

Using Sample Db2 Web Query Reports and Charts built over IBM i (SQL) Services – for System Administrators

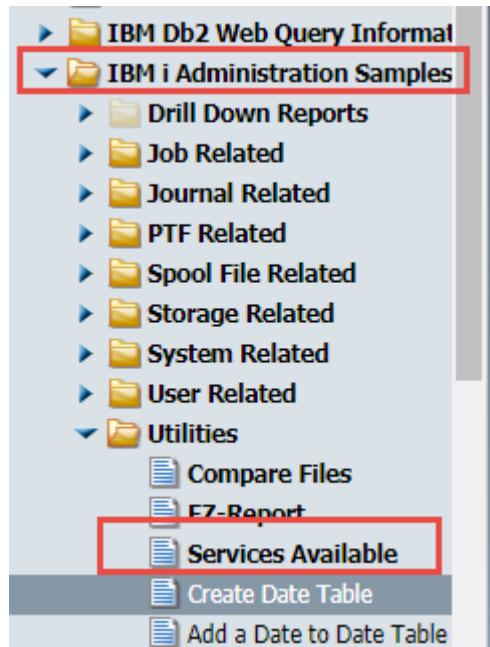


1. Sample Reports
2. How you can build Db2 Web Query reports/charts over these services

Sample Reports

Determine Which Services Are Shipped with Which Levels

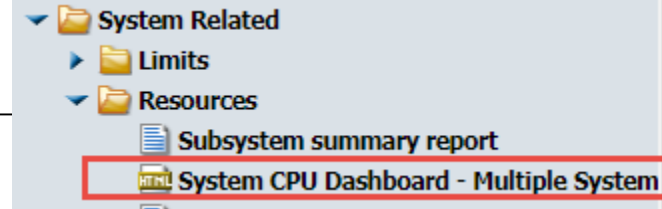
- Depending on level of OS and TR, we'll tell you which reports are enabled



120 of 120 records, Page 1 of 3

Service Category	Service Name	Service Library	Earliest Release	Example Usage
APPLICATION	BOUND_MODULE_INFO	QSYS2	V7R3M0	-- Description: Find any bound modules that include source of
	BOUND_SRVPGM_INFO	QSYS2	V7R3M0	-- Description: Examine whether service programs in APPLIB
	CLEAR_DATA_QUEUE	QSYS2	V7R3M0	-- Description: Clear all entries from data queue DQ1 in library
	DATA_AREA_INFO	QSYS2	V7R3M0	-- Description: Return the current value of the TESTDATA data
	DATA_QUEUE_INFO	QSYS2	V7R3M0	-- Description: Find the number of messages currently on data
	ENVIRONMENT_VARIABLE_INFO	QSYS2	V7R1M0	-- Description: Review all system level environment variables for
	PROGRAM_EXPORT_IMPORT_INFO	QSYS2	V7R3M0	-- Description: Show all the procedure exports for service progr
	PROGRAM_INFO	QSYS2	V7R3M0	-- Description: Summarize the activation group usage for all IL
	QCMDEXC	QSYS2	V6R1M0	-- Description: Use QCMDEXC to execute CL command \r\n BE
	RECEIVE_DATA_QUEUE	QSYS2	V7R3M0	-- Description: Get the message from data queue DQ1 in TEST
	SEND_DATA_QUEUE	QSYS2	V7R3M0	-- Description: Send a message to data queue DQ1 in TEST
	SERVICES_INFO	QSYS2	V7R1M0	-- Description: Review all the Security related IBM i Services
	SET_PASE_SHELL_INFO	QSYS2	V7R1M0	-- Description: Set the current user's shell to BASH shipped by
	SPLIT	SYSTOOLS	V7R3M0	-- Description: Break a string into segments, using blank as th
	STACK_INFO	QSYS2	V7R2M0	-- Description: Display the call stack for the current job. \r\n SE
COMMUNICATION	ACTIVE_DB_CONNECTIONS	QSYS2	V7R3M0	-- Description: Examine the DRDA and DDM connections for th
	ENV_SYS_INFO	SYSIBMADM	V6R1M0	-- Description: Review the IBM i Operating system level \r\n
	NETSTAT_INFO	QSYS2	V7R1M0	-- Description: Review the connections that are transferring th
	NETSTAT_INTERFACE_INFO	QSYS2	V7R1M0	-- Description: Review the TCP/IP Interface details \r\n SELEC
	NETSTAT_JOB_INFO	QSYS2	V7R1M0	-- Description: Review the network jobs coming in from a uniq
	NETSTAT_ROUTE_INFO	QSYS2	V7R1M0	-- Description: Review the details of all TCP/IP routes \r\n SEL
	SERVER_SBS_CONFIGURATION	QSYS2	V7R3M0	-- Description: Review the existing configurations for routing bu

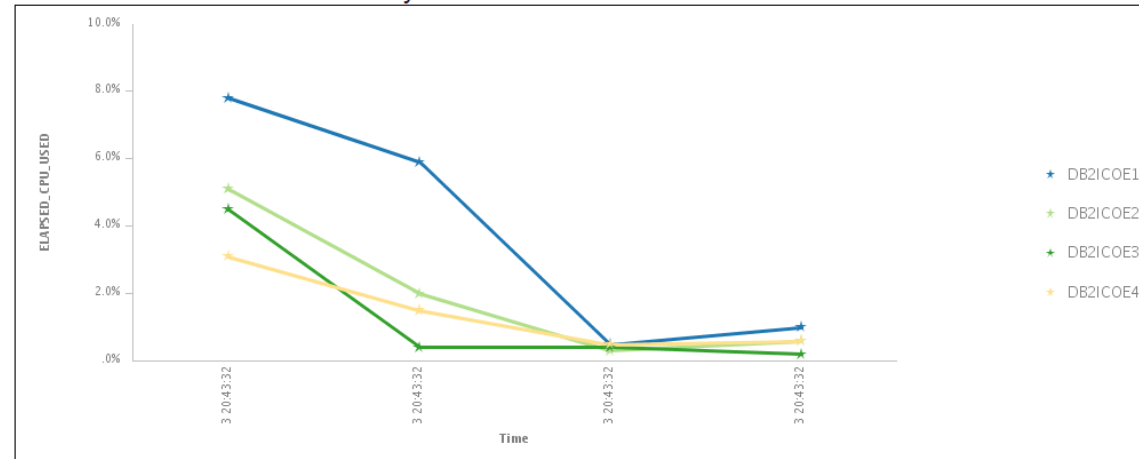
System CPU Dashboard



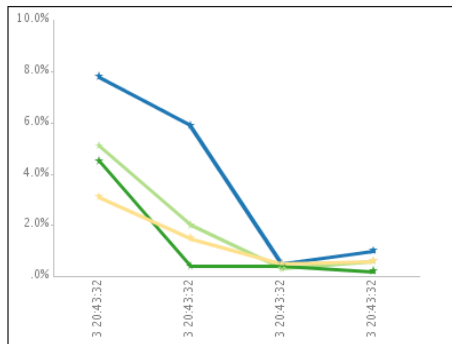
- Auto refresh for each interval

db2icoe3.rchland.ibm.com:12331/webquery/run.bip?BIP_REQUEST_TYPE=BIP_RUN&BIP_folder=IBFS%253A%252FWFC%252FRepository%252FIBM_i_Administration_Samples&BIP_item=System_CPU_Dashboard.htm&IBI_random=8

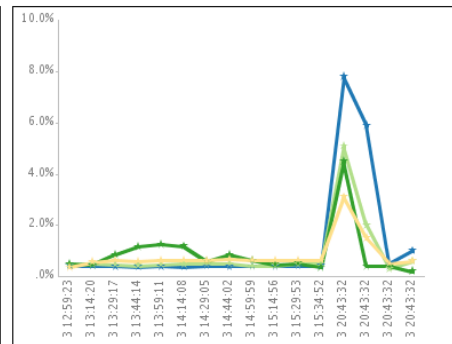
Systems CPU Utilization - 1 Hour



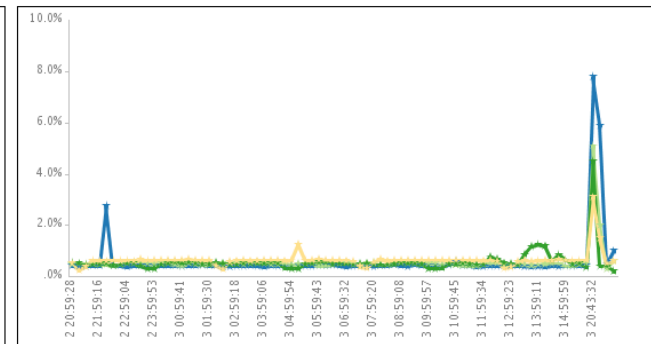
2 Hours



8 Hours



24 Hours



Sample: Installed Product Info and PTF Currency check

- Exploits SYSTOOLS.GROUP_PTF_CURRENCY (View)
- Can color code and sort on where you are down level

53 of 53 records, Page 1 of 1									
Installed Product Information									
PRODUCT_ID	LICENSE_TERM	RELEASE_LEVEL	FEATURE_ID	PRODUCT_TEXT	USAGE_LIMIT	USAGE_COUNT	GLOBAL_COUNT	LICENSED_USER_COUNT	
5722IP1	V5R3M0	V5R3M0	5050	IBM Infoprint Server for iSeries	.	.00	.00		
			5101	IBM Infoprint Server for iSeries PS to AFP transfo	.	.00	.00		
5733WQX	V2R1M0	V2R1M0	5050	IBM DB2 Web Query for i	.	4.00	6.00		
			5101	Web Query Express Edi					
			5102	Web Query Standard Ec					
			5103	Web Query Option 3					
			5104	Web Query Developer L					
			5105	Web Query Developer V					
			5106	Web Query Runtime En					
			5107	Web Query JD Edwards					
			5108	DataMigrator					
			5109	DataMigrator					
			5110	Web Query Option 10					
			5111	Web Query Option 11					
			5112	Web Query Option 12					
			5113	Web Query Option 13					
			5114	Web Query Option 14					
			5115	Web Query Option 15					
5761CM1	V6R1M0	V6R1M0	5050	Communications Utilitie					
5761DP4	V6R1M0	V6R1M0	5050	DataPropagator for i5/O					
5770AF1	V7R2M0	V7R2M0	5050	IBM AFP Utilities					
5770BR1	V7R2M0	V7R2M0	5050	Backup Recovery and I					
			5101	BRMS-Network Feature					
			5102	BRMS-Advanced Funct					
5770DE1	V7R1M0	V7R1M0	5050	DB2 Extenders					
5770HAS	V7R2M0	V7R2M0	5051	PowerHA for i Enterpris					
			5052	PowerHA for i Standard					
			5053	PowerHA for i Express					
			5054	Reserved					
			5055	Reserved					
5770JS1	V7R2M0	V7R2M0	5050	IBM Advanced Job Sch					
5770PT1	V7R2M0	V7R2M0	5050	IBM Performance Tools					
				Performance Tools Ma					

