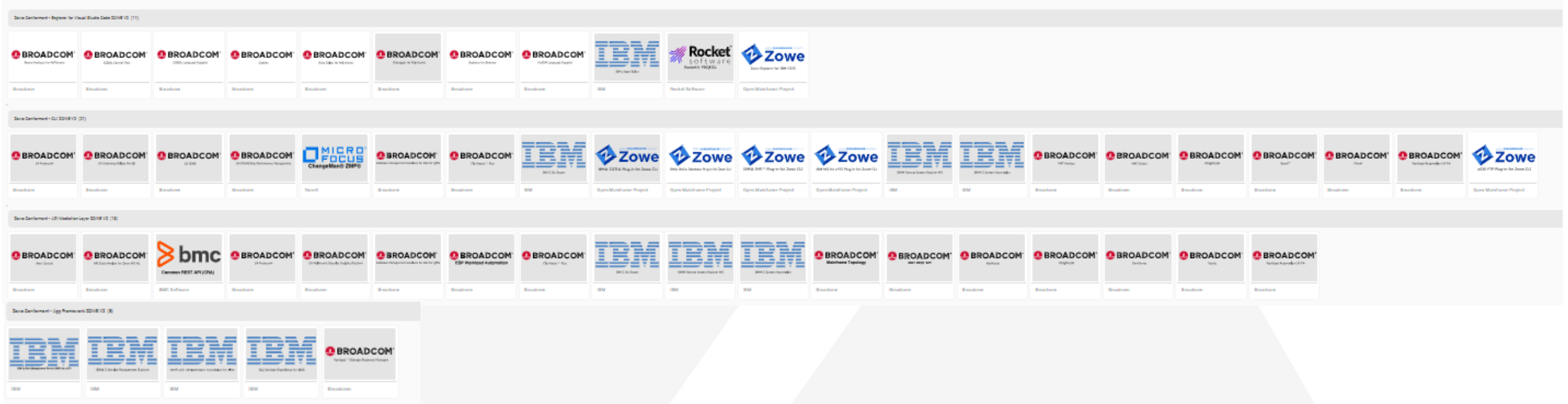


Zowe Day Part 4: Built-On-Zowe Extenders Showcase Their Apps

Ulf Heinrich, SEGUS

With over 75 Zowe conformant extensions, you are bound to be using a product, solution or practical application enabled by one of them! Attend this session to see demonstrations and meet the vendors who develop them.





SEGUS

SEGUS Extensions Overview

As an IBM Partner in Development, we offer Db2 z/OS products since the beginning of Db2

- SQL Workload Management
- Database Access Monitoring
- Object and System Cloning
- Db2 Space & Resource Management
- Database Maintenance
- Access Path & Performance Management
- Plus lots of Free of Charge HealthCheck tools



With the announcement of Zowe, we started to integrate into the Zowe Ecosystem, to exploit the powerful and modern capabilities of the Zowe Desktop.

In 2021, our first Apps have been approved Conformant for the App Framework

SEGUS Showcased Extension

Using our Zowe App GUI frontends, daily Db2 tasks become an easy and efficient experience

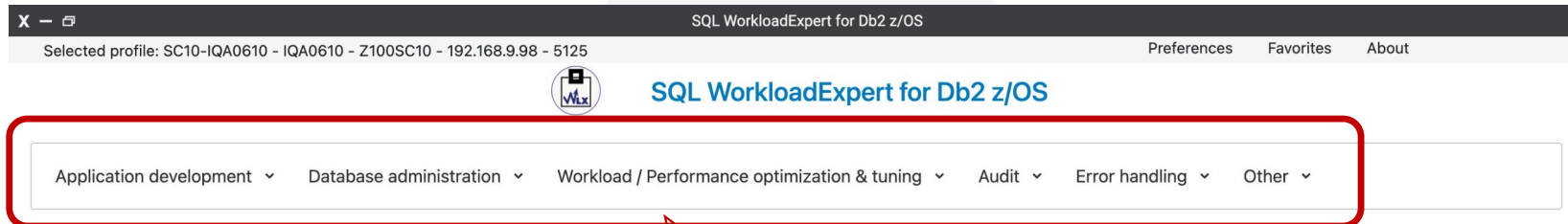
- Powerful, enterprise-wide workload analysis, exploiting predefined Use Cases
- Reliable, full-picture Db2 auditing with pre-canned, customizable reporting
- Highly efficient, proactive Db2 resource monitoring and management

Like the entire Zowe Ecosystem, our Db2 Zowe Apps are built on rock solid, proven z/OS technology, enriched by HTML5 and Angular-powered front-ends.

Our Db2 products have been used for decades by Db2 experts and are loved by younger mainframe folks, who appreciate easy-to-use solutions for their daily work.

