Introducing the Profiler

The Profiler provides a database-independent profiling application (similar to Microsoft's SQL Profiler) to trace SQL and performance counters throughout the execution path of the provider. You can choose to profile any ACT! application(s) on your computer running the OLE DB Provider.

The Profiler is a multiple-document interface (MDI) application where multiple data captures can be running at the same time. A key feature is that you can profile any running ACT! application without having to stop an application, set a registry setting, and then restart the application.

To run a Profile on an application

Do one of the following to open the Running Applications dialog box:

- Click **File**, and then click **New**
- Press Ctrl+N

Related Topics

SQL Log Tab All Messages Tab Error Log Tab Set Filter

Using the Help System

The Help systems available with ACT! contain explanations of features and functionality, with links to related subjects.

To Access Help

- From the Help menu, click Help Topics.
- In a dialog box or window, press F1.

The topic that appears explains the window that is displays or provides steps for the task related to the dialog box.

Navigating in this Help system

- Clicking blue links displays additional information by jumping you to another topic or displaying a pop-up window.
- Clicking green links displays additional information in drop-down text.
- Use the **Back** button at the top of the Help window to return to the previous topic.
- Click the **Favorites** tab to manage Help topics you use most often.

CONVENTIONS



Important information is indicated by a note.



Critical information is preceded by the caution symbol. Be sure to read anything proceeded by this icon.



This icon appears at the beginning of Help topics that apply only to Remote users.



This icon appears at the beginning of Help topics for features that require specific licenses.

Running Applications

The Running Applications dialog box allows you to select the ACT! applications you want to profile. The window is split into two sections. The left pane contains a list of all ACT! applications currently running. The right pane contains the applications you have selected to profile.

All open ACT! applications where the OLE DB provider has been installed appear in the Available applications list. This list refreshes automatically when new applications are started. The following values/columns are contained in this list:

Process ID The ID of the ACT! application.

Image Name The name of the ACT! program.

Windows The title of the ACT! application (as it appears in Windows

Title Task Manager).

To profile a running application

- l. From the Available applications list, select the application(s) you want to profile by doing one of the following:
- Double-click the desired application
- Click the **Profile all applications** check box
- ?. Click **OK.** The Profiler Log window opens.

Related Topics

SQL Log Tab

All Messages Tab

Error Log Tab

SQL Log

When you profile an application, the Profiler Log window is populated with all of the captured events. These events are listed as a series of execution timings (in milliseconds).

The SQL Log tab consists of the following values/columns:

Column	Description		
Time Stamp	Time at which the query was executed.		
SQL Type	Displays the type of query executed. Valid types are:		
	USER	all client queries	
	SYS_VSSC	VSSC internal queries (such as the IDs and page queries)	
	SYS_SECURITY	queries executed by the internal query engine	
	SYS_SCHEMA	queries executed by the data dictionary	
	SYS_PROC	queries executed by the internal stored procedures	
	SYS_KEYGEN	queries executed by the internal key generator	
Parse	Time taken for the provider to internally parse the query.		
Prepare(ms)	Time taken for the provider to internally prepare the query, which shows variances when the provider has to update its internal caches (like loading the schema information for the tables from the DB).		
Execute(ms)	Time taken for the provider to execute the query against the DB server. (This does not include data retrieval time from the server.) This will show all the time taken for the DB server to actually execute the query. Long running queries will be highlighted here. This is especially evident when running queries on large tables where ORDER BY is used on non-indexed columns or where poor joins or bad query plans are used.		

GetRows(ms)	Time taken to actually retrieve the data from the DB. This will show large numbers for large result sets.
Log(ms)	Time taken to prepare and generate the QUE file.
Rows	Number of rows retrieved for this query.
User ID	ACT! user code for the individual who executed this query.
Process ID	The ID of the ACT! application.
Machine	IP address of the machine on which the query was executed.
Client SQL	Column showing actual query executed by the client. This excludes all security joins and other additions.

The SQL statements that are captured will be color coded (the background of the row in the datagrid) by type of SQL statement.

SELECT statements are white
UPDATE statements are in yellow
DELETE statements are in gray
INSERT statements are in teal

Additional features

- You can clear the grid by right-clicking on the grid, and then selecting Clear from the pop-up menu.
- You can reset the timestamp by right-clicking on the grid, and then selecting Reset Timestamp. This will give a timestamp of 0.0000 to the next SQL statement that is captured.
- You can copy whatever is in the grid by right-clicking on the grid, and then selecting Copy. This will allow you to paste the contents of the grid into Excel or a text editor in a tab separated format. In Excel, the columns will automatically be separated for you, including column headings.
- If you would like to 'pause' the capturing of the SQL statements, click the Pause profiling button on the toolbar. When you want to resume, click the button again.
- You can filter which SQL statements are captured by using a filter through the use of regular expressions. This is a non-destructive filter so the information is not lost.

