



How to Get Started with DB2 Web Query

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Agenda

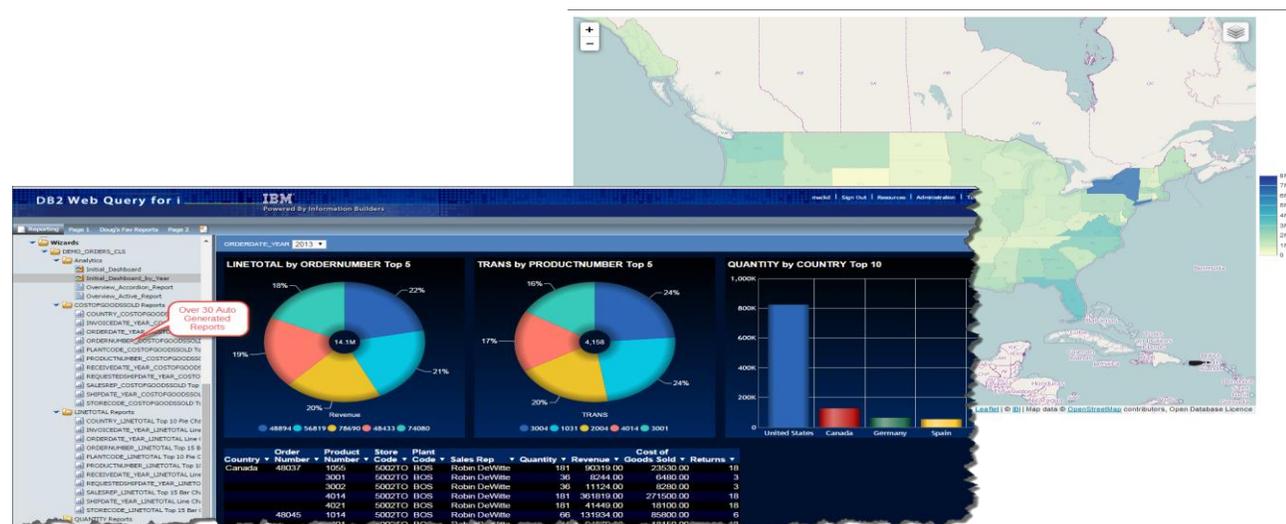
- Get to Version 2.2
 - Coming SOON: EASY Install Package
 - Redbook Tutorials and the Sample Database
- Leverage Sample Reports and Templates
 - Wizard Analytics
 - Enhance Your Meta Data
 - For example, dealing with dates
- Query/400 Discovery and Analysis
 - Consolidation Example
- Additional Considerations
 - Out of the box Security Compliance Assessment and Reporting Solution



You Want to Get to Version 2.2

For summary and details of Version 2.2 delivered 4/15/2016, go to: ibm.co/db2wqwiki

- Wizard Analytics
- Geographic Maps and advanced charts (tag clouds, heat maps, etc.)
- New ETL tool for building data marts or data warehouses
- New dashboard options
- Improved mobile device support
- New security interface
- New data source support
- Re designed Developer Workbench





DB2 Web Query Packaging

▪ Product Set (5733-WQx)

- Express Edition (5733-WQe)
 - ✓ Entry level edition
 - ✓ Report development
 - ✓ Great for small, getting started environments
- Standard Edition (5733-WQs)
 - ✓ Adds report distribution, integration APIs
 - ✓ Adds Microsoft SQLServer Access
 - ✓ Virtually unlimited runtime users support
 - ✓ Optionally add JDEdwards Adapter
 - ✓ **Add User Licenses to either Edition**
- Data Migrator (5733-WQm)
 - ✓ Extract, Transformation and Load Tool
 - ✓ Requires either Express or Standard Edition and at least 1 license of Developer Workbench

▪ Licensing

- Core Based for Express/Standard/DataMigrator
- LPAR based for User Licenses



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Do I Need Standard Edition?

Ans: YES, if any (or more) of the following apply?

1. You want automated report execution and distribution
2. You have over 25 Users that will need to run reports accessing live data
3. You need non DB2 Family database access
4. You want JDEdwards Adapter (pre-built meta data)
5. You want to embed reports into existing or new applications (e.g., a customer portal Java app)

See FAQ document at ibm.biz/db2webqueryi



You Need to Get Version 2.2

- If you haven't gotten DB2 Web Query installed yet.....note that:
- You probably own licenses of DB2 Web Query, but its likely they are at Version 1
 - If you want to know specifically what you might already own, send an email to QU2@us.ibm.com and ask that question and include your serial number(s)
- You can:
 - Have your Business Partner process an upgrade to Version 2.2
 - No charge (sort of). SW Maintenance is added to get you the no charge upgrade
 - Download an installation DVD Image and install and run Version 2.2 for 70 days before it requires a license key
 - Wait a couple more weeks for our “easy install” package



What is this Easy Install Package you Speak of ?

- Today's Installation process can be a bit cumbersome
 - Get the DVD Image (if you can) off of ESS
 - Follow the Install Guide to restore license programs
 - Follow the Info APAR Guide to get all the pre-req and product Group PTFs up to minimum levels
 - Change the QWQADMIN password
 - Assign a user to be a DB2 Web Query Admin in Security Center
 - Create a Top Level Folder for use with self guided tutorials
 - Restore the sample database QWQCENT
 - Set up Meta Data over the Sample Database
 - Download the Redbook Tutorials and proceed with self guided report authoring education!



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 - Download the Redbook Tutorials and proceed with self guided report authoring education!
 - **Or you could bring my team in for a 3 day getting started service (costs often supplemented by a Power Systems “Services Voucher”**
 - **Or review the 3 getting started videos at ibm.co/db2wqwiki**



What is this Easy Install Package you Speak of ?

- There **MUST** be a better way !





What is this Easy Install Package with which you Speak of ?

- **Tomorrow** (or some time in the very near future)
 - A single downloadable image from box.com (drop box like site)
 - Includes Version 2.2, ALL products with the latest Group PTF
 - Sample IBM i Services Reports
 - Query/400 Discovery Tool and Sample Analysis Reports
 - All of the Tutorial Reports already completed



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- **Tomorrow** (or some time in the very near future)
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 - Includes Version 2.2, ALL products with the latest Group PTF
 - Sample IBM i Services Reports
 - Query/400 Discovery Tool and Sample Analysis Reports
 - All of the Tutorial Reports already completed
 - An installation process that does all of those things on the previous page for you !
 - Restores the licensed program products
 - note: you'll still need to ensure pre-reqs are installed and up to date but we'll tell you that as part of the installation process)
 - Prompts you to change the QWQADMIN password and to add a non "Q" user as an administrator
 - Restores the IBM i Services objects (views, stored procedures, synonyms, reports)
 - Installs the Query/400 Discovery tool (you'll still need to RUN that tool to then analyze the results)
 - Restores the latest sample database (QWQCENT) and synonyms required for YOU to run through the (Redbook) tutorials
 - Completed Tutorial Reports (note: Adding new ones for Version 2.2 too)!



What is this Easy Install Package you Speak of ?

- THERE ***IS*** A BETTER WAY!





USE Cases for the Easy Install Package

- You are licensed to Version 1, but want to start using Version 2.2 while your Business Partner process the appropriate upgrade to get Version 2.2 licensing
- You want to get the IBM i Services Sample Reports based on Version 2.2, and are not currently on Version 2.2
 - NOTE: If you are on Version 2.1, you will be prompted during install whether you want to upgrade (which overwrites) your Version 2.1 installation. If you've got Version 1 installed, no problem – this will install next to it
- You want to get the Query/400 Discovery Tool and Analysis Reports
- You want to try out DB2 Web Query for 70 day trial period
- You want to test Version 2.2 in another LPAR before upgrading your Production installation



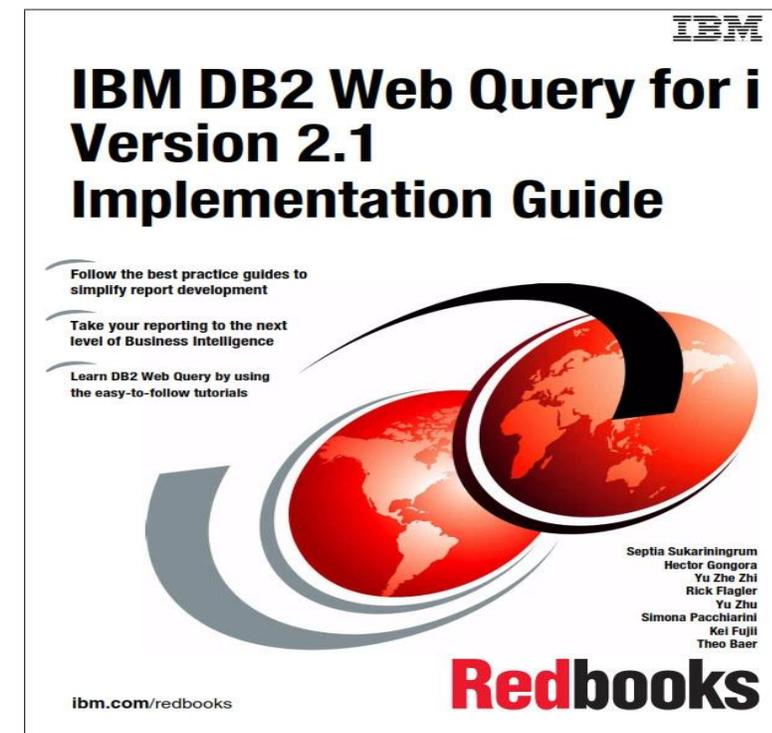
How Do I Get the Easy Install Package

- Our plan is to announce this via my twitter account (@mckdrmoly) and blog (db2webqueryi.blogspot.com)
- We are currently testing the process
- Expect this to be available by Year End
 - Although Version 2.2 tutorials are probably Q1 of 2017
- Feedback? Send email to QU2@us.ibm.com

Sample Database and Tutorials

- IBM Provides 14 Chapters of Tutorials in the current Version 2.1 level Redbook available from ibm.co/db2wqwiki
 - All about how to build reports
 - New 2.2 Tutorials Coming Soon
 - Based on a sample database that ships with the product
 - QWQCENT Library

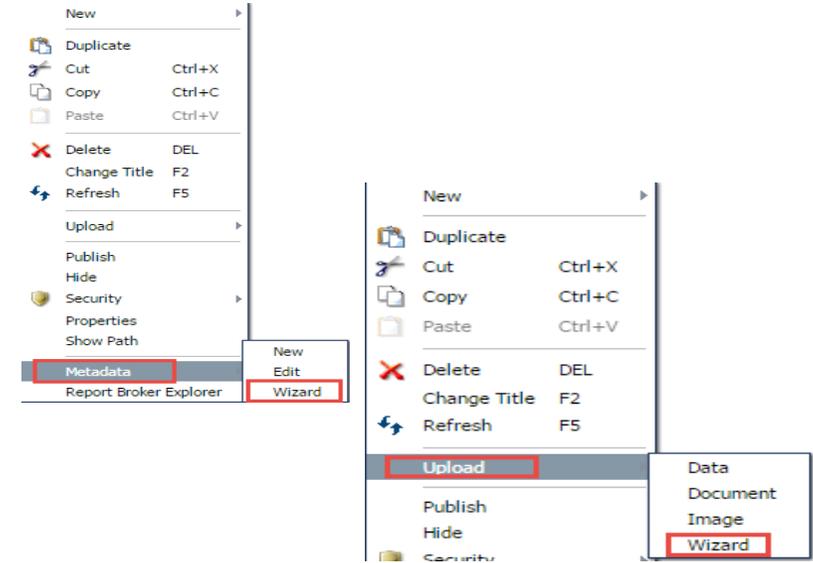
- Sample Database Includes
 - Data in SQL Tables
 - IBM i Services objects
 - Query/400 Discovery tool objects
 - A Date Dimension Table (more on this later)
 - And some stored procedures to load and maintain it





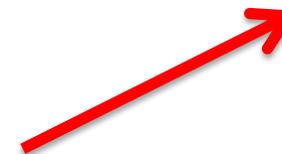
Wizard Analytics

- Automates the building of meta data and xx number of standard reports
 - xx will vary based on how many measurements and dimensions you have
- Two wizards
 - Meta Data Wizard for DB2 tables/files
 - Upload Wizard for importing Excel spreadsheets
- The wizards make assumptions about meta data based on looking at the data, but gives you a chance to alter that before creating
- Video demonstrations at ibm.co/db2wqwiki
 - but let's take a look



