



MLDB Server Maintenance Procedures

Database Application Note #7

Overview

This document will detail the periodic maintenance that should be performed on the MultiLoggerDB server to optimize server performance and database integrity. It is recommended to run these procedures **AT LEAST ONCE PER MONTH**.

Getting Started

Before starting, make sure all data import and processing tasks are temporarily halted.

There are several tasks running, as follows:

- **MultiLogger** – Collects data from the remote stations. Press **Stop** to stop the Agent. You do not need to close MultiLogger.
- **MsgServer** – Processes data imported into the database and generates alarms and other notifications. **Close** MsgServer, icon is found in the system tray.
- **Close** all **Insite** instances running on client machines, or on the server. One MLDBConsole instance may be running on the server or on a client to provide the Backup and Restore functions.
- **GeoMosImport (Optional, if installed)** – Collects data from the GeoMos database. **Close** the application.

Log Files

A number of log files are generated by our applications in the course of managing the various processes that are running. These log files are very important to troubleshoot various database issues such as data import or alarm/output processing. **THEY SHOULD NOT BE DELETED**, but archived on a monthly basis to an archive folder. Create a **Logs** folder within **C:\Program Files\MultiLogger** (or use an appropriate path to match your installation), then use a date/time stamp for the date when files are archived.

Move the following files into the Logs subfolder:

C:\Program Files\MultiLogger\MultiLogger.log

C:\Program Files\MultiLogger\MsgServer.log

C:\Program Files\MultiLogger\Import.log

If using GeoMosImport, C:\Program Files\MultiLogger\GeoMosImport.log

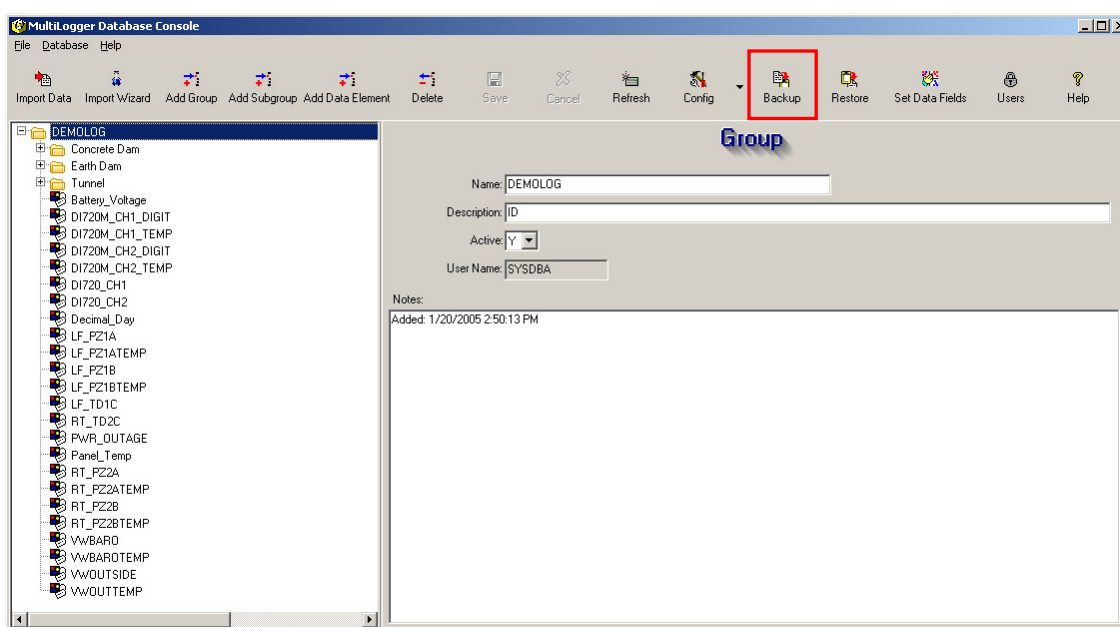
They can be zipped up if desired to provide significant file compression.

Database Backup and Restore

The Firebird SQL database file, or GDB file, stores all of the instrument data including project configuration, output parameters and notification configuration in an indexed, relational database structure. Other records such as transactions are stored in the database. Backing up and restoring the database provides for rebuilding the indexes which are used for finding data, and purges the transaction records. This will optimize database performance while providing for repair of indexes that may become corrupted.

The first step is to Backup the database, or create the GBK version of the database file. This is done using **MLDBConsole**, either running on the server or on a client machine.