The following filter variables are available on the SQL Log tab

Numeric type:

- timestamp
- parse
- prepare
- secure
- execute
- getrows
- log
- rows
- processid

String type:

- userid
- clientsql

Related Topics

Set Filter
All Messages Tab
Error Log Tab

All Messages

When you profile an application, the Profiler Log window is populated with all of the captured events. These events are listed as a series of execution timings (in milliseconds). The **All Messages** tab shows the combined output of the SQL Log Tab and Emor Log Tab in a summary format.

The All Messages tab consists of the following values/columns:

Column	Description
Time Stamp	Time at which the query was executed.
Message Type	Indicates whether the query returned SQL or an Error Message.
Process ID	The ID of the ACT! application.
Machine	IP address of the machine on which the error occurred.
Message	Displays the text of the SQL or Error Message.

Captured Error statements are highlighted in red.

Additional features

- You can clear the grid by right-clicking on the grid, and then selecting **Clear** from the pop-up menu.
- You can reset the timestamp by right-clicking on the grid, and then selecting Reset Timestamp. This gives a timestamp of 0.0000 to the next SQL statement that is captured.
- You can copy the content of the grid by right-clicking on the grid, and then selecting Copy. This allows you to paste the contents of the grid into Excel or a text editor in a tab separated format. In Excel, the columns are automatically separated for you, including column headings.
- If you want to 'pause' the capturing of the SQL statements, click the **Pause Profiling** button on the toolbar. When you want to resume, click the button again.
- You can filter which SQL statements are captured by using a filter through the use of regular expressions. This is a non-destructive filter so the information is not lost.

The following filter variables are available on the All Messages tab

Numeric type:

- timestamp
- processid

String type:

- messagetype
- message

Related Topics

Set Filte

SQL Log

Error Log

Error Log

When you profile an application, the Profiler Log window is populated with all of the captured events. These events are listed as a series of execution timings (in milliseconds).

The Error Log tab consists of the following values/columns:

Column	Description
Time Stamp	Time at which the error occurred.
Error Code	The ACT! code assigned to the error.
Process ID	The ID of the ACT! application.
Machine	IP address of the machine on which the error occurred.
Error Message	Description of the error.

Additional features

- You can clear the grid by right-clicking on the grid, and then selecting **Clear** from the pop-up menu.
- You can reset the timestamp by right-clicking on the grid, and then selecting Reset Timestamp. This gives a timestamp of 0.0000 to the next SQL statement that is captured.
- You can copy the content of the grid by right-clicking on the grid, and then selecting Copy. This allows you to paste the contents of the grid into Excel or a text editor in a tab separated format. In Excel, the columns are automatically separated for you, including column headings.
- If you want to 'pause' the capturing of the SQL statements, click the **Pause Profiling** button on the toolbar. When you want to resume, click the button again.
- You can filter which SQL statements are captured by using a filter through the use of regular expressions. This is a non-destructive filter so the information is not lost.

The following filter variables are available on the Error Log tab

Numeric type:

- timestamp
- errorcode
- processid

String type:

errormessage

Related Topics

Set Filter

SQL Log

All Messages

Set Filter

You can set a filter in the filter text box to control what displays on the Profiler Log tabs. This filter is non-destructive, meaning the data is not lost. If the filter is cleared, all the captured, data will be visible again. (Filters are not saved between sessions.)

To clear a filter, highlight the filter expression and press the **Delete** key. You can disable a filter by clicking the Filter icon on the Profiler Toolbar.



Do not attempt to clear the Filter field by right clicking and selecting Clear from the pop-up menu as this will clear the grid data and not the filter.

The filter supports numerical expressions +, -, *, /, () and string expressions for the text columns in the log window. String expressions also support regular expressions using the **like** or **not like** operators.

To set a filter

- 1. Enter the filter expression in the filter text box.
- 2. Click the Filter icon on the Profiler Toolbar or click the Set Filter button.

Example expressions

execute > 5.0

Show all rows where the execute time is greater

than 5 milliseconds

clientsql like '(?i)^update'

Show all rows where clientsql starts with the word update. The (?i) is a modifier to instruct the

regular expression engine to use case insensitivity.