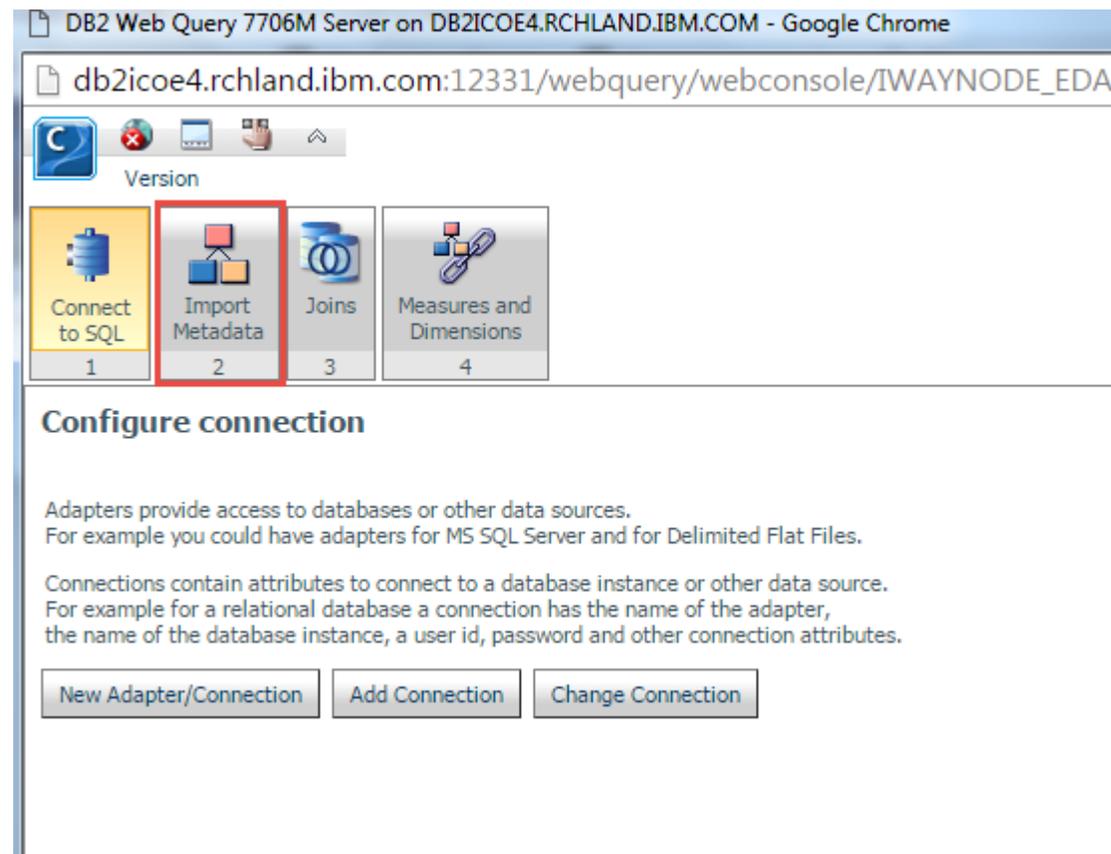
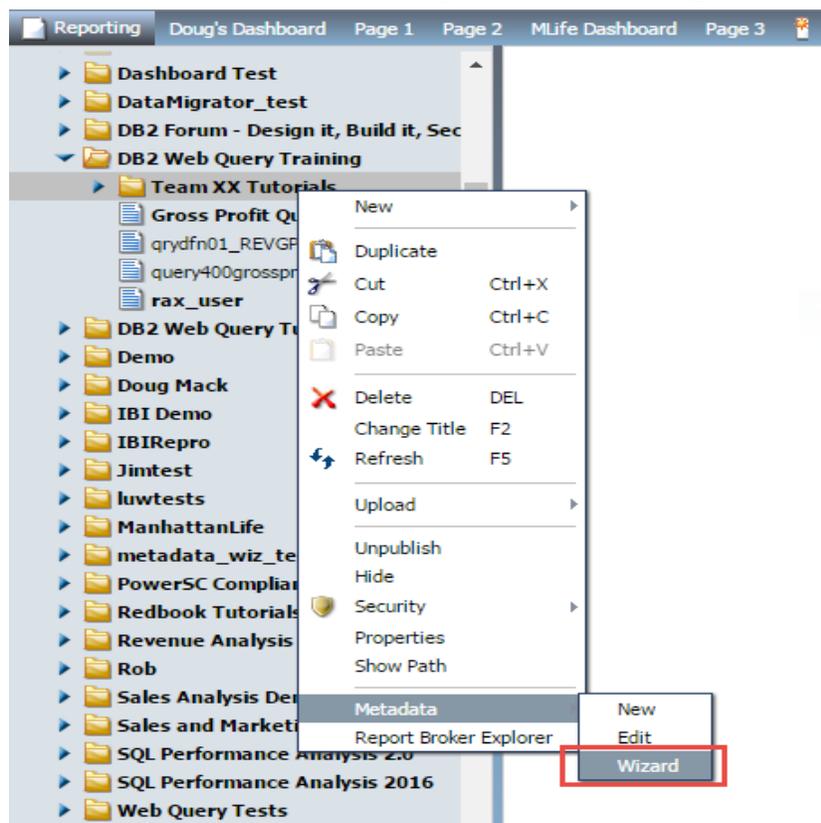
- [SSL Enablement](#)
- [SSO Kerberos](#)
- [Support KnowledgeBase](#)
- [System Variables](#)
- [Wizards](#)
- [Workload Capping](#)

- [Education](#)
- [Forum](#)
- [Getting Started Videos](#)
- [Training/Consulting Assistance](#)
- [Official Marketing home](#)
- [PTFs and On-going Service](#)



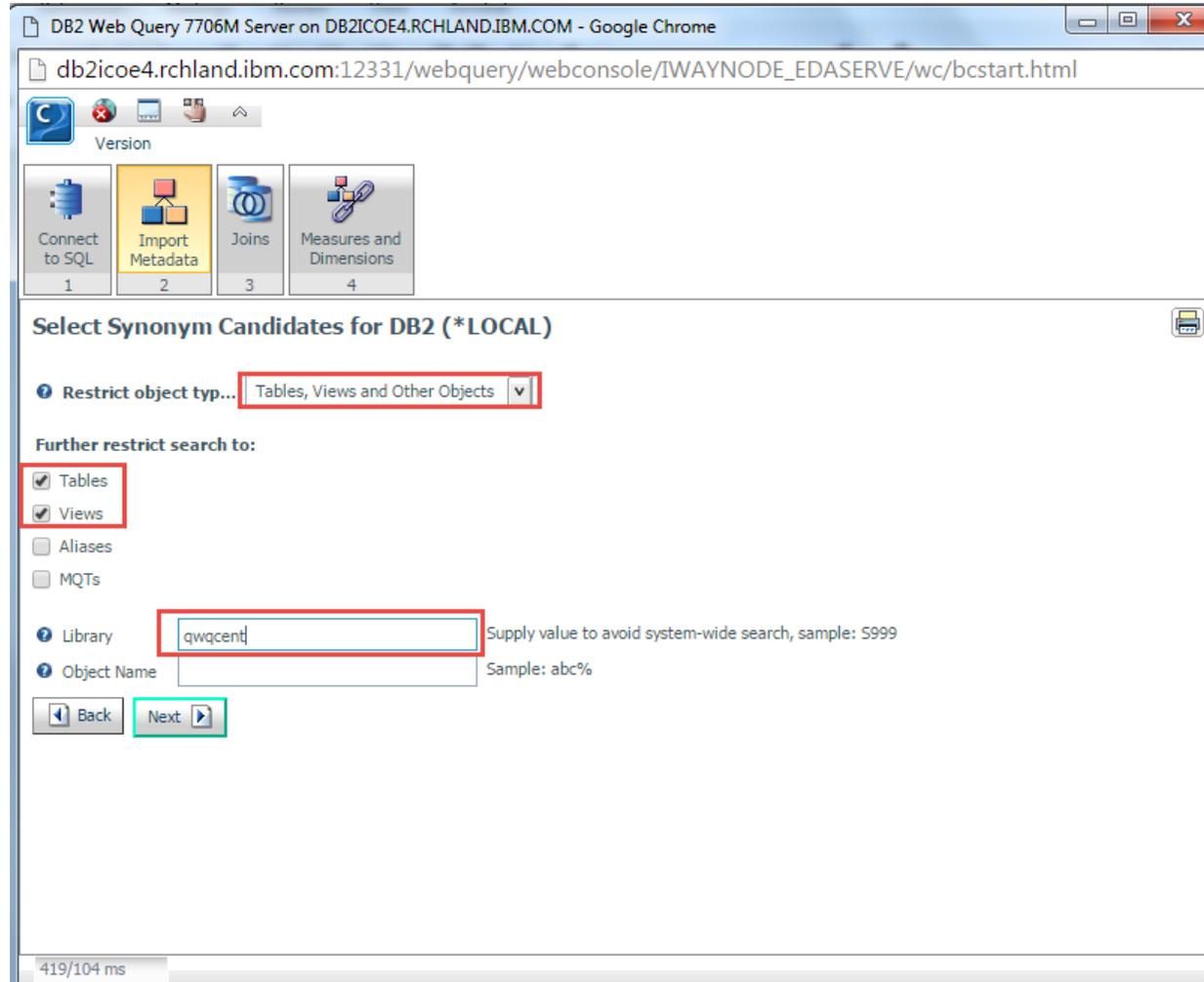
Meta Data Wizard

- Creates “Synonyms” and Sample Reports over DB2 for i Data
- The Wizard Steps you through the Process



Select Database Objects to Create Synonyms Over

- Tables, Views, Stored Procedures, SQL Scripts, SQL Alias's, MQTs



DB2 Web Query 7706M Server on DB2ICOE4.RCHLAND.IBM.COM - Google Chrome

db2icoe4.rchland.ibm.com:12331/webquery/webconsole/IWAYNODE_EDASERVE/wc/bcstart.html

Version

1 Connect to SQL 2 Import Metadata 3 Joins 4 Measures and Dimensions

Select Synonym Candidates for DB2 (*LOCAL)

Restrict object type... Tables, Views and Other Objects

Further restrict search to:

Tables

Views

Aliases

MQTs

Library Supply value to avoid system-wide search, sample: S999

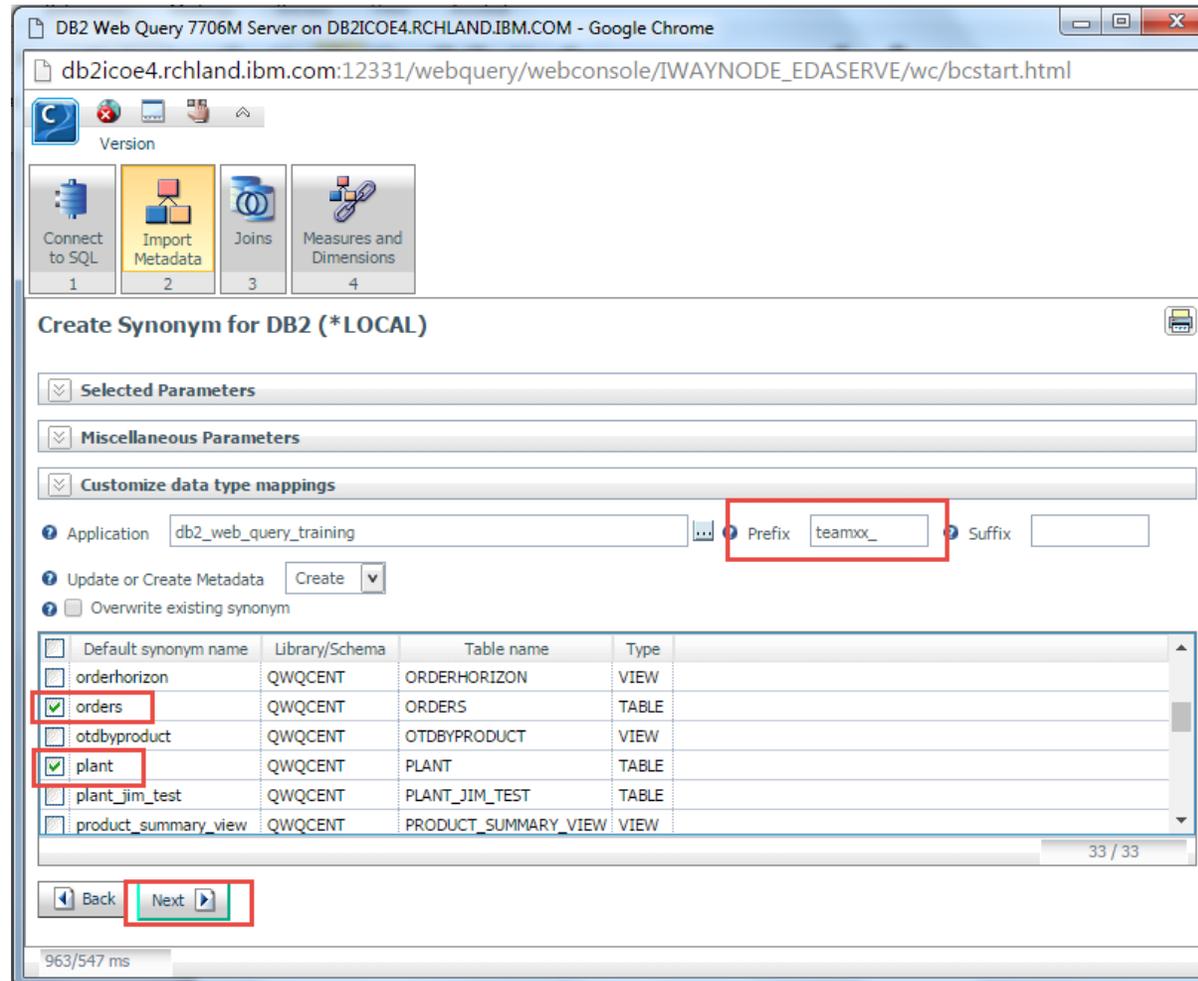
Object Name Sample: abc%

Back Next

419/104 ms

Select Tables/Files

- It's a good practice to give the synonym and folder name that gets created a prefix or suffix so you identify it as being created by the wizard



