



Syncsort Optimize DB2 (EZ-DB2)

Reports Reference

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Syncsort DB2 Reports Reference **(formerly EZ-DB2 Reports Reference)**

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FIGURES

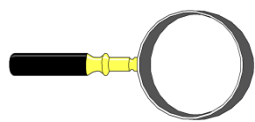
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New Features

This section will detail further enhancements implement through on-going maintenance.

Reports

Most reports are common to SQL Warehouse Manager and both EZ-Cache *dynamic statement cache* traces and EZ-Tracer *Performance* traces.



*Depending on which EZ-DB2 component you are in, the report headers will say either **Trace Workload** or **Warehouse Workload**. When viewing Reports in the SQL Warehouse, it is not possible to DRILL down to individual traces, or trace summary intervals. There are also some minor differences in the available data displayed. For example, there is a more detailed breakdown of the DB2 Row statistics when viewing data collected using EZ-Tracer compared to EZ-Cache. This is due to limitations of DB2.*

To display the reports menu in EZ-Cache, select [option 1.2](#).

To display the reports menu in EZ-Tracer, select [option 2.2](#).

To select the reports menu in EZ-SQL Warehouse manager, select [option 6.6](#).

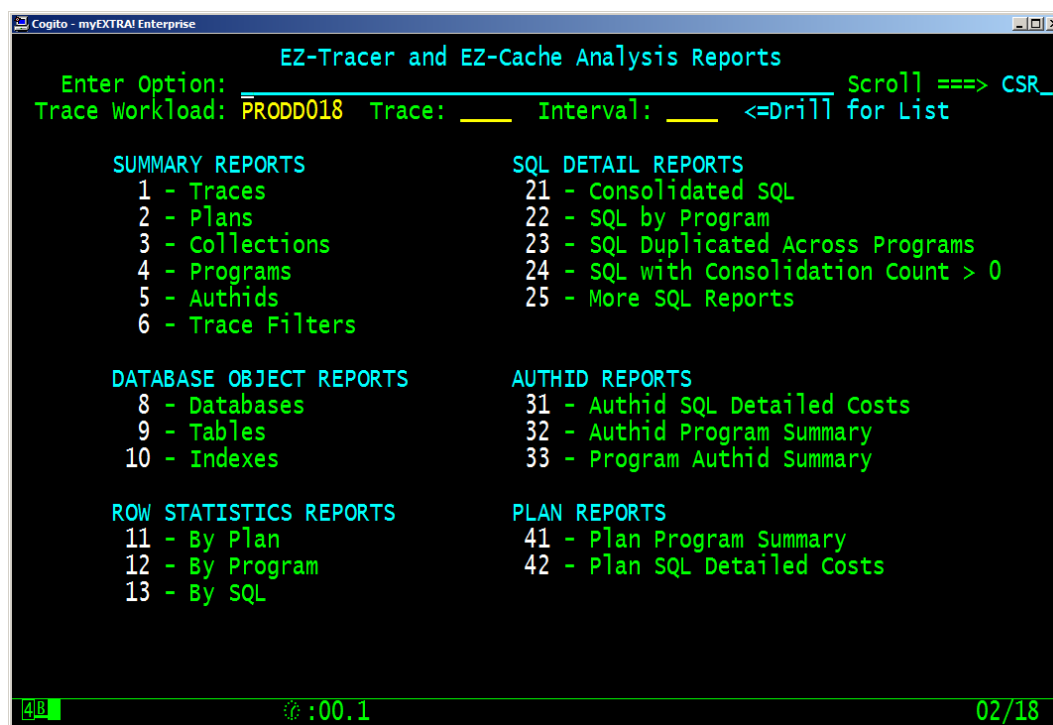


Figure 1 Reports Menu

From this menu you can select the various reports as described later in this section.

Note that for Trace Workloads only, you can display reports for the *entire workload*, a *specific trace number* or a *specific Summary Interval*. The following parameters may be specified on this panel:-

Trace Workload

Specify the Trace or Warehouse Workload name for which reports should be displayed. If you do not qualify with a Trace and/or Interval Number, reports will be displayed at a Workload level.

Trace

Optionally specify a Trace Number if you wish to display reports for a particular trace only.



You may DRILL <PF4> In this field to display a list of available traces for the current Trace Workload.

Interval

Optional specify a Summary Interval Number if you wish to display reports for a particular Summary interval only.



You may DRILL <P4> In this field to display a list of available Summary Intervals for the current Trace Workload.

Note that on the reports screens the following function keys are active:-

KEY	Standard Use	Note, or (2) Alternative Use
Enter	Validate Input	(2) SORT when Cursor positioned on column
PF1/PF13	HELP	Most Panels have field level help
PF2/PF13	START	Start another TSO Session
PF3/PF15	END	Save data input and Exit from Panel
PF4/PF16	DRILL	DRILL when cursor positioned on highlighted field
PF5/PF17	TABUp	Scroll up in multi-scroll operations. For example display previous table in Index/Predicate Set Mismatches.
PF6/PF18	TabDown	Scroll Down in multi-scroll operations. For example display next table in Index/Predicate Set Mismatches.
	EXPAND	(2) Expand cursor positioned field. For example, when positioned on FLAGGED SQL statement number, display FLAG description.
PF7/PF19	UP	Scroll UP in current display.
PF8/PF20	DOWN	Scroll DOWN in current display
PF9/PF21	SWAP/SWAP NEXT	Enter LIST in the command line and press PF9 to list available TSO Sessions. NB. You can name a TSO session by entering SCRNAME {name} in the TSO command line.
PF10/PF22	LEFT	Scroll Left in current display or scroll Left in cursor positioned field.
PF11/PF23	RIGHT	Scroll Right in current display or scroll Right in cursor positioned field.
PF12/PF24	CANCEL	Exit panel without saving data.

Refer to the [EZ-DB2 Command Reference Guide](#) for further details about all of the available commands.

1 Workload Trace Summary

Select [report 1](#) to display the [Workload Trace Summary](#) as shown in the following figure:-

Entity	Total	SQL Statistics	Total	Pct
Plans	38	Total SQL Traced	787148	100%
Collections	22	Dynamic SQL	779552	99%
Programs	1333	Merged	766755	97%
AUTHIDs	142	Static SQL	7596	1%
DBNames	60	Merged	2159	0%
Tables	1304	Consolidated SQL	18234	2%
Indexes	502			

Trace	Date	Day	Time	Mins	CPU	SQL	SQL Events	Get Pages
0026	2008-01-30	WED	08.00	720	15:46	2011	0	15128942
0025	2008-01-29	TUE	08.00	720	5:06:24	5416	48597510	202193953
0024	2008-01-28	MON	08.00	720	4:38:28	5332	40112823	170085229
0023	2008-01-26	SAT	08.00	720	2:29:51	3369	16616060	1947116341
0022	2008-01-25	FRI	08.00	720	3:28:28	5527	28757872	142956678
0021	2008-01-24	THU	08.00	720	3:58:35	5562	46971543	151111251
0020	2008-01-23	WED	08.00	720	4:08:42	5668	55844347	159389399
0019	2008-01-22	TUE	08.00	720	7:17:41	6106	186353187	280573522

Figure 2 Workload Trace Summary Report

This report summarizes the trace data collected for the current workload including SQL collected in Traces and SQL Loaded from Applications.

Where you have run multiple traces for a particular workload, the trace summary initially shows the cumulative date for all traces. For example, in the above display, the user has executed 26 traces for the workload.

- You can display information relating to a particular trace by cursor selecting a particular trace number and pressing the <PF4> Drill Key. You can also DRILL on a particular trace by entering the trace number in the command line.
- You can obtain more detailed information about the Workload by cursor selecting a particular entity (e.g. DBNames) and pressing the <PF4> Drill key. This will directly invoke the Databases summary report, equivalent to selection [report 8](#) for the workload.

The data displayed when you Drill on an entity will display the cumulative data, or just the data for a particular trace, depending on whether you have previously Drilled on a particular Trace number.

The following fields are displayed on the [Workload Summary](#) Screens:-

TRACE SUMMARY INFORMATION

Trace Workload

The Current Trace or Warehouse Workload name is displayed.

DB2 System	The name of the DB2 System that was traced.
Plans	<p>The number of distinct Plans included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Plans to display the Workload Plans Summary.</p>
Collections	<p>The number of distinct Collections included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Collections to display the Workload Collections Summary.</p>
Programs	<p>The number of distinct Programs included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Programs to display the Workload Programs Summary.</p>
AUTHIDs	<p>The number of distinct Authids included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Authids to display the Workload Authids Summary.</p>
DBNames	<p>The number of distinct DBNames included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of DBNames to display the Workload DBNames Summary.</p>
Tables	<p>The number of distinct Tables included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Tables to display the Workload Tables Summary.</p>
Indexes	<p>The number of distinct Indexes included in the trace summary for the Trace Workload, Trace Number or Summary Interval.</p> <p>You can DRILL on the number of Indexes to display the Workload Index Summary.</p>
Total SQL Traced	The Total number of SQL statements included in the trace summary for the Trace Workload, Trace Number or Summary Interval, <u>before consolidation</u> .
%	The Total SQL as a percentage (always 100%)

Dynamic SQL

The number of Dynamic SQL statements included in the trace summary for the Trace Workload, Trace Number or Summary Interval, before consolidation.

%

The number of Dynamic SQL as a percentage of the Total SQL.

Merged

The number of Dynamic SQL statements included in the trace summary for the Trace Workload, Trace Number or Summary Interval that were merged into one statement (consolidated).

%

The number of Dynamic SQL Merged as a percentage of the Total SQL.

Static SQL

The number of Static SQL statements included in the trace summary for the Trace Workload, Trace Number or Summary Interval, before consolidation.

%

The number of Static SQL as a percentage of the Total SQL.

Merged

The number of Static SQL statements included in the trace summary for the Trace Workload, Trace Number or Summary Interval that were merged into one statement (consolidated).

%

The number of Static SQL Merged as a percentage of the Total SQL.

Consolidated SQL

The number of Consolidated SQL included in the trace summary for the Trace Workload, Trace Number or Summary Interval.

If you have activated SQL Consolidation (see [Consolidation and Trend Controls](#) in the [Start Trace](#) Options) then this number will usually be less than the Total SQL for the corresponding trace period.

You can DRILL on the Consolidated SQL to display the [Consolidated SQL](#) display.

%

The number of Consolidated SQL as a percentage of the Total SQL.

TRACE INFORMATION

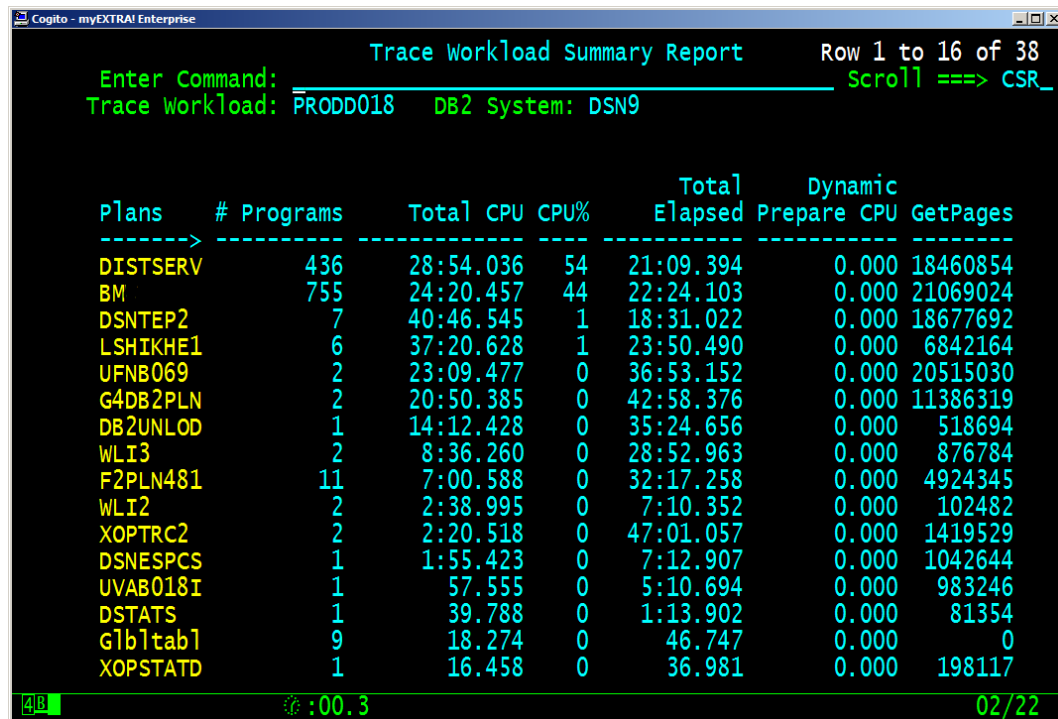
Trace

The number of this Trace File

ACT	<p>After DRILLING on specific Trace Number:-</p> <p>Indicates whether a particular Trace Summary Interval is ACTIVE.</p> <p>If the Summary Interval is ACTIVE, you can drill on the Interval to see the summary reports displays for the Interval.</p> <p>If the Summary Interval is NOT ACTIVE, you can still see the summary information for the interval.</p> <p>Only the last n intervals will be marked active, where n is Keep n most recent Summary intervals defined when starting the Trace.</p>
Intvl	The Summary Interval Number.
Date	The Date this Trace Number or Summary Interval started in YYYY-MM-DD format.
Day	The Day of the week this Trace Number or Summary Interval started.
Time	The Time this Trace Number or Summary Interval started, in HH.MM format.
Mins	The duration of this Trace or Summary Interval in minutes.
CPU	The total CPU consumed by all SQL Events in this Trace or Summary Interval .
SQL	The number of distinct SQL in the Trace or Summary Interval .
SQL Events	The number of SQL Events in the Trace or Summary Interval .
Get Pages	The number of Get Pages in the Trace or Summary Interval .

2 Workload Plans Summary

DRILL on [Plans](#) on the [Workload Trace Summary](#) or select report [2](#) to display the [Workload Plans Summary](#) screen as shown in the following panel:-



Trace Workload Summary Report Row 1 to 16 of 38

Enter Command: _____ Scroll ==> CSR_

Trace Workload: PRODD018 DB2 System: DSN9

Plans	# Programs	Total CPU	CPU%	Total Elapsed	Dynamic Prepare CPU	GetPages
DISTSERV	436	28:54.036	54	21:09.394	0.000	18460854
BM	755	24:20.457	44	22:24.103	0.000	21069024
DSNTEP2	7	40:46.545	1	18:31.022	0.000	18677692
LSHIKHE1	6	37:20.628	1	23:50.490	0.000	6842164
UFNB069	2	23:09.477	0	36:53.152	0.000	20515030
G4DB2PLN	2	20:50.385	0	42:58.376	0.000	11386319
DB2UNLOD	1	14:12.428	0	35:24.656	0.000	518694
WLI3	2	8:36.260	0	28:52.963	0.000	876784
F2PLN481	11	7:00.588	0	32:17.258	0.000	4924345
WLI2	2	2:38.995	0	7:10.352	0.000	102482
XOPTRC2	2	2:20.518	0	47:01.057	0.000	1419529
DSNESPSCS	1	1:55.423	0	7:12.907	0.000	1042644
UVAB018I	1	57.555	0	5:10.694	0.000	983246
DSTATS	1	39.788	0	1:13.902	0.000	81354
G1b1tab1	9	18.274	0	46.747	0.000	0
XOPSTATD	1	16.458	0	36.981	0.000	198117

00.3 02/22

Figure 3 Workload Plans Summary

The display shows all of the Plans referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in descending CPU cost.