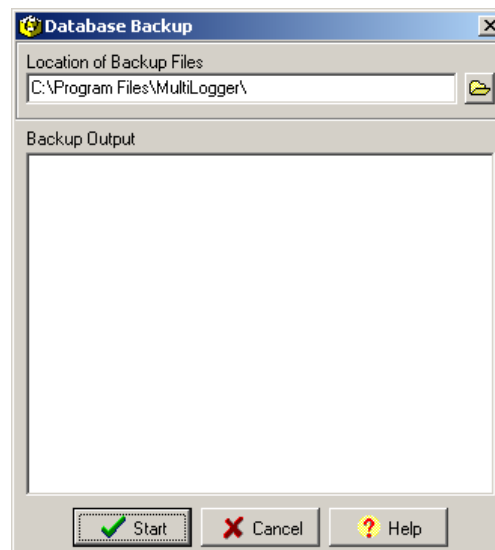
Use the **Backup** button to create the backup file.



The path where the file will be written is found on the Backup dialog, the default is **C:\Program Files\MultiLogger**. This is the path on the server.

Press **Start** to begin the backup. Progress will be shown in the **Backup Output** memo on the Database Backup form.

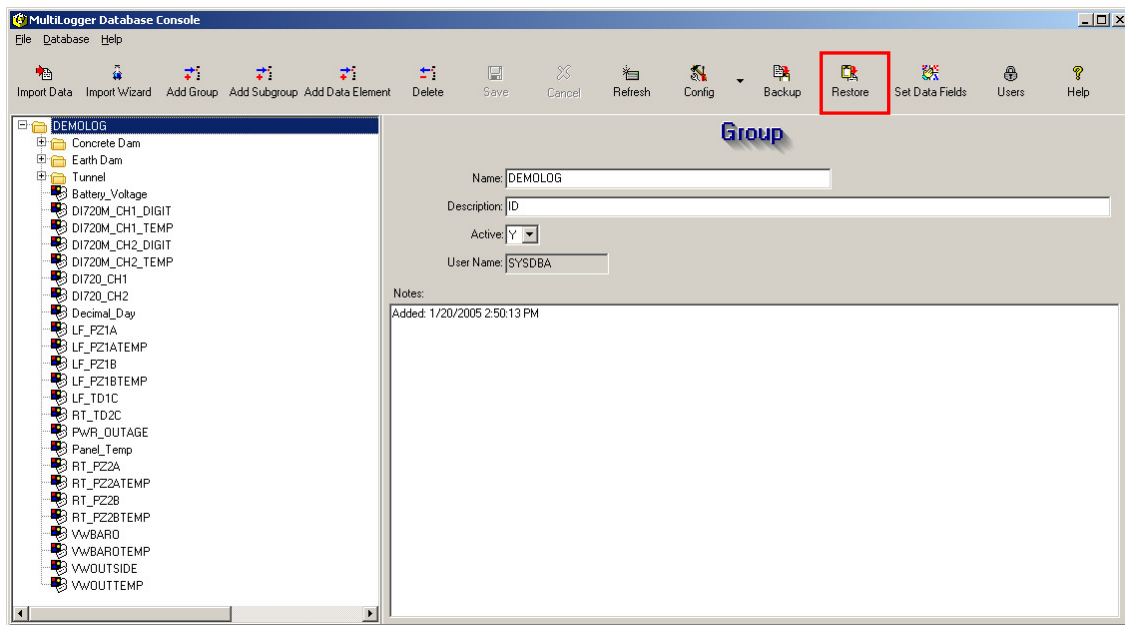
The backup process creates a GBK file in the specified path with the database name and date/time when the backup was performed, e.g. **DEMOLOG_10232008072546am.gbk** for a backup of the Demolog GDB created October 23, 2008 at 7:25:46AM.



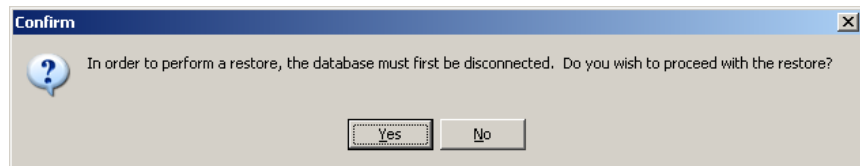
Database Restore

Once the backup is complete, the console will re-display and the restore can be run. This process will rebuild the database including rebuilding the indexes and purging transaction records. You should see a significant decrease in the size of the database after the restore process completes.

Press **Restore** to begin the restore process.