DB2 Web Query 7706M Server on DB2ICOE4.RCHLAND.IBM.COM - Google Chrome

db2icoe4.rchland.ibm.com:12331/webquery/webconsole/IWAYNODE_EDASERVE/wc/bcstart.html

Version

Connect to SQL 1 Import Metadata 2 Joins 3 Measures and Dimensions 4

Create Synonym for DB2 (*LOCAL)

Selected Parameters

Miscellaneous Parameters

Customize data type mappings

Application: db2_web_query_training Prefix: teamxx_ Suffix:

Update or Create Metadata: Create

Overwrite existing synonym:

<input type="checkbox"/>	Default synonym name	Library/Schema	Table name	Type
<input type="checkbox"/>	orderhorizon	QWQCENT	ORDERHORIZON	VIEW
<input checked="" type="checkbox"/>	orders	QWQCENT	ORDERS	TABLE
<input type="checkbox"/>	otdbyproduct	QWQCENT	OTDBYPRODUCT	VIEW
<input checked="" type="checkbox"/>	plant	QWQCENT	PLANT	TABLE
<input type="checkbox"/>	plant_jim_test	QWQCENT	PLANT_JIM_TEST	TABLE
<input type="checkbox"/>	product_summary_view	QWQCENT	PRODUCT_SUMMARY_VIEW	VIEW

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Back Next

963/547 ms

If Multiple Files, DB2 Web Query Can Predict Join Fields and Types

- But you need to tell it which files might be Primary or Secondary

db2icoe4.rchland.ibm.com:12331/webquery/webconsole/IWAYNODE_EDASERVE/wc/bcstart.html

Version

1 Connect to SQL 2 Import Metadata 3 Joins 4 Measures and Dimensions

Select Fact Table

-The Fact Table is the central component of a Star Schema. It holds your business metrics (e.g. Amounts, Sales, Revenues, Costs,...).
 -You may also select one table only that will be used for both measures and dimensions. If this is the case, then press 'Next' on the following screen.

See More

Application: db2_web_query_training Filtering: All Tables

Select	Name	Real Table Name	Has Foreign Keys	Description	Type	Date Modified
<input type="checkbox"/>	teamxx_inventory	QWQCENT/INVENTORY		Inventory table for Web Query QWQCENT DB	DB2	20160506 10.24.08
<input checked="" type="checkbox"/>	teamxx_orders	QWQCENT/ORDERS	Yes	Orders table for Web Query QWQCENT DB	DB2	20160506 10.24.08
<input type="checkbox"/>	teamxx_plant	QWQCENT/PLANT		Plant table for Web Query QWQCENT DB	DB2	20160506 10.24.08
<input type="checkbox"/>	teamxx_stores	QWQCENT/STORES		Store table for Web Query QWQCENT DB	DB2	20160506 10.24.08
<input type="checkbox"/>	cen_inventory	QWQCENT/INVENTORY		Inventory table for Web Query QWQCENT DB	DB2	20150805 14.42.24
<input type="checkbox"/>	cen_plant	QWQCENT/PLANT		Plant table for Web Query QWQCENT DB	DB2	20150805 14.42.24
<input type="checkbox"/>	cen_stores	QWQCENT/STORES		Store table for Web Query QWQCENT DB	DB2	20150805 14.42.23
<input type="checkbox"/>	cen_date_conv	QWQCENT/DATE_CONV			DB2	20140313 15.57.51

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Next

190/20 ms

Version

1 Connect to SQL 2 Import Metadata 3 Joins 4 Measures and Dimensions

Select Synonyms to be added for the Star Schema

-At least one central table (Fact Table) TEAMXX_ORDERS has been selected
 See More

Application: db2_web_query_training Filtering: All Joins

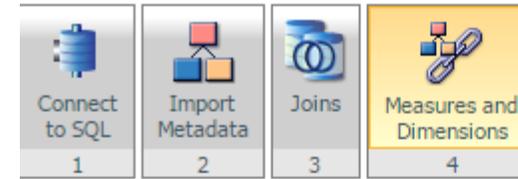
To Dimension	Real Table Name	From Fact	Join Condition
<input checked="" type="checkbox"/>	teamxx_inventory	teamxx_orders	PRODUCTNUMBER = PRODUCTNUMBER
<input type="checkbox"/>	teamxx_orders	teamxx_orders	ORDERNUMBER = ORDERNUMBER AND PRODUCTNUMBER = PRODUCTNUMBER AND ORD...
<input checked="" type="checkbox"/>	teamxx_plant	teamxx_orders	PLANTCODE = PLANTCODE
<input checked="" type="checkbox"/>	teamxx_stores	teamxx_orders	STORECODE = STORECODE
<input type="checkbox"/>	cen_inventory	teamxx_orders	PRODUCTNUMBER = PRODUCTNUMBER
<input type="checkbox"/>	cen_plant	teamxx_orders	PLANTCODE = PLANTCODE
<input type="checkbox"/>	cen_stores	teamxx_orders	STORECODE = STORECODE
<input type="checkbox"/>	cen_date_conv	teamxx_orders	

Fact Table Next



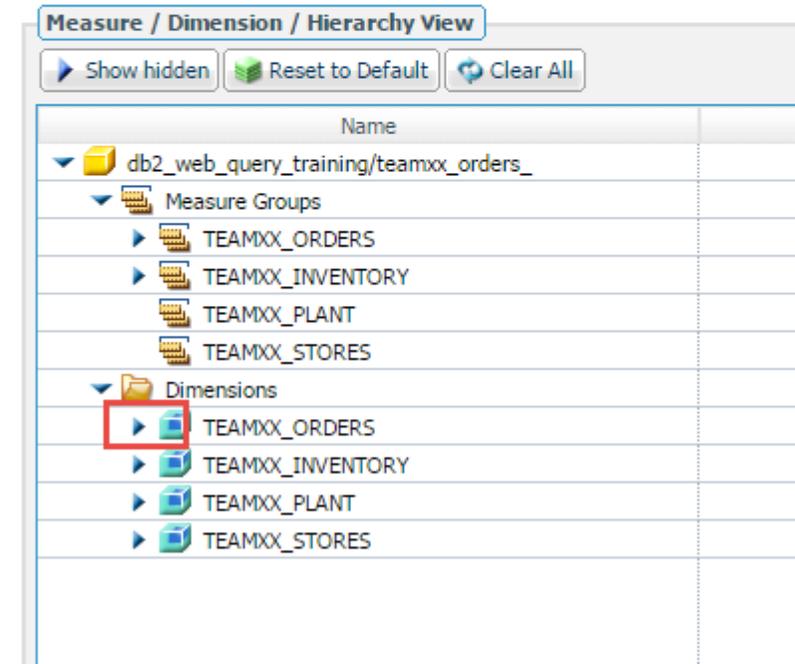
DB2 Web Query and Dimensions

- The Wizard will also try to determine if you have field relationships that might make up a dimension in a multi-dimensional model
 - Product -> Product Type -> Product Category
 - Year -> Quarter -> Month-> Week
 - Country -> Region -> State -> City
- But if not correct or maybe did NOT find one you want to create, the Wizard gives you the opportunity to edit



Categorize Fields into Measures, Dimensions and Hierarchy

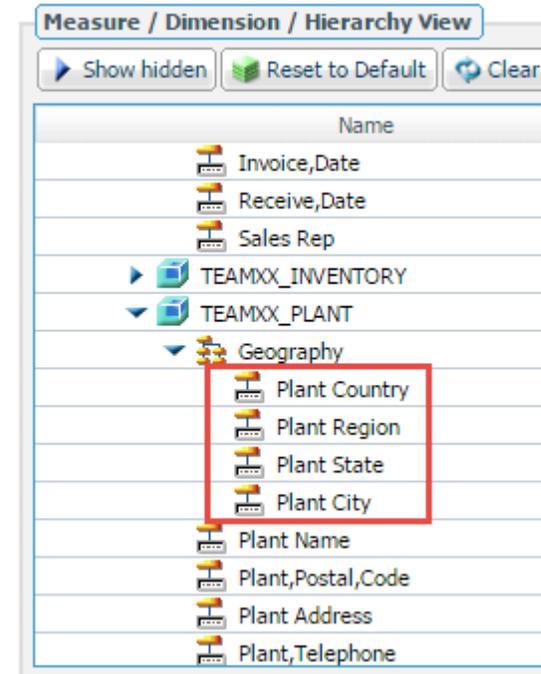
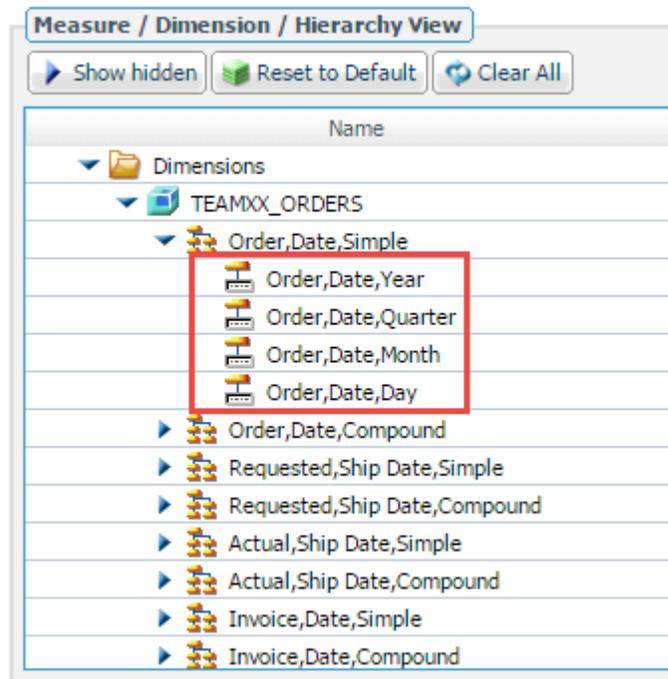
All columns are, by default, categorized into numerics (M)
Drag and drop columns to change defaults and use right
[See More](#)





