

LOGTOOLS

USERS REFERENCE

for

LogTools Application

Copyright 2009
By Business Brothers Inc.
Written by Tony Ringsmuth



Version 4.1

Documentation Revision Date 10/17/2009

Table of Contents

TABLE OF CONTENTS	2
PREFACE	3
LOGTOOLS 4D VERSIONS COMPATIBILITY	4
LOGTOOLS WILL NOT OPEN BOTH PRE-V11 LOGS AND V11+ LOGS AT THE SAME TIME.	6
INSTALLATION AND SETUP	7
LOG VIEWER	9
TABLE VIEWER	11
“COPY & EXPORT” DROP-DOWN MENU:	12
“SELECT” DROP-DOWN MENU	12
RECORD VIEW	13
FILTERING	15
FILE MENU	17
OPEN LOG FOLDER	17
OPEN LOG FILE.....	17
CLOSE LOG FILE	17
REFRESH LOGS	17
MANAGE SCHEMAS	18
PREFERENCES	18
REGISTER LOG TOOLS	18
QUIT	18
VIEW MENU	19
NEW LOG VIEW WINDOW	19
NEW TABLE VIEW WINDOW.....	19
USERS VIEW WINDOW	19
CONTEXT VIEW WINDOW.....	20
TOOLS MENU	21
EXPORT SCHEMA	21
CLEAR FLUSH BUFFER ERROR.....	21
EXPORT LOGS	21
AUTOMATED LOG PROCESSING (NEW IN 3.0)	23
<i>Log File State:</i>	23
WINDOWS MENU	26
NEW FEATURES IN VERSION 3.0	27
NEW FEATURES IN VERSION 4.0	27
NEW FEATURES IN VERSION 4.1	27

Preface

Since version 3.0 of 4th Dimension, with the inception of 4D Server, 4th Dimension has had the capacity to create backup and log files. While the Log file is potentially valuable in the case of a system crash and loss of data, 4D has provided very little capability to do anything else with the backup Log file. LogTools now fills this niche. Log tools gives you the ability to view operations from the 4D Log file.

LogTools 4D Versions Compatibility

LogTools is compatible with 4D Log file versions 3.5 to 2004, and V11+. The actual structure of the 4D Log files varies greatly from pre-V11 Logs vs V11+ Logs. Therefore, LogTools shows the logs differently. Here are some of the more significant differences between them:

Pre-V11	V11+
<i>Database Schema</i>	
Database Schema is mainly stored in the header of the log file. LogTools can often know all table and field names directly from the log file.	No Database Schema in Log file. To see table & field names, the user must import a Schema to LogTools, or manually enter it by right-clicking on fields in LogTools.
<i>Table Numbers & UUIDs</i>	
Table information within each record is always references by 4D Table number	Table information within each record may have a mix of 4D Table numbers, and UUIDs (a 16 type universally unique ID). Create Record and Modify Record database operations are the only operations that have both a table number AND a UUID. Therefore, if a log file contains any Create Record or Modify Record operations, than LogTools learns and memorizes (in LogTools data file) the relationship between that UUID and that table number. All other database operations involving record only carry a UUID, not a table number.
<i>Blobs, Pictures & Text Fields</i>	
All portions of records are always stored as part of the record.	Portions of a record can be stored in separate database operations. Blob, Picture, and if specified in the database field properties, Text fields are stored separately from the parent record. These items will appear as a separate item in LogTools, because they really are a separate item in the data file. Note; If a parent record is updated, but it's blobs (or other large fields) are not updated, then, the associated sub-portions are NOT re-saved.
<i>Subtables</i>	
Subtable data is stored as part of the parent record, and will be displayed as part of the parent record.	Subtables are treated as a related table. When saving a parent record with subrecord, 4D opens an internal rollback transaction, saves the subrecord first, each

	as a separate operation, then saves the parent record, then validates the rollback-transaction. A special subtable key relates the subrecords to the parent record.
<i>Process Numbers & Contexts</i>	
Each database operation is saved with a Process number that reflects the 4D Task number (on the server) that performed the operation.	4D V11 introduces a new concept called a “Context”. Beginning at data engine startup, the first database operation that alters records creates a new context. All operations that happen for that same user and process number remain in the same context for the lifespan of that process. At the beginning of a context, the 4D records into the Log file, the process number, user ID, machine name, and current machine owner. Each database operation within that context then records just the context ID. LogTools displays “Create Context” and a “Close Context” for these operations. A context ID is never repeated <u>until the engine is restarted</u> .
<i>Database Operation IDs</i>	
4D does not number each database operation. LogTools dynamically displays a “Log Sequence Number”: (starting a 1 in each distinct log file) just for reference, but this is NOT in the actual log files.	4D record an “operation ID” with each database operation that is recorded in the log file. LogTools displays this number, as well as a dynamically generated “Log Sequence Number” just for reference.
<i>Rollback Transactions</i>	
4D only allows single level rollback-transactions. LogTools creates a “Transaction ID” for display, as a way to show and group all the items within a single rollback transaction together. When a record is created and saved within a rollback-transaction, it is given a temporary record number that begins at 18 million. If the transaction is validated, the record in the data file is assigned a permanent number, but the log file is never informed of that new number. Therefore, LogTools can not necessarily track the history of records created within rollback transactions.	4D allows multi-level rollback transactions. LogTools uses a different calculation to determine the resolution of each rollback transactions, and no longer uses the technique of a displayed “transaction ID”. When a record is created and saved within a rollback-transaction, it is given a it’s permanent record number. So, now we can finally relate this record to all other instances of the same record number.
<i>Text Data</i>	

Text data is stored is ASCII format.	Text data is stored in UTF-16 format.
LogTools 4.0 is still currently written in the 4D 2004 engine and does NOT natively deal with UTF-16 characters. When dealing with text data from V11, LogTools does a simplistic conversion: characters below 256 are converted directly to the corresponding ASCII character number. Characters above 255 are represented as “<1234>” where 1234 is any number above 255.	

LogTools will not open both pre-v11 logs and V11+ logs at the same time.