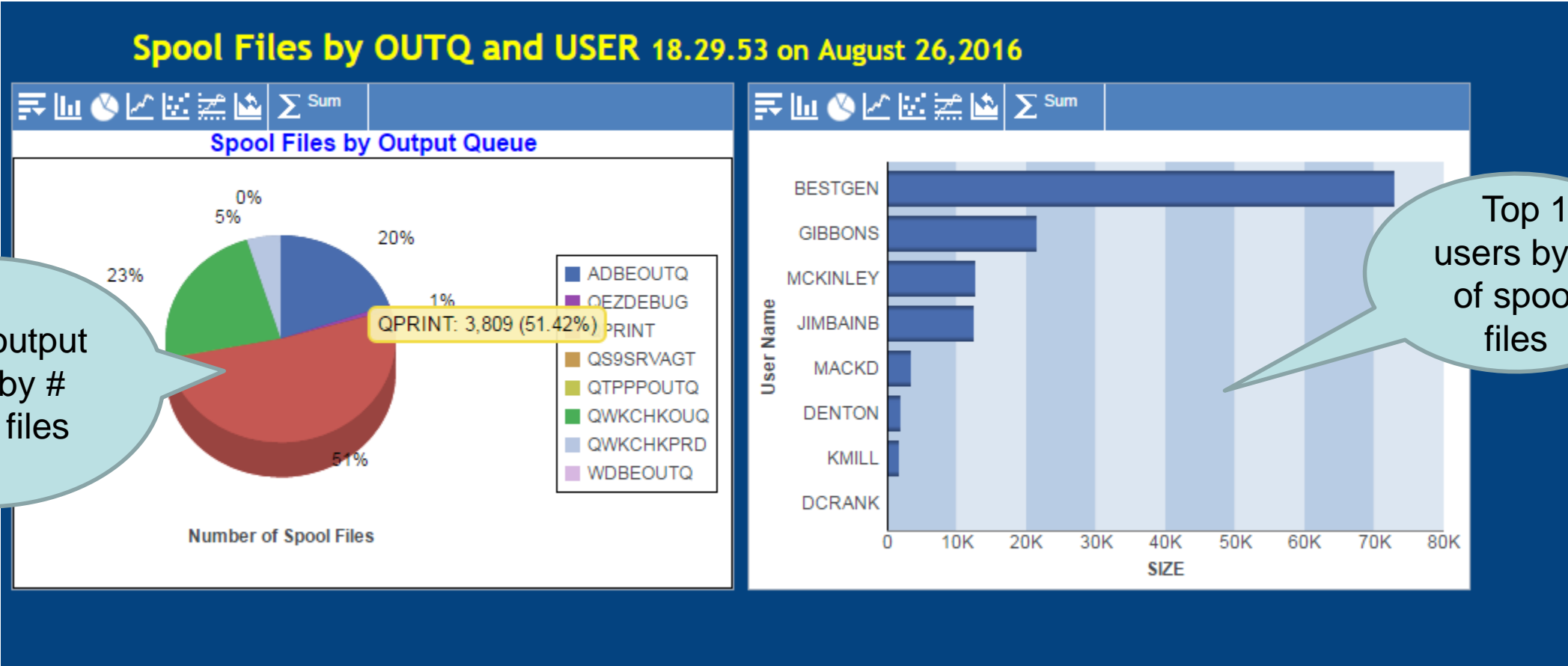
PTF Currency Report

Status	PTF Group ID	PTF Name	Installed Level	Level Available	Date of last IBM Update
INSTALLED LEVEL IS CURRENT	SF99364	710 WebSphere App Server V6.1	9	9	09/09/2013
	SF99480	720 WebSphere App Server V8.0	6	6	02/01/2016
	SF99637	710 DB2 Web Query for IBM i V1.1.2	9	9	12/12/2013
	SF99747	720 DB2 Web Query for i V2.1.0	14	14	03/30/2016
	SF99766	720 Print PTFs	3	3	01/07/2015
UPDATE AVAILABLE	SF99145	710 Performance Tools	9	11	05/17/2016
	SF99363	710 WebSphere App Server V7.0	16	19	04/11/2016
	SF99366	710 Print PTFs	8	12	01/07/2015
	SF99368	710 IBM HTTP Server for i	37	42	07/01/2016
	SF99369	710 IBM i integration with BladeCenter and System x	13	16	12/18/2014
	SF99380	710 WebSphere App Server V8.0	11	15	02/01/2016
	SF99381	710 WebSphere App Server V8.5	10	16	08/14/2016
	SF99481	720 WebSphere App Server V8.5	8	9	08/14/2016
	SF99647	710 DB2 Web Query for i V2.1.0	13	14	03/30/2016
	SF99658	720 DB2 Web Query for i V2.1.1	2	3	03/30/2016
	SF99701	710 DB2 for IBM i	38	40	04/28/2016
	SF99702	720 DB2 for IBM i	12	13	07/14/2016
	SF99710	Current Cumulative PTF Media Documentation	14283	16120	05/19/2016
	SF99713	720 IBM HTTP Server for i	15	16	07/01/2016
	SF99714	720 Performance Tools	2	4	05/17/2016
	SF99716	720 Java	9	10	06/21/2016
	SF99717	720 Technology Refresh	3	4	05/19/2016
	SF99718	720 Group Security	29	36	08/09/2016
	SF99719	720 Group Hiper	60	71	08/23/2016
	SF99720	Current Cumulative PTF Media Documentation	15311	16127	05/20/2016
	SF99767	720 720 TCP/IP PTF	2	3	06/25/2016
	SF99775	720 Hardware and Related PTFs	14	17	04/25/2016
	SF99776	720 High Availability for IBM i	3	5	07/22/2016

Sample: Monitoring Output Queues and Spool Files



- Exploits QSYS2.OUTPUT_QUEUE_ENTRIES Service (View)
- Create top xx reports by output queue or user name



- Exploits QSYS2.ACTIVE_JOB_INFO (User Defined Table Function)
- Auto Refresh

Summary info
by subsystem

Subsystem Summary

SUBSYSTEM	NUMBER_OF_JOBS	TOTAL_CPU_TIME	TOTAL_TEMP_STORAGE	TOTAL_IO
ZENDSVR6	12	4567124	131	1132536
QHTTSPVR	9	658886	1531	131819
QWEBQRY21	31	441511	3491	123630
QSYSWRK	111	264937	1129	460375
Q1ABRMNET	3	187372	124	3676
QUSRWRK	31	32036	285	16378
QSERVER	21	413	84	4647
QINTER	1	180	5	342
QCMN	8	39	15	427
QCTL	1	10	2	669
QSPL	1	8	2	122
QBATCH	1	6	2	126

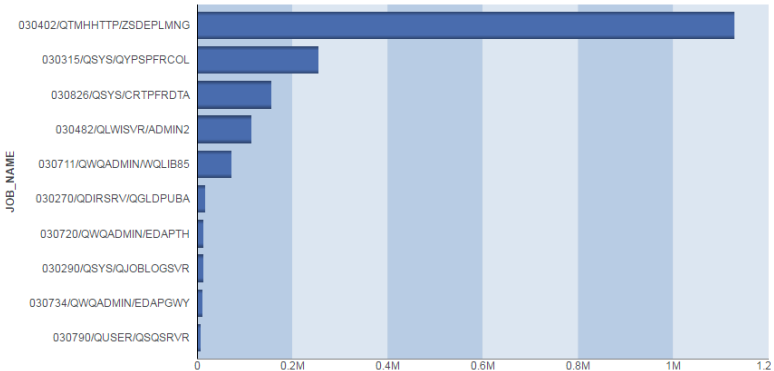
Top xx Jobs by:

- CPU time
- I/O count
- Temp.
Storage

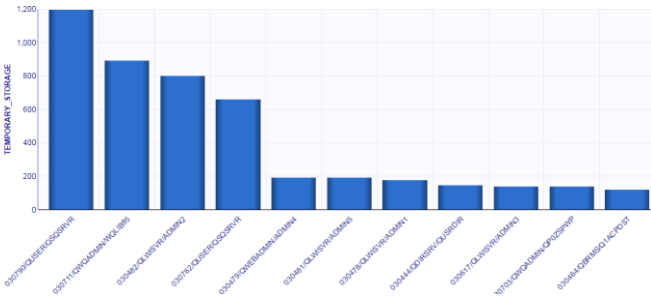
Top 10 Jobs by CPU Time

JOB_NAME	CPU_TIME
030402/QTMHHTTP/ZSDEPLMNG	2982474
030503/QTMHHTTP/ZSDAEMON	1513626
030482/QLWISVR/ADMIN2	445935
030711/QWQADMIN/WQLIB85	306111
030464/QBRMS/Q1ACPDST	187425
030481/QLWISVR/ADMIN5	144754
030637/QSECOFR/QINAVMNSRV	117222
030703/QWQADMIN/QP0ZSPWP	57900
030315/QSYS/QYPSPFRCOL	49953
030401/QTMHHTTP/ZSJOBQMNG	46556