Check <https://www.segus.com/> for further information.

SEGUS Showcased Extension

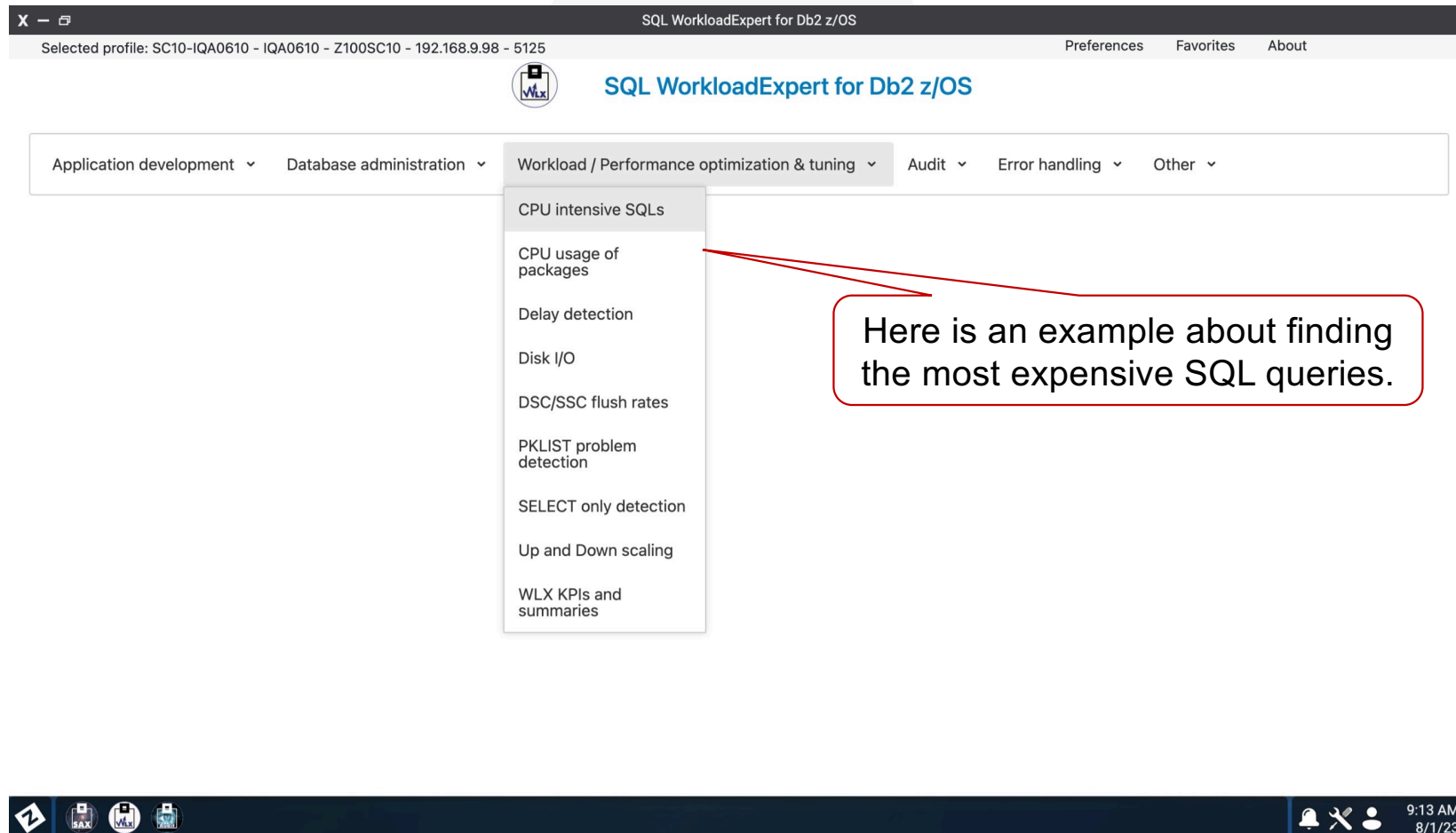


1st showcase:
SQL workload analysis:

WLX comes with more than 70 prepared Use Cases, categorized into six areas of interest for quick and easy workload analysis scenarios.



SEGUS Showcased Extension



The screenshot displays the SQL WorkloadExpert for Db2 z/OS application window. The title bar shows the application name and the selected profile: "Selected profile: SC10-IQA0610 - IQA0610 - Z100SC10 - 192.168.9.98 - 5125". The main menu includes "Application development", "Database administration", "Workload / Performance optimization & tuning", "Audit", "Error handling", and "Other". The "Workload / Performance optimization & tuning" menu is expanded, showing options such as "CPU intensive SQLs", "CPU usage of packages", "Delay detection", "Disk I/O", "DSC/SSC flush rates", "PKLIST problem detection", "SELECT only detection", "Up and Down scaling", and "WLX KPIs and summaries". A red callout box points to "CPU intensive SQLs" with the text: "Here is an example about finding the most expensive SQL queries." The bottom status bar shows system icons, a clock displaying "9:13 AM 8/1/23", and a user profile icon.