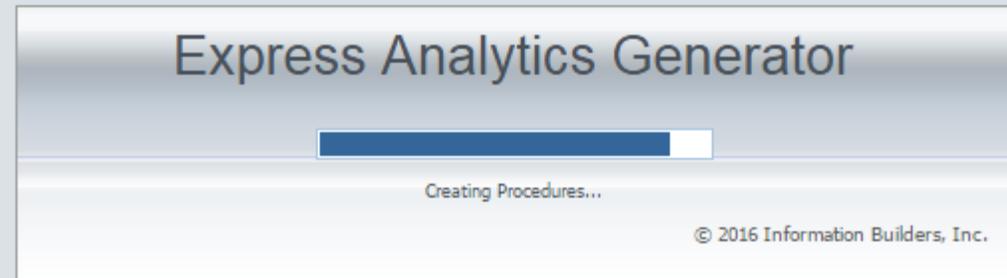
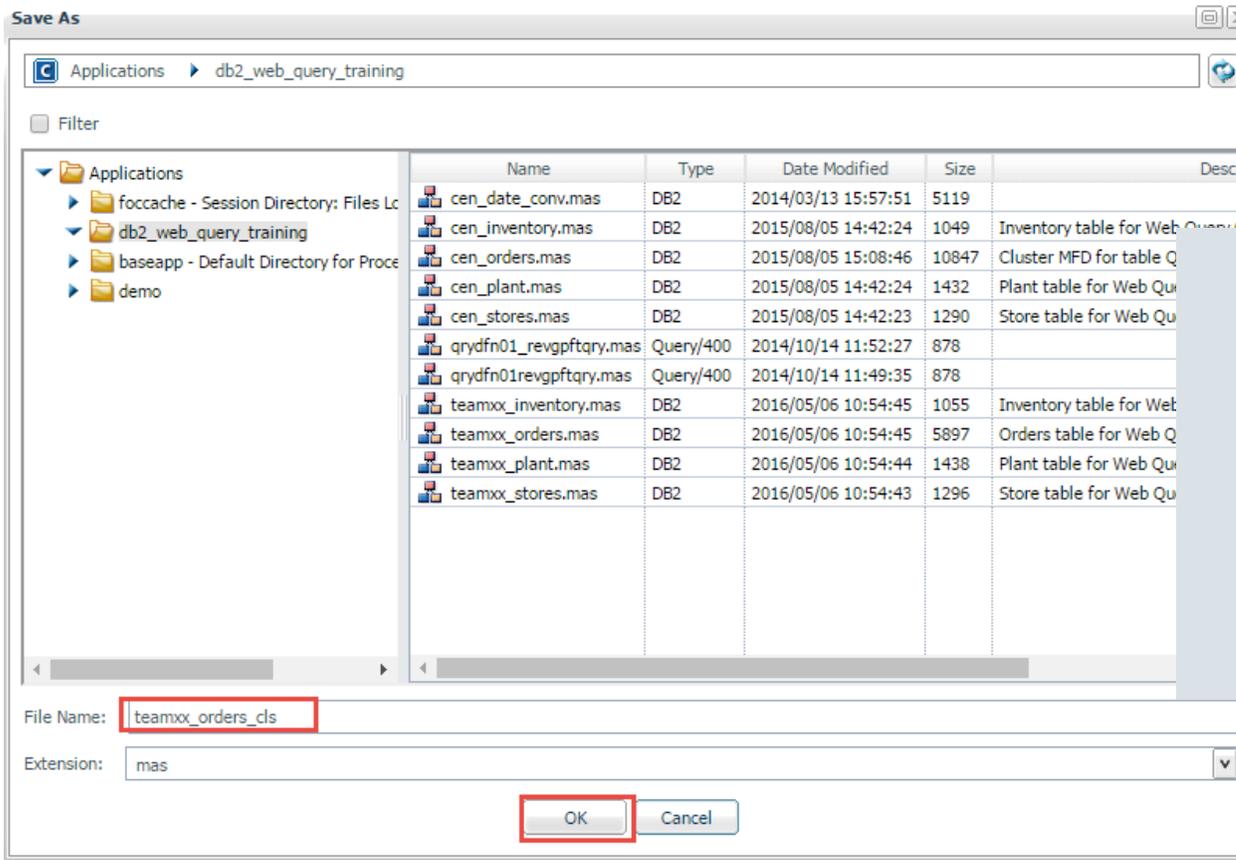
Sample Date Dimension Created Automatically

- Supports Auto Drill Down and Parameter Chaining in Reports



Synonyms Created – its Time to Auto Generate the Reports

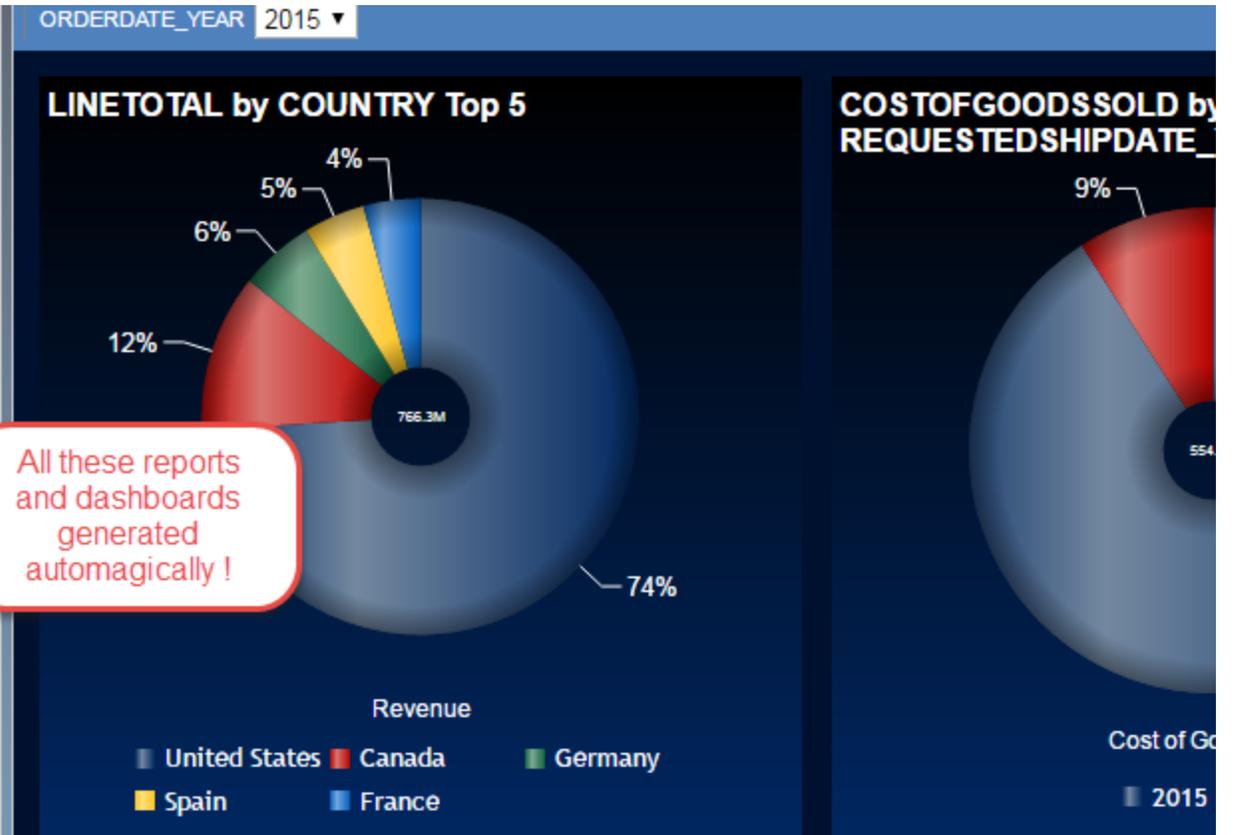
- Click OK to Start Generator



Over 30 Reports and Dashboards Generated Automagically

- WIZARD DEMO FOR COMMON
 - WIZ ORDERS CLS
 - Analytics
 - COUNTRY_Auto_Drill_Report
 - Initial_Dashboard
 - Initial_Dashboard_by_Year
 - Overview_Accordion_Report
 - Overview_Active_Report
 - Overview_Auto_Drill_Report
 - PRODUCTTYPE_Auto_Drill_Report
 - REQUESTEDSHIPDATE_YEAR_Auto_Drill_Report
 - SHIPDATE_YEAR_Auto_Drill_Report
 - COSTOFGOODSSOLD Reports
 - COUNTRY_COSTOFGOODSSOLD Top 10 Pie Charts
 - INVOICEDATE_YEAR_COSTOFGOODSSOLD Line Charts
 - ORDERDATE_YEAR_COSTOFGOODSSOLD Line Charts
 - ORDERNUMBER_COSTOFGOODSSOLD Top 15 Bar Chart
 - PRODUCTTYPE_COSTOFGOODSSOLD Top 15 Bar Chart
 - RECEIVEDATE_YEAR_COSTOFGOODSSOLD Line Charts
 - REQUESTEDSHIPDATE_YEAR_COSTOFGOODSSOLD Line Charts
 - REQUESTEDSHIPDATE_YEAR_COSTOFGOODSSOLD Top 15 Bar Chart
 - SALESREP_COSTOFGOODSSOLD Top 10 Pie Charts
 - SHIPDATE_YEAR_COSTOFGOODSSOLD Line Charts
 - SHIPDATE_YEAR_COSTOFGOODSSOLD Top 10 Pie Charts
 - LINETOTAL Reports
 - COUNTRY_LINETOTAL Top 15 Bar Chart
 - INVOICEDATE_YEAR_LINETOTAL Line Charts
 - ORDERDATE_YEAR_LINETOTAL Line Charts
 - ORDERNUMBER_LINETOTAL Top 10 Pie Charts
 - PRODUCTTYPE_LINETOTAL Top 10 Pie Charts
 - RECEIVEDATE_YEAR_LINETOTAL Line Charts
 - REQUESTEDSHIPDATE_YEAR_LINETOTAL Line Charts

All these reports and dashboards generated automagically !



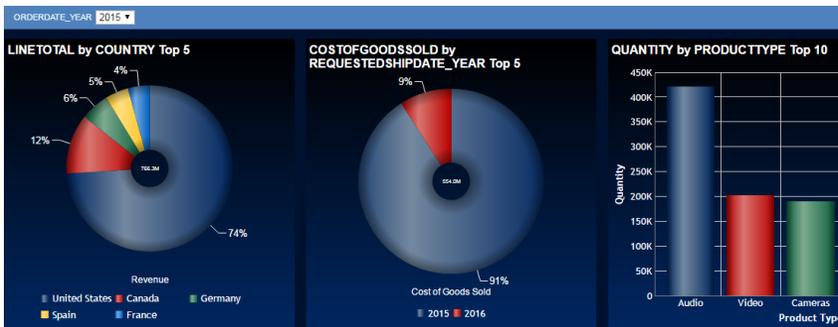
Product Type	Country	Requested Ship Date Year	Actual Ship Date Year	Order Number	Sales Rep	Qu
Audio	Canada	2015	2015	48045	Robin DeWitte	
				48050	Sarah Gunnell	
				48105	Robin DeWitte	
				48212	Robin DeWitte	
				48241	Robin DeWitte	
				48254	Roberto Mendez	



Now What?

- Might use as is
- Could use as samples or templates and edit
 - Change Stylesheet, add a prompt, schedule it to send via email, and much much more
- The Wizard creates sample:
 - Compound Documents (a form of dashboard)
 - Auto Drill Down Reports
 - Active Reports
 - Accordion Reports
 - Top xx Reports
 - Bar, Line, and Pie Charts
- Creates a sub folder for every measurement (like Revenue, COGS) it finds in your data
- Uses a date prompt in dashboards if found

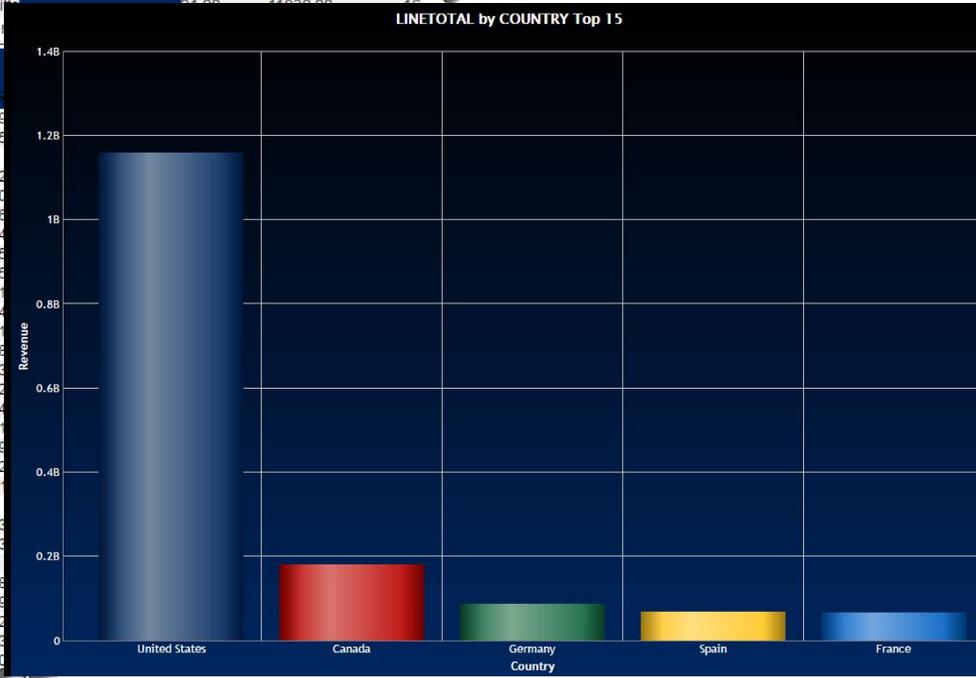
And This Took Less than 15 Minutes to Generate over 30 Reports



Product Type	Country	Requested Ship Date Year	Actual Ship Date Year	Order Number	Sales Rep	Quantity	Revenue	Cost of Goods Sold	Returns
Audio	Canada	2015	2015	48045	Robin DeWitte	66	131934.00	85800.00	6
				48050	Sarah Gunnell	384	144516.00	41080.00	37
				48105	Robin DeWitte	24	6936.00	4080.00	2
				48212	Robin DeWitte	169	81191.00	57950.00	16
				48241	Robin DeWitte	66	23094.00	16380.00	6
				48254	Roberto Mendez	180	83520.00	59400.00	18
				48319	Robin DeWitte	211	63089.00	46420.00	21
				48396	Roger Iddles	157	62643.00	51810.00	15