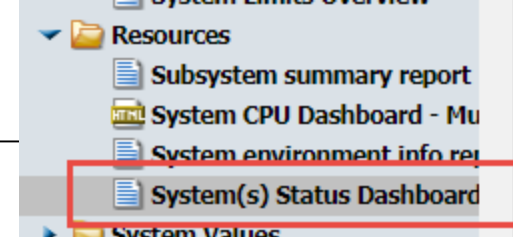
Top 10 Jobs by Disk I/O



Top 10 Jobs by Temp Storage



Sample: System(s) Status



- Can support multiple LPARs/Servers
 - System Status
 - Top 10 Reports per LPAR
- Exploits QSYS2.SYSTEM_STATUS_INFO view to get information about your system
- Uses an SQL Procedure to assemble information gathered from various LPARs via DRDA and present them together
 - Stored Procedure for this provided
- Exception Reporting highlighted in RED
- Could add to an HTML Dashboard and enable Auto Refresh

System(s) Status														
Host Name	Total Jobs in System	Active Jobs in System	Interactive Jobs in System	Active Threads in System	Elapsed Time	Elapsed CPU Used	Current CPU Capacity	Average CPU Utilization	Minimum CPU Utilization	Maximum CPU Utilization	System ASP Storage	Total Auxiliary Storage	System ASP Used	Test
DB2ICOE1	522	192	.00	645	1	.20	2.00	.18	.00	99.71	1488922	1488922	79.66	
DB2ICOE2	5729	235	.00	1026	1	.40	2.00	.18	.00	99.67	954437	954437	49.10	
DB2ICOE3	7509	300	.00	1303	1	.30	4.00	.66	.00	2.30	6242936	6242936	24.75	
DB2ICOE4	3241	248	.00	958	1	.10	2.00	.09	.00	.14	6242936	6242936	14.49	
Run on January 3, 2017 at 14.48.07														

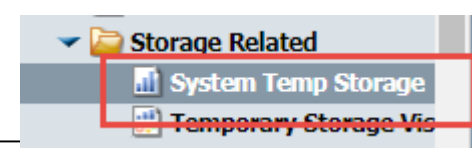


Note: For the System(s) status report/dashboard to pull in utilization metrics from other systems or LPARs in your network, you must:

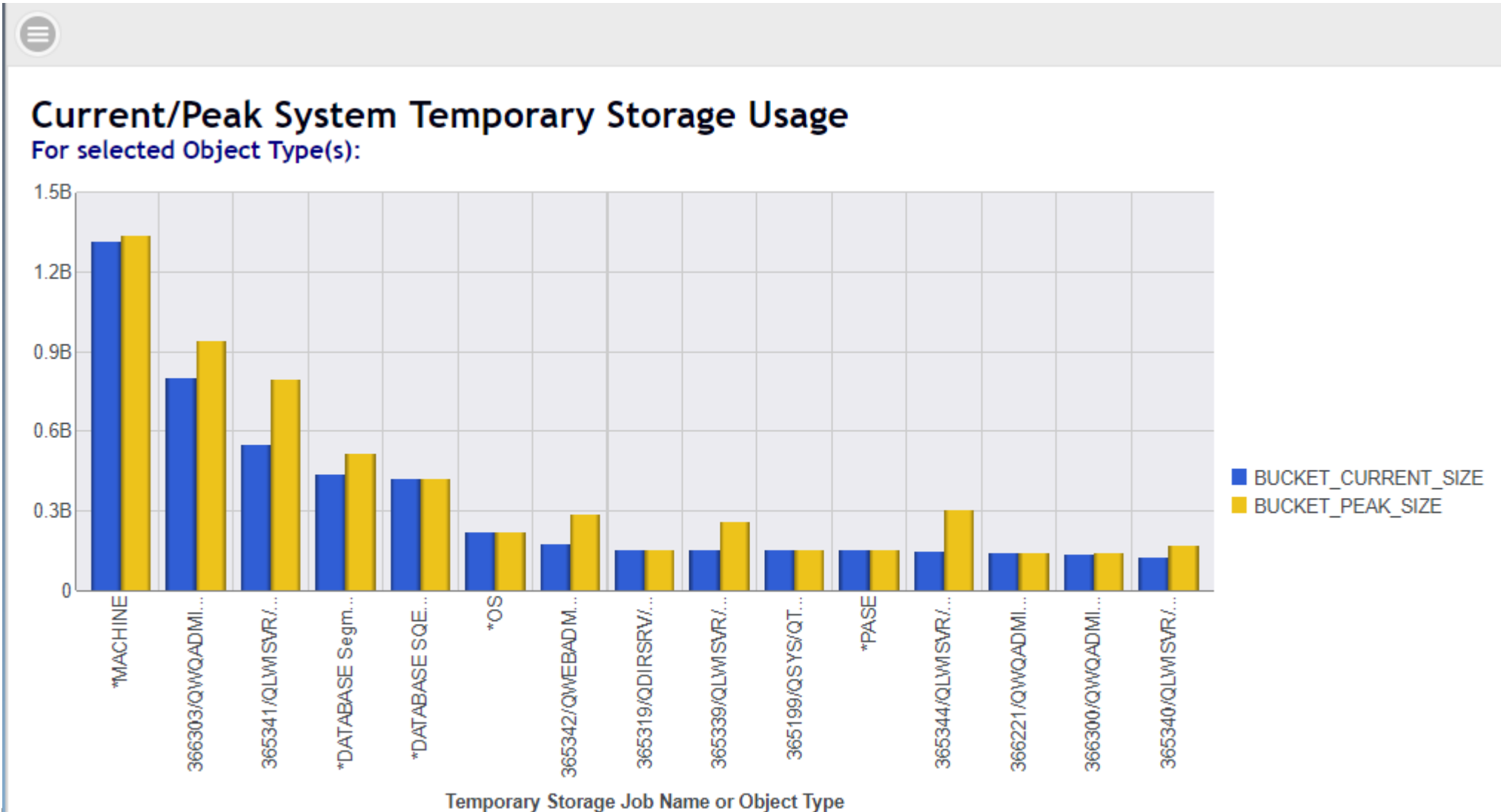
- Ensure that those systems are identified in the Remote Database Directory Entry in IBM i (CL Command WRKRDBDIRE)
- Users must have a server authentication entry that will work for them. Use CL Command DSPSVRAUTE to check and ADDSVRAUTE to add a server authentication entry for a set of users that will work for those user profiles via parameter USRPRF(*CURRENT)

System(s) Status														
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DB2ICOE1	522	192	.00	645	1	.20	2.00	.18	.00	99.71	1488922	1488922	79.66	
DB2ICOE2	5729	235	.00	1026	1	.40	2.00	.18	.00	99.67	954437	954437	49.10	
DB2ICOE3	7509	300	.00	1303	1	.30	4.00	.66	.00	2.30	6242936	6242936	24.75	
DB2ICOE4	3241	248	.00	958	1	.10	2.00	.09	.00	.14	6242936	6242936	14.49	
Run on January 3, 2017 at 14.48.07														

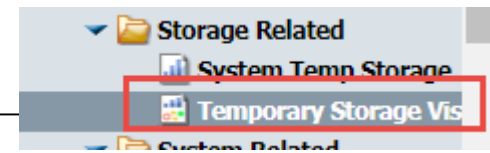
Sample: Monitor Temp Storage Usage



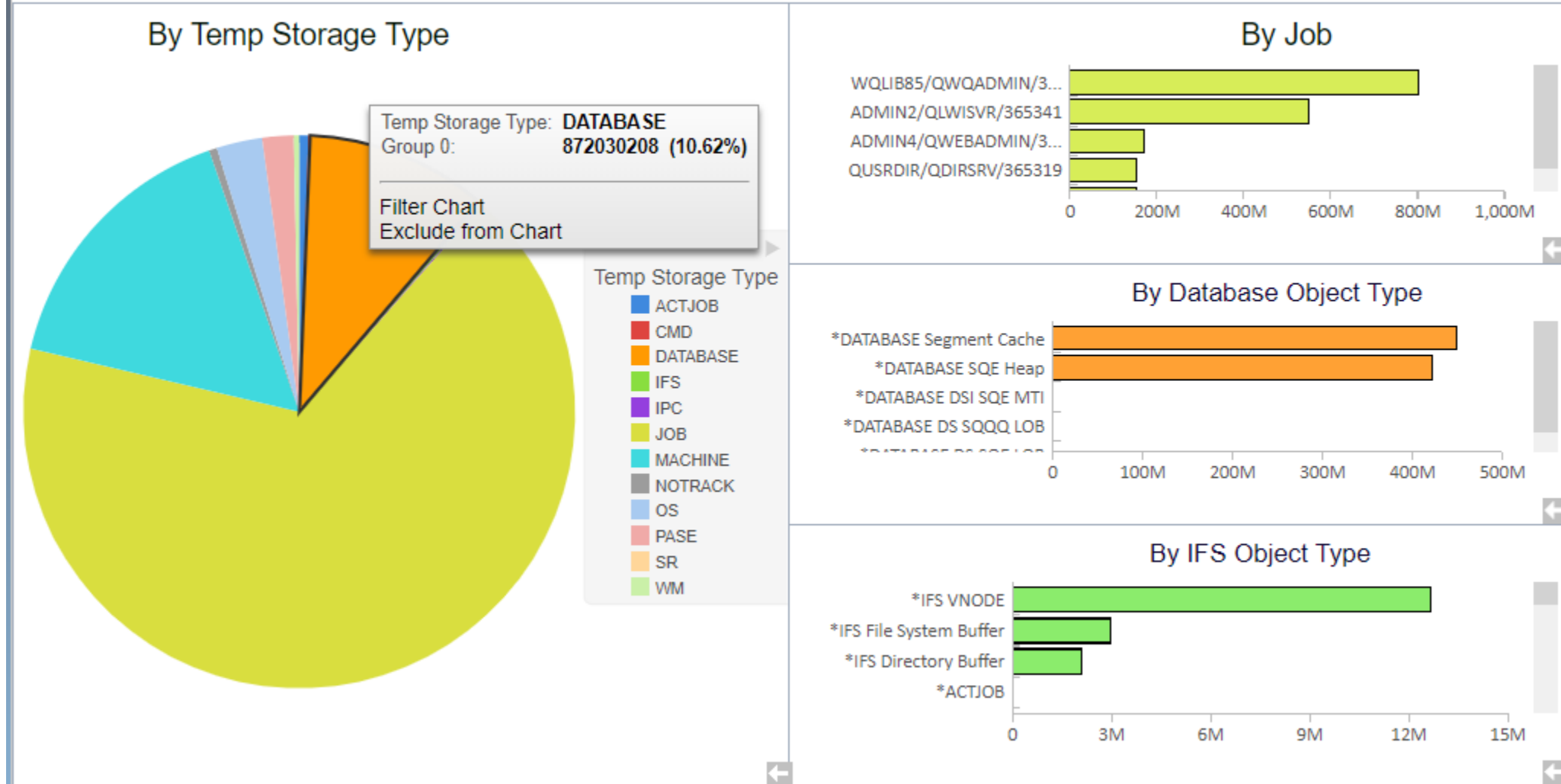
- Exploits QSYS2.SYSTMPSTG (View)
- Top xx Temp Storage Consumers