Installation and setup

LogTools is distributed as a simple zip file. Just un-zip the file.

On Macintosh:

Once un-zipped, you should have a single file: LogTools (application).

On MS Windows

Once un-zipped, you should have a “LogTools.app” folder. Within this folder, the LogTools.exe is your application.

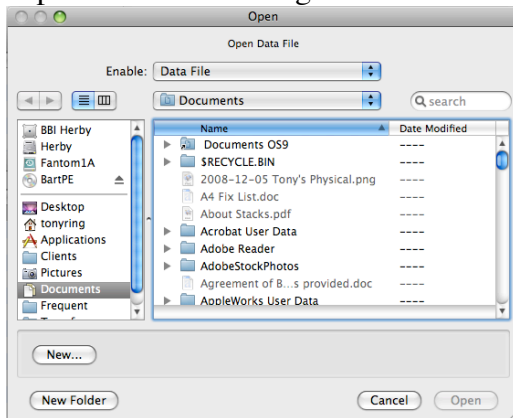
The first time that you launch the application, you will be prompted to open or create a data file.

LogTools will use this data file to store

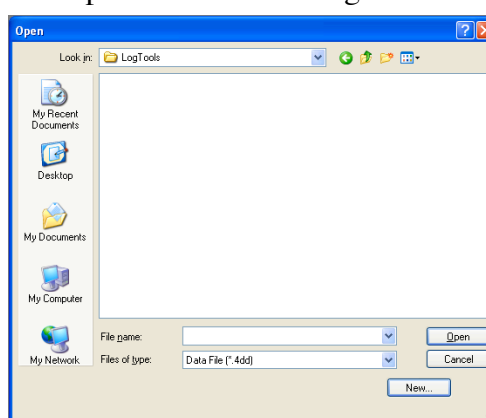
- your registration information
- imported schemas
- user preferences
- table UUID information

Click “New...” to create your LogTools data file.

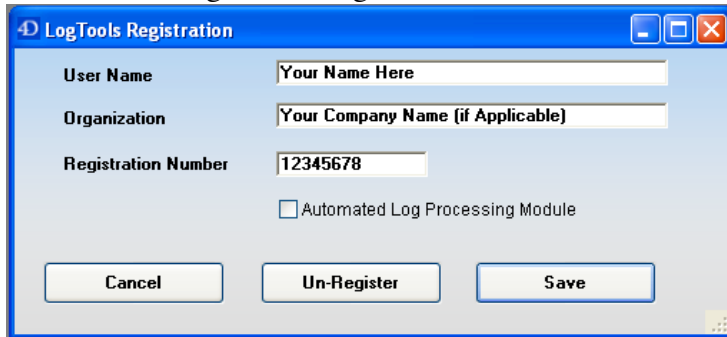
“open Data File” dialog on Macintosh



“open Data File” dialog on PC



At the first log-in to LogTools, you should enter your registration number (provided by BBI). If you have also purchased the Automated Log Processing Module, then check the “Automated Log Processing Module” check-box.



The screenshot shows a Windows-style dialog box titled "LogTools Registration". It contains three text input fields: "User Name" with the placeholder text "Your Name Here", "Organization" with the placeholder text "Your Company Name (if Applicable)", and "Registration Number" with the value "12345678". Below these fields is a checkbox labeled "Automated Log Processing Module" which is currently unchecked. At the bottom of the dialog are three buttons: "Cancel", "Un-Register", and "Save".

LogTools home window



Now that you're at the LogTools home screen, you can begin browsing Log Files immediately (File: Open Log File), or you can begin by importing a database schema (File: Manage Schemas)

LogTools allows you to view 3 primary views of information from the Log file:

- Log Views
- Table Views
- Records

Log Viewer

{Menu} / View / New Log View Window

Log View Window: VII+

Op ID	Log Seq Num	Date	Time	Table Name	Type	Rec No	User ID	Context ID
15893	608	04/28/09	15:08:37	Resident_Contacts	Mod	10	Designer	443
15892	607	04/28/09	15:04:32	Resident_Contacts	Mod	10	Designer	443
15891	606	04/28/09	15:03:08	Resident_Contacts	Mod	10	Designer	443
15890	605	04/28/09	15:00:50	Resident_Contacts	Mod	10	Designer	443
15889	604	04/28/09	14:56:11	Resident_Contacts	Mod	10	Designer	443
15888	603	04/28/09	14:56:11	{Creat Context}	CXT	-1	Designer	443
15887	602	04/28/09	14:55:52	{Close Context}	CCU	-1	Designer	431
15886	601	04/28/09	14:53:05	Resident_Contacts	Mod	10	Designer	431
15885	600	04/28/09	14:50:01	Resident_Contacts	Mod	10	Designer	431
15884	599	04/28/09	14:50:01	Resident_Contacts	CBL	-1	Designer	431
15883	598	04/28/09	14:43:11	{Validate Transaction}	VTR	-1	Designer	431 VLD
15882	597	04/28/09	14:43:11	Resident	Mod	8	Designer	431 VLD
15881	596	04/28/09	14:43:11	{Start Transaction}	STR	-1	Designer	431 VLD
15880	595	04/28/09	14:43:07	{Validate Transaction}	VTR	-1	Designer	431 VLD
15879	594	04/28/09	14:43:07	Resident	Mod	7	Designer	431 VLD
15878	593	04/28/09	14:43:07	{Start Transaction}	STR	-1	Designer	431 VLD
15877	592	04/28/09	14:43:07	{Creat Context}	CXT	-1	Designer	431
15876	591	04/28/09	14:42:58	MISC	Add	1860	Designer	425
15875	590	04/28/09	14:42:58	{Creat Context}	CXT	-1	Designer	425
15874	589	04/28/09	14:42:56	Logins_Current	Add	0	Designer	63
15873	588	04/28/09	14:42:56	Logins	Add	316	Designer	63
15872	587	04/28/09	14:42:56	MISC	Mod	27	Designer	63

