

# SQL Audit Journal

By



2809 S. 160<sup>th</sup> St. Ste. #401 Omaha, NE 68130

Telephone: (402) 697 - 7575 Tollfree: (800) 228 - 6318

Web: http://www.prodatacomputer.com

Email Sales: <u>sales@prodatacomputer.com</u> Email Tech Support: <u>help@prodatacomputer.com</u>

Revised 04/25/2013

## **SQL** Audit Journal Documentation

SQL audit works by journaling **all inserts, updates and deletes** made by users through ProData's SQL/Pro or IBM's Interactive SQL to a standalone IBM journal. SQL Audit does not require journaling of all files all of the time, SQL Audit automatically turns on and off the journaling function when needed. SQL Audit will also work if you are already journaling your files. This simplifies the ability to track and report on changes to your database files for regulatory compliance management or internal control requirements.

\*Note: To use IBM interactive SQL, you must use our command STRIBMSQL.

The SQL Audit Journal does use the mechanics of OS/400 journaling. Through our proprietary software, journal entries are written to a receiver for only the data manipulation made during the use of Interactive SQL.

If your security strategy dictates the need, you can use object level authorization to secure the command, menu and associated option commands. The associated option commands appear to the right of the menu option.

#### **SQLAUDMN**

To access the SQL Audit Journal Menu from a command line execute the command **SQLAUDMN** 

PRODATA 27x132											
File Edit View Communication Actions Window Help											
PrtScrn Copy Paste Display Color Play Quit Record	Image: Stop         Image: Stop										
SQL Audit Journal M	lenu										
Select one of the following:											
<ol> <li>Display Audit data (SQLAUD)</li> <li>Extract Audit files (SQLEXTAUD)</li> <li>View Extracted files (SQLAUDFIL)</li> <li>Work with Audit files (SQLWRKAUD)</li> <li>Clear Audit library (SQLCLRAUD)</li> <li>Journal Receivers (SQLAUDRCV)</li> <li>Print Audit Journal (SQLPRTJRN)</li> </ol>											
Selection or command											
F2 F. d. F4 December F0 Detections F42 A 1											
F3=Exit F4=Prompt F9=Retrieve F12=Cancel F13=Information Assistant F16=System main menu											
Mê d ÛA	20/007										
🐨 I902 - Session successfully started	OKI printer on IP_10.1.1.210										

#### Option 1. SQLAUD

Once you have installed the SQL Audit Journal and made Updates/Deletes/Inserts using Interactive SQL, this option will display the Updates/Deletes/Inserts for a specific file.

After taking option 1 this will be the display screen presented. Just key in the file and library name that you processed with SQL and press <enter> or you can page down to the next screen and enter additional selection data (ex. Starting date and time:) and press <enter>. The default journal is \*CURRENT (defaults to the journal that is associated with the file name entered) or you can specify a different journal if you need to.

PRODATA 27x132						
File Edit View Communication Actions Window Help						
PrtScrm Copy Paste Display Color Play	y Quit F	Necord Stop	<b>Index</b>	Rollup	p Rolldown	Map
SQL Audi	t Journal	(SQLAUD)				
Type choices, press Enter.						
Journaled File:						
File Name	<u>∗PRV</u> <u>∗LIBL</u> ∗FIRST	Name, Name, Name.	*PRV *LIBL *FIRS	, *CU T. *A	RLIB LL	
Journal option:		_				
Journal	*CURRENT	Name,	*CURR	ENT		
Library	<u>*LIBL</u>	Name,	*LIBL	, *CU	RLIB	
File to receive output Library	<u>SQLJRNPF</u> <u>QTEMP</u>	Name, Name,	SQLJR *LIBL	NPF , *CU	RLIB	
Member to receive output	<u>*FIRST</u>	Name,	*FIRS	Т		
Replace or add records	*REPLACE	*REPL	ACE, *	ADD		
Sort by journaled RRN & SEU#: .	<u>*YES</u>	*YES,	*NU •NO			
Submit SQLHOD JOD to batch	<u>*NU</u>	*TL3,	ANU.			
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Canc	əl F13=Ho	w to u	se th	is disp	1ore Dlay
MA d	Û					06/037
🗊 1902 - Session successfully started		OKI prin	ter on IP_1	0.1.1.210	1	11.

\* Note: This option is not available if DBU is not on the system.

Once you press <enter> you will be taken into the DBU Display of the entries in the Audit Journal for the file you designated. This is the standard DBU display you may use the F4 key to obtain the field listing and you may select the fields to display. The display will default to Multiple Record mode, notice that if there was a change made you will see a before image (Entry Type field) and after image (designated by UB and UP respectively) you will also see the changed field highlighted. Other Entry Types are added (PT), deleted (DL).

