

SQL13: Designing Reports in SQL Server 2008 R2

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Paul Litwin

- **Developer**
 - Focus: ASP.NET, ASP, C#, SQL Server, Reporting Services
 - Microsoft MVP
 - Programmer Manger with Fred Hutchinson Cancer Research Center (Seattle)
- **Co-Founder and Senior Trainer**
 - Deep Training
 - www.deeptraining.com
- **Conference Chair/Speaker**
 - Chair, Microsoft ASP.NET Connections
 - Member INETA Speakers Bureau
- **Author of over a dozen books & courses, including...**
 - *Agile ASP.NET Unleashed* (writing...)
 - *AppDev SQL Server 2005 & 2008 Reporting Services Courses*
 - *ASP.NET for Developers*
 - *Access Cookbook*
 - *Access 2002 Desktop/Enterprise Dev Handbook*

Slides & Samples Download

- You can download them from:
 - www.deeptraining.com/litwin

Designing Reports in SSRS 2008 R2

- **SSRS 2008 R2 Feature Tour**
- Table/Matrix/List → Tablix
- Expression/Layout Improvements
- Rich Text and Mail Merges
- Sharing Datasets and Report Parts
- Adding Visualizations to Reports
- Chart Tweaks

SSRS 2008 R2 Feature Tour

- **SSRS 2008 Changes (1/2)**
 - Report server no longer hosted by IIS
 - Rearchitected report engine faster & can handle bigger reports
 - CSV/Excel rendering improvements, Word renderer
 - Tablix region merges Table/Matrix/List regions
 - Textboxes support Rich Text

SSRS 2008 R2 Feature Tour

- **SSRS 2008 Changes (2/2)**
 - Vastly improved Report Builder 2.0
 - Addition of gauges
 - Numerous Chart Tweaks

SSRS 2008 R2 Feature Tour

- **SSRS 2008 R2 Changes (1/3)**
 - Revamped Report Manager
 - Additional visualizations
 - **Data bars, sparklines, indicators**
 - Shared Datasets
 - Publish Shared Report Parts
 - Maps
 - Atom Data Feeds

SSRS 2008 R2 Feature Tour

- SSRS 2008 R2 Changes (2/3)
 - Expression Language Additions
 - New lookup functions
 - Conditionals by render format
 - Overall page count
 - Read/write report variables
 - Layout Improvements
 - Increased pagination control
 - DomainScope property useful for data alignment
 - WritingMode lets you rotate text

SSRS 2008 R2 Feature Tour

- SSRS 2008 R2 Changes (3/3)
 - Ajax-ified Report Viewer control
 - Cache Refresh for reports and shared datasets
 - Report Builder 3.0
 - Dataset caching
 - Relative references
 - Report Part Gallery

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Tablix = Flexible Report Layout

- Tablix data region introduced in SSRS 2008
 - The best of Table merged with the best of Matrix:

Table + Matrix

Customer	Growth
Retail	
Odin	19%
Bikes, Inc.	322%
Wholesale	
ABC Corp.	19%
Thor, Ltd.	322%
Grand Total	56%

		2001	2002	Total
Retail	Odin	1,115	1,331	2,446
	Bikes, Inc.	152	642	794
Wholesale	ABC Corp.	11,156	13,312	24,468
	Thor, Ltd.	1,523	6,421	7,944
Grand Total		13,946	21,706	35,653

Tablix = Best of Both Worlds ++

- **Matrix plus:**
 - Multiple parallel row/column members at each level
 - Each member may be dynamic or static
 - Optional omission of member headers
- **Table plus:**
 - Dynamic, nested column groups
 - Multiple parallel row groups
 - Static rows
 - Optional spanning row headers

Demo

Tablix Data Region Examples

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Expression Improvements (1 of 2)

- New dataset lookup functions
 - Lookup
 - source=1 value; target=1 value; output=1 value
 - LookupSet
 - source=1 value; target=1 value; output=array
 - MultiLookup
 - source=array; target=1 value; output=array
- LookupSet & MultiLookup may require use of **Join** to convert output from array to string

Expression Improvements (2 of 2)