Log View Window: Pre-VII

Log Seq Num	Date	Time	Table Name	Type	Rec No	User ID	Process No	Trans ID
13020	09/19/03	11:53:40	{Start Transaction}	STR	-1	Mary Rode-CS	44	180 VLD
13021	09/19/03	11:53:40	Prod_Whse	Mod	6391	Mary Rode-CS	44	180 VLD
13022	09/19/03	11:53:40	Product	Mod	8983	Mary Rode-CS	44	180 VLD
13023	09/19/03	11:53:40	{Validate Transaction}	VTR	-1	Mary Rode-CS	44	180 VLD
13024	09/19/03	11:53:41	{Start Transaction}	STR	-1	Mary Rode-CS	44	181 VLD
13025	09/19/03	11:53:41	Prod_Whse	Mod	4380	Mary Rode-CS	44	181 VLD
13026	09/19/03	11:53:41	Product	Mod	10311	Mary Rode-CS	44	181 VLD
13027	09/19/03	11:53:41	{Validate Transaction}	VTR	-1	Mary Rode-CS	44	181 VLD
13028	09/19/03	11:54:57	{Begin Flush Buffer}	BFB	-1	0	3	0
13029	09/19/03	11:54:57	{End Flush Buffer}	EFB	-1	0	3	0
13030	09/19/03	11:55:16	MISC	Mod	54	Martina Zwick	78	0
13031	09/19/03	11:55:19	MISC	Mod	56	Martina Zwick	82	0
13032	09/19/03	11:55:35	MISC	Mod	6168	Laurie Birk	48	0
13033	09/19/03	11:55:35	User	Mod	316	Laurie Birk	48	0
13034	09/19/03	11:55:35	{Begin Flush Buffer}	BFB	-1	0	3	0
13035	09/19/03	11:55:35	{End Flush Buffer}	EFB	-1	0	3	0
13036	09/19/03	11:56:33	{Start Transaction}	STR	-1	Martina Zwick	82	182 VLD
13037	09/19/03	11:56:33	RETURN	Mod	12817	Martina Zwick	82	182 VLD
13038	09/19/03	11:56:33	{Validate Transaction}	VTR	-1	Martina Zwick	82	182 VLD
13039	09/19/03	11:56:33	RETURN	Mod	12817	Martina Zwick	82	0
13040	09/19/03	11:56:33	MISC	Mod	42	Martina Zwick	82	0
13041	09/19/03	11:56:34	Prod_Whse	Mod	6932	Martina Zwick	82	0
13042	09/19/03	11:56:34	Product	Mod	10497	Martina Zwick	82	0
13043	09/19/03	11:56:34	Prod_Whse	Mod	6932	Martina Zwick	82	0

A Log view is a view of a Log file. It allows you to see every transaction in the log file. You can sort or filter the view by any column. The log view allows you to see following columns:

- Operation ID (v11+): A unique ID assigned by 4D to each data operation that is entered into the Log file
- Log Sequence Number: A LogTools generated number: the sequence number of each log entry within it's log file
- {Activity} Date
- {Activity} Time
- Table Name (or number, or UUID, if the Table Name is not known)
- {Activity} Type (Add, Mod, Delete, etc)
- Record Number
- User Name or ID
- Context ID: (V11+) Identifies the context (derived from Process and User ID) for the operation.
- Process Number: The Process number on the database engine of the transaction.
- {Rollback} Transaction ID: (Pre V11) A sequential ID assigned by Log Tools to each rollback transaction. One rollback transaction can have one, none, or many activity items.
- {Rollback} Transaction resolution: How the rollback transaction was resolved: by Validate, Cancel, or incomplete.
-

Double click on any Add or Modify record to see a record view for the record.

The display rows are right-mouse clickable.

Filter Button: Click here to filter (search) the open log files on various criteria.

Select {drop-down list}:

The “Select” drop-down list is a context sensitive drop-down. Items include:

Open

Copy Columns

Copy Columns and Headers

Reduce Displayed List to Highlighted Items

Remove Highlighted Items from Displayed List

Highlight All In this Transaction

Highlight All In this Context (v11+)

Highlight All In this Process Number (Pre v11)

Highlight All for this Record

Highlight All for this User

Clear Highlighted Items from Log: Allows you to clear selected items out of the source log file: Caution when using this: this really does modify your log file, removing items from it. The purpose of this is that if you want to use 4D to integrate a log file, but you want to exclude some of the changes. Warning: you should only clear record modifications, not additions or deletions, otherwise a re-integration may become impossible. USE THIS ITEM AT YOUR OWN RISK.

Other Features:

You can sort the columns by clicking on the column headers.

You can have several open Log Views at a time. You open a new Log Viewer window by selecting the menu View: New Log View Window.

See Also: *View: New Log View Window*

Table Viewer

{Menu} / View / New Log Table View Window

Table View Window, V11+

Op ID	Date	Time	Ac...	Rec Num	User ID	Context ID	ID	First_Na...	La...	Home_Phone	Pa...	Adm...	Can...	Address	City	State	Zip
15300	12/07/99	14:13:17	Mod	7	Designer	11	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15312	12/07/99	14:15:37	Mod	7	Designer	11	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15328	12/07/99	14:19:16	Mod	7	Designer	11	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15341	12/07/99	14:28:00	Mod	7	Designer	12	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15871	12/07/99	14:30:33	Mod	7	Designer	63	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15927	12/08/99	02:18:06	Mod	7	Designer	11	9	Eldermark	User		P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
15935	12/08/99	02:19:21	Add	9	Designer	20	10	Bob	Jones (763) 420-1234	IWE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	515 b baker st	Maple Grove	MN	55369
15936	12/08/99	02:19:56	Mod	9	Designer	20	10	Bob	Jones (763) 420-1234	IWE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	515 b baker st	Maple Grove	MN	55369
15937	12/08/99	02:20:16	Mod	9	Designer	20	10	Bob	Jones (763) 420-1234	IWE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	515 b baker st	Maple Grove	MN	55369