PRODATA6 27x132	
File Edit View Communication Actions Window Help	
PrtScrn Copy Paste Display Color Play Quit Record Stop	ダ 「学 」 「 ジ 」 ndex Rollup Rolldown Map
File     Format     Mode     Window     Search     Extra     Help       DATA     BASE     UTLITY (DBU)       File      SQLJRNPF     Member      ABPATHRS     Record       Library      QTEMP     Format      QUODVE2     File       Mode      Display     Record     Text      QUODVE2     File       Control       Text      OUTFILE     created     by DSPJRN comm	iLength.: 258 Access: Keyed iNumber.: 5 mand. 5 7 8
Record#         Length of entry         Sequence number         Journal         Code         Entry         Type         Date of entry:           5         256         3045         R         UP         120712           6         256         3041         R         UP         120712           1         258         3041         R         UP         120712           2         256         3041         R         UP         120712           3         256         3042         R         UP         120712           3         256         3043         R         UB         120712           4         258         3043         R         UP         120712	Job d Time of entry: hour/ Name of Job Name of 130603 OPADEV001K HARTLEY 130603 OPADEV001K HARTLEY 130603 OPADEV001K HARTLEY 130603 OPADEV001K HARTLEY 130603 OPADEV001K HARTLEY 130603 OPADEV001K HARTLEY
F1=Help F2=ON/OFF F=keys F3=Exit F4=List fields F5=Refresh F6=Set key F10=Action F24=More keys Beginning/End of file reached	Bottom
喧 c 06/016 切 I902 - Session successfully started	Canon GP200-225 PS on IP_10.1.1.220

Key in W22 and press enter, this will window over to the  $22^{nd}$  field and you will see that the changed fields will be highlighted.



#### Option 2. SQLEXTAUD

Option 2 is used to create extract files from the journal receiver associated with the files selected. After taking Option 2 you are presented with the following display, you may enter a specific file name or you can use \*ALL to extract all journal entries made by SQL on all files. As in option 1, the default journal is \*CURRENT (defaults to the journal that is associated with the file name entered) or you can specify a different journal if you need to.

PRODATA 27x132											
File Edit View Communication Actions Window Help											
PrtScm Copy Paste Display Color Pla	y Quit Record Stop										
Extract SQL A	udit Journal (SQLEXT	AUD)									
Type choices, press Enter.											
File Name File Name Library Member Journal option: Journal option: Journal	<u>*ALL</u> Name, Name, <u>*FIRST</u> Name, <u>*CURRENT</u> Name, <u>*LIBL</u> Name, <u>*CURRENT</u> Name,       Name,     Name,        Date        Date	*ALL *ALL *FIRST, *ALL *CURRENT *LIBL, *CURLIB *CURRENT, *CURCHAIN *LIBL, *CURLIB *CURRENT *LIBL, *CURLIB									
F3=Exit F4=Prompt F5=Refresh F24=More keys	F12=Cancel F13=Hc	More w to use this display									
d d	Û	06/037									
🗊 1902 - Session successfully started	OKI prir	nter on IP_10.1.1.210									

After processing you will be returned to the Audit Journal Menu. Extracted files will be available for viewing or producing printed reports.

#### **Option 3. SQLAUDFIL**

You can use option 3 to view the extracted files. There are no parameters for this option, once you have taken Option 3 you will be presented with the following display.

\* Note: This option is not available if DBU is not on the system.

PRODATA6 27x132											
File Edit View Communication Ad	tions Window Help										
PrtScm Copy Paste Displ	ay Color Play Quit	Record Stop	Index Rollup	Rolldown Map							
	DBU Object	List									
Type options, press Enter. 1=Select for DBU 2=Trigger Information											
Select Object Tyj SQLJ000001 PF SQLJ000002 PF	pe Library Text SQLAUD PROD SQLAUD PROD	ATA6 DBUTEST∕ ATA6 DBUTEST∕	ABPATHRS ABPATHRSX	12/07/2012 12/07/2012							
F1=Help F3=Exit	F12=Cancel			Bottom							
MA c	Û	A		07/003							
🕤 1902 - Session successfully started		Canon G	6P200-225 PS on IP_	10.1.1.220							

This will be a listing of the extracted files available. Notice the text column tells you system name, library and file name that SQL was used on. Use a 1 to select the desired extracted file and you will again be presented with the standard DBU screen with all DBU functionality. F3 from this display will return you to the Audit Journal Menu.

#### Option 4. SQLWRKAUD

Option 4 allows you to work with the extracted audit files. There are no parameters for this option. After taking this option you will be presented with the following display.