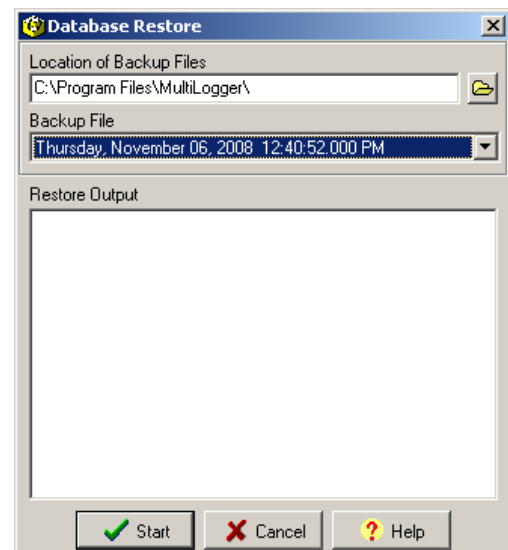
You will first be asked to confirm disconnect of any users, press **Yes** to proceed with the restore.



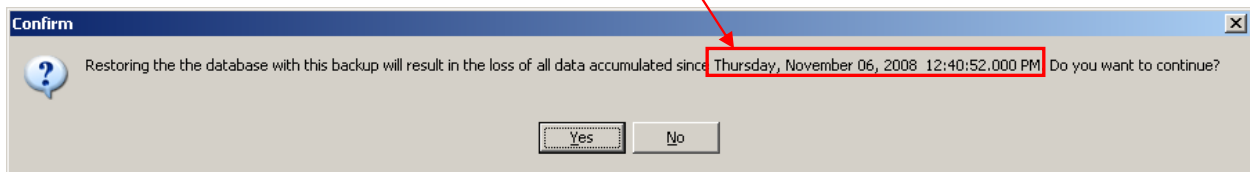
Next you will be shown the **Database Restore** form, used for selecting the path and backup file to be used for the restore.

The path should match that used for the database backup, use the drop-down list of the **Backup File** control to select the recently created backup file, sorted by date/time in the edit.

If you cannot find the matching date/time for the backup just made DO NOT PROCEED. Re-run the Backup if needed, or double-check the **Location of Backup Files** path.



Press **Start** to begin the restore process. You will be asked to confirm restore of the project database to the date/time of the backup file. Be sure the date/time matches the backup file just created, as shown in the dialog.



Press **Yes** to proceed with the restore. The **Restore** memo on the Database Restore form will update with the restore progress. Once complete the database console will display. Restore process is complete.

Note: Often when using MLWeb the web clients aren't properly disconnected and you may be presented with a **Could not drop database** error dialog. The easiest way to drop the connections is to **Stop** then **Start** the Firebird server itself. This is done using the Control Panel applet for the Firebird Server.

Go to the Control Panel, load the **Firebird 2.0 Server Manager** applet and press the **Stop** button.

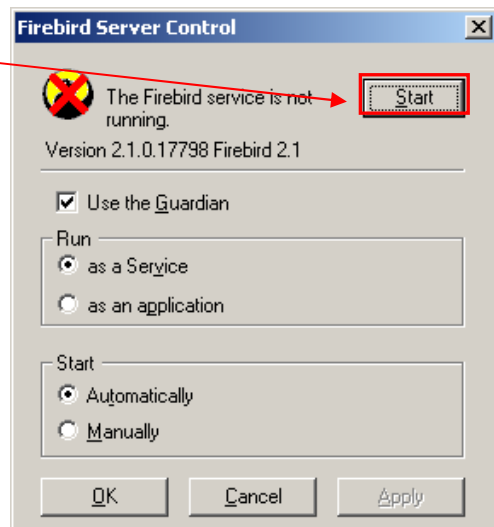
The Firebird server will be stopped, all connections will be automatically dropped.



Once stopped, press **Start** to restart the Firebird server. The restore cannot be run (nor can any other database function) if the server is not started again.

Re-attempt the Restore process described earlier by pressing the **Restore** button, select the desired restore file and confirm restore.

The restore should proceed properly now.



Finishing Up

Now that the database is backed up and restored, the data collection and processing applications must be restarted.

Proceed in this order:

- **MultiLogger** – Press the **Start** button on the Network Configuration toolbar to restart the Agent data collection process.
- **MsgServer** – Restart it, shortcut is found in the MultiLogger Program Files group.
- **GeoMosImport (optional, if installed)** – Executable is found in the **C:\Program Files\MultiLogger** folder. A shortcut could also be placed on the desktop or other appropriate location to make launching easier.

