Administering Redo Logs in Oracle RAC

Managing redo log files in Oracle RAC environments is similar to managing redo log files in single-instance Oracle Database environments. This section provides an overview of some of the additional concepts and procedures for configuring redo log files in Oracle RAC environments.

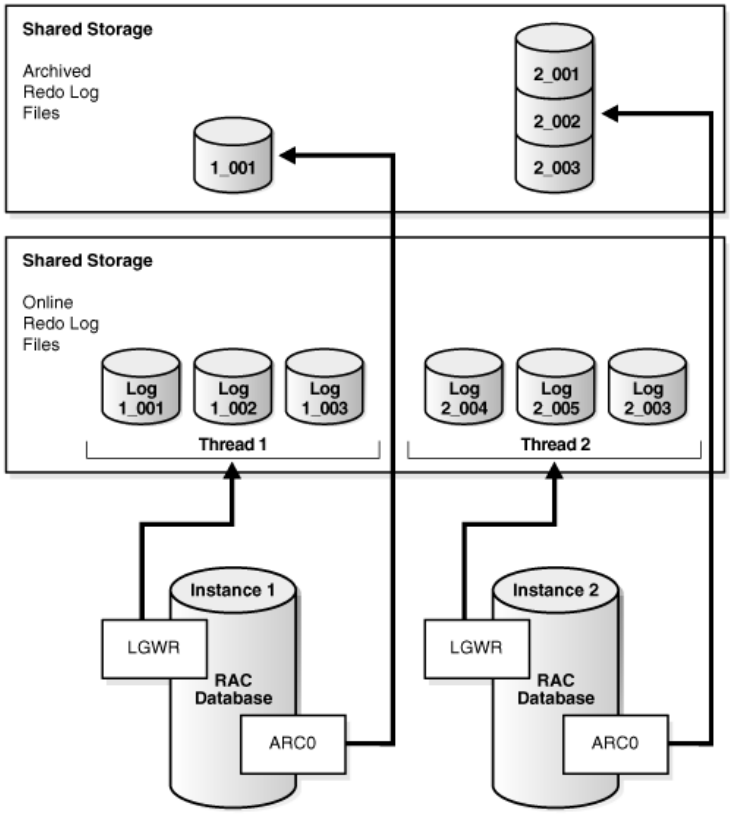
See Also:

- *Oracle Database 2 Day DBA*
- *Oracle Automatic Storage Management Administrator's Guide*

About Redo Log Groups and Redo Threads in Oracle RAC Databases

Redo logs contain a record of changes that have been made to data files. In a single-instance Oracle database, redo logs are stored in two or more redo log files (file groups). Each of these groups contains a redo log file and possibly one or more mirrored copies of that file. In an Oracle RAC database, each instance requires its own set of redo log groups, which is known as a **redo thread**. Mirrored copies of the redo log files provide your system with extra protection against data loss that is due to hardware failures or data corruption. If a redo log file is unreadable, then the Oracle Database attempts to access its mirrored copy. The redo log file mirrors should be located on different disk devices from the primary redo log files.