Table View Window, Pre-V11

Log Seq Num	Date	Time	Action	Rec Num	User ID	Process No	Product_Name	Prod...	Part...	Group	Description
682	01/15/00	18:43:52	Mod	12289	POST	105	E-TBT-FRL-05	15594		10 Mbps Ethernet	10BASE-T TO 10BASE
683	01/15/00	18:43:52	Mod	15111	POST	105	JFE-CF-03(SC)	18453		100 Mbps Ethernet	MULTIMODE 100BASE
3067	01/15/00	18:44:38	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3071	01/15/00	18:44:38	Mod	12174	POST	105	SBFTF 1013-100	15478		10/100 Mbps Etherne	Standalone 10/100-TX
3104	01/15/00	18:44:39	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3108	01/15/00	18:44:39	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3129	01/15/00	18:44:39	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3133	01/15/00	18:44:39	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3143	01/15/00	18:44:39	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3147	01/15/00	18:44:39	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3153	01/15/00	18:44:39	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3160	01/15/00	18:44:40	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3170	01/15/00	18:44:40	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3174	01/15/00	18:44:40	Mod	12174	POST	105	SBFTF 1013-100	15478		10/100 Mbps Etherne	Standalone 10/100-TX
3189	01/15/00	18:44:40	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3193	01/15/00	18:44:40	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3199	01/15/00	18:44:40	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3203	01/15/00	18:44:40	Mod	12165	POST	105	SBFTF 1011-100	15469		10/100 Mbps Etherne	Standalone 10/100-TX
3212	01/15/00	18:44:40	Mod	9030	POST	105	PS,ASSY,AUSTRALIAN	4185	3348	PS,ASSY,AUSTRALIAN	PS,ASSY,AUSTRALIAN
3217	01/15/00	18:44:40	Mod	9000	POST	105	PS,+9VDC,1A OUT, DE	6984	3525	PS,+9VDC,1A OUT, DE	PS,+9VDC,1A OUT, DE
3221	01/15/00	18:44:40	Mod	12179	POST	105	SBFTF 1014-100	15483		10/100 Mbps Etherne	Standalone 10/100-TX
3232	01/15/00	18:44:41	Mod	10417	POST	105	PS,12 VDC,0.8A,120VA	13702	25032	10/100 Mbps Etherne	PS,12 VDC,0.8A, NA
3236	01/15/00	18:44:41	Mod	12174	POST	105	SBFTF 1013-100	15478		10/100 Mbps Etherne	Standalone 10/100-TX

A Table viewer is a view of records from a specific table from within the open logs. A Table View window displays the following columns:

- Operation ID (V11+)
- Log Sequence Number (Pre V11)
- {Activity} Date
- {Activity} Time
- Action (Add, Modify or Delete)
- Record Number
- User (Name or ID)
- Process Number (Pre V11) or Context ID (V11+)
- All the fields from the table

The power of the Table View window is that you can view all the fields in the table directly in the list view.

In the Table view, you can Filter on any of the fore mentioned columns and several others by clicking the Filter button. You can sort the columns by clicking on the column headers.

You can have several open Table Views at a time. You open a new Table View window by selecting the menu View: New Table View Window.

“Copy & Export” drop-down menu:

- ***Copy:*** Copies all highlighted row data, all columns
- ***Copy with headers:*** Copies all highlighted row data, all columns, with the column headers
- ***Save to Disk (CSV):*** Saves all highlighted row data for all columns, with headers to a CSV file that you create
- ***Save to Disk (Text):*** Saves all highlighted row data for all columns, with headers to a Text file that you create (New in version 3.0.3)
- ***Save to Disk (Hybrid CSV):*** Saves all highlighted row data for all columns, with headers to a hybrid CSV file (special characters get replaced)
- ***Copy Selective Columns...*** allows you to select the columns that you want to copy
- ***Copy Selective Columns & Headers:*** allows you to select columns that you want to copy, and includes header text in the copy

“Select” drop-down menu

This drop-down menu allows you to keep or remove the currently highlighted rows from the viewed list of transactions.

See Also: ***View: New Table View Window***

Record View

Double click on a row in the Log View or the Table View window to open a Record View.

Record View Window: V11+

The screenshot shows the Record View window for an Employee record. The metadata section includes:

- Table Num: 17
- Table Name: Employee
- Record No: 9
- Action: Modify Record
- Date: 04/29/09
- Time: 02:32:19 | 718
- Table UUID: D496B5D1F86DF741BD54683F655EA72D

The History Pane shows a table of operations:

Date	Time	User	Cont...	Action
04/29/09	02:31:45	Designer	20	Add
04/29/09	02:32:19	Designer	20	Mod
04/29/09	02:32:40	Designer	20	Mod

The field list below shows the following fields and their types:

Field Name	Data	Type
1 ID	10	String UTF 16
2 First_Name	Bob	String UTF 16
3 Last_Name	Jones	String UTF 16
4 Home_Phone	(763) 420-1234	String UTF 16
5 Password	!WE	String UTF 16
6 Administrator	False	Boolean
7 CanLogin	True	Boolean
8 Address	515 b baker st	String UTF 16
9 City	Maple Grove	String UTF 16
10 State	MN	String UTF 16
11 Zip	55369	String UTF 16
12 Notes		String UTF 16
13 Birthdate	00/00/00	Date-Time
14 Last_Updated	04/28/2009	Date-Time
15 Last_Updated_By	9	String UTF 16
16 Last_Login_Facility		String UTF 16
17 Modify_Chocie_Lists	False	Boolean
18 Last_Login_When	0	Longint 32
19 Inactive	False	Boolean
20 Sort_Name	Jones, Bob	String UTF 16
21 FailedLoginAttemptsSinceSucce	0	Integer 16
22 User_Name	Bob Jones	String UTF 16
23 PhysicianOrderSheet_NoConfig	False	Boolean

Record View Window Pre-V11

The screenshot shows the Record View window for a Product record. The metadata section includes:

- Table Num: 32
- Table Name: Product
- Record No: 8983
- Action: Modify Record
- Date: 09/19/03
- Time: 11:53:40 | 0

The History Pane shows a table of operations:

Date	Time	User	Proc...	Action
09/18/03	23:00:04	POST	105	Mod
09/18/03	23:00:09	POST	105	Mod
09/18/03	23:00:09	POST	105	Mod
09/18/03	23:00:09	POST	105	Mod
09/18/03	23:00:09	POST	105	Mod
09/18/03	23:00:10	POST	105	Mod

The field list below shows the following fields and their types:

Field Name	Data	Type
1 Product_Name	PS, +9V UNREGULATED U.S.	Alpha
2 Product_ID	4343	Longint 32
3 Part_Number	3518	Alpha
4 Group		Alpha
5 Description	PS, +9VDC, UNREGULATED, U.S.	Alpha
6 Vendor_Name	GLOBTEK, INC	Alpha
7 Memo	Mon, Jan 17, 1994 : 6:26 PM : Cindy Ries,	Text
8 Part_Manager	Kate Cotner	Alpha
9 Inactive	False	Boolean
10 R_and_D_Product	False	Boolean
11 Part_Manager_ID	90	Longint 32
12 UM	EA	Alpha
13 OH	7404	Real
14 OH_Check_In	0	Real
15 Available	7317	Real

- A Record view is a view of one specific record. You get to a Record Viewer window by double clicking on a Add or Modify record activity item in a Log View window or a Table View window or in the history pane of a Record View.

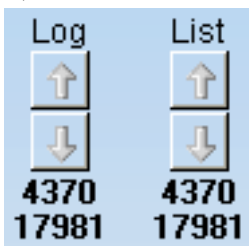
The history pane shows the modification history for this record within all open logs. Click on any item in the history pane to load that instance of the record into the Record View. Double click on an item in the history pane to open the item in a new window.

In the data columns of this window, fields that have been modified since the prior version of this record are displayed in red.

You can double click on fields of type Text, Blob or Picture or Subfield to see the full content of the field.

Right-mouse click on any row for more options, including entering/updating field names.

Next/Previous buttons:



The Next/Previous **Log** button loads the next or previous record from within the open log files. The numbers beneath the button show

- your current browse position within all operations
- the total number of operations open

The Next/Previous **List** button loads the next or previous record from the list of items from which you opened this Record View window. The numbers beneath the button show

- your current browse position within the list that spawned this record view window
- the total number of operations in the list you came from

Filtering

V11+

Filtering dialog box (V11+):

- Filter By:
- Log: All Open Logs
- From: 00/00/00
- To: 00/00/00
- User: All Users
- Context #'s: ALL
- Table: All Tables
- Action: All Types
- Record Number: ALL
- Operation Number: to
- Not in Trans
- Validated
- Cancelled
- Incomplete
- Filter Count: 652
- Buttons: Cancel, Load

Pre-V11

Filtering dialog box (Pre-V11):

- Filter By:
- Log: A4131.ABL
- From: 00/00/00
- To: 00/00/00
- User: All Users
- Process #'s: ALL
- Table: All Tables
- Action: All Types
- Record Number: ALL
- Log Item Number: to
- Not in Trans
- Validated
- Cancelled
- Incomplete
- Filter Count: 17,981
- Buttons: Cancel, Load

Filtering is similar to a querying: it allows you to limit your log view or table view to a selected criteria. You can Filter from either a Log View or a Table View.

You can filter on the following items:

- Open Log Files
- Date and Time Range
- User(s)
- Process Numbers or Context IDs
- Tables
- Action Type (Add, Mod, Delete, etc)
- Record Number{s}
- Log Item Numbers (Pre V11), or Operation IDs (V11+)
- Items based on their rollback transaction resolution

As you enter the criteria for your filter, the Filter Count at the bottom of the window displays how many log entries match the criteria.

FILE Menu

Open Log Folder

Open Log Folder allows you to select a folder from which Log Tools will open all enclosed log files (only at the root level of the folder).

Open Log File

Select *Open Log File* to open either a 4D Log file or a 4D Log Backup file. You can have multiple open log files at any given time. Generally, the intention in having multiple open logs at once is to open multiple, sequential log files from the same database to view activity across the multiple logs.

While you can open multiple log files from different databases at once, LogTools only manages one common set of table and field names for all open log files. It is intended that you open log files from the same database.

LogTools opens the Log file in read only mode. You can open the log file of a database that is currently running and recording transactions. Log tools does NOT currently update the log file with new transactions as the log file grows: you need to close and re-open the log file.

After you open a Log File, Log Tools will open a Log View window and display the newly opened log, if the log has less than 32000 transactions.

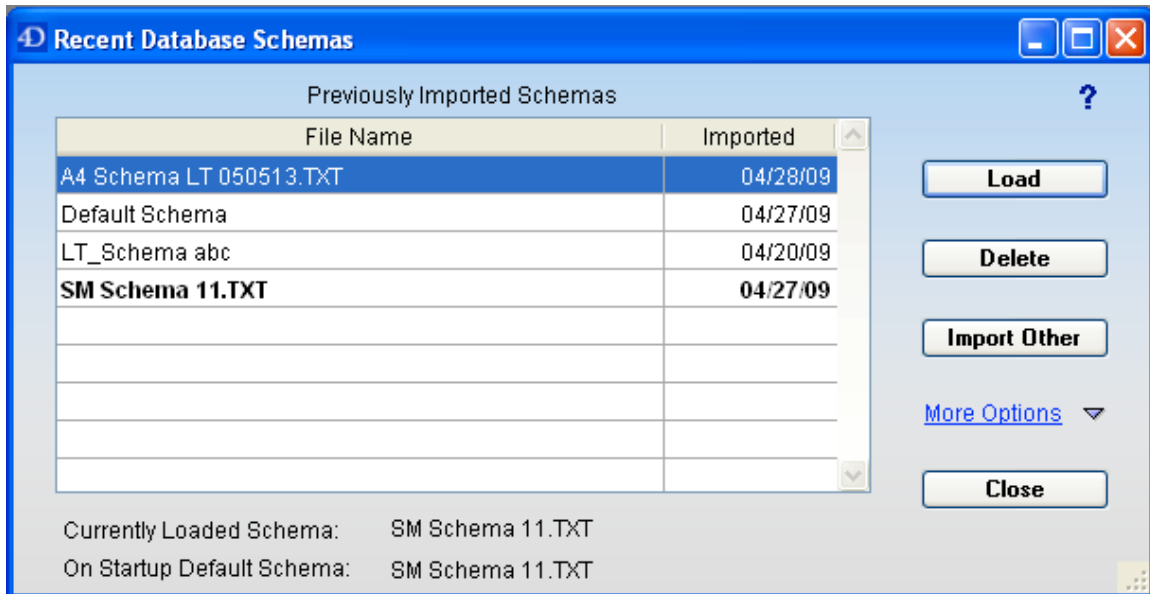
Close Log File

Select *Close Log File* to close any currently opened log file.