The following additional information is displayed on this panel:-

Plans	The Names of all of the Plans that were executed.
# Programs	The Number of Programs executed under this Plan name.
Total CPU	The Total CPU for all of the programs for this plan.
CPU%	The CPU% represented by the Programs for this plan.
Total Elapsed	The Total Elapsed time for all of the programs for this plan.
Dynamic Prepare CPU	The Total Dynamic Prepare CPU time for all of the programs for this plan.
GetPages	The number of Getpages for this Plan.



You can DRILL on a particular Plan name to view the Plan Program Summary display as shown in the following figure:-

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Workload Programs by Plan

Row 1 to 15 of 442

Enter Command: Trace Workload: PRODD018 DB2 System: DSN9 Version: E Scroll ==> CSR_

Workload Total PLANS: 38 Drill To: DISTSERV

Plan Name	Program Name	Total SQL	SQL Execs	Total CPU	Total Clock
DISTSERV ASRPRSC4		1	42372	57:36.631228	03:20:16.883
DISTSERV ASRPRSC3		1	42381	56:27.812503	02:50:20.481
DISTSERV DDF		11251	59016784	43:50:55.223	99:99:99.999
DISTSERV ECMP2077		12	1242499	21:22.559903	01:02:14.758
DISTSERV USTPP730		5	259937	19:25.493309	37:31.882396
DISTSERV ASRPSUML		1	65	13:14.256360	27:38.080072
DISTSERV USTPP760		5	1116220	11:19.346285	24:16.275106
DISTSERV FMSP05S1		5	1200	10:37.056317	21:53.736631
DISTSERV UCMPPORT		4	1055959	09:36.375268	03:38:05.701
DISTSERV USTPP040		2	4	09:06.784950	18:12.836722
DISTSERV UALPP120		14	108976	08:33.597057	14:37.473371
DISTSERV FMSP35S2		1	1445	07:21.769845	16:33.637312
DISTSERV USTPP000		7	22	07:18.976930	20:56.098039
DISTSERV UALPP020		9	2682531	07:18.175636	16:41.831658
DISTSERV UALPP124		15	181135	06:41.930304	11:03.311562

4B :00.3 02/18

Figure 4 Workload programs by Plan

Refer to [Report 41](#) for further details.

3 Workload Collections Summary

DRILL on [Collections](#) on the [Workload Trace Summary](#) or select report [3](#) to display the [Workload Collections Summary](#) screen as shown in the following panel:-

Collections	# Packages	Total CPU	CPU%	Total Elapsed	Dynamic Prepare CPU	GetPages
BM	1108	50:07.204	50	51:39.084	0.000	25833981
NULLID	1	50:55.224	44	26:16.913	0.000	13118541
DSNASPCC	9	57:31.226	3	40:33.202	0.000	21427770
N/A	37	9:19.490	2	40:37.042	0.000	39096256
V92011A	1	20:50.377	0	42:57.242	0.000	11386256
PRODDL	23	10:38.364	0	26:07.183	0.000	2213838
F2PLN481	6	7:00.566	0	32:16.987	0.000	4924284
PRODZU	19	3:28.217	0	17:21.468	0.000	18906792
EZDB2	4	2:37.202	0	47:38.914	0.000	1618925
DSNESPCS	1	1:55.436	0	7:12.979	0.000	1042753
EDITS03	20	10.585	0	2:50.489	0.000	70092
TESTZU	2	6.409	0	17.959	0.000	2100346
ACM830_D_MAIN	81	5.042	0	2:19.280	0.000	151135
ACM820_D_MAIN	88	2.198	0	46.953	0.000	44564
DSNREXCS	1	0.641	0	3.195	0.000	3390
ACS830_D_MAIN	8	0.123	0	1.113	0.000	1428

Figure 5 Workload Collections Summary

The display shows all of the Collections referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in descending CPU cost.

The following additional information is displayed on this panel.

Collections	The Name of the Collections.
	You can DRILL on the Collection name to display the Program Summary display for the Packages in the collection.
# Programs	The Number of Programs executed under this Collection.
Total CPU	The Total CPU for all of the programs for this Collection.
CPU%	The CPU% represented by the Programs for this Collection.
Total Elapsed	The Total Elapsed time for all of the programs in this Collection.
Dynamic Prepare CPU	The Total Dynamic Prepare CPU for all of the programs in this Collection.
GetPages	The number of Getpages for this Collection.

The following figure (Figure 6) shows the Workload Packages display for a selected collection.

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Workload Packages by Collection

Row 1 to 15 of 19

Enter Command: Trace Workload: PRODD018 DB2 System: DSN9 Version: E

Scroll ==> CSR_

Workload Total COLLIDs: 21 Drill To: PRODZU

Collection Name	Package Name	Total SQL	SQL Executions	Total CPU	Total Clock
PRODZU	MOT1DRVR	2	588406	02:38.398638	13:15.457055
PRODZU	MOT1COMP	2	22350	00:07.760725	00:49.343643
PRODZU	MOT0DRVR	1	16687	00:07.330322	00:10.581771
PRODZU	UIN2PRNT	3	50707	00:06.375248	01:59.035852
PRODZU	MOT1POWN	2	11456	00:03.372289	00:18.143757
PRODZU	MOT0COMP	1	859	00:00.461487	00:05.681692
PRODZU	UIN3PRNT	3	17105	00:00.381900	00:01.712321
PRODZU	UIN4PRNT	1	16953	00:00.334080	00:00.781419
PRODZU	MOT0POWN	1	293	00:00.137718	00:00.174129
PRODZU	MOT2DRVR	1	111	00:00.059346	00:00.073974
PRODZU	BSA1ORDR	2	898	00:00.055632	00:00.760289
PRODZU	UMK1NMDY	2	22	00:00.022168	00:01.402243
PRODZU	UMK1OPPN	2	16	00:00.020675	00:00.721147
PRODZU	ERP1BMDL	2	14	00:00.014115	00:01.184483
PRODZU	UMK0OPPN	1	11	00:00.013727	00:00.791243

4B :00.1 02/18

Figure 6 Programs for Collection



You can DRILL on a Package Name to see the SQL By Program display for the program.

Refer to [Workload Programs Summary](#) for further information about the panel.

4 Workload Programs Summary

DRILL on [Programs](#) on the [Workload Trace Summary](#) or select report [4](#) to display the [Workload Programs Summary](#) screen as shown in the following panel:-

Collection	Program	Total SQL	SQL Execs	Total CPU	CPU%	Prepare CPU	Total Elapsed	K Get Pages
NULLID	DDF	11251	5901678	50:55.224	44	0.000	26:16.913	11854
BM	ECMP2037	7	995059	52:19.087	4	0.000	41:31.796	06237
BM	WSMS103	21	1387792	43:26.439	4	0.000	10:13.990	68969
DSNASPCC	DSNACOL8	8	1292069	52:43.444	3	0.000	58:54.406	19377
BM	WVCS103	7	5482779	23:48.942	2	0.000	8:20.633	97219
BM	SWSB250	9	1977046	5:02.418	2	0.000	9:10.444	24035
BM	UPDO110	35	1034401	2:39.095	2	0.000	43:39.150	38218
BM	WVCS119	6	67484	57:00.445	2	0.000	30:34.758	84662
BM	ECMP2066	4	869406	23:24.404	1	0.000	42:54.790	7897
BM	SCRO046	49	7235024	21:25.993	1	0.000	53:14.677	64452
BM	UPDO120	47	6367325	15:06.723	1	0.000	16:35.677	50133
BM	MOTB110	19	4246075	14:26.569	1	0.000	6:21.565	39920
BM	UPDO135	28	1276193	13:47.453	1	0.000	4:57.319	19639
BM	WVCS105	15	1506618	9:41.656	1	0.000	58:16.331	61051
BM	ASRPRSC2	1	42377	3:59.039	1	0.000	8.366	00440
BM	ECMB591	1	2	58:59.246	1	0.000	59:19.887	23570

Figure 7 Workload Programs Summary

The display shows all of the Programs referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in descending CPU cost. The following additional information is displayed on this panel.

Collection	The name of the Collection for this program if applicable. You can DRILL on the Collection name to see the Workload Programs display for the selected collection.
Program	The Name of the program. You can DRILL on the Program name to see the SQL By Program for the selected program.
Total SQL	The Number of distinct SQL executed by this program.
SQL Execs	The number of executions of all of the SQL executed by this program.
Total CPU	The Total CPU for all of the SQL for this Program.
CPU%	The CPU% represented by the SQL for this Program.
Prepare CPU	The Total Dynamic Prepare CPU for this program.

Total Elapsed

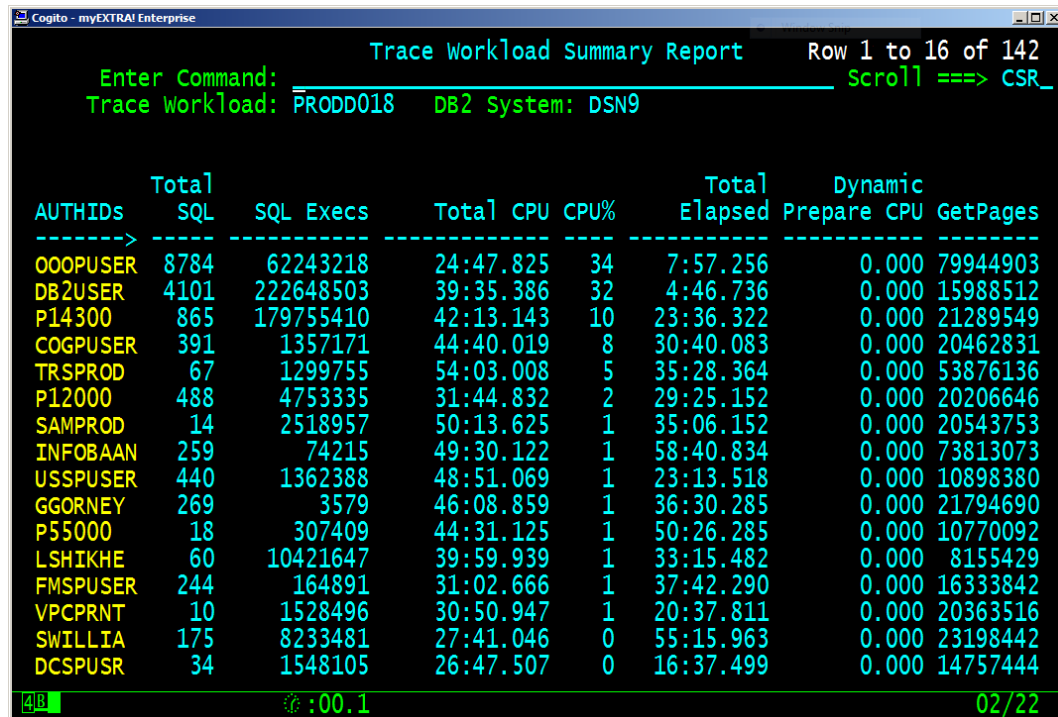
The Total Elapsed time for this program.

K Getpages

The number of Getpages for this program in 1000's.

5 Workload Authids Summary

DRILL on [Authids](#) on the [Workload Trace Summary](#) or select report 5 to display the [Workload Authids Summary](#) screen as shown in the following panel:-



AUTHIDS	Total SQL	SQL Execs	Total CPU	CPU%	Total Elapsed	Dynamic Prepare CPU	GetPages
OOPUSER	8784	62243218	24:47.825	34	7:57.256	0.000	79944903
DB2USER	4101	222648503	39:35.386	32	4:46.736	0.000	15988512
P14300	865	179755410	42:13.143	10	23:36.322	0.000	21289549
COGPUSER	391	1357171	44:40.019	8	30:40.083	0.000	20462831
TRSPROD	67	1299755	54:03.008	5	35:28.364	0.000	53876136
P12000	488	4753335	31:44.832	2	29:25.152	0.000	20206646
SAMPROD	14	2518957	50:13.625	1	35:06.152	0.000	20543753
INFOBAAN	259	74215	49:30.122	1	58:40.834	0.000	73813073
USSPUSER	440	1362388	48:51.069	1	23:13.518	0.000	10898380
GGORNEY	269	3579	46:08.859	1	36:30.285	0.000	21794690
P55000	18	307409	44:31.125	1	50:26.285	0.000	10770092
LSHIKHE	60	10421647	39:59.939	1	33:15.482	0.000	8155429
FMSPUSER	244	164891	31:02.666	1	37:42.290	0.000	16333842
VPCPRNT	10	1528496	30:50.947	1	20:37.811	0.000	20363516
SWILLIA	175	8233481	27:41.046	0	55:15.963	0.000	23198442
DCSPUSR	34	1548105	26:47.507	0	16:37.499	0.000	14757444

Figure 8 Workload Authids Summary

The display shows all of the AUTHIDS referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in descending CPU cost. The following additional information is displayed on this panel.

The following additional information is displayed on this panel.

AUTHIDS	The Names of all of the AUTHIDS that executed SQL. You can DRILL on the AUTHID to see the SQL by Program display for the selected AUTHID.
Total SQL	The Number of distinct SQL executed by this AUTHID.
SQL Execs	The Number of Executions of all of the SQL executed by this AUTHID.
Total CPU	The Total CPU for all of the SQL for this AUTHID.
CPU%	The CPU% represented by the SQL for this AUTHID.
Total Elapsed	The Total Elapsed time for this AUTHID.
Dynamic Prepare CPU	The Total Dynamic Prepare CPU time for this AUTHID.

GetPages

The number of Getpages for this AUTHID.