Product Type	Country	Requested Ship Date Year	Actual Ship Date Year	Order Number	Sales Rep	Quantity	Revenue	Cost of Goods Sold	Returns
Audio	Canada	2015	2015	48045	Robin DeWitte	66	131934.00	85800.00	6
				48050	Sarah Gunnell	384	144516.00	41080.00	37
				48105	Robin DeWitte	24	6936.00	4080.00	2
				48212	Robin DeWitte	169	81191.00	57950.00	16
				48241	Robin DeWitte	66	23094.00	16380.00	6
				48254	Roberto Mendez	180	83520.00	59400.00	18
				48319	Robin DeWitte	211	63089.00	46420.00	21
				48396	Roger Iddles	157	62643.00	51810.00	15

Product Type	Country	Requested Ship Date Year	Actual Ship Date Year	Quantity	Revenue	Cost of Goods Sold	Returns
Audio	Canada	2015	2015	46,442	21602738.00	12680000.00	4,49
		2016	2016	546	447964.00	287710.00	5
		2016	2015	89	34311.00	11110.00	1
		2016	2016	47,022	20317108.00	11442660.00	4,52
		2017	2017	1,060	633760.00	400950.00	10
		2017	2017	2,792	861448.00	422360.00	26
	France	2015	2015	16,956	7383544.00	4293980.00	1,64
		2016	2016	553	190427.00	96890.00	5
		2016	2016	19,145	9076875.00	5387320.00	1,85
		2017	2017	130	25870.00	9100.00	1
		2017	2016	429	100371.00	60500.00	4
		2017	2017	145	40745.00	23650.00	1
Germany	2015	2015	22,328	9961572.00	5583510.00	2,18	
	2016	2016	330	153830.00	40540.00	3	
	2016	2016	22,037	9589993.00	5325760.00	2,12	
	2017	2017	491	209989.00	150970.00	4	
	2017	2016	172	343828.00	223600.00	1	
	2017	2017	1,003	591227.00	320300.00	9	
Spain	2015	2015	17,695	7419035.00	4160730.00	1,72	
	2016	2016	126	125754.00	76920.00	1	
	2016	2015	12	35988.00	24000.00	1	
	2016	2016	16,008	8010772.00	4696730.00	1,53	
	2017	2017	344	154456.00	61920.00	3	
	2017	2016	26	6864.00	2210.00	1	
United States	2015	2015	272,068	123055732.00	71352800.00	26,79	
	2016	2016	5,009	1539101.00	795500.00	52	
	2015	2015	2,361	1312159.00	805340.00	23	
	2016	2016	323,947	13275473.00	82565410.00	34,70	
	2016	2016	17,470	747,470.00	474,000.00	17	
	2016	2016	17,470	747,470.00	474,000.00	17	





A Brief Segway to the Power of Meta Data Using Date Processing

- One of the most common reporting issues is dealing with dates
- Dates can be stored in various formats in the underlying database
 - Often Packed 8 Decimal (?)
- Dates should be displayed in various formats
- Dates are often rolled up to create buckets based on week, month, quarter, year, etc.
- Dates are often used for prompts in reports (Start_date, End_date)
- Date calculations based on today's date are often required (today – 30)
- Period to date calculations and comparisons to that same time frame in a previous period (QTD compared to QTD Last Year)



Advanced Date Processing with Date Dimension Table

- Sample Date Dimension table included in sample database (QWQCENT) that comes with DB2 Web Query
 - Table Name: DATE_CONV
- Table can be joined with others within synonym (meta data) to provide advanced date processing
 - What are the profit margins on days before and after holidays?
 - How many bags of corn chips are sold the week before the Super Bowl?
 - What is the rate of product returns on the day after Christmas as compared to any other day of the year?
 - Are more galoshes sold in the spring or the fall?
 - How many boxes of diapers are sold on days when there is a full moon?



Date Dimension Table

IBM DB2® for i

ORDDTL legacy file



ORDER	CUST	ORDDAT	SHPDAT	SHPVIA	ORDSTS	ORDAMT	TOTLIN
1715810	H4541	2152005	6302005	UPS	1	933346.39	2
1563685	R1948	2202005	8042005	Mule Train	2	0.00	0
7195900	Q7881	2232005	5022005	Pick Up	2	0.00	0
8854635	S1511	2232005	9102005	Train	1	118086.88	2
6694902	X8863	2242005	7192005	Camel	2	0.00	0
8054679	F4327	2272005	9112005	Pnuematic Tube	2	0.00	0
527879	C3233	2282005	5022005	US Mail	1	897524.71	3
4011038	G1496	2282005	10162005	Train	1	865114.60	2
5417918	J3825	2282005	10022005	FedEx	1	84608.50	2
9456994	N2796	2282005	7012005	Train	2	0.00	0
3526155	O7881	3012005	8062005	UPS	1	194660.67	2

Date dimension table

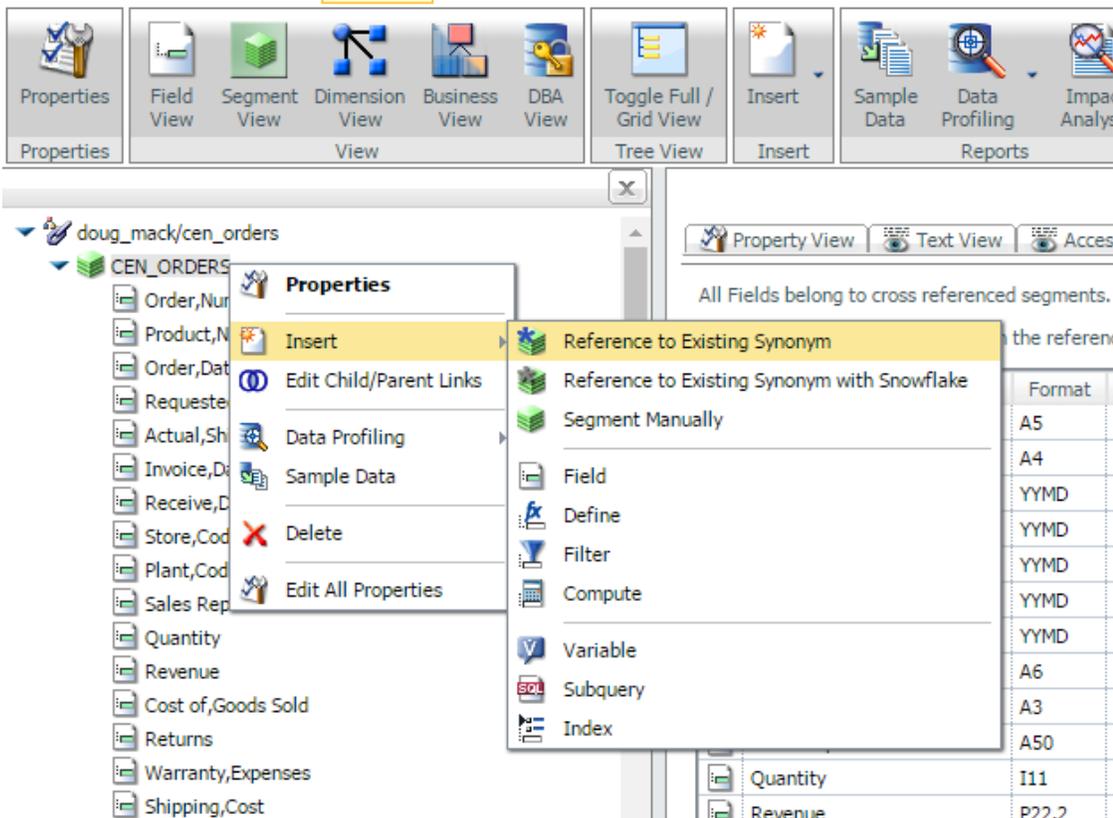


Join (RI constraints, SQL view, synonym join, report join)

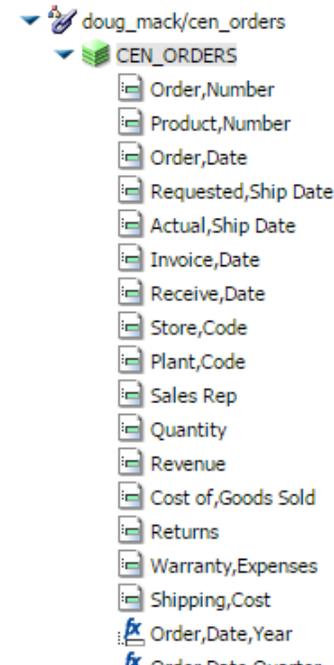
Date	MDYY	Year	Month	Day	Month Name	Day of Week	Day Of Year	Day Name	Weekend Flag	Season	Fiscal Year	Fiscal Qtr	Week Starting Date	Same Day Last Year
2005/02/15	2152005	2005	2	15	February	2	46	Tuesday	N	Winter	2005	2	2005/02/12	2004/02/17
2005/02/16	2162005	2005	2	16	February	3	47	Wednesday	N	Winter	2005	2	2005/02/12	2004/02/18
2005/02/17	2172005	2005	2	17	February	4	48	Thursday	N	Winter	2005	2	2005/02/12	2004/02/19
2005/02/18	2182005	2005	2	18	February	5	49	Friday	N	Winter	2005	2	2005/02/12	2004/02/20
2005/02/19	2192005	2005	2	19	February	6	50	Saturday	Y	Winter	2005	2	2005/02/19	2004/02/21
2005/02/20	2202005	2005	2	20	February	7	51	Sunday	Y	Winter	2005	2	2005/02/19	2004/02/22
2005/02/21	2212005	2005	2	21	February	1	52	Monday	N	Winter	2005	2	2005/02/19	2004/02/23
2005/02/22	2222005	2005	2	22	February	2	53	Tuesday	N	Winter	2005	2	2005/02/19	2004/02/24
2005/02/23	2232005	2005	2	23	February	3	54	Wednesday	N	Winter	2005	2	2005/02/19	2004/02/25
2005/02/24	2242005	2005	2	24	February	4	55	Thursday	N	Winter	2005	2	2005/02/19	2004/02/26
2005/02/25	2252005	2005	2	25	February	5	56	Friday	N	Winter	2005	2	2005/02/19	2004/02/27
2005/02/26	2262005	2005	2	26	February	6	57	Saturday	Y	Winter	2005	2	2005/02/26	2004/02/28
2005/02/27	2272005	2005	2	27	February	7	58	Sunday	Y	Winter	2005	2	2005/02/26	2004/02/29
2005/02/28	2282005	2005	2	28	February	1	59	Monday	N	Winter	2005	2	2005/02/26	2004/03/01

Joining the Date Dimension Table in Meta Data (the Synonym)

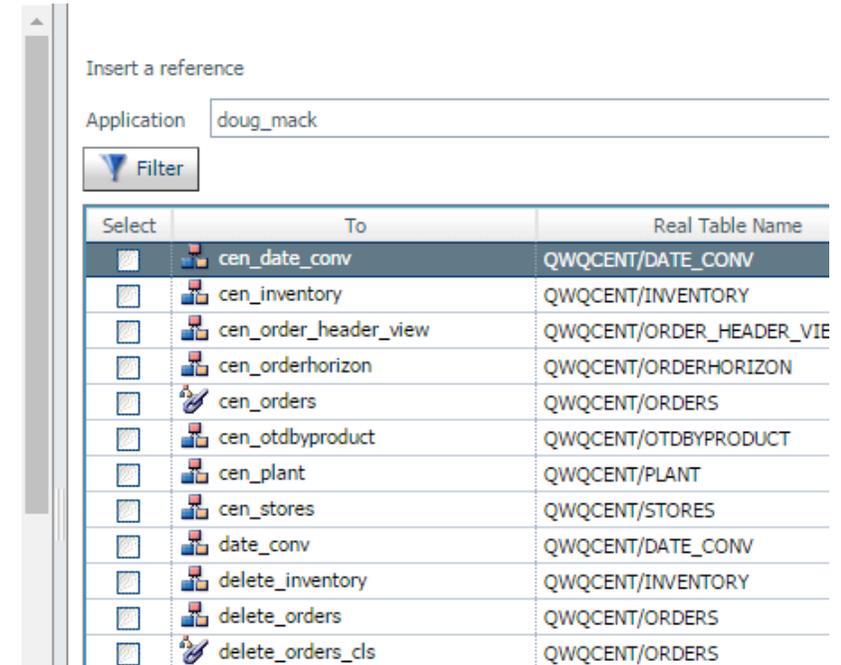
- Edit the ORDERS Synonym
- Insert JOIN condition to the our date dimension table



The screenshot shows the IBM Cognos Business Intelligence interface. The 'Properties' pane on the left shows the 'CEN_ORDERS' synonym with a list of fields including Order, Number, Product, Number, Order, Date, Requested, Ship Date, Actual, Ship Date, Invoice, Date, Receive, Date, Store, Code, Plant, Code, Sales Rep, Quantity, Revenue, Cost of, Goods Sold, Returns, Warranty, Expenses, and Shipping, Cost. The 'Insert' menu is open, showing options like 'Reference to Existing Synonym', 'Reference to Existing Synonym with Snowflake', and 'Segment Manually'. The 'Format' column in the table below shows various data types like A5, A4, YYMD, YYMD, YYMD, YYMD, YYMD, A6, A3, A50, I11, and P22.2.