- **Conditionals by render format**
 - Change expression based on render format
- **Overall page count**
 - For compound reports
- **Read/write report variables**
 - 2008 added report variables
 - R2 lets you modify them

Demo

Expression Examples

Layout Improvements

- Increased pagination control
- DomainScope property useful for data alignment
- WritingMode lets you rotate text

Demo

Layout Examples

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Richly Formatted Text

- Mixed formatting in textboxes
- Inline static text and expressions with placeholders
- Multiple paragraphs
- HTML tag-based formatting

Working with Rich Text

- To create a placeholder
 - Right click in TextBox and select Create Placeholder...
 - *Might have to right-click a couple of times...*

Demo

- Rich Text
 - Text example with placeholders
 - Placeholder properties: Markup type: None (default)
 - rptCustomerLetterText
 - HTML example
 - Placeholder properties: Markup type: HTML
 - rptCustomerLetterHtml

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Shared Datasets

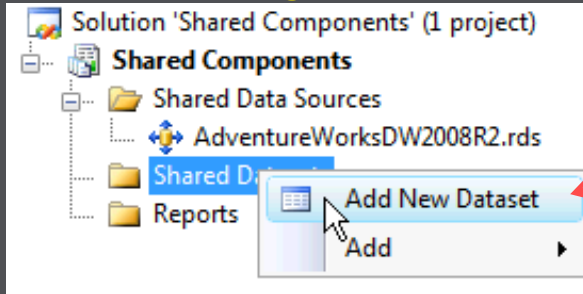
- Shared datasets introduced in SSRS 2008 R2
- Can cache shared datasets

Shared Dataset

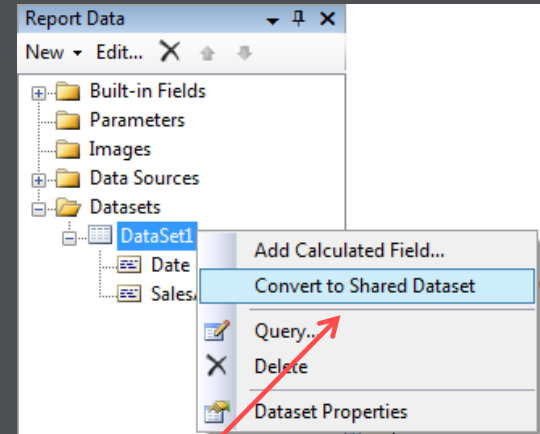
- Enables reuse of a query across many reports
- Requires shared data source
- Refreshes on demand or on cache refresh schedule
- Can be parameterized