6 Trace Filter and Consolidation Parameters



Tracer Reports Only

Select [report 6](#) to display the Trace Filter and Consolidation Parameters screen as shown in the following panel:-

```
Cogito - myEXTRA! Enterprise
Trace Workload Summary Report      Row 1 to 10 of 10
Enter Command:                     Scroll ==> CSR_
Trace Workload: PRODD018   DB2 System: DSN9

Trace Filter and Consolidation Parameters
-----
DYNAMIC_SQL      =Y
SAMPLE_INTERVAL  =0
CONSOLIDATE_SQL  =Y
CONS_AUTHIDS     =N
CONS_DDF_PROGS   =Y
CONS_QUALS       =N
CONS_IN_LIST     =Y
CONSOLIDATE_GTT  =N
CONS_DDF_PROGS   =Y
LIVE_SUBSYS      =DSN9
***** Bottom of data *****

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```

Figure 9 Trace Filter and Consolidation Parameters

The display shows the filter and consolidation parameters that applied to each trace. Refer to the [EZ-Tracer/Cache User Guide](#), for details of the filter and consolidation parameters descriptions.

DRILL on [DBNames](#) on the [Workload Trace Summary](#) or select report 8 to display the [Workload Databases Summary](#) screen as shown in the following panel:-

Cogito - myEXTRA! Enterprise				Trace Workload Summary Report		Row 1 to 16 of 60
Enter Command: _____				Scroll ==> CSR_		
Trace Workload: PRODD018				DB2 System: DSN9		
DBNames	Total SQL	Total CPU	CPU%	Total Elapsed	Dynamic Prepare CPU	GetPages
SSADSAM	9588	1:55.852	41	16:23.516	0.000	12159169
CMSDCIS	6625	59:46.581	26	22:02.396	0.000	10381907
MOTDOTI	1638	50:50.060	14	47:50.584	0.000	28403395
WVC DVCS	526	58:59.381	6	4:47.187	0.000	24322610
ASRDASR	77	49:08.874	5	56:53.414	0.000	53627599
DSNDB06	995	47:37.690	4	24:05.990	0.000	71783241
BERDERP	1114	29:19.841	4	5:32.492	0.000	15519361
PARDDLK	109	49:49.562	3	54:13.211	0.000	11676245
CDSDCDS	231	47:18.521	3	57:44.657	0.000	26020024
PZCDCAMP	306	39:21.284	2	41:54.423	0.000	43078115
WFC DPRO	147	26:17.444	1	57:58.728	0.000	30768210
DTGGC	97	17:18.998	1	3:07.769	0.000	74568141
STADSTA	218	16:41.144	1	41:37.223	0.000	77937209
SSADSAMI	168	58:27.119	1	59:06.096	0.000	30780926
SVADSV A	884	50:53.365	1	45:11.872	0.000	25098418
SAM2	20	49:21.222	1	45:47.868	0.000	42445471
4B				01.1		02/22

Figure 10 Workload Databases Summary

The display shows all of the databases referenced in this [Workload, Trace](#) or [Summary Interval](#) in default sort order of descending CPU cost. The following additional information is displayed on this panel.

DBNames	The database name.
	You can DRILL on the database name to see the Workload Tables Summary for the selected database.
Total SQL	The Number of SQL that referenced this database.
Total CPU	The Total CPU for all of the SQL that referenced this database.
CPU%	The CPU% represented by the SQL against this database.
Total Elapsed	The Total Elapsed time for all of the SQL that referenced this database.
Dynamic Prepare CPU	The Total dynamic Prepare CPU time for all of the SQL that referenced this database.
GetPages	The number of Getpages for this database.

DRILL on Tables on the [Workload Trace Summary](#) or select [report 9](#) to display the [Workload Tables Summary](#) screen as shown in the following panel:-

Cognite - myEXTRA! Enterprise

Trace Workload Summary Report

Row 1 to 16 of 1,304

Enter Command:

Trace Workload: PRODD018

DB2 System: DSN9

Scroll ==> CSR

Tables Referenced by the SQL

Tables	Total SQL	Total CPU	CPU%	Prepare CPU	Total Elapsed	K Get Pages
PRODZU.USATVEHL	7110	47:59.465	25	0.000	57:00.937	03619
PRODZU.CMSTCNTR	4464	53:41.209	9	0.000	38:23.735	48991
PRODZU.UMKTOPPN	90	1:34.424	8	0.000	50:21.154	90638
PRODZU.CMSTLOC	223	54:55.417	6	0.000	14:54.859	24529
PRODZU.USATAVAL	57	43:40.181	6	0.000	55:04.814	04196
PRODZU.UMKTNMDY	261	39:42.925	6	0.000	20:40.017	78658
PRODZU.CMSTLMO	541	31:43.341	6	0.000	24:26.082	10673
PRODZU.CMSTPERS	118	8:45.016	5	0.000	20:13.742	01160
PRODZU.CMSTCPER	103	3:12.030	5	0.000	32:29.432	93440
PRODZU.ASRTRQST	65	46:58.979	5	0.000	40:45.875	35609
PRODZU.ASRFACTY	56	45:21.451	5	0.000	44:55.596	34458
PRODZU.CMSTPOSD	49	24:37.196	4	0.000	4:23.475	44621
PRODZU.MOTTRETL	173	6:22.083	4	0.000	26:44.832	57590
PRODZU.USATPRIO	160	1:18.097	4	0.000	27:49.243	47154
PRODZU.WVCTMSGs	64	57:59.229	4	0.000	8:28.899	73892
PRODZU.WVCTPROG	61	53:21.436	4	0.000	10:41.791	68303

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Figure 11 Workload Tables Summary

The display shows all of the tables referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in default sort order of descending CPU cost.

The following additional information is displayed on this panel.

Tables	The table name.
	You can DRILL on the table name to display the SQL By Program display for the selected table.
Total SQL	The Number of SQL that referenced this table.
Total CPU	The Total CPU for all of the SQL that referenced this table.
CPU%	The CPU% represented by the SQL against this table.
Prepare CPU	The Total Prepare CPU time for the SQL against this table.
Total Elapsed	The Total Elapsed time for the SQL against this table.
K Get Pages	The number of Getpages for this table in 1000's.

10 Workload Indexes Summary

DRILL on Indexes on the [Workload Trace Summary](#) or select report 10 to display the [Workload Indexes Summary](#) screen as shown in the following panel:-

Enter Command: _____ Row 17 to 32 of 873
 Trace Workload: PRODD018 DB2 System: DSN9 Scroll ==> CSR_

Indexes in EXPLAIN Access Paths by Table

Table Name	TB SQL	Total SQL	CPU	CPU%	Index	IX SQL
PRODZU.CMSTCNTR	4464		9		CMSTCNTRTX001	4261
					CMSTCNTRTX002	0
					TablScan	41
PRODZU.UMKTOPPN	90		8		TablScan	1
					UMKTOPPNTX001	85
					UMKTOPPNTX002	0
PRODZU.CMSTLOC	223		6		CMSTLOCTX001	89
					CMSTLOCTX002	0
					CMSTLOCTX003	0
					CMSTLOCTX004	31
					CMSTLOCTX005	4
					CMSTLOCTX006	19
					CMSTLOCTX007	53
					CMSTLOCTX008	7
PRODZU.USATAVAL	57		6		TablScan	2
					TablScan	3

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Figure 12 Workload Indexes Summary

The display shows all of the indexes referenced in this [Workload](#), [Trace](#) or [Summary Interval](#) in default sort order of descending CPU cost.

The following additional information is displayed on this panel.

Tables

The Names of all of the tables that were referenced.

You can DRILL <PF4> on the table name to view the catalog statistics display for the table.

TB SQL

The Number of SQL that referenced this table using the indexes.

You can DRILL <PF4> on the TB SQL to view the [SQL by Program display](#) for the selected table.

Total SQL CPU

The Total CPU for all of the SQL that referenced this table using the index

CPU%

The CPU% represented by the SQL against this table.

Index

The Names of all the indexes used for the table. An index name of TablScan indicates SQL that perform a table scan of the table (i.e. do not use an index).

You can DRILL <PF4> on the index name to view the catalog statistics display for the index.

IX SQL

The Number of SQL that referenced the table using this index

You can DRILL <PF4> on the IX SQL to view the [SQL by Program display](#) for the selected index.

11 Row Statistics by Plan

Select report **11** to display the **Row Statistics by Plan** display as shown in the following figure:-

```

Cogito - myEXTRA! Enterprise
Row Statistics By Plan
Enter Command:
Trace Workload: PRODD018 DB2 System: DSN9 Version: E
Row 1 to 15 of 38 Scroll ==> CSR
More: >

Workload Total PLANS: 38 Total Pgms: 1475 Total SQL: 20129

Plan Name      Total Prog  Total SQL  Rows Processed  Rows Looked At  Rows DM Stage-1  Rows RDS Stage-2
-----
BM              755  5350  7760627525  23477899437  3602671360  1182502383
DISTSERV       442  12699  7252173001  19972040227  6903872662  4363510309
DSNTEP2         7   145  5570593835  5572042365  5222073952  10961431
F2PLN481       11  877   93045954   176339687   3439088     1983775
G4DB2PLN       2   192  175163509  171377560  16407863   8279203
UFNB069        2   42   24014621   81934546   15089544   14525765
LSHIKHE1       6   18   104584866  71752206   98111074   68348766
DB2UNLOD       1   41   30358053   29103462   29123784   29112989
DSNESPCS       1  169  20916888   20006367   3869507    1598611
DSTATS         1   8    3619501   3592759    4916653    3583295
UVAB018I       1   8    3441473   3134284    912694     704876
XOPTRC2        2   20   7380062   1300009    1025466    997019
RSAGUIR1       3   10   1279657   1278387     1149       1132
WLI3           2   16   1335650   1158330    778143     515411
DSNTEPP        1   7    738396    738410     32         3

```

Figure 13 Row Statistics Report by Plan

The following information is displayed on this panel:-

Plan Name

The Names of all of the Plans that executed SQL.

You can DRILL on the plan name to display the [SQL By Program](#) display for the selected Plan.

Total Prog

The number of Programs executed under this Plan.

Total SQL

The total number of distinct SQL executed by Programs under this Plan.

Rows Processed

The Number of Rows Processed by this Plan.

Rows Looked At

The Number of Rows Look At by this Plan.

Rows DM Stage-1

The Number of DM Stage-1 requests of all of the SQL executed by this Plan.

Rows RDS Stage-2

The Number of RDS Stage-2 requests of all of the SQL executed by this Plan.

Rows Updated

The total number of Rows Updated by this Plan.

Getpages

The total number of GetPage requests by this Plan.

Select report **12** to display the **Row Statistics by Program** display as shown in the following figure:-

```

Cognito - myEXTRA! Enterprise
Row Statistics By Program
Row 1 to 15 of 1000
Enter Command:
Trace Workload: PRODD018 DB2 System: DSN9 Version: E
Report Truncated due to Max Lines More: >
Workload Total Pgms: 1333 Total SQL: 19903

Program      Total      Rows      Rows      Rows      Rows
Name         SQL        Processed  Looked At  DM Stage-1 RDS Stage-2  GetPages
----->-----
DDF          11251      5670603175 16556430258 5775304558 4014515361 1311854140
WVCS119      6          472147      6899260399 294879      111872      84661930
MOT1DRVR     2          5086368668 5086368668 5086368668 0           1859245546
WSMS103      21         53563222    5078104130 66662575    62500388    168969013
PZZO005      10         2151590401 2151463317 264502      197481      14686217
ECMB591      1          3156373     1574268817 3156361     0           23570314
USAO470      10         852793081   1429039388 12593102    791807      9970731
MOTO084      5          896290012   894322990 236225      113485      15896034
WVCS103      7          129943555   814272163 105320595   84012563    97219384
DSNACOL8     8          20606690    772479918 19037956    18777587    19376798
DSN@EP2L     143        484536525   485985069 135278278   10961434    9123042
FMSP05S1     5          318793790   319067293 36410853    35868310    4016045
USTPP760     5          14393845    291276946 4420929     2378442     11946490
ECMP2037     7          389609184   263546195 315069202   173597417   306237395
FMSP35S2     1          253120773   253103232 59773625    28365372     2624955

```

Figure 14 Row Statistics Report by Program

The following information is displayed on this panel:-

Program Name	The Names of all of the Programs that executed SQL. You can DRLL on the Program name to view the SQL By Program display for the selected program.
Total SQL	The total number of distinct SQL executed by this Program.
Rows Processed	The Number of Rows Processed by this Program.
Rows Looked At	The Number of Rows Looked At by this Program..
Rows DM Stage-1	The Number of DM Stage-1 requests of all of the SQL executed by this Program.
Rows RDS Stage-2	The Number of RDS Stage-2 requests of all of the SQL executed by this Program.
Getpages	The total number of Getpage requests by this Program.
Rows Updated	The total number of Rows Updated by this Program.

13 Row Statistics by SQL

Select report [13](#) to display the [Row Statistics by SQL](#) display as shown in the following figure:-

Row Statistics By SQL Row 1 to 16 of 1000

Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
Report Truncated due to Max Lines More: >

Workload Total SQL: 19903

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	Total Rows Processed	Total Rows Looked At	Total Rows DM Stage-1
79	MOT1DRVR	2	S-INSERT	365929	2543184334	2543184334	2543184334
86	MOT1DRVR	3	S-INSERT	365929	2543184334	2543184334	2543184334
2071	PZZO005	1976	S-CURSOR	16503	2151040291	2151040291	11277
12803	MOTO084	597	S-CURSOR	764	895949768	892383030	236175
550	DDF	550	D-CURSOR	72377	763978387	714832853	149125358
89	USAO470	2631	S-SELECT	3309	430909298	430909298	4291
1433	USAO470	2654	S-CURSOR	871	414321547	414321538	10982
218	ECMP2037	2039	S-CURSOR	99505	388919815	262856826	314379833
555	DDF	555	D-CURSOR	87068	300626376	398655737	576741029
556	DDF	556	D-CURSOR	87153	300069222	398533519	576532388
2226	FMSP35S2	396	S-CURSOR	1445	253120773	253103232	59773625
2604	PZQO017	1293	S-CURSOR	275	243163601	228845872	2665882
26	DDF	26	D-CURSOR	380564	181071138	181053167	49495
2303	PZCO433	621	S-CURSOR	1658	179286534	179279370	34037
2845	FMSP05S1	1197	S-CURSOR	372	173360770	173619703	33489566
4765	PLCWU19	12476	S-CURSOR	3202	159811058	159807847	11064749

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Figure 15 Row Statistics Report by SQL

The following information is displayed on this panel:-

SQL No

SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Detail](#) display.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#).

Program Name

The Name of the Program that executed the SQL.

You can DRILL on the Program name to view the [SQL By Program](#) display for the selected program,

Stmt No

The statement number within the Program.

Stmt Type

The statement type, i.e. CURSOR, SELECT, UPDATE, INSERT or DELETE. CURSOR signifies an OPEN CURSOR statement, whereas SELECT indicated a Singleton SELECT. The Type is prefixed with S- or D- to signify Static or Dynamic respectively.

SQL Execs	The number of executions of this SQL statement.
Total Rows Processed	The Total Number of Rows Processed by this SQL.
Total Rows Looked At	The Total Number of Rows Looked At by this SQL.
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests by this SQL..
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests by this SQL.
Total Row Updates	The Total number of Rows Updated by this SQL during.
Total GetPages	The Total number of GetPage requests by this SQL.
Avg Rows Processed	The Average Number of Rows Processed by this SQL.
Avg Rows Looked At	The Average Number of Rows Looked At by this SQL.
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests by this SQL.
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests by this SQL.
Avg Row Updates	The Average number of Rows Updated by this SQL.
Average Getpages	The Average number of GetPage requests by this SQL.

DRILL on [Consolidated SQL](#) on the [Workload Trace Summary](#) or select report [21](#) to display the [Consolidated SQL](#) screen as shown in the following panel:-