Temporary Storage Visualization



Temporary Storage - Current Usage



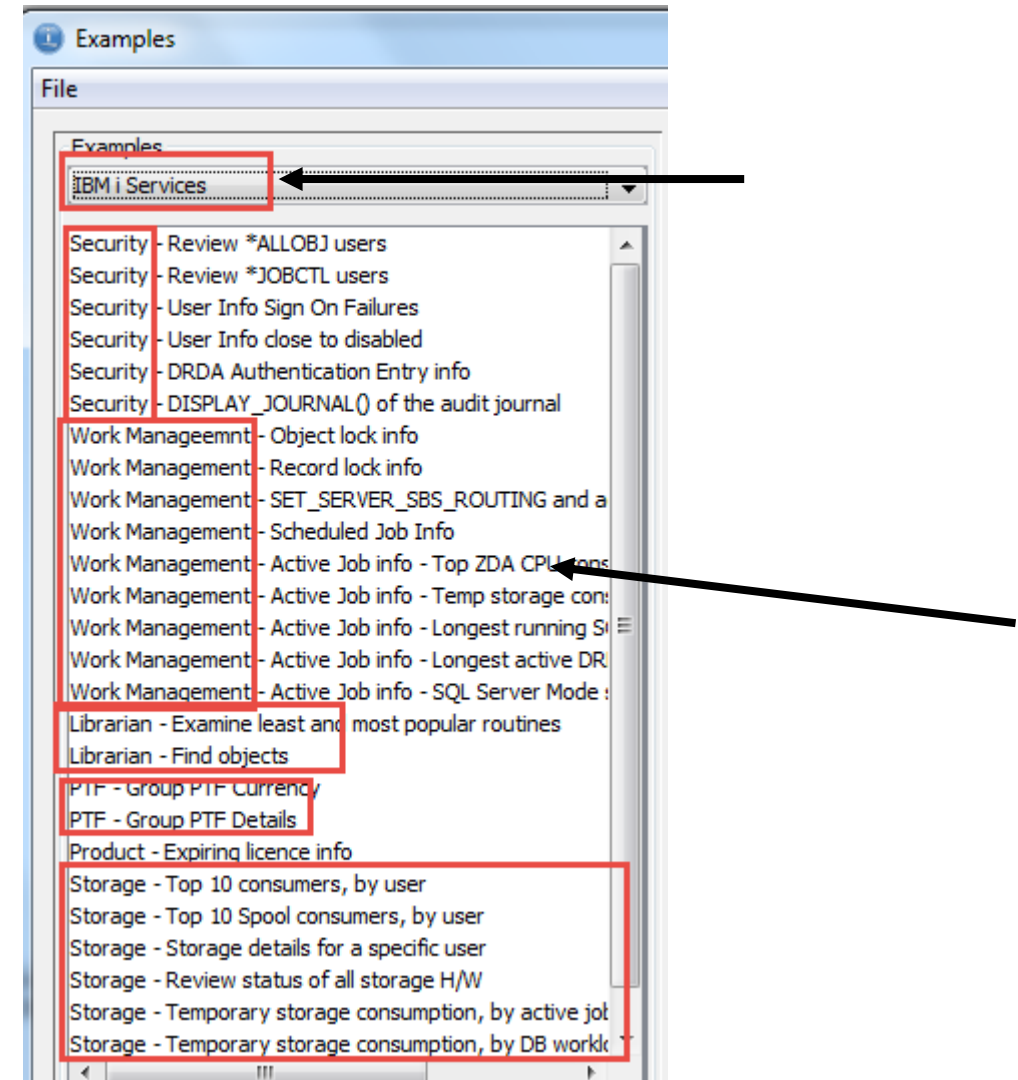
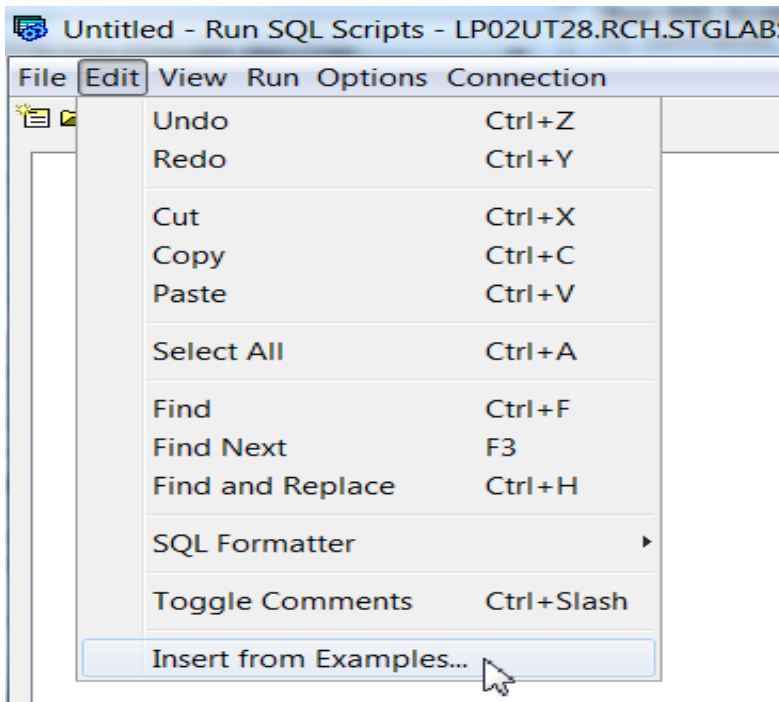
Using Db2 Web Query to Build Reports/Charts over these Services

- What are IBM i Services?
 - SQL interfaces to common CL or API type commands
 - Delivered as SQL Views, User Defined Functions or Stored Procedures
 - All of which can be made available for use in Db2 Web Query reports
 - SQL Script examples provided in iNav and ACS Run SQL Scripts
 - Easier to get system information via SQL Based visualization tools like....Db2 Web Query
- Services are there today
 - Depending on TR and IBM i OS level
 - Documented at: <http://ibm.biz/Db2foriServices>
- Db2 Web Query can be leveraged to build reports, charts/graphs, dashboards or populate spreadsheets over the data returned from the various services
 - Sample reports provided in EZ Install Package
 - **NOTE: The Sample Reports assume OS version 7.2 or up. Some may not work at 7.1**

SQL Examples over IBM i Services are included in Access Client Solutions



- Using Run SQL Scripts
- Insert from Examples...



SQL Examples over IBM i Services are included in Access Client Solutions



- Test/Alter the Statement (Top QZDASOINIT CPU Consumers)

Untitled* - Run SQL Scripts - db2icoe4.rchland.ibm.com(Db2icoe4)

File Edit View Run VisualExplain Monitor Options Connection Tools Help



```
1  -- category:  IBM i Services
2  -- description:  Work Management - Active Job info - Top ZDA CPU consumers
3  --
4  -- Examine active Host Server jobs and find the top consumers
5  -- Note this example requires IBM i 7.2 or higher, because it uses named parameter
6  -- syntax... <parameter name> => <parameter value>
7  --
8  SELECT JOB_NAME, AUTHORIZATION_NAME, ELAPSED_CPU_PERCENTAGE, ELAPSED_TOTAL_DISK_IO_COUNT,
9         ELAPSED_PAGE_FAULT_COUNT, X.*
10 FROM TABLE(ACTIVE_JOB_INFO(JOB_NAME_FILTER => 'QZDASOINIT', SUBSYSTEM_LIST_FILTER =>
11        'QUSRWRK')) x
12 ORDER BY ELAPSED_CPU_PERCENTAGE DESC
13 FETCH FIRST 10 ROWS ONLY;
14
```

JOB_NAME	AUTHORIZATION_NAME	ELAPSED_CPU_PERCENTAGE	ELAPSED_TOTAL_DISK_IO_COUNT	ELAPSED_PAGE_FAULT_COUNT	ORDINAL_POSITION	JOB_NAME
191609/QUSER/QZDASOINIT	QSECOFR	0.0	0	0	1	191609/QUSER/
192854/QUSER/QZDASOINIT	QWQADMIN	0.0	0	0	2	192854/QUSER/
193069/QUSER/QZDASOINIT	QWQADMIN	0.0	0	0	3	193069/QUSER/
193464/QUSER/QZDASOINIT	QWQADMIN	0.0	0	0	4	193464/QUSER/
194715/QUSER/QZDASOINIT	QWQADMIN	0.0	0	0	5	194715/QUSER/
194963/QUSER/QZDASOINIT	MACKD	0.0	0	0	6	194963/QUSER/
194964/QUSER/QZDASOINIT	QUSER	0.0	0	0	7	194964/QUSER/

Db2 Web Query provides a GUI SQL Generator, however, there are times (like this) where the SQL statement is already built and you just want to leverage that