SEGUS Showcased Extension

The screenshot shows the SQL WorkloadExpert for Db2 z/OS application. The title bar indicates the selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151. The main window title is "SQL WorkloadExpert for Db2 z/OS". The "Application Workload" section is active, and the "Projection" dialog box is open. The dialog has tabs for "Projection", "Selection", "Sorting", "Preferences", and "Favorites".

Available Columns

Label	Description	Add
PROGRAM	Package	>
PACKAGE_COLLID	Collection ID	>
STMT_ORIGIN	Statement Origin	>
NUMBER_OF_STATEMENTS	Number of Statements	>
TOTAL_CPU_TIME	Sum of CPU Time	>
HIGHEST_CPU_TIME	Highest CPU Time	>
TOTAL_ELAPSED_TIME	Sum of Elapsed Time	>
HIGHEST_ELAPSED_TIME	Highest Elapsed Time	>
TOTAL_GETPAGES	Sum of GETPAGES	>
HIGHEST_GETPAGES	Highest GETPAGES	>
TOTAL_SYNC_BUFFER_READS	Sum of Synchronous Buffer Reads	>
TOTAL_SYNC_BUFFER_WRITES	Sum of Synchronous Buffer Writes	>
TOTAL_ROWS_EXAMINED	Sum of Rows examined	>
TOTAL_ROWS_PROCESSED	Sum of Rows processed	>
TOTAL_INDEX_SCANS	Sum of Index scans	>

Selected Columns

Label	Description	Remove
PRIM_AUTHOR	Primary Authorization ID	x
TOTAL_EXECUTIONS	Sum of Executions	x
AVERAGE_CPU_TIME	Average CPU Time	x
AVERAGE_ELAPSED_TIME	Average Elapsed Time	x
AVERAGE_GETPAGES	Average GETPAGES	x

Buttons: Cancel, OK

System tray: 9:42 AM, 8/1/23

Each Use Case chosen guides you through some customization to fit exactly your needs

First we select the data we want to report (Projection)...

SEGUS Showcased Extension

SQL WorkloadExpert for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Preferences Favorites About

SQL WorkloadExpert for Db2 z/OS

Application Workload

◦ Projection **▾ Selection** 📄 Sorting ⚙ Preferences ★ Favorites

Available Columns		
Label	Description	Add
AVERAGE_CPU_TIME	Average CPU Time	>
AVERAGE_ELAPSED_TIME	Average Elapsed Time	>
AVERAGE_GETPAGES	Average GETPAGES	>
PACKAGE_COLLID	Collection ID	>
CPU_TIME	CPU Time	>
CURRENT_DEGREE_SW	Current Degree special register	>
CUR_PRECISION_SW	Current Precision special register	>
CURRENT_RULES_SW	Current Rules special register	>
CUR_SQLID	Current SQL ID	>
CURRENT_DATA_SW	CURRENTDATA option	>
CURSOR_HOLD_SW	Cursor prepared with hold indicator	>
DYNAMIC_RULE_SW	DYNAMICRULES option	>
ELAPSE_TIME	Elapsed Time	>
END_USERID	End User ID	>
EXECUTIONS	Executions	>

Selected Columns				
Label	Operation	Value	Description	Remove
WLX_TIMESTAMP	= ▾	newest ▾	WLX Key	✕
STMT_ORIGIN	= ▾	D ▾	Statement Origin	✕

Cancel OK

9:42 AM
8/1/23

... then we can apply some filtering for the result set of interest (Selection) ...

SEGUS Showcased Extension

The screenshot shows the 'SQL WorkloadExpert for Db2 z/OS' application window. The title bar indicates the selected profile: 'DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151'. The main menu includes 'Preferences', 'Favorites', and 'About'. The 'Application Workload' dialog box is open, with the 'Sorting' tab selected. It features two panels: 'Available Columns' and 'Selected Columns'. The 'Available Columns' panel lists various performance metrics with an 'Add' button for each. The 'Selected Columns' panel shows 'AVERAGE_CPU_TIME' has been added, with a 'Direction' dropdown set to 'DE...' and a 'Remove' button. At the bottom of the dialog are 'Cancel' and 'OK' buttons. A red callout box highlights the sorting functionality.

... and we can set the order of the result set, spotting the most important guys at the top (Sorting).

Any of this can be kept and/or shared for later execution, or even automatic reporting.

