

SQL Option *.LOG files - What are they for and can they be deleted?

A*.LOG and ANCHOR.LOG files are created in the Location directory each time the Location is accessed during one session of the SQL Option Server. As the default, behavior in Mainframe Express does not cause these files to be deleted, over time they can use up a lot of disk space. These files are used by the SQL Option to handle database recovery - in order to decide on whether or not you need these LOG files, you need to consider the following.

There are two modes to database recovery, ROLLBACK and ROLLFORWARD. If a transaction abends, the user's transaction on the database is rolled back. ROLLBACK is the most common form of recovery - with Mainframe Express SQL Option, ROLLBACK capability will always be present.

The other form of database recovery is ROLLFORWARD. If a hard disk fails, then a ROLLFORWARD is performed to restore the database to the point in time of the disk failure. In this case, backups and complete sets of log files created after the backup must be kept intact. If a log file is lost, then that information will not be able to be rolled forward and a ROLLFORWARD operation could leave the data in an inconsistent state. Clients wanting to preserve log files for disaster recovery should keep multiple sets of backups and the log files created after that backup and before the next backup so that complete recovery from any form of disaster can be accomplished. Additionally for this scenario, the *.LOG files should be moved with the SET LOG command to a different physical disk since a disk failure would mean a loss of both the active location and the existing *.LOG files required to ROLLFORWARD the previous database backup. It would be unusual for Mainframe Express users to need to recover databases in this way in a development environment - ROLLFORWARD is mostly used in a production environment.

The ROLLFORWARD capability can be disabled by un-checking the "Recovery" check box on the "Logging" tab of the GUI server configuration utility (Options, SQL Option, Server). The user would then need to shut down the server, delete all log files in the root directory of the location, and restart the server. The log files must be deleted because the logging parameters can't be changed once logs are established.

With "Recovery" turned off, the logs will be kept until the server knows that the database transactions are complete. Once the logs are no longer needed to ROLLBACK, the logs will be automatically purged.

Current default behavior in Mainframe Express is to have Recovery (ie ROLLFORWARD) enabled.