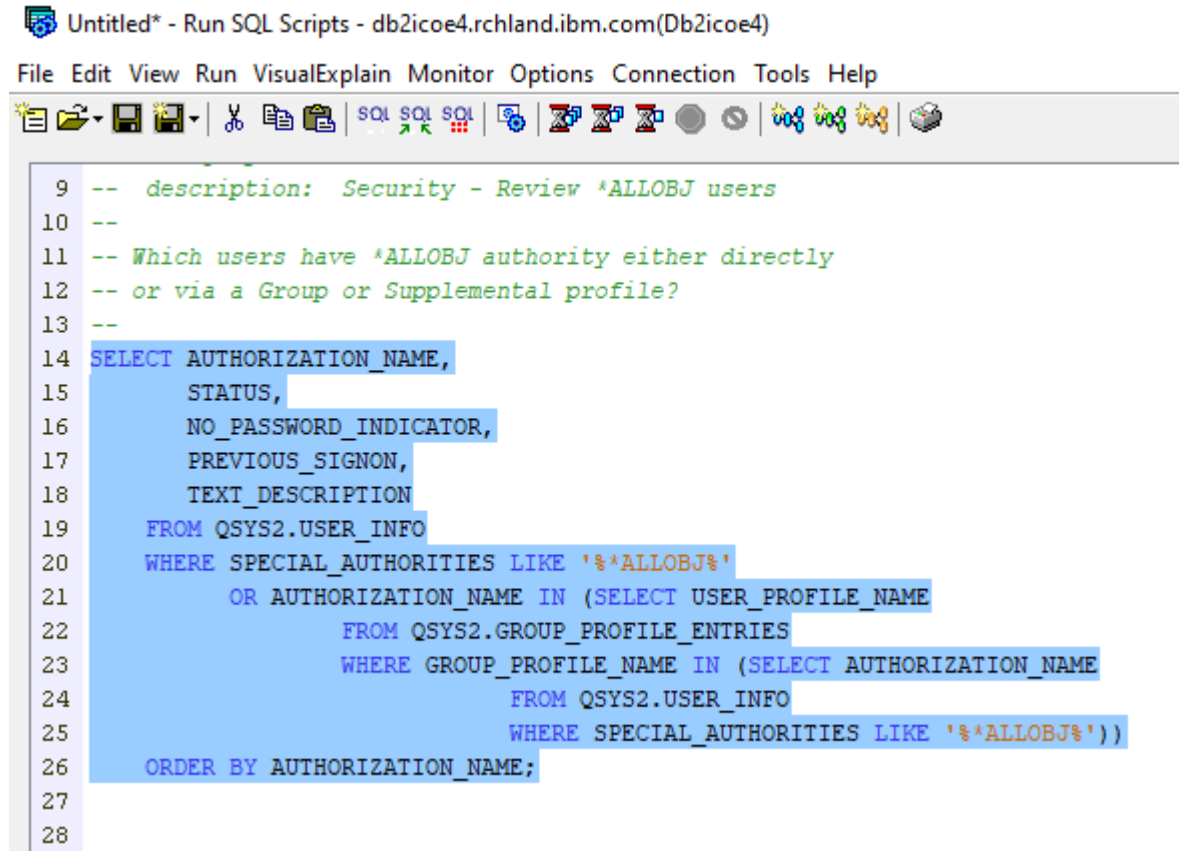
1. Create an **SQL View** object in Db2, build “synonym” over the view, build report over synonym – See APPENDIX for how to do this
2. **Upload the SQL Script** into Db2 Web Query and build synonym over the script, build report over the synonym
3. **Use EZ-Report**



That's
COOL!

- Use Cases
 - Fast report over a Table/File
 - Fast report over IBM i Services
 - Fast report over any SQL Statement
 - Fast report over Security Compliance Tool “Remote File Get”
 - Conversion Tools
 - What does it do?
 - Auto creates a synonym (meta data) over the data source
 - Auto creates a “fex” object (I.e., a report) in the folder you specify
 - Run report as is, or modify
 - How it will be shipped
 - As a utility in the next Db2 Web Query EZ-Install (early May)
- Requires Standard Edition (this might change down the road)**

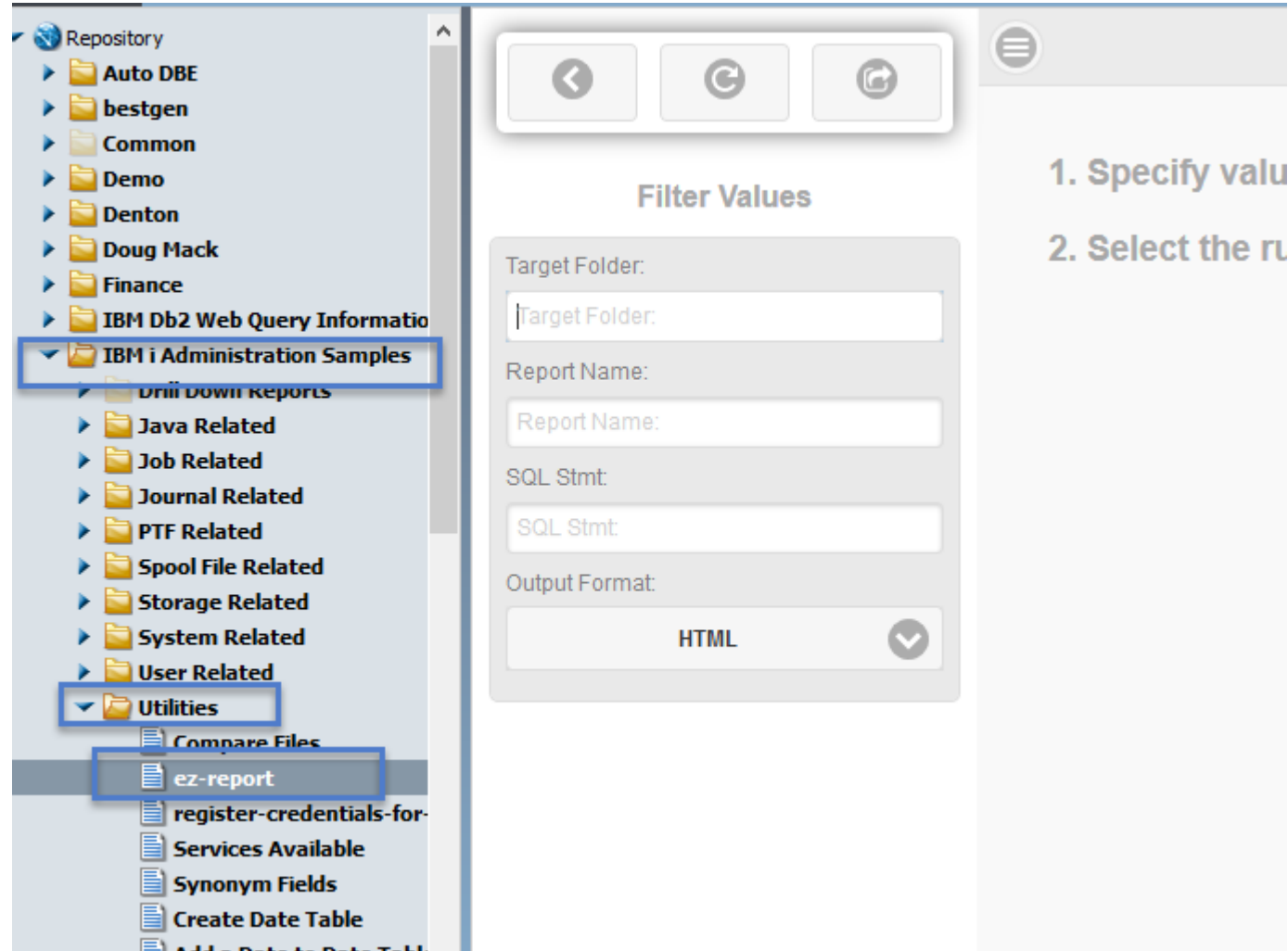
- Use ACS Insert from Examples
- In this case, I chose the sample SQL for finding users that have *ALLOBJ authority
- Test it in ACS
- Copy/Paste to webquery



```
9  -- description:  Security - Review *ALLOBJ users
10 --
11 -- Which users have *ALLOBJ authority either directly
12 -- or via a Group or Supplemental profile?
13 --
14 SELECT AUTHORIZATION_NAME,
15        STATUS,
16        NO_PASSWORD_INDICATOR,
17        PREVIOUS_SIGNON,
18        TEXT_DESCRIPTION
19 FROM QSYS2.USER_INFO
20 WHERE SPECIAL_AUTHORITIES LIKE '%*ALLOBJ%'
21        OR AUTHORIZATION_NAME IN (SELECT USER_PROFILE_NAME
22                                FROM QSYS2.GROUP_PROFILE_ENTRIES
23                                WHERE GROUP_PROFILE_NAME IN (SELECT AUTHORIZATION_NAME
24                                                            FROM QSYS2.USER_INFO
25                                                            WHERE SPECIAL_AUTHORITIES LIKE '%*ALLOBJ%'))
26 ORDER BY AUTHORIZATION_NAME;
27
28
```

In Db2 Web Query:

- Navigate to and expand the IBM i Administration Samples folder
- Double Click on EZ-Report
- Enter:
 - Folder to contain new report and synonym
 - Name of report
- PASTE or free form type your SQL statement



Repository

- Auto DBE
- bestgen
- Common
- Demo
- Denton
- Doug Mack
- Finance
- IBM Db2 Web Query Information
- IBM i Administration Samples**
 - Drill Down Reports
 - Java Related
 - Job Related
 - Journal Related
 - PTF Related
 - Spool File Related
 - Storage Related
 - System Related
 - User Related
 - Utilities**
 - Compare Files
 - ez-report**
 - register-credentials-for-
 - Services Available
 - Synonym Fields
 - Create Date Table
 - Add a Date to Date Table

Filter Values

Target Folder:
Target Folder:

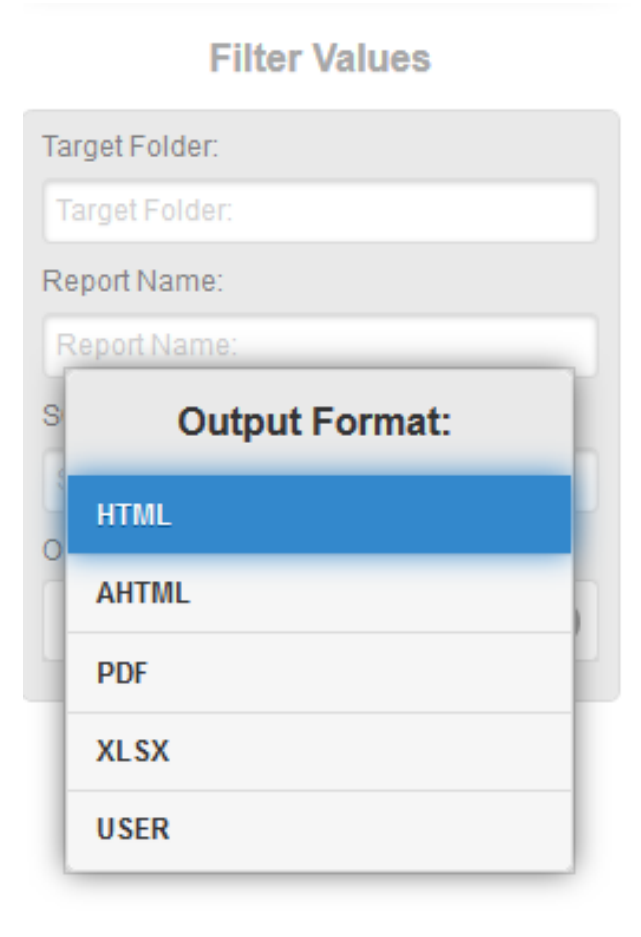
Report Name:
Report Name:

SQL Stmt:
SQL Stmt:

Output Format:
HTML

1. Specify value
2. Select the rule

- Select Output Format
- **ATHML** is HTML Analytical Document
 - User can work with the data views after report is run
- **PDF** is PDF
- **XLSX** is EXCEL
- **USER** allows the end user to choose output type at run time
- Note: Once the report is created you can always edit the report and change these



Filter Values

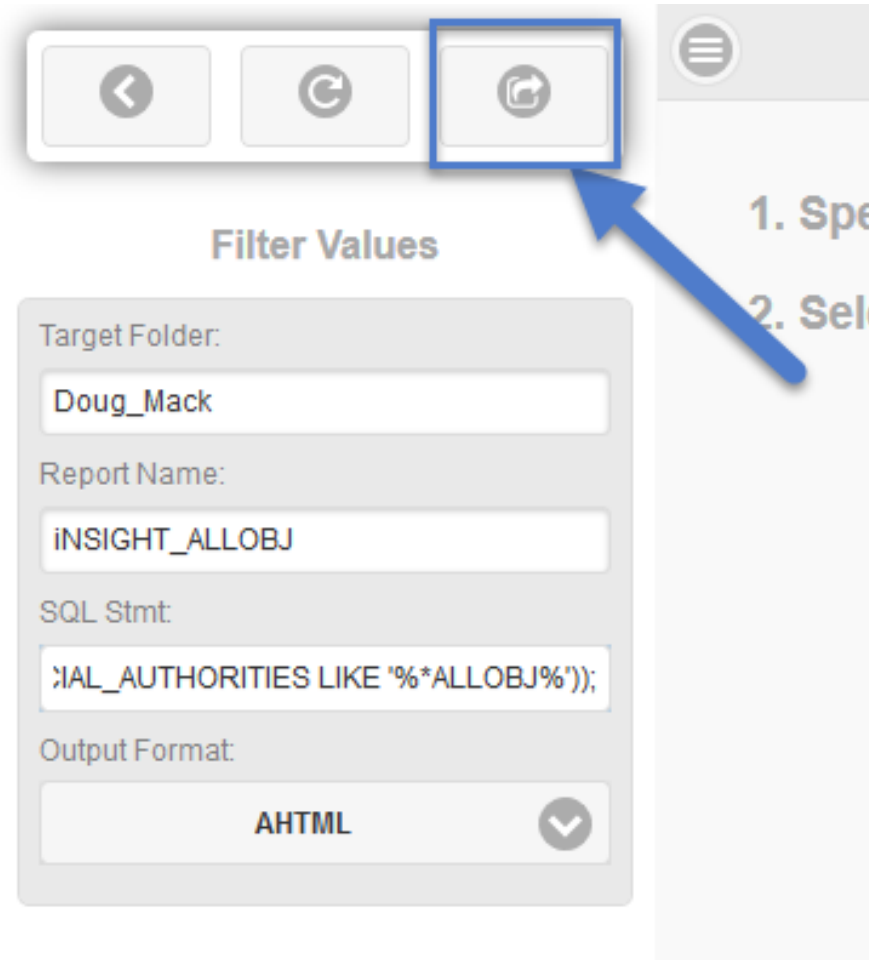
Target Folder:
Target Folder:

Report Name:
Report Name:

Output Format:

- HTML
- ATHML
- PDF
- XLSX
- USER

- Hit the RUN
- **ATHML** is HTML Analytical Document
 - User can work with the data views after report is run
- **PDF** is PDF
- **XLSX** is EXCEL
- **USER** allows the end user to choose output type at run time
- Note: Once the report is created you can always edit the report and change these



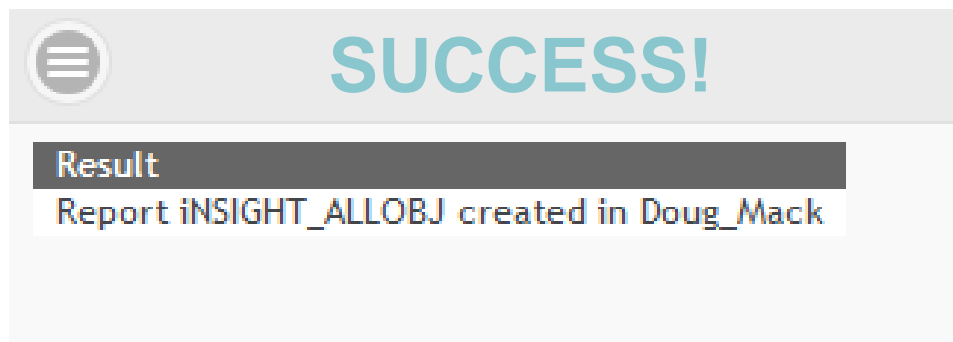
Filter Values

Target Folder:
Doug_Mack

Report Name:
INSIGHT_ALLOBJ

SQL Stmt:
SELECT * FROM AL_AUTHORITIES LIKE '%*ALLOBJ%';

Output Format:
AHTML



SUCCESS!

Result

Report INSIGHT_ALLOBJ created in Doug_Mack

Doug Mack		29 of 29 records, Page 1 of 1			
		<i>iNSIGHT_ALLOBJ</i>			
		AUTHORIZATION_NAME ▼	STATUS ▼	NO_PASSWORD_INDICATOR ▼	PREVIOUS_SIGNON ▼ TEXT_DESCRIPTION ▼
		BESTDEMO	*ENABLED	NO	. Rob Bestgen
		BESTGEN	*ENABLED	NO	2020/04/23 14:19:39.000000 Rob Bestgen
		BESTHIGH	*ENABLED	NO	. Rob Bestgen
		BEST2	*ENABLED	NO	. Rob Bestgen
		DBE	*ENABLED	NO	2018/03/02 12:06:25.000000 Rob Bestgen
		DBEUCH	*ENABLED	NO	2020/02/06 14:08:00.000000 Temp for Dan B (tom)
		DENTON	*ENABLED	NO	2019/01/30 14:31:24.000000 Jim Denton
		DENTON2	*ENABLED	NO	. Jim Denton
		DHQB	*ENABLED	NO	. DHQB
		FANT	*ENABLED	NO	2018/05/08 14:36:31.000000 Fant Steele
		GIBBONS	*ENABLED	NO	2020/04/21 10:57:17.000000 Joe Gibbons 3-5103
		GKJAMES	*ENABLED	NO	2020/04/23 13:14:55.000000 Gary James
		HBEDOYA	*ENABLED	NO	2020/04/08 15:56:58.000000 Hernando Bedoya 3-xxxx
		JIMBAINB	*ENABLED	NO	2020/04/14 12:45:02.000000 Jim Bainbridge
		JLD	*ENABLED	NO	2016/06/30 11:04:34.000000 Jim Denton
		KRS	*ENABLED	NO	2020/04/08 22:42:48.000000 .
		MACKD	*ENABLED	NO	2020/04/23 13:29:13.000000 Doug Mack 360-481-1271
		MCAIN	*ENABLED	NO	2019/04/17 14:21:33.000000 Mike Cain 3-0256
		MCKINLEY	*ENABLED	NO	2018/12/18 11:00:28.000000 Tom McKinley

What Can You Do with Existing Report



- AHTML (HTML Analytical Document) gives you options within the report
 - Sort, Filter, Hide columns, Chart, Rollup, Pivot data, export to Excel
- Add the report to a dashboard
- Schedule the report to run automatically and send it out in an email
- Create some Hyper Links between reports
- Create a history perspective
 - Use the date dimension table in Db2 Web Query to create buckets of data (Year/Qtr/Month/Week/Day)