SEGUS Showcased Extension

SQL WorkloadExpert for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Preferences Favorites About

SQL WorkloadExpert for Db2 z/OS

Application Workload

Edit Query Back to Use Cases

Primary Authorization ID	Sum of Executions	Average CPU Time	Average Elapsed Time	Average GETPAGES
IZPDBA	1300	0.008495	0.069707	2899
ZOWEWOZ	1322	0.006954	0.085869	789
BOXWELL	8	0.002841	0.023865	135
OPCC	23	0.002279	0.057974	39
FLEQUINT	43	0.000324	0.016551	18
	18	0.000320	0.017214	30
	44	0.000309	0.030680	16
	36	0.000309	0.007527	33
	5	0.000256	0.026901	5
	42778	0.000080	0.001192	4

The result set can be used for further in-depth drill down analysis, cross-reference reporting, exporting into a pdf/excel, or ...

SEGUS Showcased Extension

SQL WorkloadExpert for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Preferences Favorites About

SQL WorkloadExpert for Db2 z/OS

Application Workload

Edit Query Back to Use Cases

Primary Authorization ID	Sum of C	Examined	Sum of Rows processed
IZPDBA		11421000	2636900
ZOWEWOZ		3751245	118815
		121433	287297
		1286	943
		11931	990
		2847	83
		4035	159
		3297	340
		146	149
		23	0

Create Report

Profile: No Profile Saved

Category Column: Primary Authorization ID

Value Columns: Sum of CPU Time, Sum of Ela...

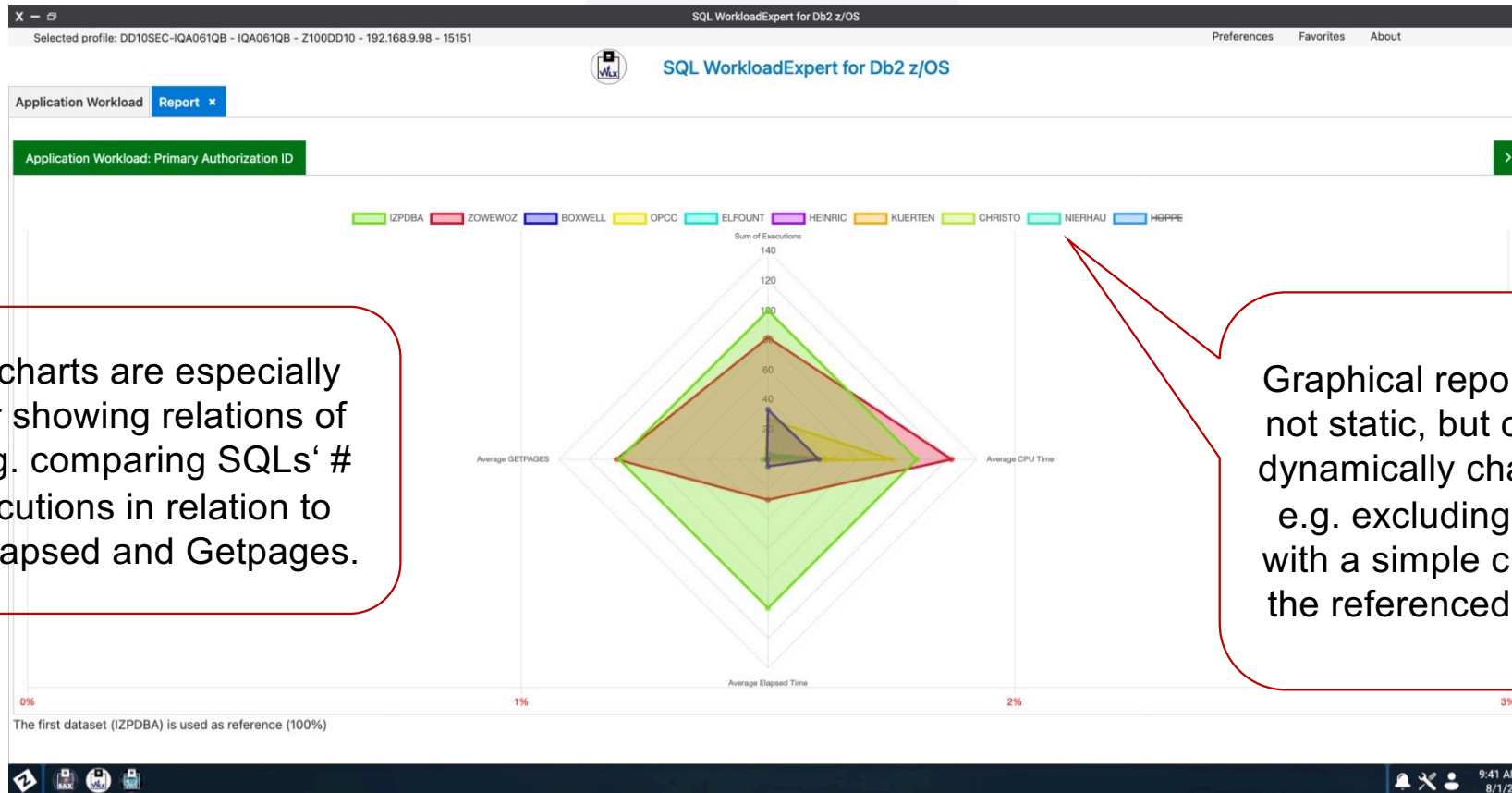
Chart Type: Horizontal bar Vertical bar Pie Line Radar