The screenshot shows the 'CEN_ORDERS' synonym in the IBM Cognos Business Intelligence interface. The list of fields includes Order, Number, Product, Number, Order, Date, Requested, Ship Date, Actual, Ship Date, Invoice, Date, Receive, Date, Store, Code, Plant, Code, Sales Rep, Quantity, Revenue, Cost of, Goods Sold, Returns, Warranty, Expenses, Shipping, Cost, Order, Date, Year, and Order, Date, Quarter.

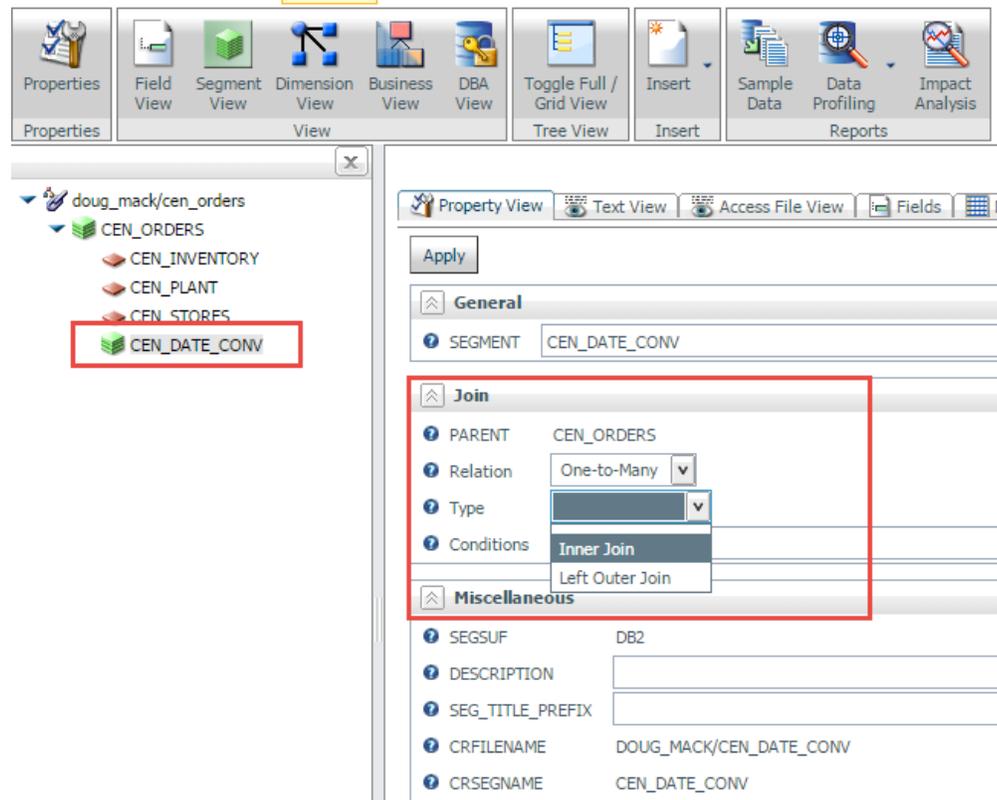


The screenshot shows the 'Insert a reference' dialog box in the IBM Cognos Business Intelligence interface. The 'Application' field is set to 'doug_mack'. The 'Filter' button is visible. The table below shows the 'Select', 'To', and 'Real Table Name' columns.

Select	To	Real Table Name
<input type="checkbox"/>	cen_date_conv	QWQCEN/DATE_CONV
<input type="checkbox"/>	cen_inventory	QWQCEN/INVENTORY
<input type="checkbox"/>	cen_order_header_view	QWQCEN/ORDER_HEADER_VIE
<input type="checkbox"/>	cen_orderhorizon	QWQCEN/ORDERHORIZON
<input type="checkbox"/>	cen_orders	QWQCEN/ORDERS
<input type="checkbox"/>	cen_otdbyproduct	QWQCEN/OTDBYPRODUCT
<input type="checkbox"/>	cen_plant	QWQCEN/PLANT
<input type="checkbox"/>	cen_stores	QWQCEN/STORES
<input type="checkbox"/>	date_conv	QWQCEN/DATE_CONV
<input type="checkbox"/>	delete_inventory	QWQCEN/INVENTORY
<input type="checkbox"/>	delete_orders	QWQCEN/ORDERS
<input type="checkbox"/>	delete_orders_cls	QWQCEN/ORDERS

Joining the Date Dimension Table in Meta Data (the Synonym)

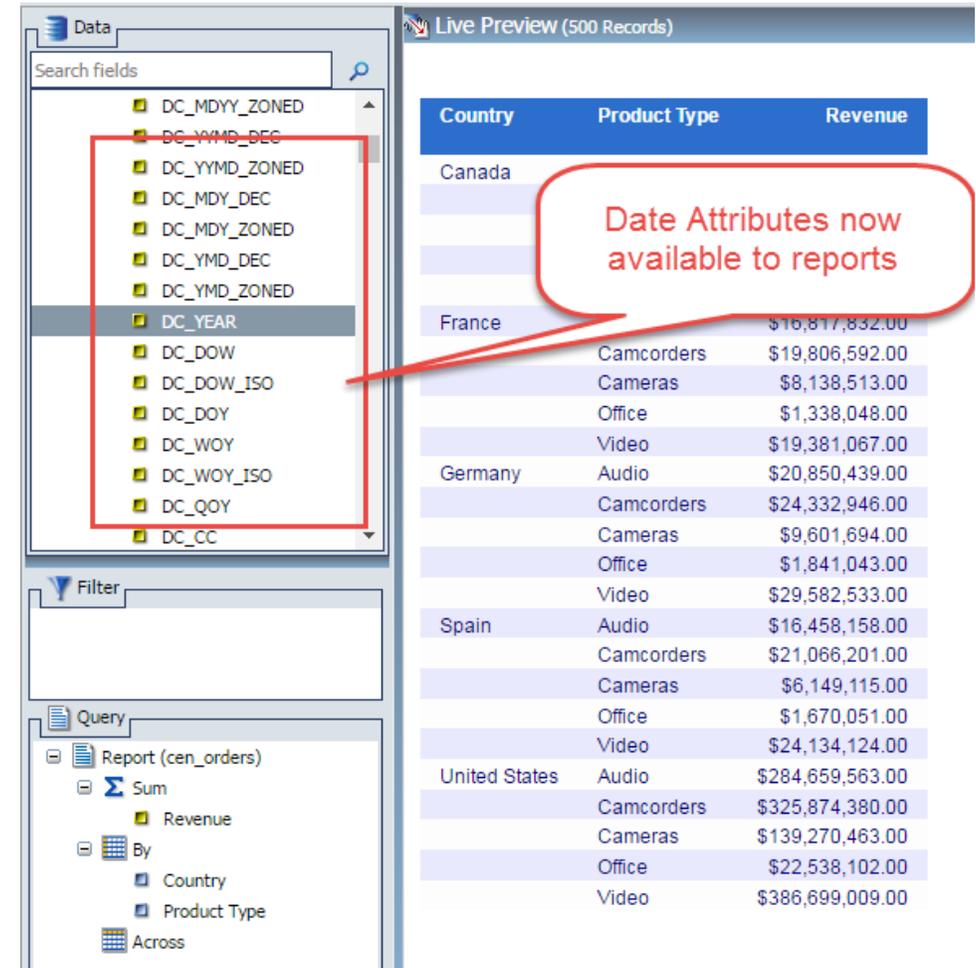
- Edit the JOIN condition if DB2 Web Query didn't guess right
- SAVE and you're done !



The screenshot shows the IBM Data Architect interface. On the left, a tree view shows the schema 'doug_mack/cen_orders' with tables 'CEN_ORDERS', 'CEN_INVENTORY', 'CEN_PLANT', 'CEN_STORES', and 'CEN_DATE_CONV'. The 'CEN_DATE_CONV' table is highlighted with a red box. The main window shows the 'Property View' for 'CEN_DATE_CONV'. The 'Join' section is expanded and highlighted with a red box, showing the following configuration:

- PARENT: CEN_ORDERS
- Relation: One-to-Many
- Type: (dropdown menu)
- Conditions: Inner Join
- Miscellaneous: Left Outer Join

The 'Miscellaneous' section also shows 'SEGSUF' as 'DB2', 'DESCRIPTION' as empty, 'SEG_TITLE_PREFIX' as empty, 'CRFILENAME' as 'DOUG_MACK/CEN_DATE_CONV', and 'CRSEGNAME' as 'CEN_DATE_CONV'.



The screenshot shows the 'Live Preview (500 Records)' window. On the left, the 'Data' pane shows a list of date dimension fields, with a red box highlighting the following fields:

- DC_MDYY_ZONED
- DC_YYMD_DEC
- DC_YYMD_ZONED
- DC_MDY_DEC
- DC_MDY_ZONED
- DC_YMD_DEC
- DC_YMD_ZONED
- DC_YEAR
- DC_DOW
- DC_DOW_ISO
- DC_DOY
- DC_WOY
- DC_WOY_ISO
- DC_QOY
- DC_CC

On the right, a table shows the report results. A red callout box points to the 'Date Attributes now available to reports' text. The table has columns 'Country', 'Product Type', and 'Revenue'.

Country	Product Type	Revenue
Canada		
France		\$16,817,832.00
	Camcorders	\$19,806,592.00
	Cameras	\$8,138,513.00
	Office	\$1,338,048.00
	Video	\$19,381,067.00
Germany	Audio	\$20,850,439.00
	Camcorders	\$24,332,946.00
	Cameras	\$9,601,694.00
	Office	\$1,841,043.00
	Video	\$29,582,533.00
Spain	Audio	\$16,458,158.00
	Camcorders	\$21,066,201.00
	Cameras	\$6,149,115.00
	Office	\$1,670,051.00
	Video	\$24,134,124.00
United States	Audio	\$284,659,563.00
	Camcorders	\$325,874,380.00
	Cameras	\$139,270,463.00
	Office	\$22,538,102.00
	Video	\$386,699,009.00



Using the Date Dimension Table

- Benefits:
 - Date Attributes Available to the Report Author
 - They don't need to know (and they don't care) that the date is stored actually as Packed 8 Decimal
 - Data processing is done by DB2 rather than in the reporting server
 - Way more efficient
 - Reporting challenges like using dates as prompts, or rolling date reports become much easier to write
 - Example: Go back to the 1st day of the current month and show me all the revenue up to today
- Considerations
 - Date Dimension Table needs to be updated nightly
 - Example: Current month change flag changes on the first day of each month
 - Sample Stored Procedures to LOAD and UPDATE included in QWQCENT Sample database



Query/400 Discovery

- The Goal

- Get your arms around Query/400 definition information on your system
 - Query/400 definitions proliferate over time. Usually without any knowledge of this happening
 - Recent example: “we’ve got 37,000 queries? I had no idea....”
 - Many Query/400 definitions are redundant
 - Copy and Pasted; Created again when one that could have satisfied the request already existed
- Clean up unnecessary definitions
 - Reduce impact of changes to underlying files

- **Modernize**

- 80/20 rule – identify the 20% that should be modernized to:
 - Improve Performance (SQE; Tuned queries through guided ad-hoc self service reporting)
 - Create Direct to consumer data flows; Automate report execution and distribution
 - » Why create extracts to get data into another visualization or analysis (Excel) tool?
 - » Empower end users