29 of 29 records, Page 1 of 1

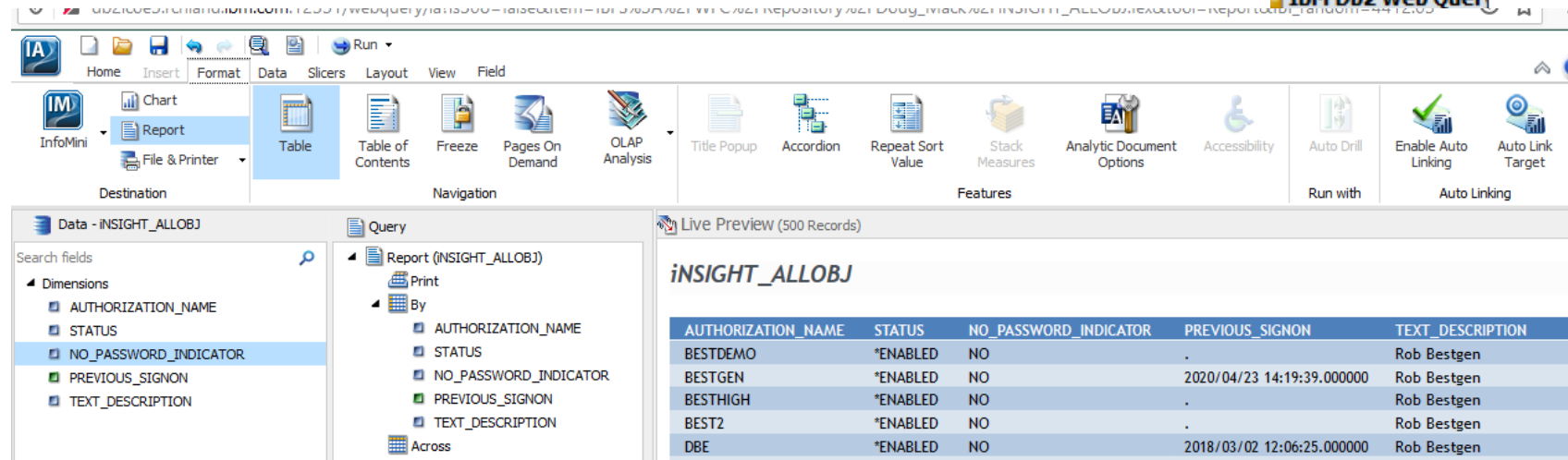
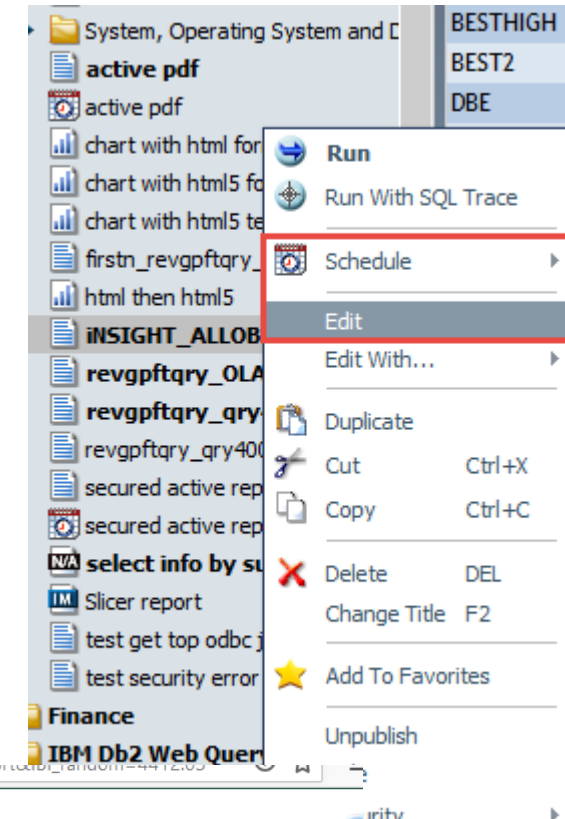
INSIGHT_ALLOBJ

AUTHORIZATION_NAME ▼	STATUS ▼	NO_PASSWORD_INDICATOR ▼	PREVIOUS_SIGNON ▼	TEXT DESCRIPTION ▼
BESTDEMO	*ENABLED	NO		
BESTGEN	*ENABLED	NO	2020/04/23 14:19:39.0000	
BESTHIGH	*ENABLED	NO		
BEST2	*ENABLED	NO		
DBE	*ENABLED	NO	2018/03/02 12:06:25.0000	
DBEUCH	*ENABLED	NO	2020/02/06 14:08:00.0000	
DENTON	*ENABLED	NO	2019/01/30 14:31:24.0000	
DENTON2	*ENABLED	NO		
DHQB	*ENABLED	NO		
FANT	*ENABLED	NO	2018/05/08 14:36:31.0000	
GIBBONS	*ENABLED	NO	2020/04/21 10:57:17.0000	
GKJAMES	*ENABLED	NO	2020/04/23 13:14:55.0000	
HBEDOYA	*ENABLED	NO	2020/04/08 15:56:58.0000	
JIMBAINB	*ENABLED	NO	2020/04/14 12:45:02.0000	
JLD	*ENABLED	NO	2016/06/30 11:04:34.0000	
KRS	*ENABLED	NO	2020/04/08 22:42:48.0000	
MACKD	*ENABLED	NO	2020/04/23 13:29:13.0000	
MCAIN	*ENABLED	NO	2019/04/17 14:21:33.0000	000 MIKE Call 3-0230
MCKINLEY	*ENABLED	NO	2018/12/18 11:00:28.000000	Tom Mckinley
POURIER	*DISABLED	NO	2018/03/15 16:26:12.000000	Tom Pourier

What Can You Do with Auto Generated Report



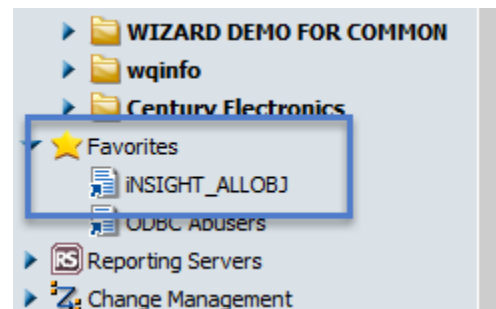
- Edit the Report with InfoAssist+
 - Add headers and footers
 - Create the hyper links (drill to another report)
 - Change the Style Sheet
 - Add a filter (dynamic parameter)
 - Change report features
 - Repeat sort values
 - Creating ranking report
 - Add Accordion or Table of Contents behavior
- Use the TUTORIALS in EZ-Install to learn what you can do!



What Can You Do with Auto Generated Report



- Use Db2 Web Query Job Scheduler
 - Calendar
 - Exclude dates
 - Pass parameters
 - Notify on error
 - Email, FTP, Save back to BI Portal
- Use CL Command RUNWQFEX
 - Schedule to run and distribute off your IBM i Job Scheduler
 - Place into CL Program
 - Send via email
 - FTP
 - Send to IFS or network drive
- Synchronize with mobile devices



What Can You Do with Auto Generated Synonym



- Synonyms simplify the data perspective for the report author
- Once a synonym is in place, you can build reports, charts, visualizations using the automatically generated synonym
- Or enhance the synonym
 - Join this table to others
 - Join to date dimension table for additional date attributes
 - Create derived fields that can be used in reports
 - Use Built In functions (including Db2 functions) to create advanced derived fields
 - Create Grouping of data
 - Regions
 - Users by functional areas

The screenshot displays the IBM Cognos Analytics interface. A context menu is open over a table, with options like 'New', 'Paste', 'Delete', 'Change Title', 'Refresh', 'Upload', 'Metadata', 'New', and 'Edit'. The 'Metadata' option is highlighted. Below the menu, a table titled 'Applications' is visible, showing a list of applications with columns for 'Application Directories/Files', 'Size', and 'Date Modified'. The 'doug_mack' application is highlighted in the list. The 'INSIGHT_ALLOBJ' application is also highlighted in the table.

Application Directories/Files	Size	Date Modified
geotest_stores	1298	2016/12/02 11.13.39
get_qzdsao_topx_all	15933	2019/10/23 10.48.50
hb_avgdeliverybyyear	244	2016/12/02 11.13.41
hb_date_conv	9139	2016/12/02 11.13.42
hb_inventory	1047	2016/12/02 11.13.44
hb_orders	6398	2016/12/02 11.13.45
hb_plant	1430	2016/12/02 11.13.47
hb_stores	1288	2016/12/02 11.13.49
ibi_adhocrequest	2814	2016/12/02 11.13.50
idx_mar13ixadv	6391	2020/03/17 16.25.34
INSIGHT_ALLOBJ	570	2020/04/23 13.53.14
joetest_lim	2732	2016/12/02 11.13.53
krs_prdrrev	2759	2016/12/02 11.13.54

- The KEY is you need a synonym representing your data source, which could be:
 - A Stored Procedure that returns a result set

- A Db2 SQL View

- An uploaded SQL Script

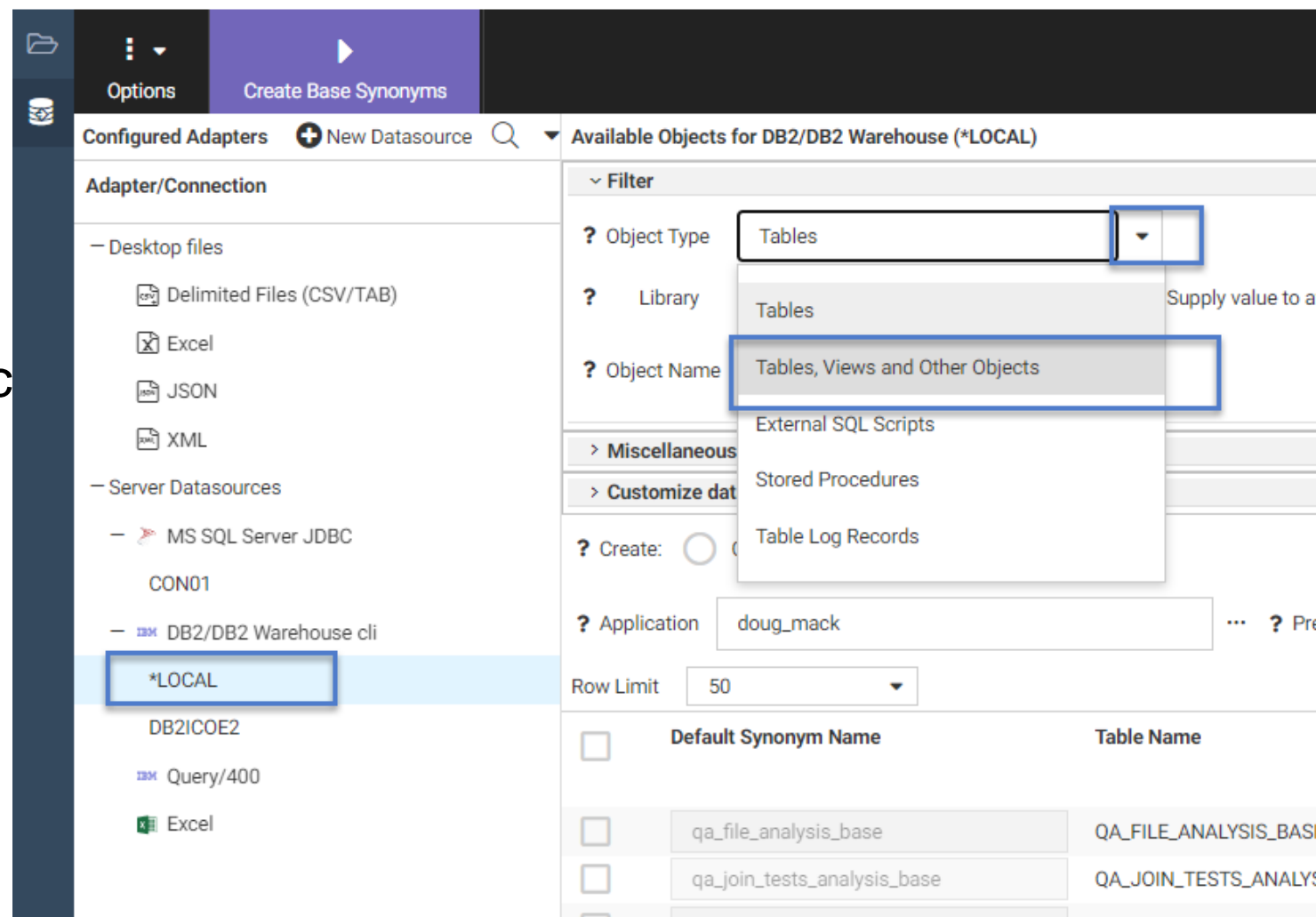
```
CREATE OR REPLACE VIEW QGPL.GET_QZDSAO_TOPX (  
    JOB_NAME ,  
    AUTHORIZATION_NAME,  
    SUBSYSTEM, |  
    JOB_STATUS,  
    MEMORY_POOL,  
    CPU_TIME,  
    TOTAL_DISK_IO_COUNT )  
AS  
    SELECT JOB_NAME, AUTHORIZATION_NAME, SUBSYSTEM, JOB_STATUS, MEMORY_POOL, CPU_TIME, TOTAL_DISK_IO_COUNT  
    FROM TABLE(ACTIVE_JOB_INFO(JOB_NAME_FILTER => 'QZDSAOINIT', SUBSYSTEM_LIST_FILTER =>  
        'QUSRWRK')) x
```