Create Report

... to generate a graphical report of many kinds (bars, pies, lines, or radar charts ...)

9:36 AM 8/1/23

SEGUS Showcased Extension



Radar charts are especially nice for showing relations of data, eg. comparing SQLs' # of executions in relation to CPU, Elapsed and Getpages.

Graphical reports are not static, but can be dynamically changed, e.g. excluding rows with a simple click on the referenced color.

SEGUS Showcased Extension

WLX Audit for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Preferences Favorites About

WLX Audit for Db2 z/OS

- Access to audited tables
- Administrative authorities
- Audit (DML)
- Authorization compatibility settings
- Authorization failures
- CREATE, ALTER, DROP (DDL)
- CREATE, ALTER, DROP (DDL) audited tables
- Db2 commands
- Db2 console messages - Details
- Db2 console messages - Overview
- Distributed translation
- DBADM data updates
- DBADM object update
- End of identify

WLX Audit for Db2 z/OS

**2nd Showcase:
Database Access Monitoring**

Again, we have pre-canned analytic Use Cases with many audit scenarios for a quick and easy start.

9:43 AM
8/1/23

SEGUS Showcased Extension

WLX Audit for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Administrative authorities

Projection Selection Sorting Preferences Favorites

Available Columns		
Label	Description	Add
WLX_TIMESTAMP	WLX Key	>
STMT_GROUP_SSID	WLX Db2 SSID	>
IFCID_NO	IFCID No.	>
AUTHID	Authorization ID	>
AUTHORITY_TYPE_TEXT	Authority type plaintext	>
AUTHID_TYPE	Type of Authorization ID	>
AUTHID_TYPE_TEXT	Type of Authorization ID plaintext	>
AUTHORITY_TYPE	Authority type	>
OBJECT_FLAG	Object flag	>
PRIVILEGE_CHECKED	Privilege checked	>
SRC_OBJ_QUALIFIER	Source object qualifier	>
SRC_OBJ_NAME	Source object name	>
TRG_OBJ_QUALIFIER	Target object qualifier	>
TRG_OBJ_NAME	Target object name	>
OTHER_OBJECT	Other object name	>

Selected Columns		
Label	Description	Remove
IFCID_TIMESTAMP	IFCID Timestamp	x
CORR_ID	Job name or logon ID	x
CORR_AUTH_ID	Authorization ID	x
PRIVILEGE_CHECKED_TEXT	Privilege checked plaintext	x
OBJECT_FLAG_TEXT	Object flag plaintext	x
STMT_TEXT	Statement text	x

Let's find out who is using Db2 administrative authorities and what is done with it ...

Cancel OK

SEGUS Showcased Extension

WXLX Audit for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Administrative authorities

Projection Selection Sorting Preferences Favorites

Available Columns	
CORR_ID	Job name or logon ID
OBJECT_FLAG	Object flag
OBJECT_FLAG_TEXT	Object flag plaintext
CORR_ORIG_USERID	Original user id
OTHER_OBJECT	Other object name
CORR_PLAN_NAME	Plan name
PRIVILEGE_CHECKED	Privilege checked
PRIVILEGE_CHECKED_TEXT	Privilege checked plaintext
CORR_ROLE_NAME	Role name
SRC_OBJ_NAME	Source object name
SRC_OBJ_QUALIFIER	Source object qualifier
SQL_ORIGINAL_LEN	SQL text length
SQL_WHSPRM_LEN	SQL text length white spaces removed
STMT_TEXT	Statement text
SQL_TEXT	Statement text

Label	Operation Value	Description Remove
WLX_TIMESTAMP	= newest	WLX Key
PRIVILEGE_CHECKED_TEXT	= DELETE	Privilege checked plaintext

... being more specifically, we're looking for a suspect, deleting data ...

