

Performing Additional Recovery Operations

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Objectives

After completing this lesson, you should be able to:

- Recover from the loss of the server parameter file
- Recover from control file and redo log file failures
- Re-create the password authentication file



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Recovery from Loss of Server Parameter File

The FROM MEMORY clause allows the creation of current systemwide parameter settings.

```
SQL> CREATE PFILE [= 'pfile_name' ]  
      FROM { { SPFILE [= 'spfile_name'] } | MEMORY } ;
```

```
SQL> CREATE SPFILE [= 'spfile_name' ]  
      FROM { { PFILE [= 'pfile_name' ] } | MEMORY } ;
```

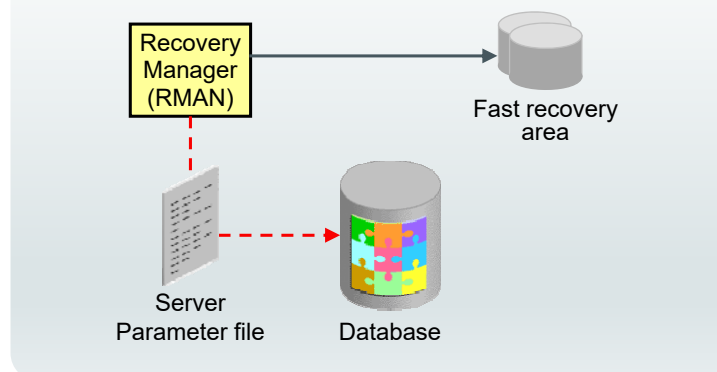
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Restoring the Server Parameter File from the Control File Autobackup

```
RMAN> STARTUP FORCE NOMOUNT;  
RMAN> RESTORE SPFILE FROM AUTOBACKUP;  
RMAN> STARTUP FORCE;
```



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Loss of a Control File

If a control file is lost or corrupted, the instance normally aborts.

- If control files are stored in ASM disk groups, recovery options are as follows:
 - Perform guided recovery using Cloud Control.
 - Put the database in NOMOUNT mode and use an RMAN command to restore the control file from existing control file.

```
RMAN> restore controlfile from  
      '+DATA/orcl/controlfile/current.260.695209463';
```

- If control files are stored as regular file system files, then:
 - Shut down the database
 - Copy the existing control file to replace the lost control file

Open the database after the control file is successfully restored.

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Recovering from the Loss of All Control File Copies: Overview

| | Current | Backup |
|--------------------|---|--|
| Available | Restore backup control file, perform complete recovery, OPEN RESETLOGS. | Restore backup control file, perform complete recovery, OPEN RESETLOGS. |
| Unavailable | Re-create control file, OPEN RESETLOGS. | Restore backup control file, perform point-in-time recovery, OPEN RESETLOGS. |

Online log status

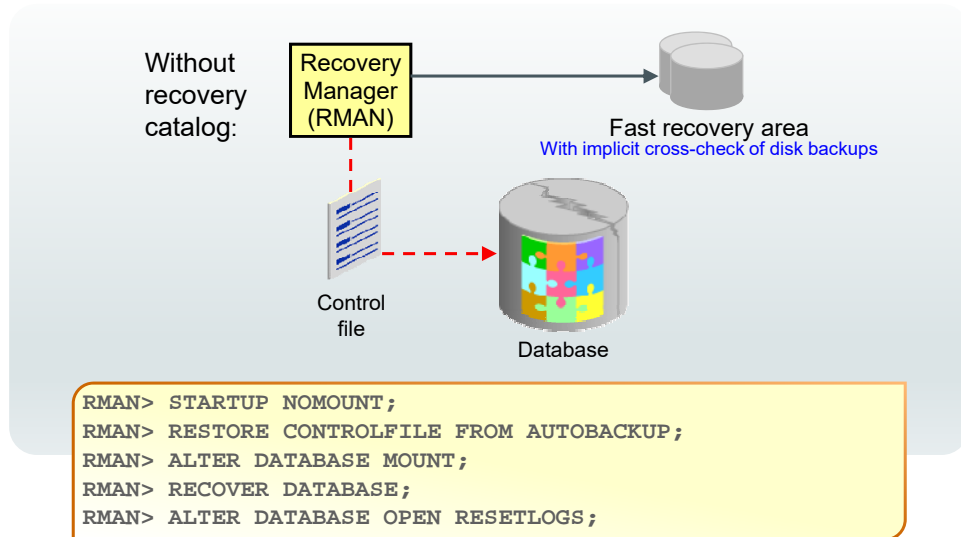
Data file status

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Restoring the Control File from Autobackup



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Restoring the SPFILE and the Control File

With recovery catalog:

- Database in NOMOUNT state

```
RMAN> RESTORE CONTROLFILE;  
RMAN> RESTORE CONTROLFILE... TO <destination>
```

Loss of SPFILE and control file:

1. Set the DBID or use recovery catalog.
2. Restore the SPFILE from the autobackup.
3. Start the instance with the restored SPFILE.
4. Restore the control file from the autobackup.
5. Mount the database with the restored control file.
6. Restore and recover the database.
7. Open the database with the RESETLOGS option.

