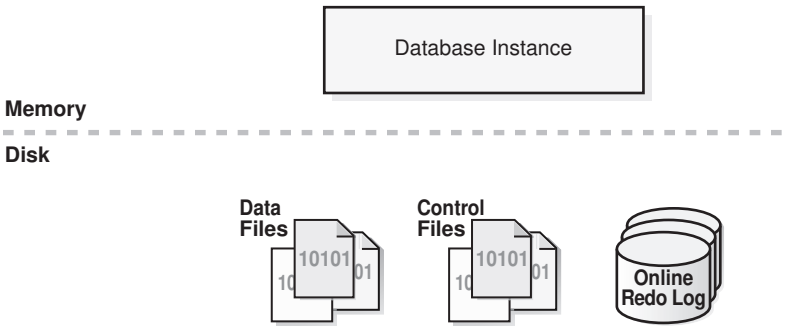
Figure 11-1 Database Instance and Database Files



> **See Also:**
>
> - *Oracle Database Administrator's Guide* to learn how to create a database
> - *Oracle Database SQL Language Reference* for `CREATE DATABASE` semantics and syntax

Mechanisms for Storing Database Files

Several mechanisms are available for allocating and managing the storage of these files.

The most common mechanisms include:

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- Oracle Automatic Storage Management (Oracle ASM)

  Oracle ASM includes a file system designed exclusively for use by Oracle Database.

- Operating system file system

  Most Oracle databases store files in a file system, which is a data structure built inside a contiguous disk address space. All operating systems have file managers that allocate and deallocate disk space into files within a file system.

  A file system enables disk space to be allocated to many files. Each file has a name and is made to appear as a contiguous address space to applications such as Oracle Database. The database can create, read, write, resize, and delete files.

  A file system is commonly built on top of a logical volume constructed by a software package called a logical volume manager (LVM). The LVM enables pieces of multiple physical disks to combine into a single contiguous address space that appears as one disk to higher layers of software.

- Cluster file system

  A cluster file system is a distributed file system that is a cluster of servers that collaborate to provide high performance service to their clients. In an Oracle RAC environment, a cluster file system makes shared storage appear as a file system shared by many computers in a clustered environment. With a cluster file system, the failure of a computer in the cluster does not make the file system unavailable.