Query/400 Discovery and Analysis Prototype

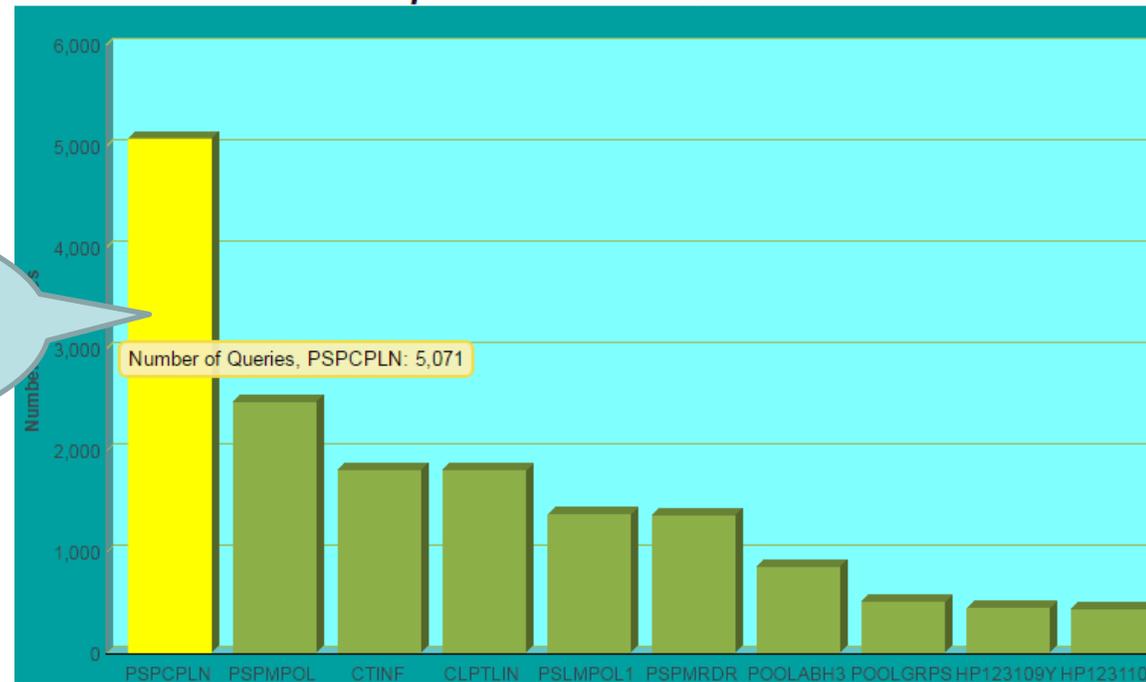
- Data Sources
 - IBM Built Discovery tool generates information from your Query/400 definitions
 - No charge tool will be shipped in “Easy Install” Package coming soon
 - Generates output files that would then have to be analyzed, so....
 - Analysis tools built to provide information about the data in the output files
 - A set of DB2 Web Query reports included in the “Easy Install” Package
 - Built over the output tables from the Discovery Tool



Query/400 Discovery

- Files used in most queries

Top Files used in Queries



Click on File to drill down to details



Query/400 Discovery

- Analysis Algorithm puts queries into “buckets”
 - DELETE
 - CONSOLIDATE
 - MERGE INTO FINAL QUERY (chained query could be more efficient)
 - CONVERT (unique query where you can convert to native DB2 Web Query report)

Query Recommendations and Details

Query Library	QRY_OUTPUT_TYPE	Does Data Summarization	QRY_CREATION_DATE	QRY_CREATOR	QRY_CHANGE_DATE	QRY_LAST_USED	QUERY_CONSIDERATION	Number of Queries	Join Queries	Number
AHAJOVSK	Printer	Yes	1999/05/26 07:37:35.000000	AHAJOVSK	2016/01/31 17:02:00.700000	2016/01/31 17:02:00.700000	DELETE	1	1	
AHAJOVSK	Printer	No	1997/06/03 12:14:22.000000	AHAJOVSK	2016/01/31 17:02:00.689000	2016/01/31 17:02:00.689000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	No	1998/03/25 08:44:21.000000	AHAJOVSK	2016/01/31 17:02:00.689000	2016/01/31 17:02:00.689000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	No	1998/08/13 13:06:06.000000	AHAJOVSK	2016/01/31 17:02:00.689000	2016/01/31 17:02:00.689000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	No	2005/11/21 09:15:14.000000	AHAJOVSK	2016/01/31 17:02:00.684000	2016/01/31 17:02:00.684000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	No	2008/11/13 10:29:44.000000	AHAJOVSK	2016/01/31 17:02:00.688000	2016/01/31 17:02:00.688000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	Yes	2010/09/28 15:22:01.000000	AHAJOVSK	2016/01/31 17:02:00.684000	2016/01/31 17:02:00.684000	CONSOLIDATE	1	0	
AHAJOVSK	Printer	Yes	2010/09/28 15:26:26.000000	AHAJOVSK	2016/01/31 17:02:00.684000	2016/01/31 17:02:00.684000	CONSOLIDATE	1	0	
BFOSTER	Printer	Yes	2010/08/05 08:02:49.000000	BFOSTER	2016/01/27 17:01:51.774000	2016/01/27 17:01:51.774000	DELETE	1	1	
COMCONVLB	Printer	No	1998/01/12 16:36:20.000000	AHAJOVSK	2016/02/01 08:44:46.698000	2016/02/01 08:44:46.698000	CONSOLIDATE	1	0	
INSQLIB	Printer	No	2005/01/06 15:42:47.000000	GROBERSO	2016/01/24 08:51:11.095000	2016/01/24 08:51:11.095000	CONSOLIDATE	1	0	
INSQLIB	Printer	No	2005/01/19 06:52:09.000000	GROBERSO	2016/01/24 08:51:11.139000	2016/01/24 08:51:11.139000	CONSOLIDATE	1	0	
INSQLIB	Database file	No	2004/02/20 12:14:23.000000	DLPO	2016/01/24 12:12:32.595000	2016/01/24 12:12:32.595000	MERGE INTO FINAL QUERY	1	1	
INSQLIB	Database file	No	2004/08/12 14:02:55.000000	DLPO	2016/01/24 12:12:32.598000	2016/01/24 12:12:32.598000	MERGE INTO FINAL QUERY	1	1	
INSQLIB	Database file	No	2006/05/23 07:31:24.000000	DLPO	2016/01/24 12:12:32.595000	2016/01/24 12:12:32.595000	MERGE INTO FINAL QUERY	1	1	
INSQLIB	Database file	No	2009/03/26 08:06:28.000000	DLPO	2016/01/24 12:12:32.598000	2016/01/24 12:12:32.598000	MERGE INTO FINAL QUERY	1	1	
INSQLIB	Database file	No	2005/12/14 08:18:04.000000	DLPO	2016/01/24 12:12:32.589000	2016/01/24 12:12:32.589000	DELETE	1	1	
INSQLIB	Database file	No	2006/02/07 07:33:41.000000	DLPO	2016/01/24 12:12:32.589000	2016/01/24 12:12:32.589000	DELETE	1	1	

Query Recommendations and Details

Query Library	QRY_OUTPUT_TYPE	Does Data Summarization	QRY_CREATION_DATE	QRY_CREATOR	QRY_CHANGE_DATE	QRY_LAST_USED	QUERY_CONSIDERATION	Number of Queries	Join Queries	Number of
JLIN	Printer	Yes	2011/10/13 09:56:25.000000	JLIN	2016/01/27 20:11:05.734000	2016/01/27 20:11:05.734000	CONVERT	1	1	
QRYCOMP	Printer	No	2015/08/31 09:14:53.000000	GROBERSO	2016/03/10 12:41:59.971000	2016/03/10 12:41:59.971000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2011/11/08 12:06:53.000000	GROBERSO	2016/03/10 12:42:00.050000	2016/03/10 12:42:00.050000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2013/02/07 14:05:18.000000	GROBERSO	2016/03/10 12:41:59.922000	2016/03/10 12:41:59.922000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2013/10/30 16:31:27.000000	GROBERSO	2016/03/10 12:41:59.973000	2016/03/10 12:41:59.973000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2013/10/30 16:31:47.000000	GROBERSO	2016/03/10 12:41:59.973000	2016/03/10 12:41:59.973000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2014/02/20 09:42:34.000000	GROBERSO	2016/03/10 12:42:00.051000	2016/03/10 12:42:00.051000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2014/02/20 09:43:10.000000	GROBERSO	2016/03/10 12:42:00.051000	2016/03/10 12:42:00.051000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2015/04/07 10:11:13.000000	GROBERSO	2016/03/10 12:42:00.074000	2016/03/10 12:42:00.074000	CONVERT	1	1	
QRYCOMP	Printer	Yes	2015/09/24 11:34:06.000000	GROBERSO	2016/03/10 12:41:59.867000	2016/03/10 12:41:59.867000	CONVERT	1	1	

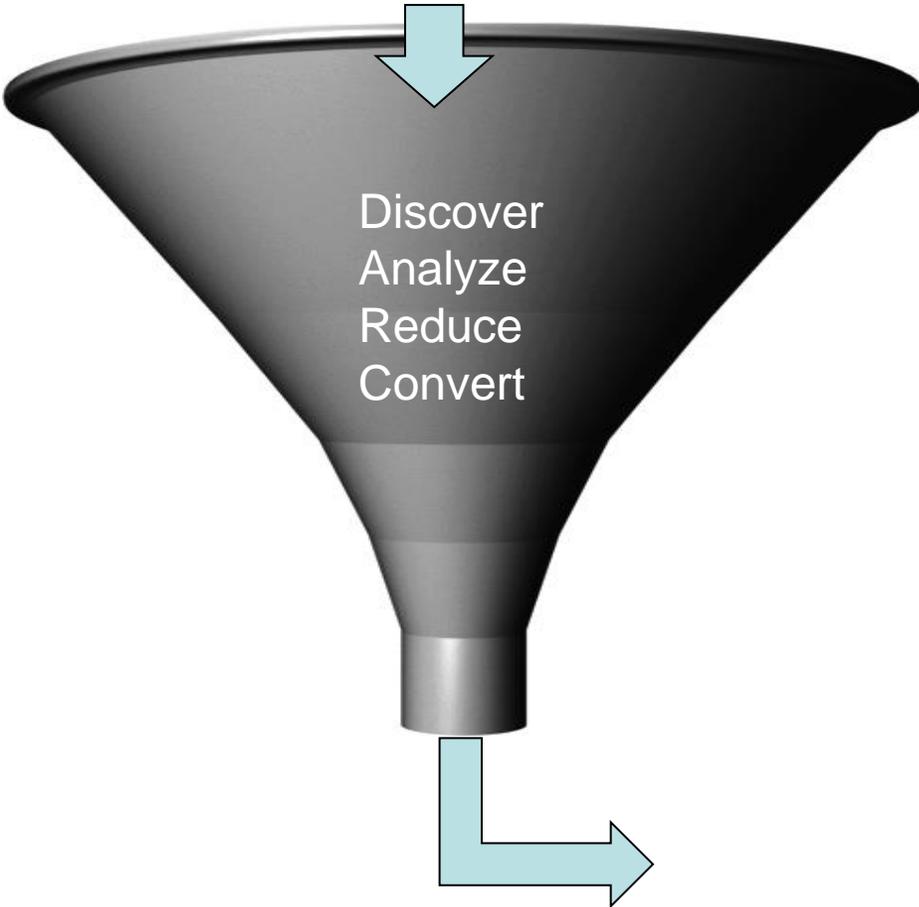
Red means DELETE

Greens suggests CONVERT



“Boiling It Down” - Discover, Analyze, Reduce, and Convert

7 Query/400 objects



149 of 149 records, Page 1 of 3

Century Electronics

- [All]
- Canada
- France
- Germany
- Spain
- United States

Country	Model	Product Category	Product Type	Gross_Profit	Cost of Goods Sold	Revenue
Canada	AVR-100	Receivers	Audio	\$208,494.00	\$210,600.00	\$419,094.00
	CD-100CP	CD Players and Recorders	Audio	\$176,881.00	\$268,680.00	\$445,561.00
	CD-400C	CD Players and Recorders	Audio	\$35,422.00	\$124,600.00	\$160,022.00
	CD-50SA	CD Players and Recorders	Audio	\$194,322.00	\$361,400.00	\$555,722.00
	CD-500DT	CD Players and Recorders	Audio	\$946,842.00	\$2,379,000.00	\$3,325,842.00
	CDH-200	CD Players and Recorders	Audio	\$277,207.00	\$835,800.00	\$1,113,007.00
	HT-1000S	Audio Systems	Audio	\$194,718.00	\$586,500.00	\$781,218.00
	HT-2000S	Audio Systems	Audio	\$3,410,421.00	\$6,342,700.00	\$9,753,121.00
	HT-3000S	Audio Systems	Audio	\$1,108,890.00	\$2,220,000.00	\$3,328,890.00
	HTR-500	Receivers	Audio	\$105,492.00	\$106,200.00	\$211,692.00
	HTR-550	Receivers	Audio	\$140,805.00	\$189,000.00	\$329,805.00
	HTR-610	Receivers	Audio	\$557,409.00	\$1,512,350.00	\$2,069,759.00
	HTR-710T	Receivers	Audio	\$369,075.00	\$462,500.00	\$831,575.00
	MP-10C	MP3	Audio	\$210,657.00	\$244,950.00	\$455,607.00
	MP-100G	MP3	Audio	\$58,206.00	\$186,900.00	\$245,106.00
	MP-20	MP3	Audio	\$960,204.00	\$834,960.00	\$1,795,164.00
	MP-20G	MP3	Audio	\$360,082.00	\$1,139,500.00	\$1,499,582.00
	MP-20H	MP3	Audio	\$370,329.00	\$416,100.00	\$786,429.00
	MS-H100	Audio Systems	Audio	\$239,691.00	\$637,710.00	\$877,401.00
	MS-H200	Audio Systems	Audio	\$77,814.00	\$314,400.00	\$392,214.00
	PA-MC51	Amplifiers/PreAmps/Tuners	Audio	\$134,757.00	\$644,490.00	\$779,247.00
	PA-100	Amplifiers/PreAmps/Tuners	Audio	\$222,180.00	\$579,600.00	\$801,780.00
	PA-200XL	Amplifiers/PreAmps/Tuners	Audio	\$140,620.00	\$391,600.00	\$532,220.00