```
Cogito - myEXTRA! Enterprise
Consolidated SQL In Workload Row 1 to 16 of 1000
Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
Report Truncated due to Max Lines More: >
Workload Total SQL: 18234 Total Duplicates: 1674
SQL Program Stmt Stmt SQL SQL Total Total Total
No Name No Type Execs Consold CPU Clock GetPages
----->-----
553 DDF 553 D-CURS0R 1739392 262 05:36:50 10:49:35 27671119
218 ECMP2037 2039 S-CURS0R 99505 0 03:50:58 07:39:41 304858657
560 DDF 560 D-CURS0R 133023 39336 02:51:19 05:50:32 16080950
554 DDF 554 D-CURS0R 72089 475 02:36:32 05:36:12 19541167
92 DDF 92 D-CURS0R 21810753 48 02:07:21 05:10:03 43869108
40 DSNACOL8 2475 S-INSERT 258333 0 01:39:11 03:30:56 12719404
10943 SWSB250 2022 S-SELECT 370611 0 01:27:54 02:34:38 11743282
2222 ECMP2066 1118 S-CURS0R 144901 0 01:22:35 01:41:49 7028000
155 WSMS103 8703 S-SELECT 2547142 0 01:22:07 02:11:41 75408824
2760 WVCS119 2196 S-SELECT 11255 0 01:07:26 04:25:19 42157842
555 DDF 555 D-CURS0R 87068 1878 01:05:09 03:52:09 13146687
58 DDF 58 D-CURS0R 1156 0 01:05:06 07:35:15 16297513
1033 ASRPRSC2 366 S-CURS0R 42377 0 01:03:59 07:00:08 100440310
283 DDF 283 D-CURS0R 321383 0 01:02:15 09:20:00 37307130
556 DDF 556 D-CURS0R 87153 1878 01:00:04 01:49:07 12787091
10401 ECMB591 373 S-CURS0R 2 0 58:59.245 01:59:19 23570314
4B :00.3 02/18
```

Figure 16 Consolidated SQL

The display shows information for ALL of the SQL (Static and Dynamic if applicable) in the current [Trace Workload](#), [Trace Number](#) or [Summary Interval](#).



*This display only shows ONE line for each distinct SQL statement executed, even if the SQL appears in more than one Program. Refer to the **duplicat** name in program name column below. To see SQL reported separately for each Program occurrence, see report 22 -SQL by Program.*

The following information is displayed on this panel:-

Show:

Display Toggle field:-

- A - Show ALL SQL in Workload
- S - Show Static SQL Only
- D - Show Dynamic SQL Only

Workload Total SQL

The number of SQL in the Workload after Consolidation.

Total Duplicates

The number of times the same SQL was repeated in > 1 Program. See Duplicates later.

SQL No

SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Detail](#) display.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#)

Program Name

The Program name issuing the SQL statement.

You can DRILL on the Program name to view the [SQL By Program](#) display for the selected program,

Note: if the SQL appears in more than one program, the program name will show as [duplicat](#) To see the other programs that executed this SQL statement position the cursor on the field and hit the DRILL key <PF4> to show all program occurrences for this statement.

Stmt No

The statement number within the program. If the program name is shown as [duplicat](#) then this field will display as [#nnnn](#) where nnnn is the number of duplicates.

Stmt Type

The Statement Type:-

i-CURSOR	An Open Cursor Statement
i-SELECT	A Singleton Select
i-INSERT	An INSERT statement
i-DELETE	A DELETE statement

The indicator i - indicates whether the statement is Static(S) or Dynamic(D).

SQL Execs

The number of executions of this SQL statement.

SQL Consold

The number of times this statement has been consolidated. That is, the number of times EZ-Tracer/Cache identified statements that were 'essentially' the same, and merged them into the same SQL no. Thus, a single SQL No may represent many different 'essentially the same' SQL statements.



If you DRILL on the SQL No to see the SQL text, any literal values will represent the first occurrence of the merged statements.



In the above example, SQL No 560 was executed 133023 times and was consolidated 39336 times. In other words, without consolidation those 39336 statements that were consolidated would have been considered as different SQL requests. If you are using Dynamic Statement cache all of these different variations of the same statement could be taking up space in the cache. In this circumstance, its advisable to check if the statement is using Literals and consider replacing with a host variable. See SQL Literals later in this section.

Total CPU

The Total CPU Cost for this SQL statement.

Total Clock

The Total Elapsed time for this SQL statement.

Total Getpages

The Total number of GetPage requests.

Average CPU

The Average CPU Cost for this SQL statement.

Average Clock

The Average Elapsed time for this SQL statement.

Average Getpages

The Average number of GetPage requests.

Total Timerons

The Total DB2 Timerons for the SQL statement.

Average Timerons

The Average DB2 Timerons for the SQL statement.

Total Rows Processed

The Total Number of Rows Processed by this SQL statement.

Total Rows Looked at

The Total Rows Looked at for the SQL statement.

Total Rows DM Stage-1

The Total Number of DM Stage-1 requests.

Total Rows RDS Stage-2

The Total Number of RDS Stage-2 requests.

Total Row Updates

The Total number of Rows Updated.

Avg Rows Processed

The Average Number of Rows Processed.

Avg Rows Looked at

The Average Rows Looked at for the SQL statement.

Avg Rows DM Stage-1

The Average Number of DM Stage-1 requests.

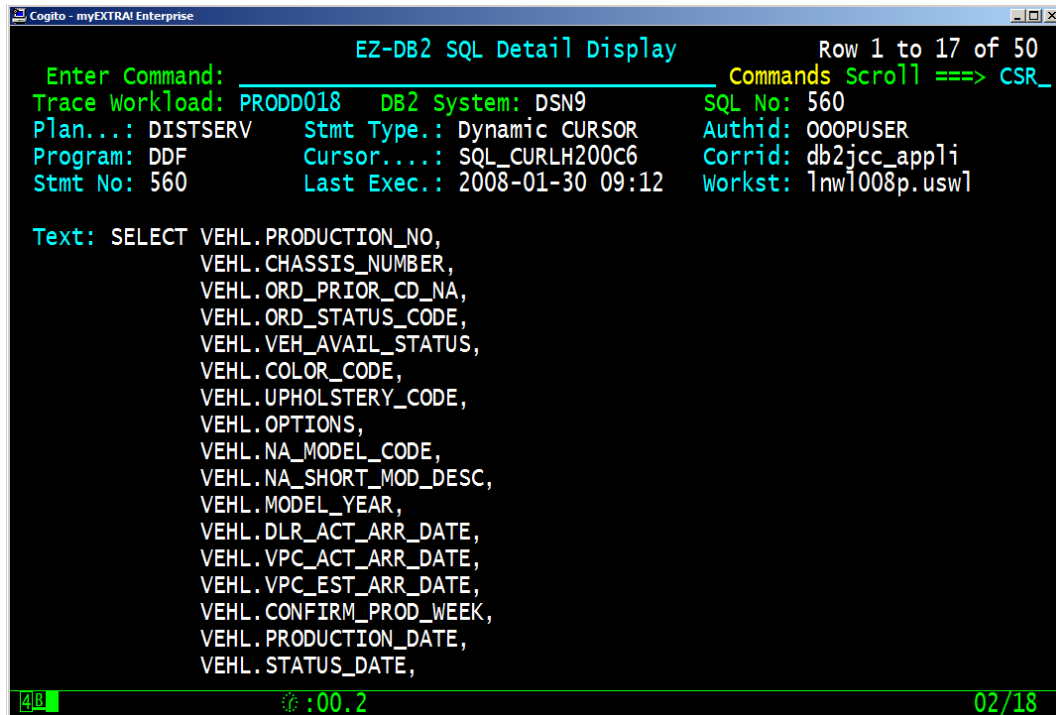
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.
Avg Row Updates	The Average number of Rows Updated.
Avg Fetches	The average number of fetches performed per SQL.
SQL Lit	Indicates whether or not the SQL statement used hard coded literal value(s)
Y -	The SQL had a least one hard-coded literal value.
N -	The SQL had no hard coded literal values.

SQL Detail (SQL Text)

The **SQL Detail** display is obtained by selecting a particular **SQL No** and hitting the DRILL key <PF4>.

Note: you can switch back to the SQL text display from other SQL Detail displays for the current SQL by entering **TX** on the Command Line or DRILLING on the **TX** command in the Command Options pop-up.

The following panel is displayed:-



```

EZ-DB2 SQL Detail Display
Row 1 to 17 of 50
Enter Command: _____ Commands Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 SQL No: 560
Plan...: DISTSERV Stmt Type.: Dynamic CURSOR Authid: OOOPUSER
Program: DDF Cursor....: SQL_CURLH200C6 Corrid: db2jcc_appli
Stmt No: 560 Last Exec.: 2008-01-30 09:12 Workst: lnw1008p.usw1

Text: SELECT VEHL.PRODUCTION_NO,
            VEHL.CHASSIS_NUMBER,
            VEHL.ORD_PRIOR_CD_NA,
            VEHL.ORD_STATUS_CODE,
            VEHL.VEH_AVAIL_STATUS,
            VEHL.COLOR_CODE,
            VEHL.UPHOLSTERY_CODE,
            VEHL.OPTIONS,
            VEHL.NA_MODEL_CODE,
            VEHL.NA_SHORT_MOD_DESC,
            VEHL.MODEL_YEAR,
            VEHL.DLR_ACT_ARR_DATE,
            VEHL.VPC_ACT_ARR_DATE,
            VEHL.VPC_EST_ARR_DATE,
            VEHL.CONFIRM_PROD_WEEK,
            VEHL.PRODUCTION_DATE,
            VEHL.STATUS_DATE,

