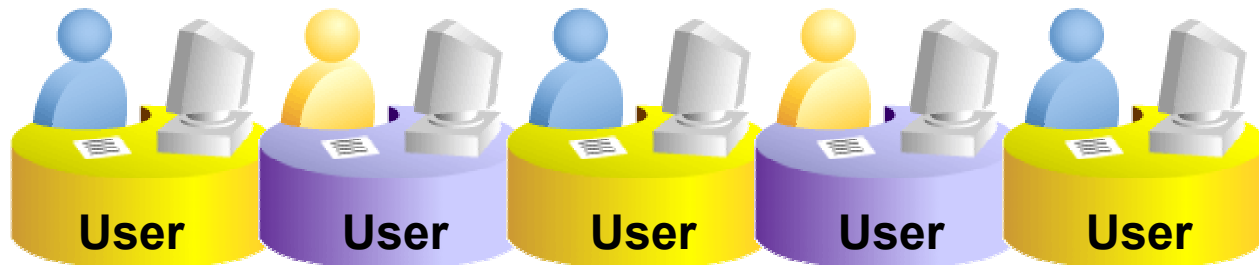
If a member of a redo log file group is lost, as long as the group still has at least one member, then:

- **The normal operation of the instance is not affected.**
- **You receive a message in the alert log notifying you that a member cannot be found.**
- **You can restore the missing log file by dropping the lost redo log member and adding a new member.**
- **If the group with the missing log file has been archived, you can clear the log group to re-create the missing file.**

Loss of a Data File in NOARCHIVELOG Mode

If the database is in NOARCHIVELOG mode, and any data file is lost, perform the following tasks:

1. Shut down the instance if it is not already down.
2. Restore the entire database, including all data and control files, from the backup.
3. Open the database.
4. Have users reenter all changes made since the last backup.



Loss of a Noncritical Data File in ARCHIVELOG Mode

If a data file is lost or corrupted, and that file does not belong to the **SYSTEM** or **UNDO** tablespace, then restore and recover the missing data file.

Object Level Recovery

Object Type Datafiles Perform Object Level Recovery

Operation Type ☒ Recover to current time
Datafile will be restored as required.
☐ Restore datafiles
Specify Time, SCN or log sequence. The backup taken at or prior to that time will be used. No recovery will be performed in this operation.
☐ Recover from previously restored datafiles
☐ Block Recovery



Users

Loss of a System-Critical Data File in ARCHIVELOG Mode

If a data file is lost or corrupted, and that file belongs to the `SYSTEM` or `UNDO` tablespace:

1. The instance may or may not shut down automatically. If it does not, use `SHUTDOWN ABORT` to bring the instance down.
2. Mount the database
3. Restore and recover the missing data file
4. Open the database



Users

Summary

In this lesson, you should have learned how to recover from the loss of a:

- **Control file**
- **Redo log file**
- **Data file**

Practice Overview: Performing Database Recovery

This practice covers recovering from the loss of a:

- **Control file**
- **Redo log file**
- **Noncritical data file**
- **System-critical data file**