Using the InnoVisioNate Data Logger Tool

What is the Data Logger Tool?

Of course, Visio Logger itself is a "Data Logging" tool, it's fundamental goal is to collect and "log" data into a database.

However, sometimes people need to "reflect" that data into some other location for some reason. Indeed, sometimes all someone might need is a simple flat file containing their data for some type of "offline" analysis or business purpose.

The Data Logger tool is just the ticket to obtaining simple flat file "logging" of your data over and above that which is stored in your database. Think of it as a selectable subset of your data that you can work with at any time because it is always "there", without your need to export it via the Visio Logger menu.

Accessing the Data Logger properties

As with all Visio Logger integration tools, you can set the properties for this one by selecting Tools → Toolbox from the main menu (when running as administrator on the computer).

You will see the Toolbox configuration window, which is shown in Figure 1, we have circled the two points pertinent to this discussion.

By selecting the "Use ?" option in the Data Logging Processor entry (in the "After the record is complete…" group), we indicate that after every row of data is inserted into the Visio Logger database, this tool should execute, creating a row in our logging flat file. By selecting the "Use ?" option in the "When a record is changed" group - we enable the option to have the logs *updated* when the data changes. In Viso Logger - rows of data often change when an action is taken, such as a sign-out action in a sign in and out configuration. Or, when staff selects any predefined action.

With this capability, you could use the Data Logger tool to implement an inexpensive but full featured employee payroll system simply by importing the resulting logging file into Excel.
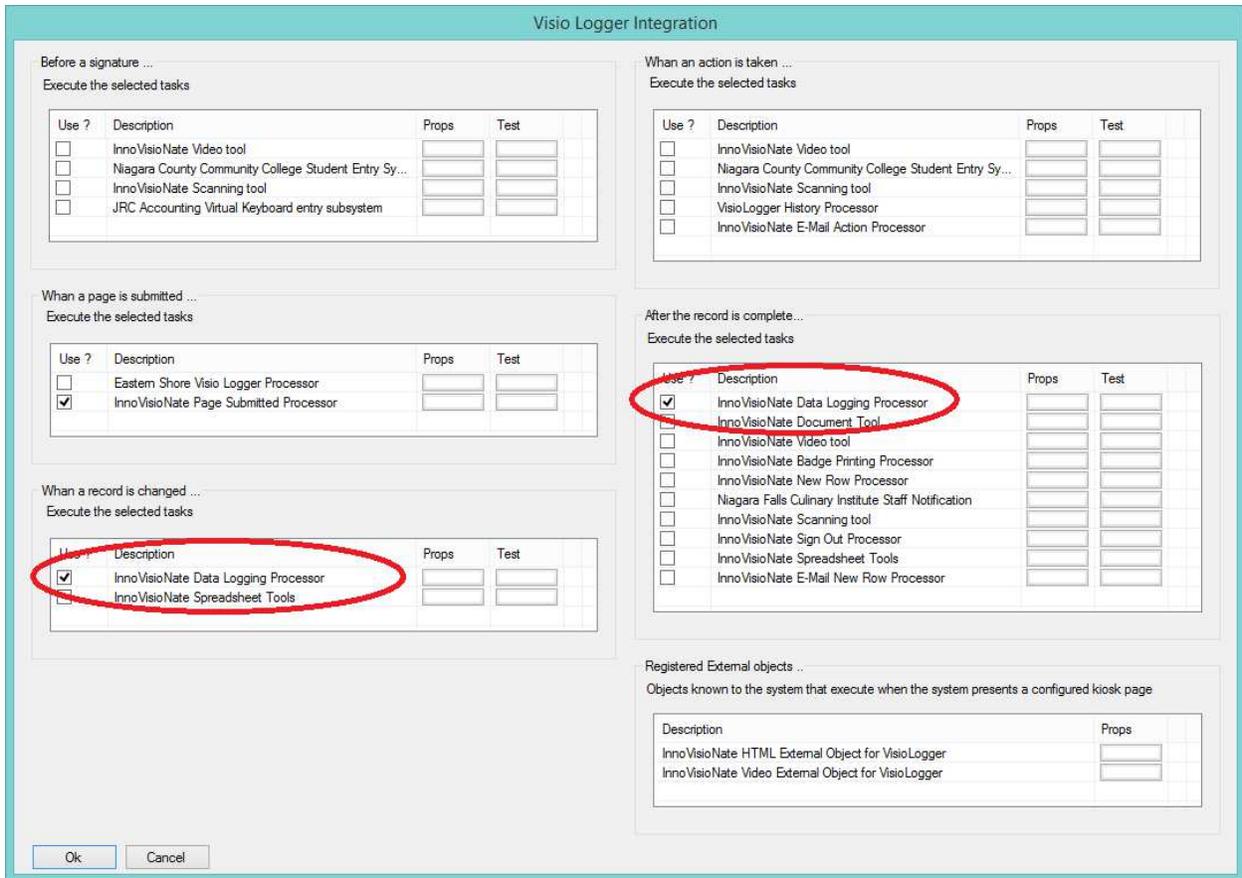
Figure 1 Specifying the Data Logger tool