PRODATA6 27x132												
File Ed	it View Ci	ommunical	ion Actions	Window	Help							
PrtScrn	a En Index Color Play Quit Record Stop Index Rollup								Rollup	Polldowr	Map	
					Work u	⊍ith OŁ	jects					
Type 2= 8=	option Edit au Display	is, pr ithori   desc	ess Ent ty ription	er. 3=C( 13=(	opy 4 Change	4=Delet descri	e 5= ption	Displa	ay autl	nority	7=F	lename
Opt 	Object SQLJOC SQLJOC	0001	Type *FILE *FILE	Lil SqI SqI	orary _AUD _AUD	Att PF PF	ribute:	Te> PR( PR(	kt JDATA6 JDATA6	DBUTE DBUTE	ST/ABP ST/ABP	ATHRS ATHRSX
Para ===>	meters	for o	ptions	5, 7 ai	nd 13 (	or comn	and					Bottom
F3=E F12=	xit F Cancel	4=Pro F16	mpt F =Repeat	5=Refre posit:	esh f ion to	<sup>7</sup> 9=Retr F17=	∙ieve Positi	F11=[ on to	)isplay	y name	s and	types
MA	C					ÛF	1					08/002
എ 1902	- Session su	iccessfully	started					Canon	GP200-225	PS on IP_1	.0.1.1.220	1

You may use this option to maintain the extracted audit files. You will need to delete files as necessary from this display. Any extracted files can be reproduced providing the journal receivers that the extract came from are still on the system.

\* Note: You may use any file editor or SQL to view the data in these files if DBU is not on the system.

#### Option 5. SQLCLRAUD

Option 5 allows you to clear all extracted files from the Audit library. Once you have taken this option you are presented with at confirmation screen for the clear Audit library function. Using this option will not clear the journal receivers from the Audit library.



### Option 6. SQLAUDRCV

Option 6 allows you to work with the journal receivers. You can maintain the journal receivers from this option. Journal receivers will automatically be generated when necessary. If you attempt to deleted a journal receiver and it has not yet been saved you will receive CPA7028 informing you that the receiver has not been saved, if your audit strategy dictates the need you should reply to the message with a 'C' for cancel and save the journal receiver to backup media using standard OS commands. If however you do not wish to save the journal receiver you can reply to the CPA7025 message with an 'I' to ignore and the object will be deleted.

\* Note: This is only for the SQLJRNL journal recievers that are created if you are not already journaling your files.

🔊 🖥 PRO	DATA 27x1	32										
File Ed	it View Co	mmunicati	on Actions	Window	Help							
PrtScrn	Сору	Paste	🔡 Display	Color	Blay	©© Quit	ba Record	5top	Ø Index	Pollup Rollup	Polldown	Map
				Work	with Jo	ournal	Recei	vers				
Type 1=	option Create	s, pre 4=De	ess Ente elete	er. 5=Disp	olay att	ribut	es 1	3=Char	nge des	script	ion	
Opt	Journa Receiv	l er	Librarı	9 -	Гext							
	SQLJRN SQLJRN	0001 0002	SQLAUD SQLAUD		SQL Audi SQL Audi	lt Jou It Jou	irnal R irnal R	leceive leceive	en en			
												<b>D</b> -++
Para ===>	meters	for op	otions 1	l, 5 ai	nd 13 or	comm	and					BUCCOM
F3=E F12=	×it Cancel	F4=F F16=	°rompt =Repeat	F5=Re posit:	efresh ion to	F9=R F17=	etriev Positi	e F1 on to	1=Disp	olay n	amesto	nly
MA	d					介						08/002
പ്രി 1902	2 - Session suc	cessfully	started					OKI prir	nter on IP_	10.1.1.210	)	

#### Option 7. SQLPRTJRN

This option gives you the ability to produce printed reports based on the information in the extracted files. Taking this option presents you with the following display.

\* Note: You may use any Query Reporting tool if DBU is not on the system.

PRODATA6 27x132												
File Edit View C	ommunicatio	on Actions	Window H	Help								
PrtScrn Copy	Paste	🔡 Display	Color	🔊 Play	©o Quit	Necord	5top	Ø Index	P Rollup	ලා Rolldown	Map	
Print Audit Journal Reports (SQLPRTJRN)												
Type choices, press Enter.												
Journal Output File <u>*ALL</u> Name, generic*, *ALL Output Queue <u>*JOB</u> Name, *JOB *LTBL Name, *LTBL												
Changed Fie	elds or	All F	ields .	<u>*</u>	CHG		*CHG,	*ALL				
F3=Exit F F24=More ke	F4=Prom ⊖ys	pt F	5=Refre	sh F	12=Car	icel	F13=Ho	ωtοι	use th	is dis	Bottom play	
MA c					ŶΥ	1					05/037	
ල් I902 - Session su	uccessfully s	tarted					Canon G	P200-225	PS on IP_1	10.1.1.220	1.	

You may take the \*ALL default to produce reports for all extracted files however you may also designate by name which extracted files to produce the report from. If you are uncertain which extract files you would like to produce reports from you can type the first letter of the extract file naming convention (SQLJ is the default) followed by an asterisk (\*) and press <enter> and you will be presented with a listing of all the extracted files. You may then individually select which file to produce the report from (only one selection at a time is allowed). You may also designate an output queue and library for the spooled file to be sent to. If you do not designate an output queue the default output queue for the current job is used.