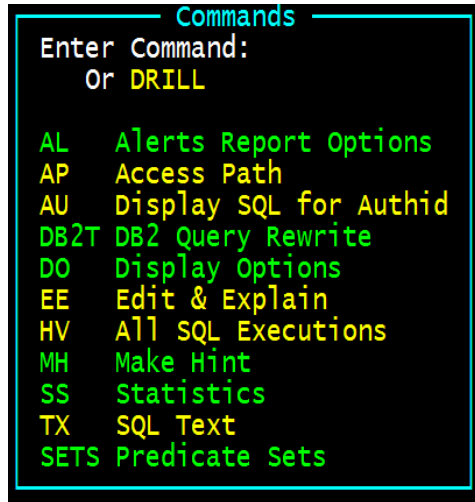
```

Figure 17 SQL Detail Display (SQL Text)

SQL Detail Commands

From the [SQL detail](#) display you can navigate to a number of different detail views for example, the [SQL Statistics](#), the [Access Path](#) display or the [Edit and Explain](#) option.

To select one of these alternative views, you can enter the applicable two letter command abbreviation in the Command line. You can also enter the command **DO** (Display Options) or DRILL <PF4> on the word [Commands](#) to display the Commands Option pop-up as shown in the following figure:-



Note that the commands that are active are highlighted in the DRILL colour.

You can select the required option either by entering the two letter command abbreviation, or cursor positioning on the command and entering the DRILL key <PF4>.

For further details of the SQL detail commands refer to the [EZ-DB2 Commands Reference Guide](#).

Figure 18 Commands Popup

22 SQL by Program

Select report 22 to display the SQL by Program screen as shown in the following panel:-

Cogito - myEXTRA! Enterprise

Program SQL Execution Counts and Statistics Row 1 to 16 of 1000

Enter Command: _____ Scroll ==> CSR_

Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)

Report Truncated due to Max Lines More: >

Workload Total SQL: 19903

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU	Total Clock	Total GetPages
553	DDF	553	D-CURSOR	1739392	1	05:36:50	10:49:35	27671119
218	ECMP2037	2039	S-CURSOR	99505	810	03:50:58	07:39:41	304858657
560	DDF	560	D-CURSOR	133023	1	02:51:19	05:50:32	16080950
554	DDF	554	D-CURSOR	72089	1	02:36:32	05:36:12	19541167
92	DDF	92	D-CURSOR	21810753	1	02:07:21	05:10:03	43869108
40	DSNACOL8	2475	S-INSERT	258333	0	01:39:11	03:30:56	12719404
10943	SWSB250	2022	S-SELECT	370611	0	01:27:54	02:34:38	11743282
2222	ECMP2066	1118	S-CURSOR	144901	2	01:22:35	01:41:49	7028000
155	WSMS103	8703	S-SELECT	2547142	0	01:22:07	02:11:41	75408824
2760	WVCS119	2196	S-SELECT	11255	0	01:07:26	04:25:19	42157842
555	DDF	555	D-CURSOR	87068	1	01:05:09	03:52:09	13146687
58	DDF	58	D-CURSOR	1156	28	01:05:06	07:35:15	16297513
1033	ASRPRSC2	366	S-CURSOR	42377	1	01:03:59	07:00:08	100440310
283	DDF	283	D-CURSOR	321383	1	01:02:15	09:20:00	37307130
556	DDF	556	D-CURSOR	87153	1	01:00:04	01:49:07	12787091
10401	ECMB591	373	S-CURSOR	2	1	58:59.245	01:59:19	23570314

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Figure 19 SQL by Program

This display is similar to [report 21- Consolidated SQL](#) except that where a SQL appears in more than one program, each Program occurrence is shown separately. The **Duplicate** literal will therefore not appear in the Program name column in this display and Workload Total SQL has increased by the number of duplicates when compared with [report 21](#) . In addition this report will display additional columns for number of RID List Failures and number of RLIM failures.



If you have loaded free form SQL using Tracer Option 2.4 and traced Dynamic SQL in conjunction with the Trace Pre-Loaded SQL Only option in the Trace Filter Specification Screen, the report will show all variations of the SQL that have been captured (i.e. where the literal values are different) and be reported as distinct versions of that SQL. The pre loaded free form SQL will be shown with SQLTEXT in the program name and will not have any values for CPU costs etc. You can issue a SORT HASH command to display the report with all equivalent SQL grouped and in descending sequence based on AVERAGE_CPU. If you have loaded more than 1 free form SQL statement you can position in the report on the next grouping by issuing a find on SQLTEXT@. This will position you on the pre loaded SQL for the current group and the next group will immediately follow it. In addition you can issue a SORT HASH TOTAL_CPU to display the report with all equivalent SQL grouped and in descending sequence based on TOTAL_CPU. Although you can issue SORT HASH for any type of report it only makes sense to do so for workloads that have been generated to trace Dynamic SQL with the TRACE PRE-LOADED SQL ONLY option and with CONSOLIDATION off.

Note: SORT HASH does not refer to any displayed report column. EZ-DB2 when building its reports uses an internal hash key to group similar entities together and also to uniquely identify components of the reports. The SORT HASH command allows us to group equivalent SQL together and then to sort it within that grouping. Refer to EZ-DB2 Commands Reference Guide for further details about SORT HASH.

The following information is displayed on this panel:-

Show:	Display Toggle field:- A - Show ALL SQL in Workload S - Show Static SQL Only D - Show Dynamic SQL Only								
Workload Total SQL	The number of SQL in the Workload after Consolidation.								
SQL No	<p>SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.</p> <p>You can DRILL on the SQL no to view the SQL Detail display.</p> <p>Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the EZ-DB2 Commands Reference Guide</p>								
Program Name	<p>The Program name issuing the SQL statement.</p> <p>You can DRILL on the Program name to view the SQL By Program display for the selected program,</p>								
Stmt No	The statement number within the program.								
Stmt Type	<p>The Statement Type:-</p> <table> <tr> <td>i-CURSOR</td><td>An Open Cursor Statement</td></tr> <tr> <td>i-SELECT</td><td>A Singleton Select</td></tr> <tr> <td>i-INSERT</td><td>An INSERT statement</td></tr> <tr> <td>i-DELETE</td><td>A DELETE statement</td></tr> </table> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>	i-CURSOR	An Open Cursor Statement	i-SELECT	A Singleton Select	i-INSERT	An INSERT statement	i-DELETE	A DELETE statement
i-CURSOR	An Open Cursor Statement								
i-SELECT	A Singleton Select								
i-INSERT	An INSERT statement								
i-DELETE	A DELETE statement								
SQL Execs	The number of executions of this SQL statement.								
Average Fetches	The average number of fetches performed per SQL.								
Total CPU	The Total CPU Cost for this SQL statement.								
Total Clock	The Total Elapsed time for this SQL statement.								
Total Getpages	The Total number of GetPage requests.								
Average CPU	The Average CPU Cost for this SQL statement.								
Average Clock	The Average Elapsed time for this SQL statement.								
Average Getpages	The Average number of GetPage requests.								
Total Timerons	The Total DB2 Timerons for the SQL statement.								

Average Timerons	The Average DB2 Timerons for the SQL statement.
Total Rows Processed	The Total Number of Rows Processed by this SQL statement.
Total Rows Looked at	The Total Rows Looked at for the SQL statement.
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests.
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests.
Total Row Updates	The Total number of Rows Updated.
Avg Rows Processed	The Average Number of Rows Processed.
Avg Rows Looked at	The Average Rows Looked at for the SQL statement.
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests.
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.
Avg Row Updates	The Average number of Rows Updated.
RID List Failures	The Number of RID List Failures that occurred for this SQL.
RLIM Failures	The number of times the SQL received an SQLCODE of -905 for exceeding a resource limit
SQL Lit	Indicates whether or not the SQL statement used hard coded literal value(s) Y - The SQL had a least one hard-coded literal value. N - The SQL had no hard coded literal values.
SQL Consold	The number of times this statement has been consolidated. That is, the number of times EZ-Tracer/Cache identified statements that were 'essentially' the same, and merged them into the same SQL no. Thus, a single SQL No may represent many different 'essentially the same' SQL statements.
Stg 2	Whether this SQL performed Stage -2 processing. Y - Stage 2 processing took place. N - Stage 1 Only.
User Ident String	If the User Identity field is added to an SQL, this will now be displayed in the reports for the SQL statement.
Total Wait	The Total Wait time for the SQL.(1)
Tot Wait SYNIO	Accumulated wait time for synchronous IO(1)
Tot Wait Locks	Accumulated wait time for Locks(1)(2)

Tot Wait Switch	Accumulated wait time for Synchronous execution unit switch(1)
Tot Wait Glbl Lock	Accumulated wait time for Global Locks(1)
Tot Wait Agt Read	Accumulated wait time for other agents reads(1)
Tot Wait Agt Write	Accumulated wait time for other agents writes(1)
Tot Wait Latch	Accumulated wait time for latch requests(1)(3)
Tot Wait Pg Latch	Accumulated wait time for page latches(1)(3)
Tot Wait Drain Lck	Accumulated wait time for drain locks(1)(3)
Tot Wait RlseClaim	Accumulated wait time for a drain during wait for claims to be released(1)(3)
Tot Wait Log Write	Accumulated wait time for log writers(1)(3)
Average Wait	The Average Wait time for the SQL.(1)
Avg Wait SYNIO	Average wait time for synchronous IO(1)
Avg Wait Locks	Average wait time for Locks(1)(2)
Avg Wait Switch	Average wait time for Synchronous execution unit switch(1)
Avg Wait Glbl Lock	Average wait time for Global Locks(1)
Avg Wait Agt Read	Average wait time for other agents reads(1)
Avg Wait Agt Write	Average wait time for other agents writes(1)
Avg Wait Latch	Average wait time for latch requests(1)(3)
Avg Wait Pg Latch	Average wait time for page latches(1)(3)
Avg Wait Drain Lck	Average wait time for drain locks(1)(3)
Avg Wait RlseClaim	Average wait time for a drain during wait for claims to be released(1)(3)
Avg Wait Log Write	Average wait time for log writers(1)(3)

(1) These statistics are only available if DB2 Accounting Class 3 is active.

(2) Prior to DB2 10 the timer includes latches as well

(3) Available as of DB2 10

23 SQL Duplicated Across Programs

Select report [23](#) to display the [SQL Duplicated Across Programs](#) display as shown in the following figure:-

SQL Duplicated in Different Programs Row 18 to 32 of 1000

Enter Command: _____ Scroll ==> CSR_

Trace Workload: PRODD018 DB2 System: DSN9 Version: E

Workload Total SQL: 19903 Total Duplicates: 1669

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	Dup SQL	Program Name	Stmt No	Stmt Type	SQL Freq
6117	ECMP2001	1015	S-SELECT	7818	3012	ECMP2003	1766	S	10384
					713	ECMP2004	2393	S	5149767
					1412	ECMP2030	1069	S	27966
					386	ECMP2035	502	S	48938
					15653	ECMP2040	1263	S	120
					1439	ECMP2060	318	S	126
					2546	ECMP2063	1980	S	29427
					2053	ECMP2073	358	S	112214
					2049	ECMP2074	286	S	32018
					112	ECMP2077	1157	S	154607
6980	MOTO008	8188	S-DELETE	3	13068	MOTO140	9400	S	7
5697	PZQO007	1300	S-SELECT	47	5610	PZQO011	914	S	18
7110	UINO053	7448	S-INSERT	141	3914	URFO053	3101	S	7674
14196	UFNO100	2190	S-SELECT	103	15414	UINO010	12214	S	118
					3663	UINO220	5398	S	962

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Figure 20 SQL Duplicated across programs

This display lists all of the SQL statements that are included in more than one program. The following information is displayed:-

The following information is displayed on this panel:-

SQL No

SQL No is a unique internal name generated by EZ-Tracer/Cache to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Detail](#) display.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#)

Program Name

The Program name containing the First occurrence of a particular SQL statement.

Stmt No

The statement number within the program.

Stmt Type

The statement type ie. OPEN, UPDATE, INSERT or DELETE.

SQL Execs	The number of executions of this SQL statement in this program.
Dup SQL	<p>The SQL No of a duplicate SQL statement contained within another program.</p> <p>You can DRILL on the SQL no to view the SQL Detail display.</p> <p>Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the EZ-DB2 Commands Reference Guide.</p> <p>If more than one duplicate exists, you will see a line for each other program containing this SQL statement.</p>
Program Name	The name of another program containing the identical statement.
Stmt No	The statement no of the duplicate.
SD	The statement type of the duplicate i.e. Static or Dynamic.
SQL Execs	The number of Executions of this SQL statement in the Program.

24 SQL with Consolidation Count > 0

Select report 24 to display the SQL with Consolidation Count > 0 display as shown in the following figure:-

Cogito - myEXTRA! Enterprise

Workload SQL That Have Been Consolidated Row 1 to 16 of 1000

Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D) More: >

Workload Total SQL: 4269 Consolidated: 703355

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	SQL Consold	Total CPU	Total Clock	Total GetPages
1403	DDF	1403	D-INSERT	64376	64240	00:27.813	02:53.824	967102
560	DDF	560	D-CURSOR	133023	39336	02:51:19	05:50:32	16080950
1407	DDF	1407	D-UPDATE	46498	36581	00:15.554	04:08.558	784944
1402	DDF	1402	D-INSERT	35459	35367	00:19.677	02:25.901	532163
699	DDF	699	D-CURSOR	89140	28177	22:29.466	51:45.835	996726
19598	DDF	19598	D-UPDATE	25878	22740	06:00.779	25:55.660	926485
557	DDF	557	D-CURSOR	22556	18660	21:13.988	01:28:39	5606829
19597	DDF	19597	D-INSERT	20236	14248	01:27.785	02:17.651	303540
7254	G4DB2PLN	204	D-CURSOR	424018	13939	03:55.632	05:33.940	2013958
1595	DDF	1595	D-CURSOR	13621	12629	09:51.749	22:06.441	1190558
848	DDF	848	D-CURSOR	93042	12078	04:08.728	09:30.234	763063
559	DDF	559	D-CURSOR	13820	11691	12:09.727	28:23.008	2877293
549	DDF	549	D-CURSOR	75059	8862	06:53.546	16:29.397	1282517
2416	DDF	2416	D-CURSOR	10567	8112	01:44.794	06:34.777	246350
625	DDF	625	D-CURSOR	9004	7625	07:54.501	30:23.869	2510975
4359	DDF	4359	D-CURSOR	47494	7570	01:13.620	02:06.646	593041

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Figure 21 SQL with Consolidation Count > 0

This display is similar to [report 21- Consolidated SQL](#) except that only SQL with Consolidation Count greater than Zero are shown.



You could sort the display by SQL Consolidated as shown in the above example. Note that in this example, for most SQL, the number consolidated is almost equal to the number of executions. Eg. For SQL No. 1403 there were 64376 executions and 64240 consolidated. In other words, without consolidation there would have been 64240 different SQL statements in the display rather than just the one as shown by EZ-Tracer/Cache. This example illustrates the value of the consolidation feature. Note that, this also means that if Dynamic Statement Caching were in use, each of these 64240 statements would be a different SQL in the DB2 cache. A prime example of where literal values should be replaced with host variable values.

Refer to [report 21](#) for further details of the information displayed.

25 More SQL Reports

Select report 25 to display the [additional SQL reports menu](#) as shown in the following figure:-

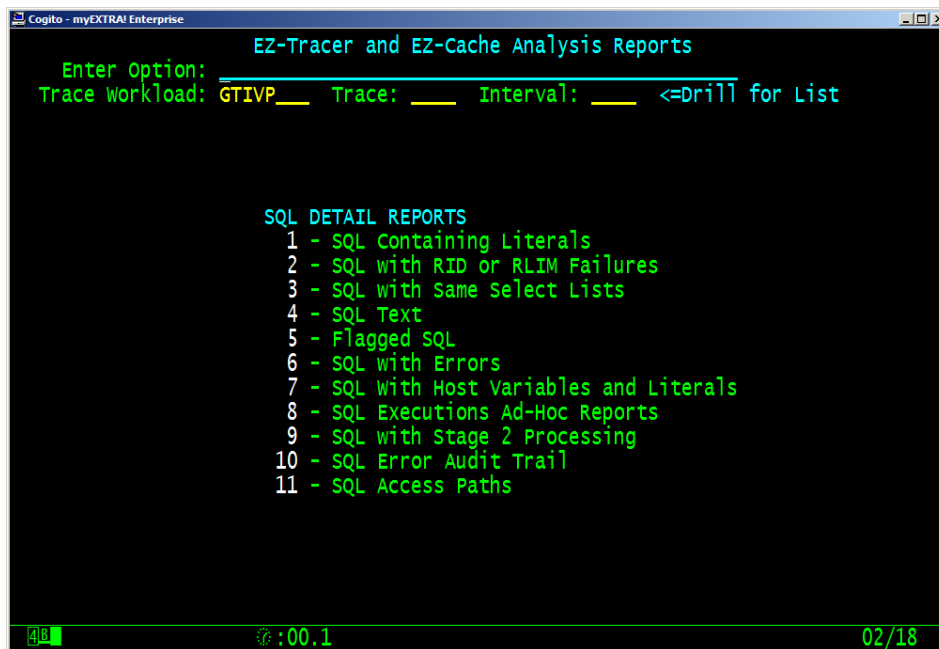


Figure 22 More Reports (Tracer/Cache)

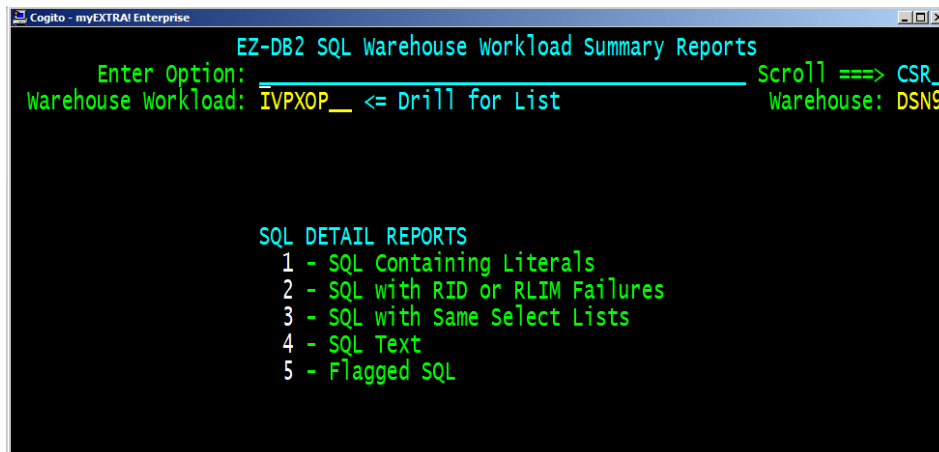


Figure 23 More SQL Reports (Warehouse)

Notice that the menu is different depending on whether you are in EZ-Tracer/Cache or EZ-SQL Warehouse as some of the reports are not available in EZ-SQL Warehouse.

These reports are described on the following pages.

25.1 SQL Containing Literals

Select report 25.1 to display the [SQL Containing Literals](#) display as shown in the following figure:-

SQL With Literals Row 1 to 16 of 1000

Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
Report Truncated due to Max Lines More: >

Workload Total SQL: 11436

SQL Program No	Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU	Total Clock	Total GetPages
553	DDF	553	D-CURSOR	1739392	1	05:36:50	10:49:35	27671119
560	DDF	560	D-CURSOR	133023	1	02:51:19	05:50:32	16080950
554	DDF	554	D-CURSOR	72089	1	02:36:32	05:36:12	19541167
92	DDF	92	D-CURSOR	21810753	1	02:07:21	05:10:03	43869108
40	DSNACOL8	2475	S-INSERT	258333	0	01:39:11	03:30:56	12719404
2222	ECMP2066	1118	S-CURSOR	144901	2	01:22:35	01:41:49	7028000
155	WSMS103	8703	S-SELECT	2547142	0	01:22:07	02:11:41	75408824
2760	WVCS119	2196	S-SELECT	11255	0	01:07:26	04:25:19	42157842
555	DDF	555	D-CURSOR	87068	1	01:05:09	03:52:09	13146687
58	DDF	58	D-CURSOR	1156	28	01:05:06	07:35:15	16297513
1033	ASRPRSC2	366	S-CURSOR	42377	1	01:03:59	07:00:08	100440310
556	DDF	556	D-CURSOR	87153	1	01:00:04	01:49:07	12787091
10401	ECMB591	373	S-CURSOR	2	1	58:59.245	01:59:19	23570314
1035	ASRPRSC4	366	S-CURSOR	42372	1	57:36.631	03:20:16	95148653
2040	PZOO100	2753	S-CURSOR	53047	99	57:19.736	37:42:05	80502606
1034	ASRPRSC3	366	S-CURSOR	42381	1	56:27.812	02:50:20	93690871

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Figure 24 SQL with Literals

This display is similar to [report 22 - SQL by Program](#) except that only SQL with Hard Coded Literal values are shown.

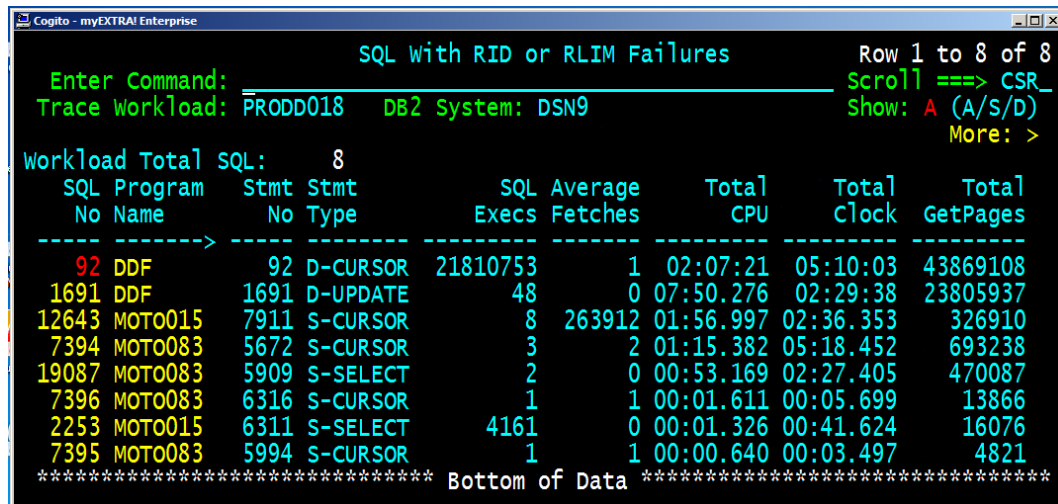


Used in conjunction with report 24 - [SQL with Consolidation Count > 0](#), this display can provide valuable assistance in selecting the best candidates for replacing hard coded literal with host variables and thereby improving DB2 Dynamic Statement Cache performance.

Refer to [report 22](#) for further details of the information displayed.

25.2 SQL with RID or RLIM Failures

Select report 25.2 to display the [SQL with RID or RLIM Failures](#) display for the Workload as shown in the following figure:-



SQL With RID or RLIM Failures

Row 1 to 8 of 8
Scroll ==> CSR_
Show: A (A/S/D)
More: >

Enter Command: _____
Trace Workload: PRODD018 DB2 System: DSN9

Workload Total SQL: 8

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU	Total Clock	Total GetPages
92	DDF	92	D-CURSOR	21810753	1	02:07:21	05:10:03	43869108
1691	DDF	1691	D-UPDATE	48	0	07:50.276	02:29:38	23805937
12643	MOTO015	7911	S-CURSOR	8	263912	01:56.997	02:36.353	326910
7394	MOTO083	5672	S-CURSOR	3	2	01:15.382	05:18.452	693238
19087	MOTO083	5909	S-SELECT	2	0	00:53.169	02:27.405	470087
7396	MOTO083	6316	S-CURSOR	1	1	00:01.611	00:05.699	13866
2253	MOTO015	6311	S-SELECT	4161	0	00:01.326	00:41.624	16076
7395	MOTO083	5994	S-CURSOR	1	1	00:00.640	00:03.497	4821

***** Bottom of Data *****

Figure 25 SQL with RID List Failures

This display is equivalent to [report 22 - SQL by Program](#) except that only SQL with RID or RLIM Failures are shown, that is where an SQL exceeded a resource limit or a RID list could not be used for one of the following reasons:-

- A RID list was not used because the number of RIDS would have exceeded one or more internal DB2 limits.
- A RID list was not used because not enough storage was available to hold the list of RIDS.



Identifying such SQL is extremely valuable in tuning systems, as the SQL reported are SQL that have been forced to use a non-optimal access path due to some DB2 resource problem. The displays will show you the average and total costs for each statement, and will permit you to decide whether corrective action is justified.

Refer to [report 22](#) for further details of the information displayed.

25.3 SQL with same Select List

Select report [25.3](#) to display the [SQL with same Select List](#) display for the Workload as shown in the following figure:-