By selecting the button under the Props column for the tool, we see the Data Logger properties as in Figure 2 and 3. Note that you can use *either* Props button in the above figure, they take you to the same place.
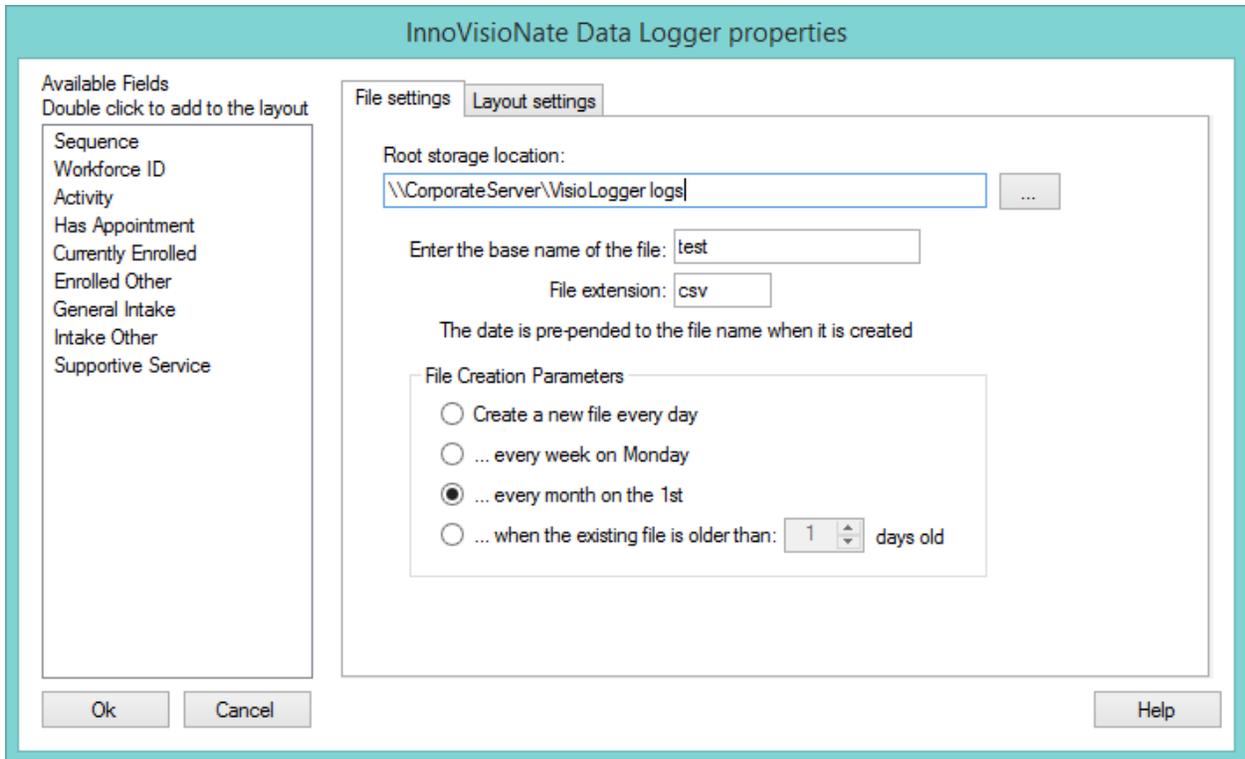
Figure 2 Data Logger File Settings property