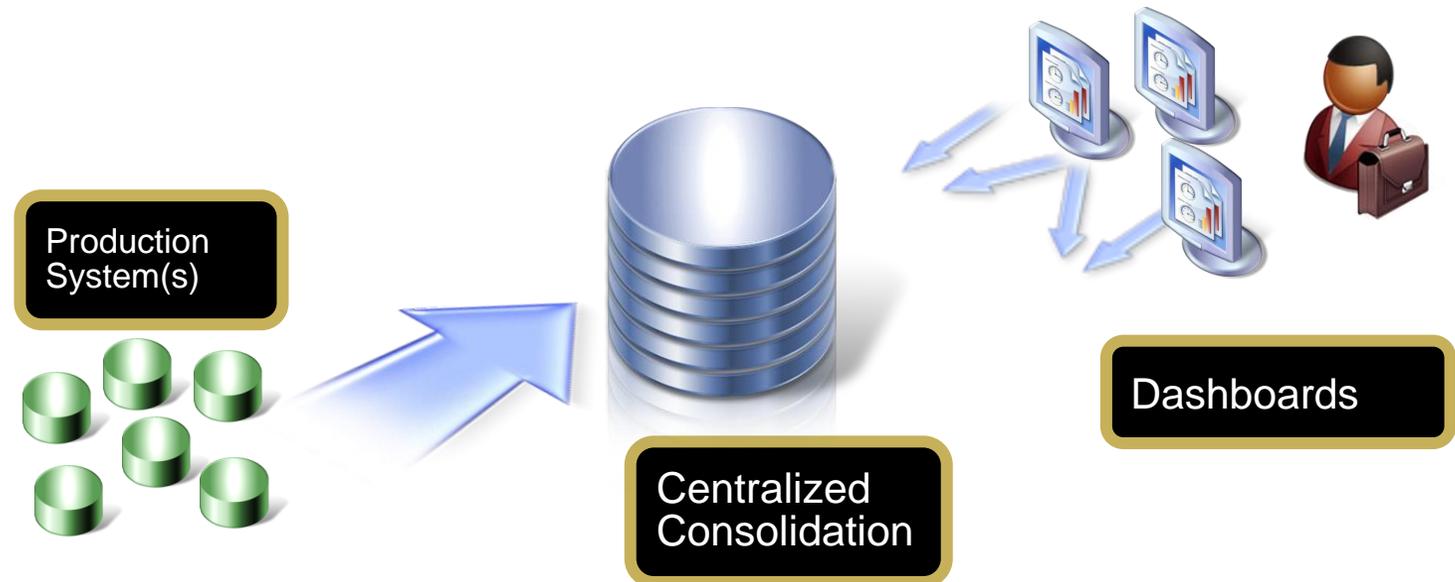
1 DB2 Web Query report that allows the end user to set filters as they want to (and can be run from a mobile device)!



Centralized reporting of IBM i System and Security Components

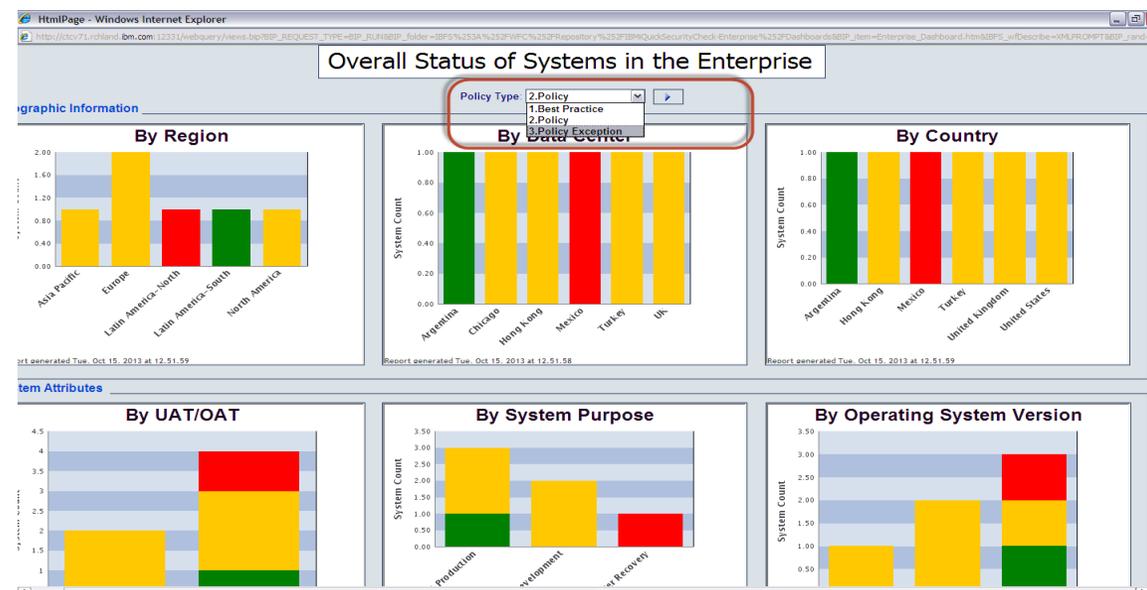
Compliance Assessment and Reporting Tool – Enterprise Edition

- An automated collection, analysis, and reporting tool on over 1000 system and security related risks, information, statistics and demographics. All in one location and easy to use!
- **Covers:**
 - Password management
 - Profile administration
 - Special authorities
 - Group inheritance
 - Network configuration
 - NetServer attributes
 - Operational security
 - PTF currency
 - Event monitoring
 - Customer define items
 - Security risks and more
- Enables compliance officer to demonstrate adherence to pre-defined or customer-defined security polices.
- System and Security reporting made easy!
- Daily compliance dashboard reports at LPAR, system or enterprise level



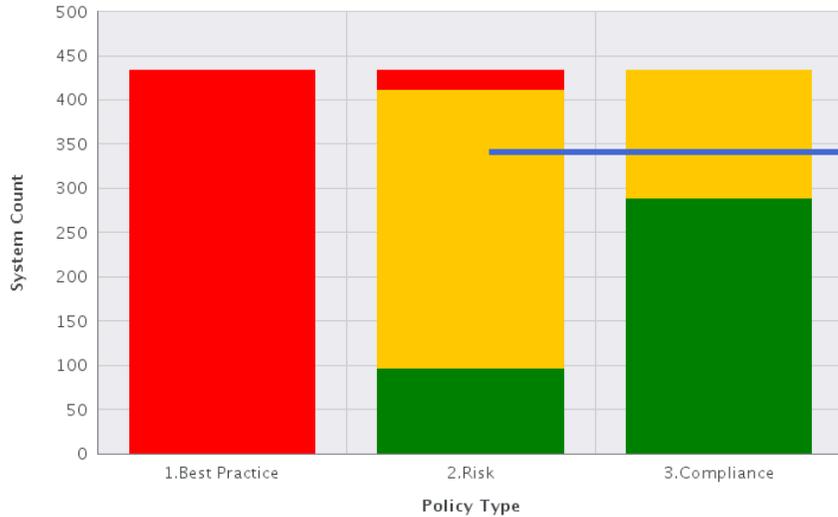
High Level Dashboards

- Toggle through Different Views
 - IBM’s recommended best practice
 - Your Policy
 - Might be different than the IBM recommendations
 - Policy Exceptions
 - Exceptions might be something that is a defined temporary exception or a system that might have different policies
 - Examples might be a system that is being brought up, or an H/A or DEV system
 - Traffic Lighting for easy visualizations of where you are in or out of compliance
 - Drill downs to view details
- Views by Region, Country, OS Version, System purpose (prod, dev, ha/dr), etc.



“I just want to arrive in the morning, get a cup of coffee, and have a view of what systems/LPARs are in compliance and which are not.”

Enterprise Risk Status by Policy Type



Report generated Tue, May 31, 2016 at 14.14.57

Risk Status Summary

Policy Type: 2.Risk
Selected Data Center: Afternoon Database

Data Center	Region	Version	System Purpose	Backup Recovery Implementation	System Operational Owner	Security Risk Owner	System Name	Overall Risk Grade	High Risk Grade	Medium Risk Grade	Low Risk Grade
Afternoon Database	Database Systems	V7R1M0	1.Production	Yes	Argentina	Argentina	SYSTEM329	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	2.Development	No	Chicago	Chicago	SYSTEM249	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	2.Development	No	Chicago	Chicago	SYSTEM255	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	2.Development	No	Hong Kong	Hong Kong	SYSTEM339	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	2.Development	Yes	UK	UK	SYSTEM366	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	3.Contingency	No	Chicago	Chicago	SYSTEM335	3.Red	3.Red	2.Amber	1.Green
Afternoon Database	Database Systems	V7R1M0	1.Production	No	Latin America-South	Latin America-South	SYSTEM211	2.Amber	2.Amber	1.Green	1.Green
Afternoon Database	Database Systems	V7R1M0	1.Production	No	UK	UK	SYSTEM400	2.Amber	2.Amber	1.Green	1.Green

Risk Status Details for System: SYSTEM329 - Graded Items

Policy Type: 2.Risk
Region: Database Systems
Data Center: Afternoon Database

Item Key	Category	Subcategory	Item	Value	Item Grade	Risk Rating	Rating Priority
LAIB0180	Library Authorities	*IBM Libraries	*PUBLIC = *CHANGE	3	3.Red	1.High	99
LAUS0220	Library Authorities	USER Libraries	*PUBLIC = *ALL	103	3.Red	1.High	99
LAUS0240	Library Authorities	USER Libraries	*PUBLIC = *CHANGE	2942	3.Red	1.High	99
LAUS0502	Library Authorities	USER Libraries	QSECOFR Adoption, Total PGMS	114	3.Red	1.High	99
LAUS0503	Library Authorities	USER Libraries	QSECOFR Adoption, *PUB=*ALL	34	3.Red	1.High	99
LAUS0504	Library Authorities	USER Libraries	QSECOFR Adoption, *PUB=*CHG	47	3.Red	1.High	99
LAUS0601	Library Authorities	USER Libraries	OTHR *ALLOBJ ADPT, Total PGMS	10812	3.Red	1.High	99
LAUS0602	Library Authorities	USER Libraries	OTHR *ALLOBJ ADPT, *PUB=*ALL	12	3.Red	1.High	99
MSST0001	Miscellaneous	Service Tools	Allow Change to System Values	Yes	3.Red	1.High	99
NCDDM001	Network Configuration	TCP/IP Attributes	DDM PW Required (CHGDDMTCPA)	*VLDONLY	3.Red	1.High	99
NSIND001	NetServer Information	NetServer Data	ROOT (/) is Shared	Yes	3.Red	1.High	99
NSIND002	NetServer Information	NetServer Data	ROOT (/) Permissions	*RW	3.Red	1.High	99

<http://ibm.biz/IBMiSecurity>



DB2 for i Lab Services Offerings

- DB2 Web Query Getting Started Service

- 3 Day skills transfer and workshops to build prototype
- Goes beyond tutorials with Best Practices and hand-holding
- Best way to ensure successful implementation
- Should include with EVERY DB2 Web Query proposal (proposal insert available)

USE A VOUCHER!

- Query/400 Modernization

- Discovery, Analysis, and Conversion
- Addresses the question of how a customer can move from 100's or 1000's of Query/400 definitions to modernized environment that leverages DB2 query optimization!
- Out with the (very) OLD, in with the NEW – improve performance, productivity, perception of IBM i, and move into “analytics”

- Analytics Discovery Workshops

- A facilitated session to uncover requirements, current pain points, skills gaps and strategy
- Illuminate capabilities of DB2 for i and best practices for deploying analytics with IBM i

- DB2 and SQL Performance Assessments

- Really critical assessment that should be conducted regularly by the customer
 - But lack of DBAs in our i community means no one is paying attention to the database
- Assessment collects database (and system) performance data
- Recommendations made in report



To Learn More

- DB2 Web Query for i Website
 - [Ibm.biz/db2webqueryi](http://ibm.biz/db2webqueryi)
- DB2 Web Query for i Wiki
 - [Ibm.co/db2wqwiki](http://ibm.co/db2wqwiki)
- DB2 Web Query Getting Started Enablement:
 - <https://ibm.biz/db2wqconsulting>
- Demonstrations:
 - Wizard Analytics: <https://ibm.biz/DB2WQWizards>
 - End User Demos: <https://ibm.biz/db2wqreportingdemos>
 - Getting Started Videos: <https://ibm.biz/db2wqgettingstarteddemos>
- Follow DB2 Web Query guy Doug Mack on twitter at @mckdrmoly or check out his blog at <http://db2webqueryi.blogspot.com/> for all the latest