Cancel OK

9:52 AM 8/1/23

SEGUS Showcased Extension

WXLX Audit for Db2 z/OS

Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151

Administrative authorities

Projection Selection **Sorting** Preferences Favorites

Available Columns		
Label	Description	Add
AUTHORITY_TYPE	Authority type	>
AUTHORITY_TYPE_TEXT	Authority type plaintext	>
CORR_AUTH_ID	Authorization ID	>
CORR_CON_NAME	Connection name	>
CORR_TYPE_DESC	Connection type plain text	>
CORR_TRUST_CNTXT	Context name	>
CORR_TOKEN	Correlation token	>
IFCID_NO	IFCID No.	>
IFCID_TIMESTAMP	IFCID Timestamp	>
CORR_ORIG_OPID	Initial authorization ID	>
CORR_ID	Job name or logon ID	>
OBJECT_FLAG	Object flag	>
OBJECT_FLAG_TEXT	Object flag plaintext	>
CORR_ORIG_USERID	Original user id	>
OTHER_OBJECT	Other object name	>

Selected Columns			
Label	Description	Direction	Remove
AUTHID	Authorization ID	ASC	x

... and we'd like the activity to be grouped (sorted) by the authorization ID.

Cancel OK

9:52 AM 8/1/23

SEGUS Showcased Extension

The screenshot displays the 'WXLX Audit for Db2 z/OS' interface. The top navigation bar includes 'Selected profile: DD10SEC-IQA061QB - IQA061QB - Z100DD10 - 192.168.9.98 - 15151', 'Preferences', 'Favorites', and 'About'. The main content area is titled 'Administrative authorities' and features a search bar and buttons for 'Edit Query' and 'Back to Use Cases'. A table lists audit records with columns for 'IFCID Timestamp', 'Authorization ID', 'Job name or logon ID', 'Privilege checked plaintext', 'Object flag plaintext', and 'Statement text'. The table contains 10 rows of data, all showing 'DELETE' operations on 'TABLE OR VIEW' objects. A red-bordered callout box highlights the text: '...and there we are, with a nice report showing the timestamp, the original and the correlation ID along with the activity, including the SQL that was executed. Reports can be exported or prepared for report automation.'

IFCID Timestamp	Authorization ID	Job name or logon ID	Privilege checked plaintext	Object flag plaintext	Statement text
2023-07-05-17.57.04.103055	HOPPE	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQA061QB.WLX_USE_C
2023-07-05-17.57.04.103096	HOPPE	WLXBDD10	SELECT	TABLE OR VIEW	DELETE FROM IQA061QB.WLX_USE_C
2023-07-05-17.57.05.098117	IQAEBQ01	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQAEBQ01.PLAN_TABLI
2023-07-05-17.57.05.309668	IQAEBQ01	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQAEBQ01.DSN_STATEI
2023-07-05-17.57.05.353747	IQAEBQ01	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQAEBQ01.DSN_PREDI
2023-07-05-17.57.05.550322	IQAEBQ01	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQAEBQ01.DSN_FILTER
2023-07-05-17.57.05.614765	IQAEBQ01	WLXBDD10	DELETE	TABLE OR VIEW	DELETE FROM IQAEBQ01.DSN_DETCC
				TABLE OR VIEW	DELETE FROM IQA0610.WLX_USE_CA:
				TABLE OR VIEW	DELETE FROM IQA0610.WLX_USE_CA:

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Preferences Support About

Space AssuranceExpert for Db2 z/OS

Db2 Space Management >

Media Reporting >

Problem Reporting >

Sequences >

Database Access Threads >

Capacity Planning >

Space AssuranceExpert for Db2 z/OS

**3rd Showcase:
Db2 Resource Monitoring**

Realtime, Historical, Future
Trending for overall, or
object(-group) analysis – there
is always a Use Case.

8:54 AM
8/1/23

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Preferences Support About

Preferences

Profile SC10-MVNXTEST

Profile Details

Location	Schema	Host	Port
Z100SC10	MVNXTEST	s0w1.fritz.box	5125

Lines Limit 300

Timeout 60

Locale EN

User Preference + Import Export

< Back to Use Cases

This time I'd like to run my analysis against a different system. All Db2 systems defined can easily be chosen from the App's preferences.

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Object forecast

Projection Selection Sorting Preferences Favorites

Available Columns		
Label	Description	Add
DSCOUNT	DSCOUNT	>
OLD_CYL	Oldest CYLs	>
NEW_CYL	Newest CYLs	>
MAXDATE	Data from max. date	>
MINDATE	Data from min. date	>

Selected Columns		
Label	Description	Remove
DB2	Db2 name	×
DBTSPA	DBNAME TSNAME PART	×
DELTA_CYL	CYL difference	×
CHANGED_PERC	Percentage difference	×
DELTA_DAYS	Days between values	×
CHANGE_CYL_PER_DAY	CYL difference per day	×
CYL_IN_A_YEAR_PRE	Calculated CYLs	×

I'd like to generate a report for capacity planning of my Db2 spaces, extrapolating last quarter's space growth for next year.