Refresh Logs

Refresh Logs scans all open log files for new transactions added to the end of each log file. This item is useful only in log files that are currently being written to. When you refresh the log, if any new transactions are found, they are added to the log data in memory, but are NOT immediately incorporated into any Log Views or Table View windows. To view the new transactions in any open Log View or Table View window, you must re-filter within the window.

Manage Schemas



This window allows you to import and manage loaded Schemas for the various database log files that you may browse.

If you have access to your 4D design environment, then you can create a method to export a LogTools compatible schema document to import here. (click the [More Options](#) drop-down).

You can also set any of the saved schemas to be a “On Startup Default Schema” which will automatically load every time that you start LogTools.

Preferences

Preferences allows you to set the Font and Font Size of the display areas.

Register Log Tools

Register Log Tools allows you to enter the registration number for your copy of LogTools. LogTools can run in demo mode without a registration number and will limit the number of log entries that can be viewed.

Quit

Select *Quit* to quit from LogTools. It is safe to Quit without closing any open log files.

VIEW Menu

New Log View Window

Select New Log View Window to open a new Log View Window.

The Log View Window shows a view the data operations of log file

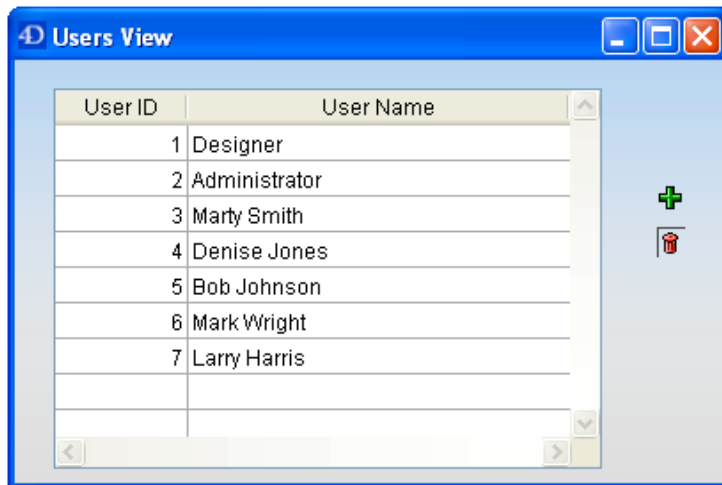
New Table View Window

Select New Table View Window to open a new Log View Window.

The Table View Window data operations for one specific database table, with columns for every field in the table.

Users View Window

Picture of the Users View window



The purpose of this window is to

- Allow you to see the defined list of users that LogTools is using
- Allow you to edit the list so that in the record viewing windows, you will have correct user name displays.

Double click to edit the rows here.

Context View Window

(new in LogTools v4.1)

{Menu} / View / New Context View Window

(for V11 Log files only)

Context ID	Op ID	Beg	Op ID	End	Begin	End	Op Cnt	Log ID	Task ID	User ID	User Name	Machine Owner	Machine Name	Task Name
11	23932	0	2009-10-12	15:56:57.288			191	2	1	1	Designer	Tony Ringsmuth	BBI Herby	Application process
16	24011	24276	2009-10-12	17:28:04.856	2009-10-13	13:46:41.751	84	2	4	1	Designer	Tony Ringsmuth	BBI Herby	Process 2
21	24096	24277	2009-10-12	17:28:19.368	2009-10-13	14:25:17.429	153	2	7	1	Designer	Tony Ringsmuth	BBI Herby	Process 3
22	24250	24275	2009-10-12	17:33:37.191	2009-10-12	17:54:30.522	24	2	8	1	Designer	Tony Ringsmuth	BBI Herby	Process 4
72	24391	24440	2009-10-14	03:19:49.200	2009-10-14	15:31:04.030	42	2	6	1	Designer	Tony Ringsmuth	BBI Herby	Process 2
74	24413	24415	2009-10-14	03:20:06.662	2009-10-14	03:20:06.664	1	2	9	1	Designer	Tony Ringsmuth	BBI Herby	CalcInvoiceDatePaid
75	24437	24439	2009-10-14	03:20:23.706	2009-10-14	03:20:23.708	1	2	9	1	Designer	Tony Ringsmuth	BBI Herby	CalcInvoiceDatePaid
121	24441	24483	2009-10-15	15:39:47.144	2009-10-15	20:40:24.558	38	2	11	1	Designer	Tony Ringsmuth	BBI Herby	Process 5
141	24480	24482	2009-10-15	20:39:57.108	2009-10-15	20:40:19.783	1	2	15	1	Designer	Tony Ringsmuth	BBI Herby	Process 9

4D V11 introduces a new concept called a “Context”. Beginning at data engine startup, the first database operation that alters records creates a new context. All operations that happen for that same user and process number remain in the same context for the lifespan of that process. At the beginning of a context, the 4D records into the Log file, the process number, user ID, machine name, and current machine owner. Each database operation within that context then records just the context ID. LogTools displays “Create Context” and a “Close Context” for these operations. A context ID is never repeated until the engine is restarted.

The Context View window displays a listing of all Contexts that are found in currently opened logs.

