

Tech Tip #9: Using Function Executor to Access Data

Overview: How to use WBEXEC32 as a test tool or to review/change data

Sometimes, applications fail for some unknown reason, and the error messages they offer are not always very helpful. One example of this is a "Failed To Open File" message — without indicating the file it attempted to open or the resulting Status Code that came back from the database. Ugh.

Luckily, Actian provides a tool called the **PSQL Function Executor** that can come to your rescue. Essentially the **Function Executor** is a native Btrieve application that gives you ultimate access to your data -- every byte of every record – just like the application you are running. You can use this to read data, update data, correct minor errors, and even do some performance testing. Let's see it in action.

First, start the **Function Executor** from the **PCC's** *Tools* menu or from the Windows *Start* menu. You can also launch it manually by running *WBEXEC32.EXE*. Once opened, select *File/Open* or hit the *Open*

button in the toolbar to get to the *Open Btrieve File* dialog, as shown here.

Enter the pathname to the file you wish to open (or use the Browse button), then click the *Open* button in the lower-left corner. If the file cannot be opened, you will get an error message with a Status Code – and this can tell you exactly why the file could not be opened. If the file can be opened properly, then this tells you that the PSQL database is working properly, and you will see a screen like that shown in Figure 2.

Now that the file is open, you can read a record if you wish. To read the first record in the file in physical (step) order, click on the *StepFirst* button (→). The *Data Buffer* block will be filled with the first record from the table. You can step through the subsequent records by clicking the *StepNext* (→) and *StepPrevious* (→) buttons, or jump right to the end with the *StepLast* (→) button.

If you want to access records in order by a specific key, click the *Get* radio button, select a *Key Num* in the box provided, and then use the same buttons to step through the data.

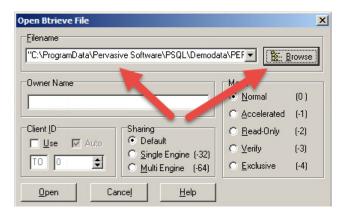


Figure 1: Open Btrieve File Dialog

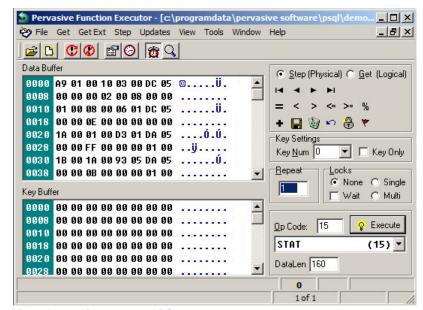


Figure 2: Function Executor Dialog

You can use the **Function Executor** as a simple performance-testing tool. First, open up a file in your environment. (We usually use the PERSON.MKD table in the DemoData folder.)

Then, issue the *StepFirst* command to read the first record. This makes sure that the record is in cache and ready to go. Then, change the *Repeat* field to a large



number (we use 50,000) and click *StepFirst* again. The **Function Executor** will run 50,000 *StepFirst* operations and start displaying a counter on the bottom of the dialog as shown in Figure 3.

Use a stopwatch to time how long it takes to complete this process, and you'll have Figure 3: Counter a relative performance number for your system. As of the time of this writing, the fastest servers come in around 2s for this time. Fast servers usually are in the 3-8s range. Mid-grade servers come in from 8-14s, and anything above this is considered very slow. Note, however, that if you are running this test over a network, your numbers could be 10x slower than this – this shows you the impact of network latency time on your database application!

You can also use **Function Executor** to edit any data record in your database. **[WARNING: Editing data is NOT always a good idea – this will occur completely outside of any application-level access or controls, and doing edits improperly may cause your application to fail.]** First, read the record you

want to edit as described above. You will see the data in the *Data Buffer* block in the upper left as shown in Figure 4.

Make changes to the data record as needed. Note that you can change either the binary data bytes (on the left) or the ASCII text (on the right). Take special care not to change anything you don't intend to change.

When you are done editing the record, click the *Save* button (□) to write the record back to the database. Take special care not to click the *Delete* button (□)

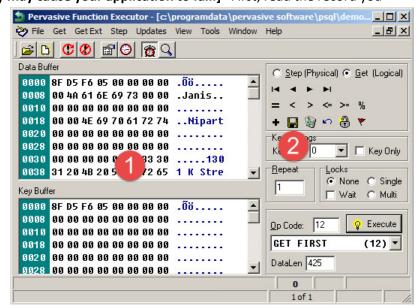


Figure 4: Saving Data Changes

immediately to the right – as there is NO undo button! Once you make a change here, the change is permanent. The only way to get back to your original data is to restore it from backup. (You DO have a backup, right?)

As a troubleshooting tool, the **Function Executor** can always be used to test simple operations, and to verify that a given user can both read from and write to a database table. These operations are usually safe, as long as you do not update data incorrectly. As with any power tool, think safety first!

If you need to make a lot of changes to database records, such as to fix up bad dates, times, or numeric fields, then you may need something a bit more powerful. Check out Goldstar Software's existing tools from this link:

http://www.goldstarsoftware.com/tools.asp

Or, consider opening a support ticket with us and let us help you be safe!