Cancel Continue

9:01 AM 8/1/23

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Preferences Support About

Object forecast

Projection Selection Sorting Preferences Favorites

Available Columns		
Label	Description	Add
ALCCYL	Allo. Cyl	>
ALCKB	Allo. KB	>
ALCSPC	Allo. SPACE	>
ALCTRK	Allo. TRACKS	>
ALCTYPE	Allo. type	>
CYL_IN_A_YEAR_PRE	Calculated CYLs	>
CLONE	CLONE	>
CREABY	CREATEDBY	>
CREATOR	CREATOR	>
DELTA_CYL	CYL difference	>
CHANGE_CYL_PER_DAY	CYL difference per day	>
MAXDATE	Data from max. date	>
MINDATE	Data from min. date	>
DATE	DATE	>

Selected Columns				
Label	Operation	Value	Description	Remove
DB2	=	SC1	Db2 name	🔒
LOCA_NAME	=	LOCAL	Location name	🔒

Customers may limit it to an application, database, or just do it for the entire system.

Cancel Continue

9:01 AM 8/1/23

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Preferences Support About

Object forecast

Projection Selection **Sorting** Preferences Favorites

Available Columns		
Label	Description	Add
CYL_IN_A_YEAR_PRE	Calculated CYLs	>
DELTA_CYL	CYL difference	>
MAXDATE	Data from max. date	>
MINDATE	Data from min. date	>
DELTA_DAYS	Days between values	>
DB2	Db2 name	>
DBTSPA	DBNAME TSNAME PART	>
DSCOUNT	DSCOUNT	>
NEW_CYL	Newest CYLs	>
OLD_CYL	Oldest CYLs	>
CHANGED_PERC	Percentage difference	>

Selected Columns			
Label	Description	Direction	Remove
CHANGE_CYL_PER_DAY	CYL difference per day	DESC	X

Cancel Continue

9:02 AM 8/1/23

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Object forecast

Search keyword Edit Query

Db2 name	DBNAME TSNAME PART	CYL difference	Percentage difference	Days between values	CYL difference per day	Calculated CYLs
SC1	IQAD06QC.IQASW006.1	1706	83	124	13.75806	8779
SC1	IQAD06QC.IQASW062.1	580	63	124	4.67741	3204
SC1	IQAD06QC.IQASW001.1	531	256	124	4.28225	2301
SC1	IQAD06QC.IQASW014.1	225	2045	124	1.81451	898
SC1	IQAD06QC.IQASW003.1	207	50	124	1.66935	1230
SC1	IQAD06QC.IQASW053.1	105	102	124	0.84677	516
SC1	IQAD06QC.IQASW059.1	89	45	124	0.71774	546
SC1	IQAD06QC.IQASW062.0	85	80	124	0.68548	440
SC1	IQAD06QC.IQASW062.0	75	96	124	0.60483	373
SC1	IQAD06QC.IQASW017.1	68	97	124	0.54838	338
SC1	IQAD06QC.IQASW013.1	67	37	124	0.54032	445
SC1	IQAD06QC.IQASW02.1	52	89	124	0.41935	263
SC1	IQAD06QC.IQASW005.1	44	122	124	0.35483	209
SC1	IQAD06QC.IQASW004.1	42	53	124	0.33870	243
SC1	IQAD06QC.IQASW019.1	42	52	124	0.33870	245
SC1	IQAD06QC.IQASW01.0	40	266	124	0.32258	172
SC1	IQAD06QC.IQASW01.0	40	266	124	0.32258	172
SC1	IQAD06QC.IQASW03.0	36	65	124	0.29032	196
SC1	IQAD06QC.IQASW03.0	36	65	124	0.29032	196

9:19 AM 8/1/23

The report can be exported into a pdf/excel or kept for daily (automated, or manual) execution.

Various drill down capabilities deliver more details or we can generate a graphical report for the management.

SEGUS Showcased Extension

Space AssuranceExpert for Db2 z/OS

SC10-MVNXTEST - MVNXTEST - Z100SC10 - s0w1.fritz.box -5125

Object forecast

Search keyword Edit Query

Db2 name	DBNAME	es	CYL difference per day	Calculated CYLs		
SC1	IQADG	34	16.88235	9920		
SC1	IQADG	34	1.85294	1297		
SC1	IQADG	34	1.58823	2076		
SC1	MVNX	34	1.23529	570		
SC1	IQADG	34	1.05882	1124		
SC1	R510	34	0.79411	399		
SC1	DSND	34	0.70588	566		
SC1	IQADG	34	0.67647	324		
SC1	IQADG	34	0.58823	499		
SC1	IQADG	34	0.55882	393		
SC1	IQADG	34	0.50000	335		
SC1	IQADG	34	0.47058	293		
SC1	IQADG	34	0.47058	309		
SC1	IQADG	34	0.47058	378		
SC1	IQADG	34	0.47058	419		
SC1	IQAX1XGZ.0	13	16	34	0.38235	230
SC1	IQASW005.1	11	15	34	0.32352	198