TOOLS Menu

Export Schema

Export Schema exports a text format of the database schema for the current open log file. This export can be re-imported into LogTools.

Clear Flush Buffer Error

This is a Pre-Version 11 utility. This utility allows you to bandage a data file that has a “Interruption while flushing data to disk” error.

How to use:

- Select the menu item: Tools: Clear Flush Buffer Error
- Log Tools will prompt you to open a 4D Data file: Locate and open your damaged 4D data file.
- Finished.

Caution: While 4D will let you use the data file again after this “Band-Aid” utility has been run, your data file may have serious damage. It is a very good idea to repair the file with 4D tools, or check the data file with Datacheck.

Export Logs

Export Logs exports all currently open log files into a CSV or Text file that you name.

The columns of the export file are as follows:

Operation ID (V11+)

Log Sequence Number: the sequence number within the logs

Date: The activity date for this row

Time: The activity time for this row

Table Number: for activity items that deal with a record, this is the 4D table number of the record.

Table Name: for activity items that deal with a record, this is the 4D table name of the record.

Action Type: Every 4D log event has an activity type.

ADD	Add Record
DEL	Delete Record
MOD	Modify Record
STR	Start Transaction
VTR	Validate Transaction
CTR	Cancel Transaction
OPN	Open the Database
QIT	Quit Application

BFB	Begin Flush Buffer
EFB	End Flush Buffer
DED	Dead Space
CTB	Create Context
CTE	Close Context
BLC	Create Blob
BLM	Modify Blob
BLD	Delete Blob
BKS	Start Backup
TRT	Truncate Table

Record Number: the 4D record number involved for this action. For activity items that do not involve a record number such as Start Transaction.

User ID

User Name

Context ID (V11+)

Process Number

Rollback Transaction ID (Pre-V11)

Rollback Transaction Resolution

Field 1

{Field 2-N}

Subtables can be exported either as a column within the parent file, or as a separate file. When exporting as part of the parent file, the format is approximately this (a loose xml format):

```
<SubRecs count={n}>
<SubRec number={x}>Field1 tab Field2 tab Field3 <\SubRec>
</SubRecs>
```

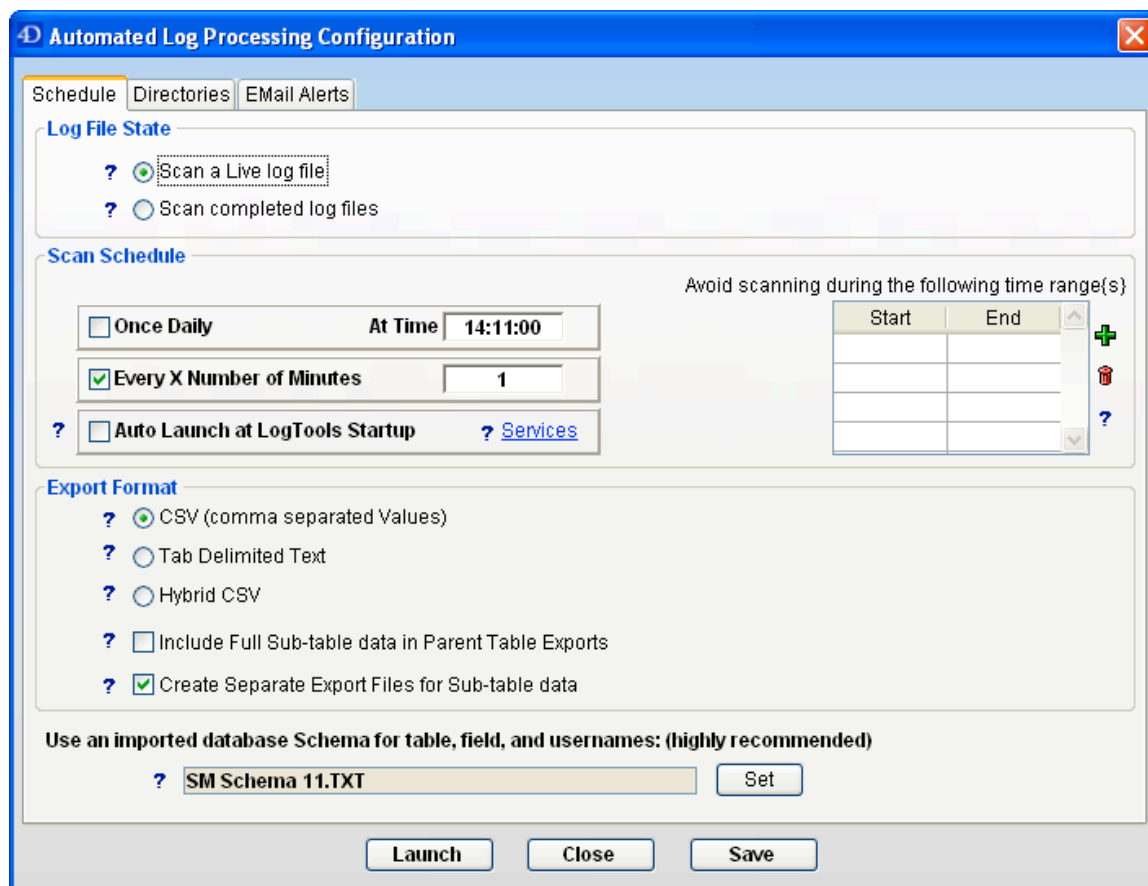
Within this sub record format, any embedded tabs are converted to “<TAB>” and carriage returns to “<CR>”.

Automated Log Processing (new in 3.0)

Automated Log Processing is a feature that allows LogTools to run continually, to:

- Scan for new Log Backup Files
- Process and Export them
- Move the Log Backup File to an alternate directory
- Send Email Notifications

As part of this mechanism, LogTools can register it's self (on MS Windows) to run as a service.



Log File State:

Scan a Live Log File:

The 'Scan a Live log file' option is for scanning the live log file of a running database.

LogTools will continually scan you live log file once every X number of minutes, and append data to the export files.

When 4D starts a new log file, LogTools will start a new batch of export files. The export files will be named with a date/time stamp corresponding to the start time of the log file.