In Figure 2 we focus on the right side, the "File settings" options, which indicate where and when any logging flat files should be created.

> **Hint:** Selecting the Help button in the lower right of Figure 2 opens up this document, for a handy, real time, reference.

> **Note:** Some Visio Logger tools store their configuration information directly in the Visio Logger database, so that IT or other staff can edit the settings in one place and have *all* machines in the enterprise see the settings. That is **NOT** the case here - these configuration settings are stored on the local machine - because - one of the (possibly) important pieces of information might be on *what* computer the entry of data caused logging to occur. Indeed, you may only want to log data from a subset of all your computers for various reasons.

In the settings shown in Figure 2, define your Root Storage location. This is probably a network drive available to the computer that Visio Logger is running on. Note that this location must be visible and writable to the computer even after the administrative user doing configuration has logged off.

Next, define a "base name" and a file extension for the flat file that will be created to hold your data. The name can be anything you want. At run time, the Data Logger tool will be looking at all file names in the root storage location (with the specified extension) that contain this sequence of characters, and will open any such file that exists - and that satisfies the "date" rules described next.

Referring to the bottom half of Figure 2 we discuss the frequency of the creation of the logging files themselves.

Note that all logging files created will contain the date they "refer to" as the first portion of the file name, followed by the "base name", and the extension (if specified).

By "refer to", we mean the beginning of the date "range" for which the file was created, and which it should contain data for.

As a concrete example, if the option in Figure 2 to create the file on the first of every month is chosen (as it is in the figure), then the "date" that the file name starts out with is the date of the first of the month.

Furthering the example, when logging activity occurs on any day of the month, if the file does not exist, it will be created with a name reflecting the first day of the month. Likewise for the other file creation options. You should keep in mind that records that experience a change, and if the "When row changed" option is selected in the tool use configuration, that the changed record *should* be in the target logging file. Thus, if daily file logging is in use, and a record from the prior day is changed in a Visio Logger data row, that "changed" row logging activity would not complete successfully.
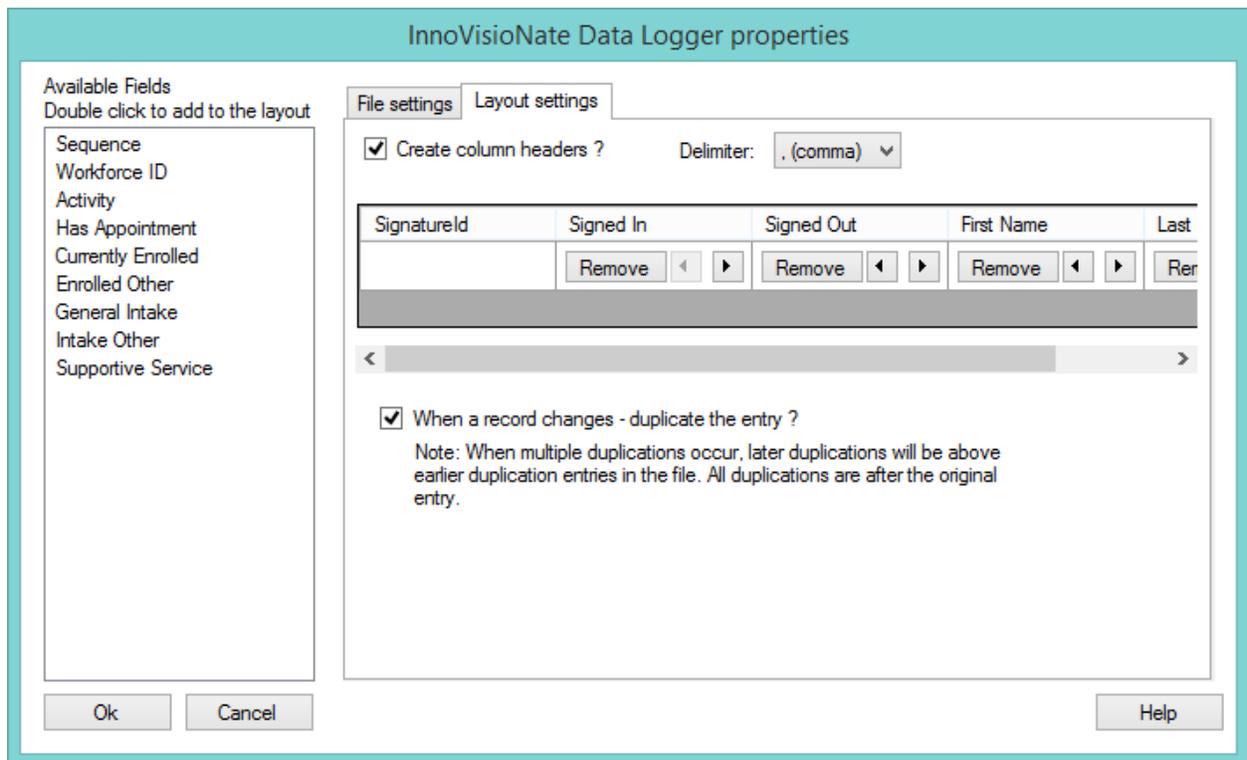