```

Cognito - myEXTRA! Enterprise
Consolidated Select Lists In Workload SQ Row 1 to 16 of 1000
Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
Report Truncated due to Max Lines More: >

Workload Total SQL: 4615

SQL Program Stmt Stmt SQL Average Total Total Total
No Name No Type Execs Fetches CPU Clock GetPages
-----> -----
329 Duplicat #0011 D-CURSORS 2499229 1 06:00:34 11:39:17 33791716
218 Duplicat #0002 S-CURSORS 104166 776 03:52:24 07:43:25 306037314
560 Duplicat #0006 D-CURSORS 147025 1 03:09:37 06:30:47 18412396
557 Duplicat #2635 S-SELECT 180859 1 03:00:32 12:31:44 60448474
554 Duplicat #0004 D-CURSORS 79069 1 02:38:35 05:40:56 19964071
559 Duplicat #1954 D-CURSORS 112888 1 01:47:06 05:10:49 36146202
6662 Duplicat #0004 S-SELECT 3682153 0 01:34:25 02:50:07 17500940
343 Duplicat #0021 D-CURSORS 139126 1 01:24:29 15:58:26 231237352
283 Duplicat #0008 D-CURSORS 438656 1 01:16:20 11:13:05 45080560
555 Duplicat #0002 D-CURSORS 87258 1 01:05:22 03:52:55 13179041
3997 Duplicat #0004 S-CURSORS 42463 1 01:04:01 07:01:28 100500597
556 Duplicat #0002 D-CURSORS 87260 1 01:00:09 01:49:15 12800475
3999 Duplicat #0004 S-CURSORS 42458 1 57:37.866 03:20:34 95178293
3998 Duplicat #0004 S-CURSORS 42467 1 56:28.664 02:50:23 93715835
17137 Duplicat #0006 S-SELECT 28553 0 50:53.640 01:04:12 16493313
6 Duplicat #0002 D-CURSORS 51008 1 37:26.802 02:42:45 58006033

[4B] :00.5 02/18

```

Figure 26 Consolidated Select List SQL

The display shows all SQL statements that have matching SELECT lists with other SQL.

Where a statement has been used in more than one program the Program Name field will display as **duplicat** and the Stmt No field will display as **#nnnn** where nnnn is the number of duplicates. Drilling on the Program Name field will show all of the other SQL that return the same result set. You can DRILL on each statement to see the SQL syntax and performance related data.

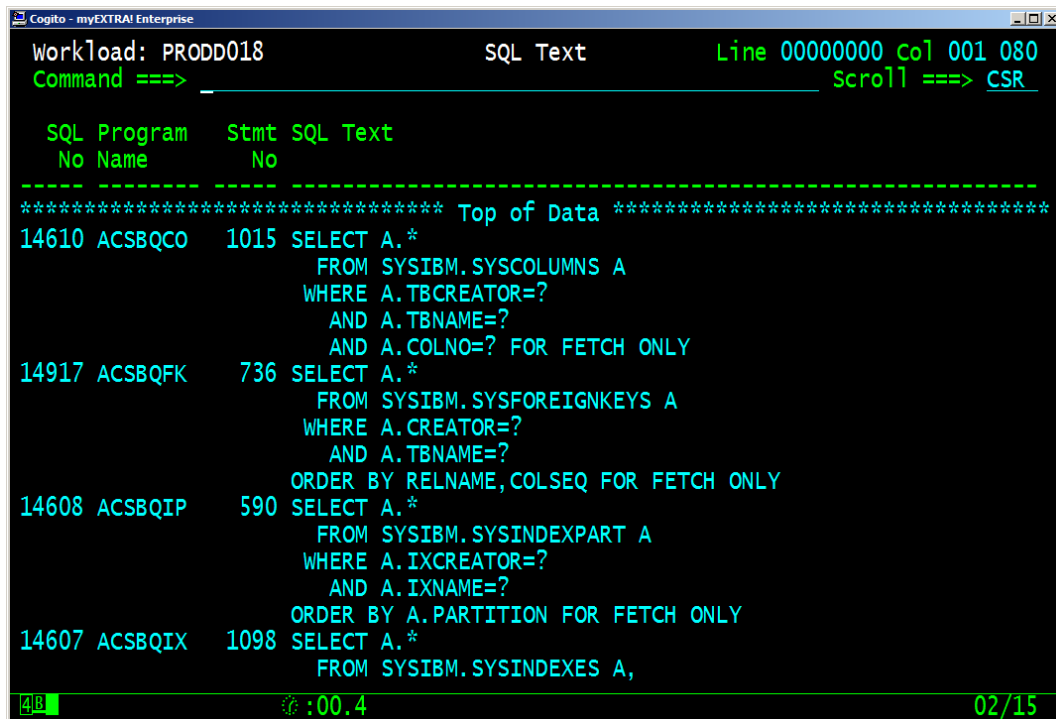


This information may be useful in assisting with the design of MQTs.

This display is equivalent to [report 22](#) except that only SQL with matching Select Lists are displayed by this option. Refer to [report 22](#) for further details of the information displayed.

25.4 SQL Text

Select report [25.4](#) to display the [SQL text](#) display for the Workload as shown in the following figure:-



```
Cogito - myEXTRA! Enterprise
Workload: PRODD018          SQL Text          Line 00000000 Col 001 080
Command ==>                Scroll ==> CSR

SQL Program  Stmt SQL Text
No Name      No
-----
***** Top of Data *****
14610 ACBQCO  1015 SELECT A.*
        FROM SYSIBM.SYSCOLUMNS A
        WHERE A.TBCREATOR=?
        AND A.TBNAME=?
        AND A.COLNO=? FOR FETCH ONLY
14917 ACBQFK  736 SELECT A.*
        FROM SYSIBM.SYSFOREIGNKEYS A
        WHERE A.CREATOR=?
        AND A.TBNAME=?
        ORDER BY RELNAME, COLSEQ FOR FETCH ONLY
14608 ACBQIP  590 SELECT A.*
        FROM SYSIBM.SYSINDEXPART A
        WHERE A.IXCREATOR=?
        AND A.IXNAME=?
        ORDER BY A.PARTITION FOR FETCH ONLY
14607 ACBQIX  1098 SELECT A.*
        FROM SYSIBM.SYSINDEXES A,
```

Figure 27 SQL Text

The display shows the text for all of the SQL statements in the Workload.

The following information is displayed on this panel:-

SQL No	SQL No is a unique internal name generated by EZ-Tracer/Cache to identify each distinct SQL statement..
Program Name	The program name containing the SQL statement.
Stmt No	The statement number within the program.
SQL Text	The SQL text



This display is an ISPF browse session on the member hlq.workload.REPORTS(T0030000), where HLQ is the high-level qualifier used by the EZ-DB2 software, and workload is the current Trace Workload name. This may be useful if you would like to extract the SQL in the workload to a flat-file for some purpose.

25.5 Flagged SQL

Select report [25.5](#) to display the **Flagged SQL** as shown in the following figure:-

```
Cogito - myEXTRA! Enterprise
Program SQL Execution Counts and Stats(Flagged) Row 1 to 4 of 4
Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
More: >