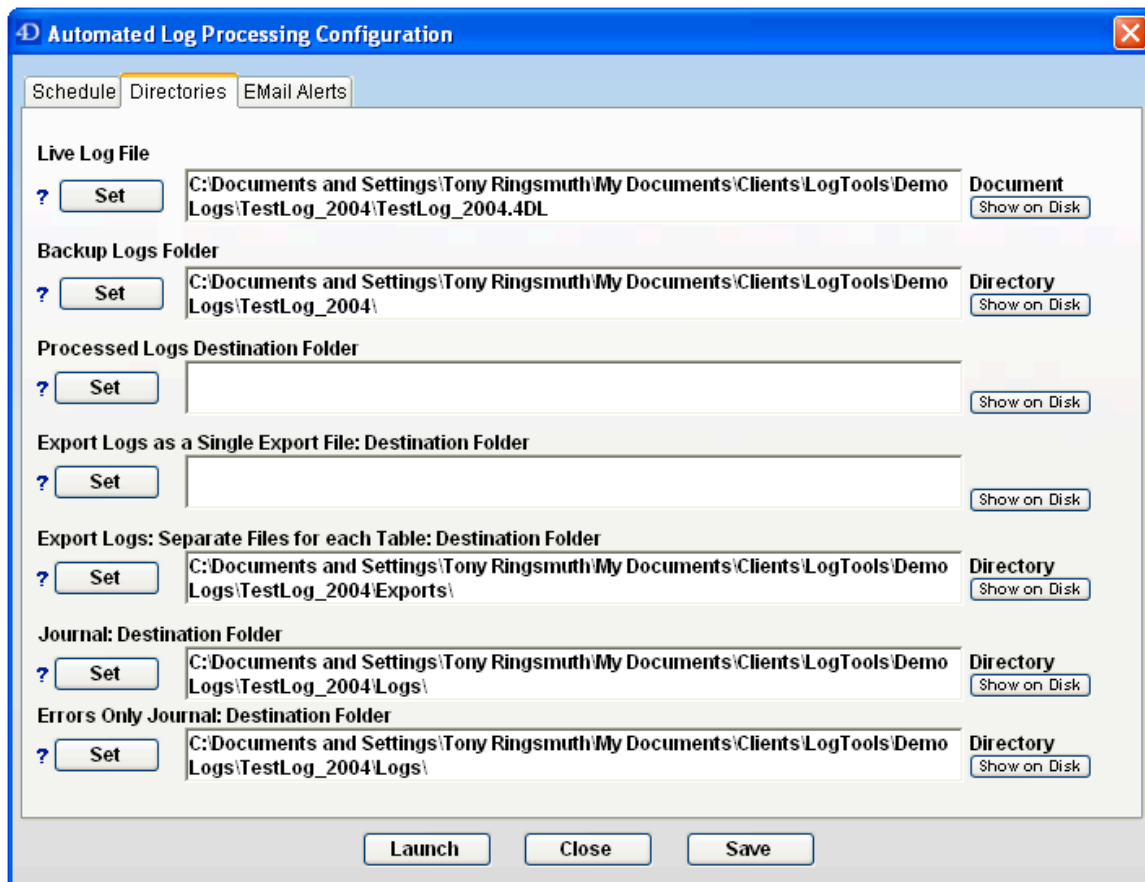
When using the 'Scan a Live log file' option, LogTools does NOT ever move or modify the live log file, or any of the backup log files.

Scan completed log files:

The 'Scan completed log files' option is for scanning log files that have been completed and closed by the database engine.

After LogTools scans the log file, LogTools will then move the log file to the directory of processed log files that you specify (in the directories tab).

Other than moving the processed log file, LogTools does not modify the log file.



The screenshot shows the 'Automated Log Processing Configuration' dialog box with the 'Email Alerts' tab selected. The dialog is titled 'Automated Log Processing Configuration' and has three tabs: 'Schedule', 'Directories', and 'Email Alerts'. The 'Email Alerts' tab is active, showing options for sending email notifications. The 'Send Email Notifications for:' section has four radio buttons: 'Don't Send Email Notifications' (selected), 'Errors: Items requiring Attention', 'Errors and Successful Log Processing', and 'All Log Activity'. Below this, there are fields for 'SMTP Host Name or IP Address / Port' (mail1.bbsp.com / 25), 'Reply-to Email Address' (LogTools <tonyring@bbasp.com>), and 'Email Address Recipient List' (tonyring@bbasp.com). There are two radio buttons for email delivery: 'Single Email with All Recipients' and 'Separate Email Per Recipient' (selected). Below these are fields for 'POP3 Host Name or IP Address / Port' (mail1.bbsp.com / 110), 'User Name (mail box)' (tonyring@bbasp.com), and 'Password' (ILoveLogTools). There is a checkbox for 'SMTP Auth Req' and a 'Test' button. At the bottom of the dialog are three buttons: 'Launch', 'Close', and 'Save'.

Most of the information for the setup of Automated Log Processing is self-explanatory. Items requiring more explanation have a Help button adjacent to them to give you more information about it's function.

WINDOWS Menu

The Windows menu allows you to navigate between open windows in LogTools

NEW FEATURES IN VERSION 3.0

Here is a summary of what's new in LogTools version 3.0.

Automated Log Processing (an entire new module)

Ability to filter by Log Sequence numbers

LogTools is now written in 4D 2004 (was in version 6.8)

New, more colorful interface

When you, the user adjust column widths in any of the viewer windows (Log View, Table View and Record View) LogTools will now remember your adjusted width. This information is stored persistently in the LogTools data file.

NEW FEATURES IN VERSION 4.0

Here is a summary of what's new in LogTools version 4.0

4D Version 11 Log Compatibility

Users View window

Context Sensitive drop-down menus

Automated Log Processing: Scanning Live Log files

Improved export formats

Better support for viewing subtable information (via double-click)

Enable user to define Table names, Field Names and User Names on the fly

NEW FEATURES IN VERSION 4.1

Context View Window