Figure 3 Data Logger Report Format settings

Referring to Figure 3, we define the structure of the actual logging file. The left portion of the Figure shows the fields defined in the database, and not already "in" the selected fields chosen for the log.

The SignatureId field is always selected and is required. This field is the unique ID field that every Visio Logger data row contains. Note that if you have multiple computers logging to multiple files (i.e., *different* base names in the options of Figure 2) all using the *same* networked Visio Logger database, then, and only then, the SignatureId fields will be unique even **across** these multiple log files. However, if these computers are using *different* databases, perhaps each is using a database installed on its local drive, then do **not** rely on the uniqueness of the SignatureId field value in these log files.

To include a field in the log, double click it in the field list on the left, it will then be removed from that list.

To exclude a field from the log, click "Remove" in the field as in the figure. With the arrows, you can move a field to the left or right to re-order the sequence.

Finally, select whether the names of the field(s) should constitute a "header" row in the created file. If you change this option *after* a file has been created per the above rules, it will have no effect on that file. Though, you will see the change on the next log file creation cycle.

Note also that if you change the members or sequence of the field set after a logging file has been created - data logged subsequent to the change will be misaligned with respect to data existing prior to it. If you do desire such a change - it may be necessary to open the file in Excel and re-arrange, add, or remove the affected columns before more logging happens to it (saving the file as a '.csv file, of course).

If you are logging data row *changes* as well, note the setting to duplicate the entry. When this is ON, you will see 2 or sometimes more (for multiple changes to the same record) subsequent records in your logging file with the same SignatureId value. The "latest" change will be the one just after the "initial" entry row in the log file. In other words, after the first record, which will be the oldest, the "age" of each record will decrease "down" the file. This is pointed out because this may be somewhat non intuitive.

On the other hand, if the "duplicate" option is turned OFF - there will always be only one row of data for each SignatureId value in the logging file. An obvious use of this is for a sign in and out system, rows that are changed due to a sign out action being taken will have a time stamp in the sign out field AND the sign in field, while records not yet signed out will have an empty cell in the sign out field.

That's All there is to it !

With this powerful addition to the Visio Logger integrated objects toolset - you can build your own data collection scenarios, for whatever reason, out of the Visio Logger data easily.

Simply open these log files in Excel or another spreadsheet tool - and you can use this data today for any number of business reasons or processes.