Related Topics

Syntax of Regular Expressions SQL Log Tab All Messages Tab Error Log Tab

Syntax of Regular Expressions

Regular Expressions are used to specify patterns of text for searches.

SIMPLE MATCHES

Single characters match themselves unless they are metacharacters with special meaning. Characters that normally function as metacharacters or escape sequences can be interpreted literally by preceding them with a backslash "\".

Examples

userid matches string 'userid'
\^UserID matches '\^UserID'

ESCAPE SEQUENCES

Characters can be specified using an escape sequence syntax similar to that used in C and Perl.

Supported escape sequences

\xnn	char with hex code nn
\x{nnnn}	char with hex code nnnn (one byte for plain text and two bytes for Unicode)
\t	tab (HT/TAB), same as \x09
\n	newline (NL), same as $\x0$ a
\ r	car.return (CR), same as \x0d
\ f	form feed (FF), same as \x0c
\a	alarm (bell) (BEL), same as $x07$
\ e	escape (ESC), same as $\x1b$

Examples

user\x20id matches 'user id' (note the space in the middle)

\tuserid matches 'userid' predefined by tab

CHARACTER CLASSES

You can specify a character class by enclosing a list of characters in [] which will match any one character from the list.

If the first character after the "[" is "^", the class matches any character not in the list.

Examples

```
user[aeiou]d finds strings 'userad', 'usered' etc. but not 'userbd', 'usercd' etc.user[^aeiou]d find strings 'userbd', 'usercd' etc. but not 'userad', 'usered' etc.
```

The "-" character is used to specify a range within a list. If you want "-" itself to be a member of a class, put it at the start or end of the list or escape it with a backslash.

Examples

[-az]	matches 'a', 'z' and '-'
[az-]	matches 'a', 'z' and '-'
[a\-z]	matches 'a', 'z' and '-'
[a-z]	matches all twenty six small characters from 'a' to 'z'
$[\n-\x0D]$	matches any of the ASCII characters 10,11,12, or 13
[\d-t]	matches the digits '-' and 't'.
[]-a]	matches any character from ']' to 'a'.

METACHARACTERS

Metacharacters are special characters which are the essence of Regular Expressions. The different types of metacharacters are described below.

```
Metacharacters - line separators
Metacharacters - predefined classes
Metacharacters - iterators
Metacharacters - alternatives
Metacharacters - subexpressions
Metacharacters - backreferences
```

MODIFIERS

Modifiers are used to change the behavior of regular expressions.

- i Used for case-insensitive pattern matching.
- **m** Treats a string as multiple lines.
- **s** Treats a string as a single line.

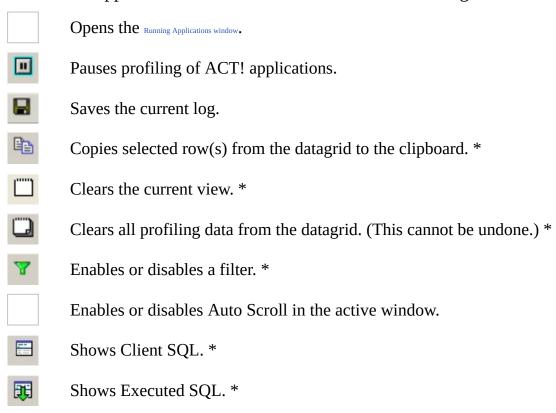
- Used as a non-standard modifier. Switching it Off switches all following operators into non-greedy mode (by default this modifier is On). If modifier /g is Off then '+' works as '+?', '*' as '*?' etc.
- Tells the regular expression to ignore whitespace that is neither backslashed nor within a character class. You can use this to break a regular expression into more readable parts.

Related Topics

Set Filter

Using the Profiler Toolbar

The Profiler application includes a toolbar with the following icons:



^{*} Also available from the right-click menu.

Related Topics

Set Filter SQL Log

Saving the Profile Log

Profile logs can be saved and stored as TAB separated text in Unicode format.

To save the current log

- 1. On the File menu, click **Save Log As**. The Save As dialog displays.
- 2. Browse to the folder where you want to save the log file. The default location is C:\Documents and Settings\username\Application Data\ACT.
- 3. Type a name for the log, and then click **Save**.



For each query in a SQL Log there could be either 1 or 2 lines. Queries of type 'USER' result in two lines in the Log, others - in just a single line. The second line of a 'USER' query is the query actually executed (it might differ from the original Client query); all fields except the last query text field are empty in the second line.

Related Topics

Error Log