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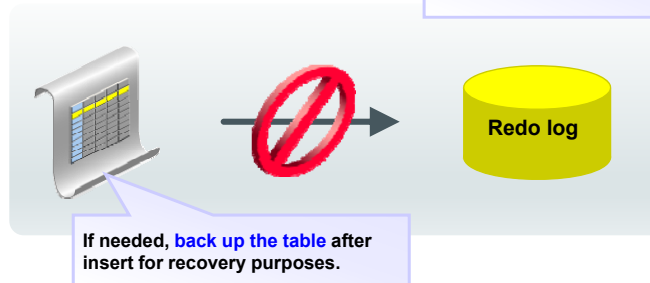
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Recovering NOLOGGING Database Objects

```
SQL> CREATE TABLE sales_copy NOLOGGING;  
SQL> INSERT /*+ APPEND */ INTO sales_copy  
2 SELECT * FROM sales_history;
```

If an object is created with the NOLOGGING clause, direct-path inserts cannot be recovered.



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Loss of a Redo Log File

If a member of a redo log file group is lost and if the group still has at least one member, note the following results:

- 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.
- Immediately take a full database backup of the whole database.

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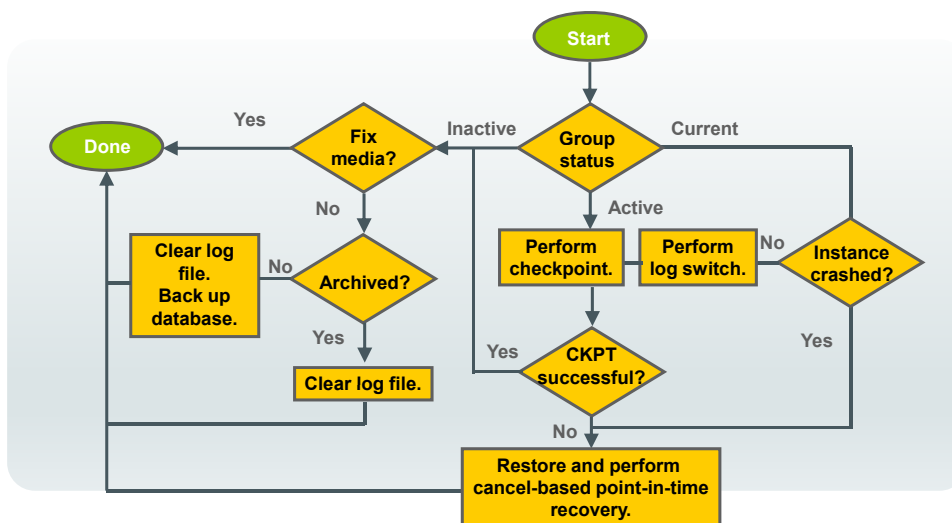
Log Group Status: Review



A redo log group has a status of one of the following values at any given time:

- **CURRENT:** The LGWR process is currently writing redo data to it.
- **ACTIVE:** It is no longer being written to, but it is still required for instance recovery.
- **INACTIVE:** It is no longer being written to, and it is no longer required for instance recovery.

Recovering from the Loss of a Redo Log Group



Re-creating a Password Authentication File

```
SQL> grant sysdba to admin2;  
grant sysdba to admin2  
*  
ERROR at line 1:  
ORA-01994: GRANT failed: password file missing or disabled
```

To recover from the loss of a password file:

1. Re-create the password file by using `orapwd`.

```
$ orapwd file=$ORACLE_HOME/dbs/orapworcl password=ora entries=20
```

2. Add users to the password file and assign appropriate privileges to each user.

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Summary

In this lesson, you should have learned how to:

- Recover from the loss of the server parameter file
- Recover from control file and redo log file failures
- Re-create the password authentication file



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Practice Overview

- Recovering from the Loss of a Parameter File
- Restoring the Control File
- Recovering from the Loss of All Control Files
- Restoring the Password File