Figure 4-1 Illustration of Redo Threads for an Oracle RAC Database



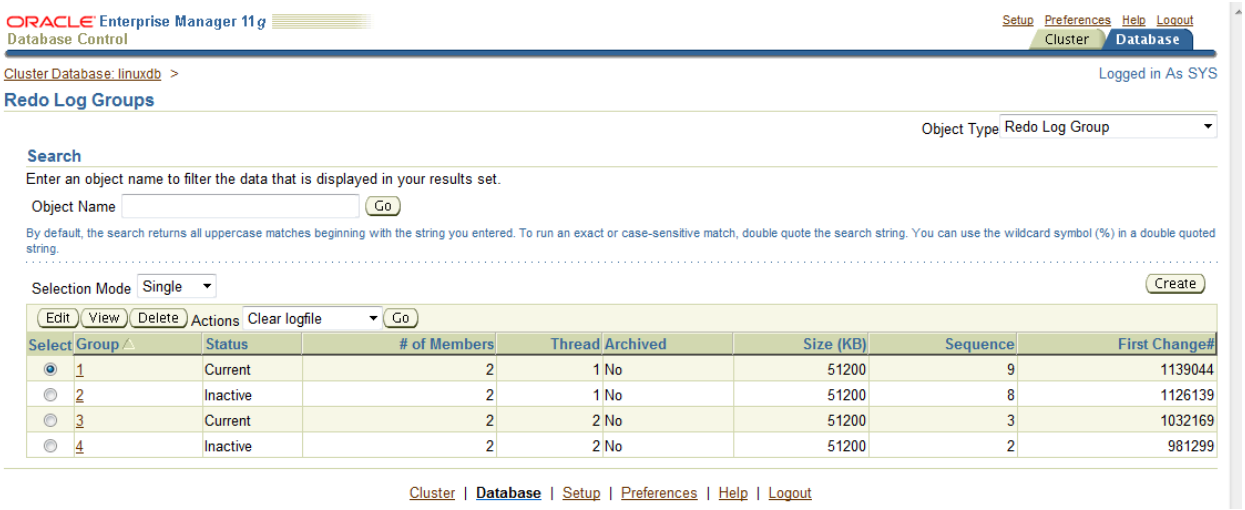
Description of "Figure 4-1 Illustration of Redo Threads for an Oracle RAC Database"

Each instance's redo thread must contain at least two redo log groups. Each redo log group should contain at least two members: a redo log and its mirrored copy. If you create your Oracle RAC database using DBCA, then your Oracle RAC database automatically implements a configuration that meets the Oracle recommendations.

You should create redo log groups only if you are using administrator-managed databases. For policy-managed databases, if an instance starts due to a change in server pool cardinality, then Oracle Database automatically creates redo log files, enables a redo thread for the instance if there is not a redo thread allocated to that instance, and creates the undo tablespace if there is not an undo tablespace allocated to that instance. The database must be using Oracle Managed Files and Oracle ASM in this situation. See *Oracle Real Application Clusters Administration and Deployment Guide* for more information.

In an Oracle RAC database, all the redo log files reside on shared storage. In addition, each instance must have access to the redo log files of all the other instances in the cluster. If your Oracle RAC database uses Oracle ASM, then Oracle ASM manages the shared storage for the redo log files and the access to those files.

Practice:



Note:
DBCA creates redo threads and undo tablespaces up to the maximum instance parameter at the time of creation for better performance.

See Also:

- *Oracle Database 2 Day DBA*
- *Oracle Automatic Storage Management Administrator's Guide*

About Accessing Redo Log Files for an Oracle RAC Database

In an Oracle RAC database, each instance writes and archives the redo log groups in its redo thread in the same manner that single-instance Oracle databases do. However, in recovery mode, the instance performing the recovery can read and process all the redo threads for the database, regardless of which instance generated the redo thread. Being able to read all the redo threads enables a running instance to recover the work completed by one or more failed instances.

In case of instance failure, a surviving instance can read the redo logs of the failed instance. Users can continue to access and update the database without waiting for the failed instance to be restarted. For

example, assume that you have an Oracle RAC database with two instances, instance A and instance B. If instance A is down, then instance B can read the redo log files for both instance A and B to ensure a successful recovery.

See Also:
"Administering Redo Logs in Oracle RAC"

Using Enterprise Manager to View and Create Online Redo Log Files

On the Redo Log Groups page, you can create additional redo log groups and add members to the redo log group. The Thread column identifies the instance, or redoes thread, to which a redo log file belongs.

To access the redo log file groups using Enterprise Manager:

1. On the Cluster Database Home Page, select **Server**.
   The **Server** page appears.

2. In the Storage section, select **Redo Log Groups**.
   The Redo Log Groups page appears.

3. On this page you can perform the following tasks:
   - View the status, number of members, thread, file size, status, and archive statue of each redo log group
   - Create or delete log groups
   - Edit a redo log group to add or remove members
   - Perform other redo log group management tasks, including clearing log files, duplicating a log group, generating sizing advice, and forcing a log switch