Workload Total SQL: 19903
SQL Program Stmt Stmt SQL Average Total Total Total
No Name No Type Execs Fetches CPU Clock GetPages
----->-----
560 DDF 560 D-CURSOR 133023 1 02:51:19 05:50:32 16080950
92 DDF 92 D-CURSOR 21810753 1 02:07:21 05:10:03 43869108
10401 ECMB591 373 S-CURSOR 2 1 58:59.245 01:59:19 23570314
397 DDF 397 D-CURSOR 106239 1 02:34.250 06:06.445 3914283
***** Bottom of Data *****
```

Figure 28 Flagged SQL

This option will show the **SQL by Program** report, but only for SQL that have been flagged.

This allows a workload to be examined initially to identify potential SQL which may need further investigation. Rather than examine each SQL as it is identified, the SQL can be flagged and then investigated further at a later time or indeed passed onto another user to investigate. The flag remains set across sessions and users.

An SQL statement can be flagged at any time by entering "FLAG SQL nn" where nn is the SQL number. When flagging an SQL, it is also necessary to enter some descriptive text, for example as a reminder as to why the particular SQL has been flagged.

To display the descriptive text, position the cursor on the SQL No and press the expand <PF6> Key.

An SQL statement can be un-flagged at any time by entering "FLAG SQL nn OFF" where nn is the SQL number.

A flagged SQL statement will have its SQL No shown in red.

To remove all flags from all SQL statements enter "FLAG SQL RESETALL"

Refer to report [22](#) for further details about the information shown in this report.

Refer to [the EZ-DB2 Commands Reference](#) for further details about the Flag command.

25.6 SQL with Errors



EZ-Tracer/Cache only!

Select report [25.6](#) to display the [SQL with Errors](#) report for the Workload as shown in the following figure:-

Cogito - myEXTRA! Enterprise

SQL with Errors

Row 1 to 16 of 258

Enter Command: _____ Scroll ==> CSR_

Trace Workload: DB2PXRAY DB2 System: DB2P Show: A (A/S/D)

More: >

Workload Total SQL: 258

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	CPU	SQL Error Tot	SQL Error Tot	SQL Error Tot	SQL Error Tot
99	%DDF	99	S-SELECT	707	00:00.242	811-	2		
104	RACGO390	22133	S-INSERT	1169	00:00.333	803-	69		
114	GOPITEM	8033	S-SELECT	858	00:00.500	305-	32		
124	%DDF	124	D-CURSOR	3286	00:04.072	204-	1		
154	GOPAPLY	4981	S-INSERT	2702	00:00.720	803-	8		
170	GOPITEM	6981	S-INSERT	16330	00:04.183	803-	242		
175	SDPITEM	2761	S-SELECT	162	00:00.016	811-	1		
176	SDPITEM	2844	S-SELECT	147	00:00.036	811-	1		
262	RACSD500	6622	S-SELECT	772	00:00.394	811-	1		
284	RACRE300	4136	S-SELECT	186	00:00.026	305-	94		
302	%DDF	302	S-CURSOR	6519	00:01.228	204-	2		
333	SLP66A	2494	S-SELECT	24	00:00.001	811-	24		
333	%DDF	333	S-SELECT	24	00:00.004	811-	16		
424	RACGO300	12633	S-SELECT	3919	00:01.796	305-	207		
466	PPCJ0007	416	S-INSERT	2	00:00.000	803-	2		
471	RACRA020	1634	S-SELECT	968	00:00.152	811-	687		

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Figure 29 SQL with Errors

This display lists all of the SQL statements that have negative SQL codes. The following information is displayed:-

SQL No

SQL No is a unique internal name generated by EZ-Tracer/Cache to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Error Audit Trail](#) report for the selected SQL number.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#)

Program Name

The Program name containing the First occurrence of a particular SQL statement.

You can DRILL on the Program Name to view the [SQL Error Audit Trail](#) report for the selected program.

Stmt No	The statement number within the program.
Stmt Type	The statement type i.e. OPEN, UPDATE, INSERT or DELETE.
SQL Execs	The number of executions of this SQL statement.
CPU	The Total CPU Cost for this SQL statement.
SQL Error	The negative SQL code.
Tot	The number of occurrences of this SQL code.

Additional SQL error codes associated with this SQL are displayed to the right. Page Right <**PF11**> for additional SQL codes.

25.7 SQL with Captured Host Variables



EZ-Tracer/Cache Only!

Select report [25.7](#) to display the [SQL with Captured Host Variables](#) display as shown in the following figure:-

Cogito - myEXTRA! Enterprise

Program SQL With Host Variables and Literal Row 1 to 16 of 19

Enter Command: _____ Scroll ==> CSR_

Trace Workload: GTHV1 DB2 System: DSN9 Show: A (A/S/D)

More: >

Workload Total SQL: 19

SQL No	Program Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU	Total Clock	Total GetPages
7	XOIPVW2	3214	D-CURSOR	17	2	00:00.233	00:00.304	9781
4	XOIPVW1	3475	D-CURSOR	15	15	00:00.193	00:00.915	5897
3	XOIPVW1	3437	D-CURSOR	10	7	00:00.150	00:01.249	6473
5	XOIPVW2	3138	D-CURSOR	10	7	00:00.142	00:00.226	6473
2	XOIPVW1	3399	D-CURSOR	20	110	00:00.073	00:01.645	7022
6	XOIPVW2	3176	D-CURSOR	5	15	00:00.063	00:00.137	1967
1	XOIPVW1	3361	D-CURSOR	20	50	00:00.060	00:03.280	5100
8	XOIPVW3	3054	D-CURSOR	2	2	00:00.028	00:00.040	1156
17	XOIPVW4	3466	D-UPDATE	1	0	00:00.015	00:00.907	456
12	XOIPVW4	3396	D-CURSOR	1	2	00:00.014	00:00.014	581
15	XOIPVW4	3641	D-INSERT	54	0	00:00.007	00:00.660	8
11	XOIPVW3	3159	D-UPDATE	1	0	00:00.005	00:00.778	262
13	XOIPVW4	3571	D-INSERT	5	0	00:00.002	00:00.337	2
18	XOIPVW4	3501	D-UPDATE	1	0	00:00.000	00:00.070	21
14	XOIPVW4	3606	D-INSERT	5	0	00:00.000	00:00.039	2
16	XOIPVW4	3431	D-UPDATE	1	0	00:00.000	00:00.016	9

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Figure 30 SQL with Captured Host Variables

Refer to [EZ-Tracer/Cache User Guide](#) for information about capturing Host Variable and Literal values.

This display is similar to [report 22 - SQL by Program](#) except that only SQL with Captured Host Variables are shown. Notice also that the SQL Execs field is DRILLABLE. That means that you can DRILL on this field to see the individual executions for each SQL as shown in [Figure 31](#)

The following information is displayed on this panel:-


Show:

Display Toggle field:-

- A - Show ALL SQL in Workload
- S - Show Static SQL Only
- D - Show Dynamic SQL Only

Workload Total SQL

The number of SQL in the Workload after Consolidation.

SQL No	<p>SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.</p> <p>You can DRILL on the SQL no to view the SQL Detail display.</p> <p>Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the EZ-DB2 Commands Reference Guide</p>								
Program Name	<p>The Program name issuing the SQL statement.</p> <p>You can DRILL on the Program name to view the SQL By Program display for the selected program,</p>								
Stmt No	The statement number within the program.								
Stmt Type	<p>The Statement Type:-</p> <table> <tr> <td>i-CURSOR</td><td>An Open Cursor Statement</td></tr> <tr> <td>i-SELECT</td><td>A Singleton Select</td></tr> <tr> <td>i-INSERT</td><td>An INSERT statement</td></tr> <tr> <td>i-DELETE</td><td>A DELETE statement</td></tr> </table> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>	i-CURSOR	An Open Cursor Statement	i-SELECT	A Singleton Select	i-INSERT	An INSERT statement	i-DELETE	A DELETE statement
i-CURSOR	An Open Cursor Statement								
i-SELECT	A Singleton Select								
i-INSERT	An INSERT statement								
i-DELETE	A DELETE statement								
SQL Execs	<p>The number of executions of this SQL statement. Note that in this report, this is a DRILLABLE field.</p> <p>DRILL <PF4> on SQL Execs to see the SQL execution report for the selected SQL as shown in Figure 31.</p> <div>  <p><i>See also the HV Command in the EZ-DB2 Commands Reference Guide.</i></p> </div>								
Average Fetches	The average number of fetches performed per SQL.								
Total CPU	The Total CPU Cost for this SQL statement.								
Total Clock	The Total Elapsed time for this SQL statement.								
Total Getpages	The Total number of GetPage requests.								
Average CPU	The Average CPU Cost for this SQL statement.								
Average Clock	The Average Elapsed time for this SQL statement.								
Average Getpages	The Average number of GetPage requests.								
Total Timerons	The Total DB2 Timerons for the SQL statement.								
Average Timerons	The Average DB2 Timerons for the SQL statement.								

Total Rows Processed	The Total Number of Rows Processed by this SQL statement.
Total Rows Looked at	The Total Rows Looked at for the SQL statement.
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests.
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests.
Total Row Updates	The Total number of Rows Updated.
Avg Rows Processed	The Average Number of Rows Processed.
Avg Rows Looked at	The Average Rows Looked at for the SQL statement.
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests.
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.
Avg Row Updates	The Average number of Rows Updated.
RID List Failures	The Number of RID List Failures that occurred for this SQL.
RLIM Failures	The number of times the SQL received an SQLCODE of -905 for exceeding a resource limit
SQL Lit	Indicates whether or not the SQL statement used hard coded literal value(s) Y - The SQL had a least one hard-coded literal value. N - The SQL had no hard coded literal values.
SQL Consold	The number of times this statement has been consolidated. That is, the number of times EZ-Tracer/Cache identified statements that were 'essentially' the same, and merged them into the same SQL no. Thus, a single SQL No may represent many different 'essentially the same' SQL statements.
Stg 2	Whether this SQL performed Stage -2 processing. Y - Stage 2 processing took place. N - Stage 1 Only.

You can DRILL on the SQL Execs field to show the [Program SQL with Host Variables and Literals](#) for the selected SQL. You may then DRILL down on each distinct execution of the SQL to see the specific Host Variable or literal values for that execution. For example, DRILL on the 17 SQL Execs for SQL No 7 to see the following display:-

Stmt Type	<p>The Statement Type:-</p> <table> <tr> <td>i-CURSOR</td><td>An Open Cursor Statement</td></tr> <tr> <td>i-SELECT</td><td>A Singleton Select</td></tr> <tr> <td>i-INSERT</td><td>An INSERT statement</td></tr> <tr> <td>i-DELETE</td><td>A DELETE statement</td></tr> </table> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>	i-CURSOR	An Open Cursor Statement	i-SELECT	A Singleton Select	i-INSERT	An INSERT statement	i-DELETE	A DELETE statement
i-CURSOR	An Open Cursor Statement								
i-SELECT	A Singleton Select								
i-INSERT	An INSERT statement								
i-DELETE	A DELETE statement								
Fetches	The number of fetches for this SQL.								
Total CPU	The Total CPU Cost for this SQL statement.								
Total Clock	The Total Elapsed time for this SQL statement.								
Total Getpages	The Total number of GetPage requests.								
Total Timerons	The Total Timeron cost for this SQL statement.								
Total Rows Processed	The Total Number of Rows Processed by this SQL statement.								
Total Rows Looked at	The Total Rows Looked at for the SQL statement.								
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests.								
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests.								
Total Row Updates	The Total number of Rows Updated.								
Avg Rows Processed	The Average Number of Rows Processed.								
Avg Rows Looked at	The Average Rows Looked at for the SQL statement.								
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests.								
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.								
Avg Row Updates	The Average number of Rows Updated.								
RID List Failures	The Number of RID List Failures that occurred for this SQL.								
RLIM Failures	The number of times the SQL received an SQLCODE of -905 for exceeding a resource limit								
SQL Code	The SQL code if an SQL error code was returned for this execution.								
Timestamp	The date and time for this execution.								



You can also generate a report filtered to include only SQL within a certain time range. See report option [25.8](#).

Threadkey

The Threadkey corresponding to this particular execution.
This is a DRILLABLE field.

Drill on this field to see the [Program SQL with Host Variables and Literals report](#) for all SQL in the same thread.

25.8 SQL Executions Ad Hoc Reports



EZ-Tracer/Cache only!

This option is used to generate Ad Hoc Reports based upon the [SQL with Captured Host Variables](#) report, to generate reports based upon selection criteria, such as Plan/ Package name, and time stamp range.

Select Option [25.8](#) to display the following panel:-

Cogito - myEXTRA! Enterprise

Generate Timeline Report on SQL Executions

Enter Command: _____ Scroll ==> CSR_

Trace Workload: GTHV1 Trace: Interval:

* When Host Variable and Literals are captured there is a record of *

* all executions of SQL. To produce a report of all SQL executed by *

* a program or group of programs and/or a time period then enter the *

* appropriate filter parameters below. At least one must be specified *

SQL Executions For :

Collid.....: _____

Plan.....: _____

Package.....: XOPIVPW1

Authid.....: _____

YYYY-MM-DD HH:MM:SS.TTTTTT

From Timestamp..: 2012-07-09 16:16:15.175955

To Timestamp....: 2012-07-09 16:16:30.612925

4B :00.1 02/17

Figure 32 Ad Hoc Report

Collid	Optionally specify a collection ID to be used as a filter.
Plan	Optionally specify a Plan name to be used as a filter.
Package	Optionally specify a Package name to be used as a filter.
Authid	Optionally specify a AUTHID to be used as a filter.
From Timestamp	Optionally specify a FROM timestamp to be used as a filter.
To Timestamp	Optionally specify a TO timestamp to be used as a filter

At Least one filter must be specified. After specifying the filters, press <enter> to generate the report. The report generated will be the same as shown in Figure [31](#)

25.9 SQL with Stage 2 processing



EZ-Tracer/Cache only!

Select report [25.9](#) to display the **SQL with Stage 2 processing** report as shown in the following figure:-

Cogito - myEXTRA! Enterprise

SQL With Stage 2 Processing Row 1 to 16 of 769

Enter Command: _____ Scroll ==> CSR_

Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)

More: >

Workload Total SQL: 0

SQL Program No	Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU	Total Clock	Total GetPages
10943	SWSB250	2022	S-SELECT	370611	0	01:27:54	02:34:38	11743282
2222	ECMP2066	1118	S-CURSOR	144901	2	01:22:35	01:41:49	7028000
722	ECMP2004	2060	S-CURSOR	429260	4	30:31.702	01:41:32	19896470
6	DDF	6	D-CURSOR	25506	1	29:07.127	02:09:12	43037183
12803	MOTO084	597	S-CURSOR	764	1	27:29.905	01:25:54	15580335
246	UPDO115	2092	S-SELECT	12452550	0	25:16.498	37:52.832	11578829
854	UCMPADID	1250	S-CURSOR	41341	1	21:13.591	24:54.295	3402394
251	UPDO120	8706	S-CURSOR	213190	25	20:07.763	02:40:08	18319392
1230	MOTB805	5758	S-CURSOR	7	2421919	14:56.531	29:33.882	2983767
3208	DDF	3208	D-CURSOR	33	476	13:00.242	29:33.334	14957377
297	DDF	297	D-CURSOR	348963	1	12:20.328	03:06:03	17267198
2576	DDF	2576	D-CURSOR	4	1	12:08.518	17:27.110	1452040
10187	DDF	10187	D-CURSOR	10	1	11:56.008	23:27.609	10757393
981	UPDO120	8704	S-CURSOR	123957	24	11:17.393	01:10:00	11158209
3207	DDF	3207	D-CURSOR	33	3	11:12.386	21:09.448	14172595
1212	DDF	1212	D-CURSOR	10237	1	10:24.520	01:26:21	4186786

4B :00.1 02/18

Figure 33 SQL with Stage 2 Processing

This option will show the **SQL by Program** report, but only for SQL that have stage 2 processing..

Refer to report [22](#) for further details about the information shown in this report.

25.10 SQL Error Audit Trail



EZ-Tracer/Cache only!

Select report [25.10](#) to display the **SQL Error Audit Trail** report as shown in the following figure:-

Note that you can also view this display by DRILLING on a particular SQL No or Program name in report [25.6](#)

SQL With Errors						Row 1 to 17 of 80
Enter Command: _____						Scroll ==> CSR_
Trace Workload: RT79 DB2 system: DSN9						
SQL No	Program Name	Stmt No	Stmt Type	Error Code	Timestamp	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:32:31.614091	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:32:48.403942	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:32:50.044264	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:32:51.140683	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:32:52.176995	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:07.769413	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:09.142328	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:10.494928	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:11.878976	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:13.017791	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:14.038175	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:15.128499	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:16.165702	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:17.202702	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:18.238555	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:31.592820	
2	DSNESM68	189	D-INSERT	-117	2015-02-23 15:33:32.933367	

Figure 34 SQL Error Audit trail

SQL No

SQL No is a unique internal name generated by EZ-Tracer/Cache to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Detail](#) display.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#)

Program Name

The Program name containing the First occurrence of a particular SQL statement.

Stmt No

The statement number within the program.

Stmt Type

The statement type i.e. OPEN, UPDATE, INSERT or DELETE.

SQL Error

The negative SQL code.

Timestamp

The TIMESTAMP when this error occurred.

25.11 SQL Access Paths



EZ-Tracer/Cache only!

Select report [25.11](#) to display the **SQL Access Paths** report as shown in the following figure:-

Static SQL Access Paths										Row 1 to 16 of 448
Enter Command:		Trace Workload: GTSTD2		DB2 System: DSN9						Scroll ==> CSR_
										Show: S (A/S/D)
										More: >
Workload Total SQL: 106		chgng A-P: 0		Unmatched: 0						
SQL Program No	Name	Stmt No	Stmt Type	V	QB	PN	M	Table Name	Index Name	
23	STDPLS10	4873	S-DELETE	B	1	1		XOP_CUSTOMER	XXCUSAX1	
				E	1	1		XOP_CUSTOMER	XXCUSAX1	
24	STDPLS10	4926	S-DELETE	B	1	1		XOP_PRODUCT	XXPROAX1	
				E	1	1		XOP_PRODUCT	XXPROAX1	
25	STDPLS10	5253	S-INSERT	B	1			XOP_CUSTOMER		
				E	1			XOP_CUSTOMER		
26	STDPLS10	5321	S-INSERT	B	1			XOP_PRODUCT		
				E	1			XOP_PRODUCT		
27	STDPLS10	5386	S-INSERT	B	1			XOP_ORDER		
				E	1			XOP_ORDER		
28	STDPLS10	3857	S-CURSOR	B	1	1		XOP_CUSTOMER	XXCUSAX1	
				B	1	2	1	XOP_ORDER	XXORDAX1	
				B	1	3	1	XOP_PRODUCT	XXPROAX1	
				B	1	4	3			
				E	1	1		XOP_CUSTOMER	XXCUSAX1	
				E	1	2	1	XOP_ORDER	XXORDAX1	

Figure 35 SQL Access Paths

The **Access Path** report summarizes the Access Paths for each SQL in the Tracer Workload. The following information is displayed on this screen:-

Workload The Workload name.

Show: _ (A/S/D) You can filter the report to include

A All SQL
S Static SQL
D Dynamic SQL

Workload Total SQL The total number of SQL in the Workload.

SQL No An EZ-DB2 internal identifier used to represent each distinct SQL statement being processed for a particular WORKLOAD.