- Many IBM i services are shipped with a view
 - Just select VIEW objects when creating your synonym
- Some are shipped as a Table Function
 - You can wrapper the SQL with a view, or upload an SQL Script (or use EZ-Report)
 - In this example, we'll create an SQL VIEW over the table function ACTIVE_JOB_INFO with a filter on QZDSAOINIT jobs

Building a Synonym over a VIEW



- Create a Db2 Web Query **Synonym** (meta data) over the prepared service
 - Right Click on a Folder and select Metadata -> NEW
- Double click on *LOCAL
- Select Tables, Views and other Objects from the Object Type drop down
- Enter the library (QGPL in our case) where your view exists
- Click on SEARCH



- Select the view of interest
 - You might want to add a prefix or suffix to your synonym name to identify it as a synonym built over an IBM i Service
- Click on Create Base Synonyms

Create Base Synonyms

Available Objects for DB2/DB2 Warehouse (*LOCAL)

Filter

Object Type: Tables, Views and Other Objects

Library: qgpl

Object Name: get%

Miscellaneous Parameters

Customize data type mappings

Create: ☐ Cluster Synonym ☒ Base Synonyms

Application: doug_mack

Prefix:

Suffix: libmi_serv

Row Limit: 50

	Default Synonym Name	Table Name	Library/Schema	Type
<input checked="" type="checkbox"/>	get_qzdsao_topx	GET_QZDSAO_TOPX	QGPL	VIEW
<input type="checkbox"/>	get_qzdsao_topx_all	GET_QZDSAO_TOPX_ALL	QGPL	VIEW

Building a Synonym over a VIEW



- Click on the folder icon
 - Synonyms are stored in “application” folders
 - Scroll down to see your new synonym. Right click and SAMPLE DATA

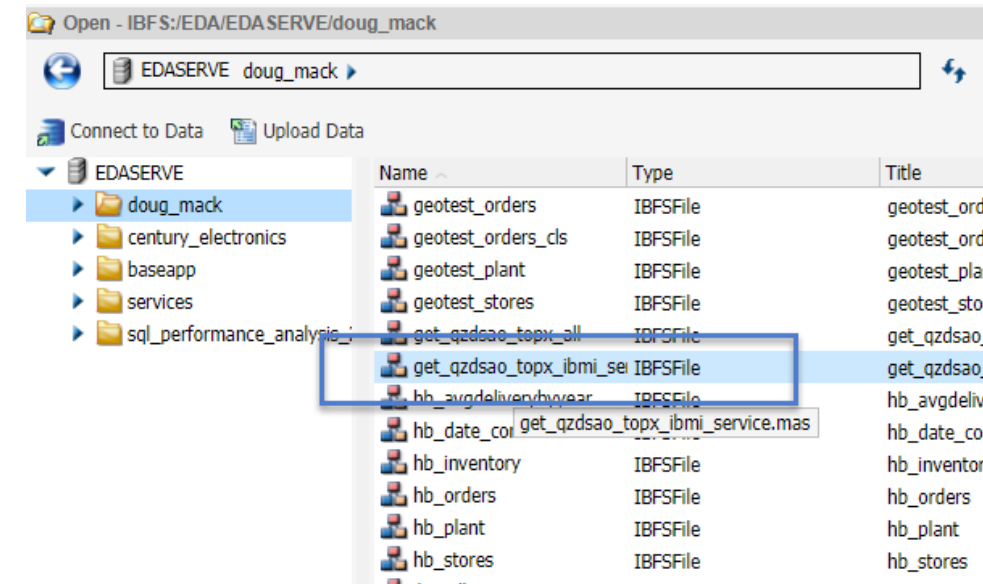
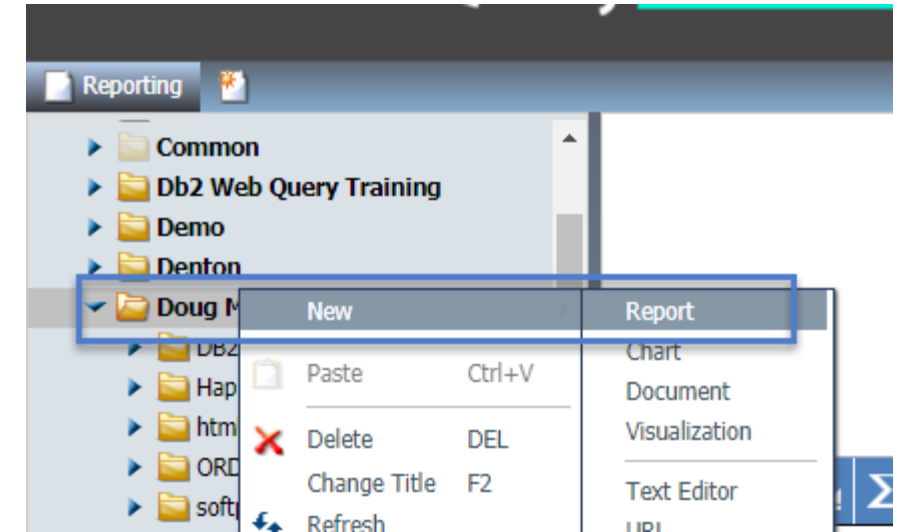
The screenshot shows the IBM Data Studio interface. On the left, the 'Applications' folder is selected in the sidebar. The main pane displays a table of data for the 'get_qzdsao_topx_ibmi_service' view. The table has columns: JOB_NAME, AUTHORIZATION_NAME, SUBSYSTEM, JOB_STATUS, MEMORY_POOL, CPU_TIME, and TOTAL. The data is limited to 50 rows.

JOB_NAME	AUTHORIZATION_NAME	SUBSYSTEM	JOB_STATUS	MEMORY_POOL	CPU_TIME	TOTAL
469455/QUSER/QZDASOINIT	QSECOFR	QUSRWRK	TIMW	BASE	19	
469627/QUSER/QZDASOINIT	QWQADMIN	QUSRWRK	TIMW	BASE	1035	
469748/QUSER/QZDASOINIT	QWQADMIN	QUSRWRK	TIMW	BASE	1859	
469749/QUSER/QZDASOINIT	QWQADMIN	QUSRWRK	TIMW	BASE	7840	
469777/QUSER/QZDASOINIT	QWQADMIN	QUSRWRK	TIMW	BASE	636	
470082/QUSER/QZDASOINIT	QWQADMIN	QUSRWRK	TIMW	BASE	1416	
471692/QUSER/QZDASOINIT	QUSER	QUSRWRK	PSRW	BASE	7	

What is the process?



- Start building your report over the new Synonym
 - Using InfoAssist invoked from the Db2 Web Query BI Portal
 - Right click on folder, select report or chart
 - Select our new Synonym, and OPEN in InfoAssist
- With InfoAssist, you can:
 - Build a standard report or chart, or other visualizations
 - Choose output: HTML, Excel, Active Reports (good for mobile devices), PDF, PowerPoint
 - Schedule the reports to run in the background and email or push to IFS or network drive
 - Add desired reports to dashboard



- Today, the reports are strictly point in time
- If you're at 7.3, it would be very easy to set up a timed job to collect data via IBM i Services and dump into a temporal table

Or....

- No matter what release you're at, use Db2 Web Query's DataMigrator to automate that process of collecting and loading a history table
- Reports/dashboards could be updated then to include trending information based on timestamps in collections
- **If you'd like some help with this, let us know: qu2@us.ibm.com**

- Db2 Web Query for i Website
 - [Ibm.biz/db2webqueryi](http://ibm.biz/db2webqueryi)
- Db2 Web Query for i Wiki
 - [Ibm.biz/db2wqwiki](http://ibm.biz/db2wqwiki)
- Db2 Web Query Getting Started Enablement:
 - <https://ibm.biz/db2ilabservices>
- Db2 Web Query Version 2.2.1
 - <http://ibm.biz/db2wqv221blog>
 - Videos: <http://ibm.biz/db2wq-221-videos>
- EZ-Install
 - <http://Ibm.biz/db2wqezinstall-info>



Follow Db2 Web Query guy Doug Mack on twitter at @mckdrmoly or blog <http://db2webqueryi.blogspot.com/>