Create Report

Profile Capacity Report

Categories DBNAME TSNAME PART

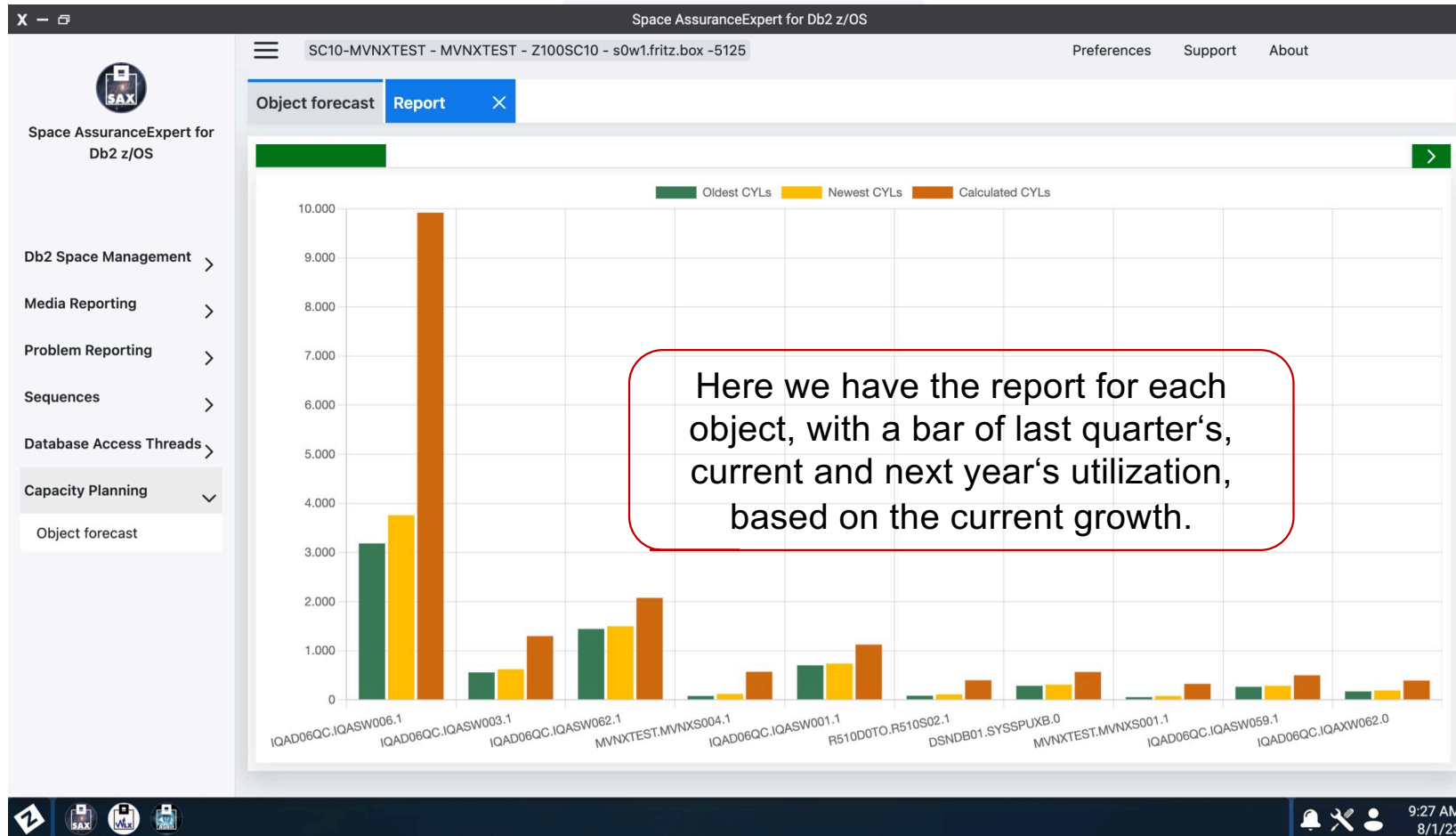
Value Columns Calculated CYLs

Chart Type Horizontal Bar Vertical Bar Pie Line Radar

Create Report

Customized graphical reports can be kept for sharing or future executions as well.

SEGUS Showcased Extension



Contact Information



Your feedback is important!

Submit a session evaluation for each session you attend:

www.share.org/evaluation

SHARE mobile app