Program Name The name of the program containing this SQL statement.

Stmt No The statement number within the program.

Stmt Type	<p>The statement type ie.</p> <p>i-CURSOR i-SELECT i-INSERT i-DELETE.</p> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>
------------------	--

The following section describes the access path details

Column	Name	Description
V	Version	<p>The Version Identifier that this access path description refers to.</p> <p>E The access path obtained by doing a dynamic explain of the SQL (Dynamic and Static SQL)</p> <p>B The access path obtained from a BIND plan table (Static SQL only).</p>
QB	QBLOCKNO	A number that identifies each query block within a query. The value of the numbers are not in any particular order nor are they necessarily consecutive.
PN	PLANNO	The number of the step in which the query indicated in QBLOCKNO was processed. This Column indicates the order in which the steps were executed.
M	METHOD	<p>A number that indicates the join method used</p> <p>0, First table accessed, continuation or not used 1, Nested loop join. 2, Merge scan join. 3, Sorts needed. This step does not need a table. 4, Hybrid join</p>
Table Name		The name of a table, MQT, created or declared temp table, materialized view, or materialized table expression. Blank if METHOD=3. Note that you can DRILL on a table name to see the associated catalog statistics for the selected table.
Index Name		The Index Name if applicable. Note that you can DRILL on an Index name to see the associated catalog statistics for the selected index.
AT	ACCESSTYPE	<p>The method of accessing the table</p> <p>I , by an index I1, by a one fetch index scan N , by an index scan matching IN list of values R , tablespace scan M , multiple indexscan, followed by MX, MI or MU</p>

		MX, index scan on the named index MI, an intersection of multiple indexes MU, a union of multiple indexes RW, workfile scan of materialised user-def tab func T, by a sparse index (star join workfile) V, by buffers for an INSERT statement in a select.
P	PREFETCH	blank, No prefetch S, Pure sequential prefetch L, List prefetch D, Optimizer expects dynamic prefetch (V8)
MC	MATCH COL	For ACCESTYPE I,I1,N or MX the number of index keys used in an index scan; otherwise, 0.
SC	SCREEN COLS	For ACCESTYPE I,I1,N or MX the number of index keys on top of MATCHCOLS used for index screening.
S2		1 =Stage 1 Only, 2 =Stage 2 processing took place, blank =DSN_FILTER_TABLE unavailable in which case if DMROWS=RDSROWS then probably no Stage 2 processing.
XO	INDEX ONLY	Y index only access, else N
MX	MIXOPSEQ	The sequence number in multiple index operation. 1,2,...n. For the steps of the multiple index procedure (ACCESTYPE is MX, MI or MU) 0 For any other rows (ACCESTYPE is I, I1, M, N, R, or blank)
JT	JOIN TYPE	The type of an Outer Join F = Full Outer Join L = Left Outer Join S= Star Join blank = Inner Join or No Join Note: RIGHT OUTER JOIN converts to a LEFT OUTER JOIN when you use it so JT contains L
CF	COLUMN FN EVAL	When SQL column function is to be evaluated R, when data is read from table of index S, during a SORT for GROUPBY blank, after data retrieval and after any sorts
SORTS		Indicates the types of SORT performed UN = SORT to remove duplicate rows JN = SORT for join method 2 or 4 ON = SORT executed for ORDERBY GN = SORT executed for GROUPBY UC = Composite table sorted to remove duplicates JC = Composite table sorted for join method 1,2 or 4 OC = Composite table sorted for ORDERBY or a quantified predicate GC = Composite table sorted for GROUPBY

AD	ACCESS DEGREE	The number of parallel tasks or operations activated by a query. This value is determined at bind time; the actual number of parallel operations used at execution time could be different. This column is blank if there is a host variable.	
JD	JOIN DEGREE	The number of parallel operations or tasks used in joining the composite table with the new table. This value is determined at bind time, and can be blank if there is a host variable. The actual number of parallel operations or tasks used at execution time could be different.	
PM	PARALLELISM MODE	The kind of parallelism, if any, used at bind time. I Query I/O parallelism C Query CP parallelism X Sysplex query parallelism	
LKM	TSLOCKMODE	An indication of the mode of Lock to be acquired IS Intent share lock IX Intent exclusive lock S Share lock U Update lock X Exclusive lock SIX Share with intent exclusive lock N UR isolation; no lock NS For UR isolation, no lock; for CS, RS, or RR an S lock NI For UR isolation, no lock; for CS, RS, or RR an IS lock NSS For UR isolation, no lock; for CS or RS, an IS lock; for RR, an S lock SS For UR, CS, or RS isolation, an IS lock; for RR, an S lock	
PR	PAGE RANGE	Indication of whether the table qualifies for page range screening, so that plans scan only the partitions that are needed. Y YES Blank NO	
Table Creator		Creator of the new table created in this step blank if method is 3.	
Database Name		The name of the database for the table.	
Hint Used		If DB2 has used an optimization hint, contains the identifier for that hint (the value of OPTHINT).	

Bind Time

The time at which the plan or package for this statement or query block was bound. For static SQL statements, this is a full precision timestamp value. For dynamic SQL, this is the value contained in the `TIMESTAMP` column appended by 4 zeros.



From the Access Path Detail Report, you can DRILL on a SQL No to see the SQL Detail displays for the Selected SQL.

31 Authid SQL Detailed Costs

Select **report 31** to display the **Authid SQL Detailed Costs** as shown in the following figure:-

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Authid SQL Execution Counts and Statistics Row 1 to 16 of 1000

Enter Command: _____ Scroll ==> CSR_
 Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
 Report Truncated due to Max Lines More: >

Workload Total SQL: 21370

SQL No	Authid	Program Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU
553	OOOPUSER	DDF	553	D-CURSOR	1739392	1	05:36:50.327
218	DB2USER	ECMP2037	2039	S-CURSOR	92332	872	03:49:52.539
560	OOOPUSER	DDF	560	D-CURSOR	133023	1	02:51:19.249
554	OOOPUSER	DDF	554	D-CURSOR	72089	1	02:36:32.839
92	OOOPUSER	DDF	92	D-CURSOR	18797227	1	01:48:20.420
40	COGPUSER	DSNACOL8	2475	S-INSERT	257503	0	01:38:56.935
10943	P14300	SWSB250	2022	S-SELECT	370611	0	01:27:54.847
2222	DB2USER	ECMP2066	1118	S-CURSOR	144901	2	01:22:35.504
155	DB2USER	WSMS103	8703	S-SELECT	2547142	0	01:22:07.480
2760	DB2USER	WVCS119	2196	S-SELECT	11255	0	01:07:26.307
555	OOOPUSER	DDF	555	D-CURSOR	87068	1	01:05:09.820
58	COGPUSER	DDF	58	D-CURSOR	1156	28	01:05:06.845
1033	TRSPROD	ASRPRSC2	366	S-CURSOR	42377	1	01:03:59.038
283	OOOPUSER	DDF	283	D-CURSOR	321383	1	01:02:15.527
556	OOOPUSER	DDF	556	D-CURSOR	87153	1	01:00:04.943
10401	P14300	ECMB591	373	S-CURSOR	2	1	58:59.245853

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Figure 36 Authid SQL Detailed Costs

The report is similar to the SQL by Program display, except the report is broken down by AUTHID.

If an SQL is executed by multiple AUTHIDS, there will be multiple occurrences of the SQL No in the report.



You can Sort on SQL No to see all of the AUTHIDS that execute a particular SQL. You can DRILL on an AUTHID to see all of the SQL executed by that AUTHID.

The following information is displayed on this panel:-

Show:

Display Toggle field:-

- A - Show ALL SQL in Workload
- S - Show Static SQL Only
- D - Show Dynamic SQL Only

Workload Total SQL

The number of SQL in the Workload after Consolidation.

SQL No	<p>SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.</p> <p>You can DRILL on the SQL no to view the SQL Detail display.</p> <p>Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the EZ-DB2 Commands Reference Guide</p>								
AUTHID	<p>The AUTHID that executed this SQL.</p> <p>You can DRILL on the AUTHID to filter the report for the selected AUTHID.</p>								
Program Name	<p>The Program name issuing the SQL statement.</p> <p>You can DRILL on the Program name to view the SQL By Program display for the selected program,</p>								
Stmt No	The statement number within the program.								
Stmt Type	<p>The Statement Type:-</p> <table> <tr> <td>i-CURSOR</td><td>An Open Cursor Statement</td></tr> <tr> <td>i-SELECT</td><td>A Singleton Select</td></tr> <tr> <td>i-INSERT</td><td>An INSERT statement</td></tr> <tr> <td>i-DELETE</td><td>A DELETE statement</td></tr> </table> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>	i-CURSOR	An Open Cursor Statement	i-SELECT	A Singleton Select	i-INSERT	An INSERT statement	i-DELETE	A DELETE statement
i-CURSOR	An Open Cursor Statement								
i-SELECT	A Singleton Select								
i-INSERT	An INSERT statement								
i-DELETE	A DELETE statement								
SQL Execs	The number of executions of this SQL statement.								
Average Fetches	The average number of fetches performed per SQL.								
Total CPU	The Total CPU Cost for this SQL statement.								
Average CPU	The Average CPU Cost for this SQL statement.								
Total Clock	The Total Elapsed time for this SQL statement.								
Average Clock	The Average Elapsed time for this SQL statement.								
Total Rows Processed	The Total Number of Rows Processed by this SQL statement.								
Total Rows Looked at	The Total Rows Looked at for the SQL statement.								
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests.								
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests.								
Total Row Updates	The Total number of Rows Updated.								

Total Getpages	The Total number of GetPage requests.
Avg Rows Processed	The Average Number of Rows Processed.
Avg Rows Looked at	The Average Rows Looked at for the SQL statement.
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests.
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.
Avg Rows Updated	The Average number of Rows Updated.
Average Getpages	The Average number of GetPage requests.

SQL Executions

The total Number of Executions of all SQL executed by this program by this Authid.

Total CPU

The total CPU cost of all SQL executed by this program by this Authid.

Total Clock

The total Elapsed time of all SQL executed by this program by this Authid.

33 Program Authid Summary

Select [report 33](#) to display the [Program Authid Summary](#) as shown in the following figure:-

Program Name	Authid	Total SQL	SQL Executions	Total CPU	Total Clock
ASRPACL1	TRSPROD	1	30	00:00.617922	00:17.441414
ASRPACL2	TRSPROD	1	29	00:00.614817	00:15.990941
ASRPACL4	TRSPROD	1	29	00:00.258875	00:04.047053
ASRPARM1	TRSPROD	1	1	00:00.357525	00:04.456616
ASRPARM2	TRSPROD	1	1	00:00.482609	00:12.731287
ASRPCNTC	TRSPROD	6	250497	01:16.136201	07:44.878972
ASRPDCL1	TRSPROD	1	56	00:02.375300	00:31.940913
ASRPDCL2	TRSPROD	1	56	00:01.683405	00:51.728117
ASRPDCL3	TRSPROD	1	56	00:00.523221	00:01.898275
ASRPDCL4	TRSPROD	1	56	00:00.777790	00:11.395718
ASRPDUPL	TELEPROD	7	118100	01:03.285096	18:03.871170
ASRPGETK	TELEPROD	1	31969	00:13.826062	00:44.953884
ASRPGETK	TRSPROD	1	51110	00:37.505301	02:52.009241
ASRPASC2	TRSPROD	1	42377	01:03:59.038	07:00:08.365
ASRPASC3	TRSPROD	1	42381	56:27.812503	02:50:20.481

Figure 38 Program Authid Summary

This option summarizes all of the Authids that executed each Program for the Workload. By default, the display is sorted by [Total CPU](#), but you could for example Sort by Program to see the summary information for each Program. The following information is displayed:-

Workload Total Pgms	The number of different Programs encountered in this Workload, Trace Number or Summary Interval.
Program Name	The Program name. There will be a line for each Authid that executed each program. You can DRILL on the Program name to see the Authid SQL Detailed Costs for the selected Program/Authid.
Authid	The Authid that executed this program. There will be a line for each Authid that executed this program. You can DRILL on the Authid to see the Authid SQL Detailed Costs for the selected Program/Authid.
Total SQL	The total number of SQL statements executed by this program for this Authid.
SQL Executions	The total Number of Executions of all SQL executed by this program by this Authid.

Total CPU

The total CPU cost of all SQL executed by this program by this Authid.

Total Clock

The total Elapsed time of all SQL executed by this program by this Authid.

41 Plan Program Summary

Select [report 41](#) to display the [Plan Program Summary](#) as shown in the following figure:-

Enter Command: _____ Row 1 to 15 of 1000
Trace Workload: PRODD018 DB2 System: DSN9 Version: E Scroll ==> CSR_

Workload Total PLANS: 38

Plan Name	Program Name	Total SQL	SQL Execs	Total CPU	Total Clock
DISTSERV	DDF	11251	59016784	43:50:55.223	99:99:99.999
BM	ECMP2037	7	923329	03:51:08.586	07:35:18.778
BM	WSMS103	21	13877929	03:43:26.439	15:10:13.990
DISTSERV	DSNACOL8	8	1292069	02:52:43.443	05:58:54.405
BM	WVCS103	7	54827795	02:23:48.941	12:08:20.633
BM	SWSB250	9	19770468	02:05:02.417	04:09:10.443
BM	UPDO110	35	10344011	02:02:39.094	04:43:39.150
BM	WVCS119	6	67484	01:57:00.445	05:30:34.758
BM	ECMP2066	4	869406	01:23:24.404	01:42:54.790
BM	SCRO046	49	7235024	01:21:25.992	32:53:14.676
BM	UPDO120	47	6367325	01:15:06.722	09:16:35.677
BM	MOTB110	19	42460754	01:14:26.569	21:06:21.564
BM	UPDO135	28	12761936	01:13:47.453	09:04:57.318
BM	WVCS105	15	15066181	01:09:41.655	10:58:16.331
DISTSERV	ASRPRSC2	1	42377	01:03:59.038	07:00:08.365

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Figure 39 Plan Program Summary

This option summarizes all of the programs executed by each PLAN for the current Workload. By default, the display is sorted by [Total CPU](#), but you could for example Sort by PLAN to see the summary information for each PLAN.

The following information is displayed:-

Workload Total Plans The number of different Plans encountered in this Workload.

Plan Name The authorization id. There will be a line for each program executed by each Plan.

You can DRILL on the Plan Name to see the [Plan SQL Detailed Costs](#) for the selected Plan Name/ Program name..

Program Name The program name executed by this Plan. There will be a line for each program executed by each Plan.

You can DRILL on the Program Name to see the [Plan SQL Detailed Costs](#) for the selected Plan Name/ Program name.

Total SQL The total number of SQL statements executed by this program for this Plan.

SQL Execs The total number of executions of all SQL executed by this program by this Plan.

Total CPU

The total CPU cost of all SQL executed by this program by this Plan.

Total Clock

The total Elapsed time of all SQL executed by this program by this Plan.

42 Plan SQL Detailed Costs

Select [report 42](#) to display the [Plan SQL Detailed Costs](#) as shown in the following figure:-

Plan SQL Execution Counts and Statistics Row 411 to 426 of 1000

Enter Command: _____ Scroll ==> CSR_
Trace Workload: PRODD018 DB2 System: DSN9 Show: A (A/S/D)
More: >

Workload Total SQL: 20129

SQL No	Plan Name	Program Name	Stmt No	Stmt Type	SQL Execs	Average Fetches	Total CPU
2037	DISTSERV	ASRPCNTC	393	S-SELECT	120091	0	00:41.612996
2038	DISTSERV	ASRPCNTC	442	S-CURSOR	111964	1	00:31.021293
4982	DISTSERV	ASRPDUPL	489	S-CURSOR	21923	1	00:41.580018
2232	DISTSERV	ASRPGETK	157	S-INSERT	83079	0	00:51.331363
1033	DISTSERV	ASRPWSC2	366	S-CURSOR	42377	1	01:03:59.038
1034	DISTSERV	ASRPWSC3	366	S-CURSOR	42381	1	56:27.812503
1035	DISTSERV	ASRPWSC4	366	S-CURSOR	42372	1	57:36.631228
3094	DISTSERV	ASRPUSML	379	S-CURSOR	65	2	13:14.256360
2514	DISTSERV	ASRPTRNS	700	S-CURSOR	1585	2	01:08.322188
7011	DISTSERV	ASRPUSRM	516	S-CURSOR	26	1	03:30.208630
7007	DISTSERV	ASRPUSRM	534	S-CURSOR	4	1	01:17.827736
2693	DISTSERV	CMSP01S0	447	S-CURSOR	4121	1	00:28.516963
2966	DISTSERV	CMSP05S1	428	S-CURSOR	5714	1	00:29.135525
202	DISTSERV	CMSP7004	453	S-CURSOR	6328	1	00:22.963742
2949	DISTSERV	CMSP99S1	1708	S-CURSOR	1804	1	01:49.468648
5971	DISTSERV	CORPZZ10	1536	S-CURSOR	67	2	00:34.107666

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Figure 40 Plan SQL Detailed Costs

The report is similar to the SQL by Program display, except the report is broken down by Plan Name. By default the report is sorted by Total CPU.

The following information is displayed on this panel:-

Show:

Display Toggle field:-

- A - Show ALL SQL in Workload
- S - Show Static SQL Only
- D - Show Dynamic SQL Only

Workload Total SQL

The number of SQL in the Workload after Consolidation.

SQL No

SQL No is a unique internal name generated by EZ-DB2 to identify each distinct SQL statement.

You can DRILL on the SQL no to view the [SQL Detail](#) display.

Flagged SQL Statements are shown in red. Refer to the FLAG SQL command in the [EZ-DB2 Commands Reference Guide](#)

Plan Name	<p>The Plan Name that executed this SQL.</p> <p>You can DRILL on the Plan name to filter the report for the selected Plan.</p>								
Program Name	<p>The Program name issuing the SQL statement.</p> <p>You can DRILL on the Program name to view the SQL By Program display for the selected program,</p>								
Stmt No	The statement number within the program.								
Stmt Type	<p>The Statement Type:-</p> <table> <tr> <td>i-CURSOR</td><td>An Open Cursor Statement</td></tr> <tr> <td>i-SELECT</td><td>A Singleton Select</td></tr> <tr> <td>i-INSERT</td><td>An INSERT statement</td></tr> <tr> <td>i-DELETE</td><td>A DELETE statement</td></tr> </table> <p>The indicator i - indicates whether the statement is Static(S) or Dynamic(D).</p>	i-CURSOR	An Open Cursor Statement	i-SELECT	A Singleton Select	i-INSERT	An INSERT statement	i-DELETE	A DELETE statement
i-CURSOR	An Open Cursor Statement								
i-SELECT	A Singleton Select								
i-INSERT	An INSERT statement								
i-DELETE	A DELETE statement								
SQL Execs	The number of executions of this SQL statement.								
Average Fetches	The average number of fetches performed per SQL.								
Total CPU	The Total CPU Cost for this SQL statement.								
Average CPU	The Average CPU Cost for this SQL statement.								
Total Clock	The Total Elapsed time for this SQL statement.								
Average Clock	The Average Elapsed time for this SQL statement.								
Total Rows Processed	The Total Number of Rows Processed by this SQL statement.								
Total Rows Looked at	The Total Rows Looked at for the SQL statement.								
Total Rows DM Stage-1	The Total Number of DM Stage-1 requests.								
Total Rows RDS Stage-2	The Total Number of RDS Stage-2 requests.								
Total Row Updates	The Total number of Rows Updated.								
Total Getpages	The Total number of GetPage requests.								
Avg Rows Processed	The Average Number of Rows Processed.								
Avg Rows Looked at	The Average Rows Looked at for the SQL statement.								
Avg Rows DM Stage-1	The Average Number of DM Stage-1 requests.								
Avg Rows RDS Stage-2	The Average Number of RDS Stage-2 requests.								

Avg Rows Updated

The Average number of Rows Updated.

Average Getpages

The Average number of GetPage requests.