Creation

Report Designer

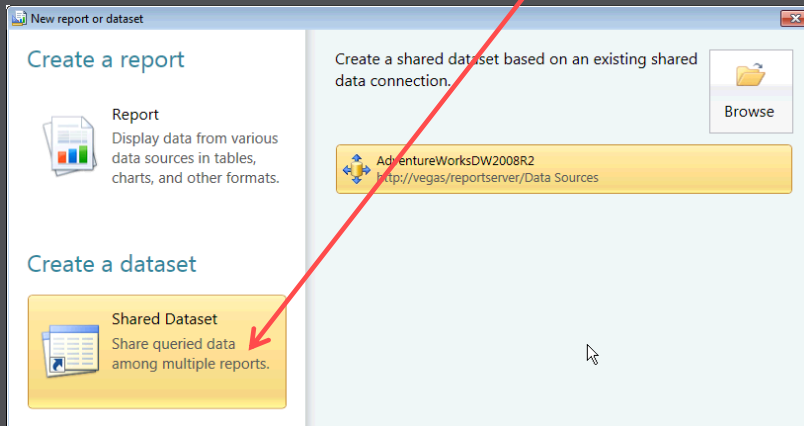


New option

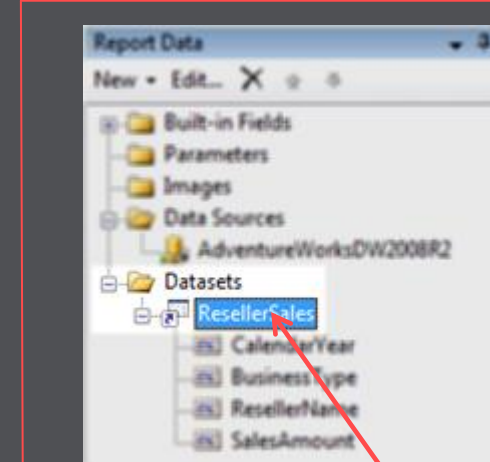


Convert existing dataset based on shared data source

Report Builder 3.0

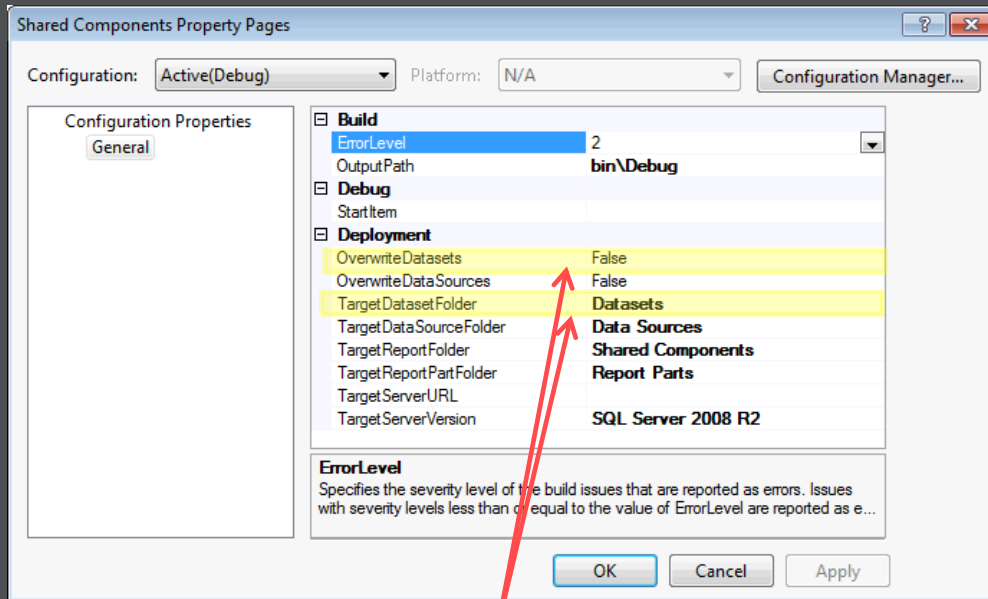


New icon - Report Data pane



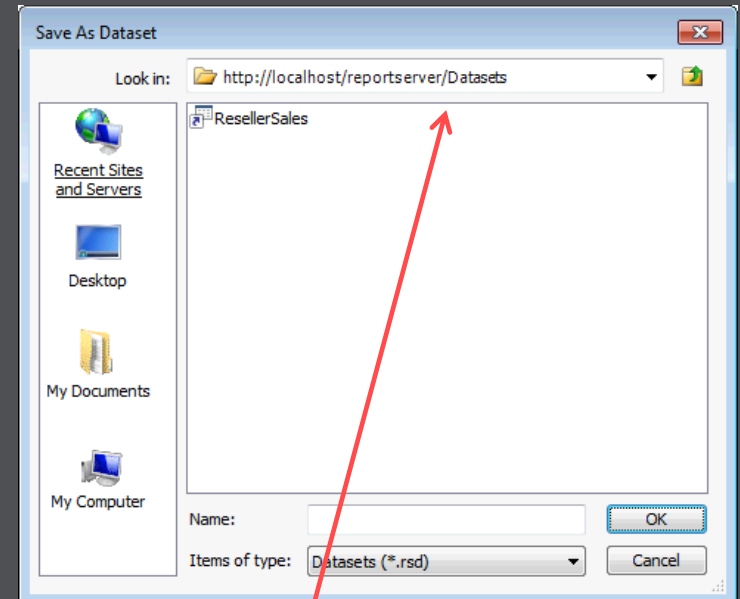
Deployment

Report Designer



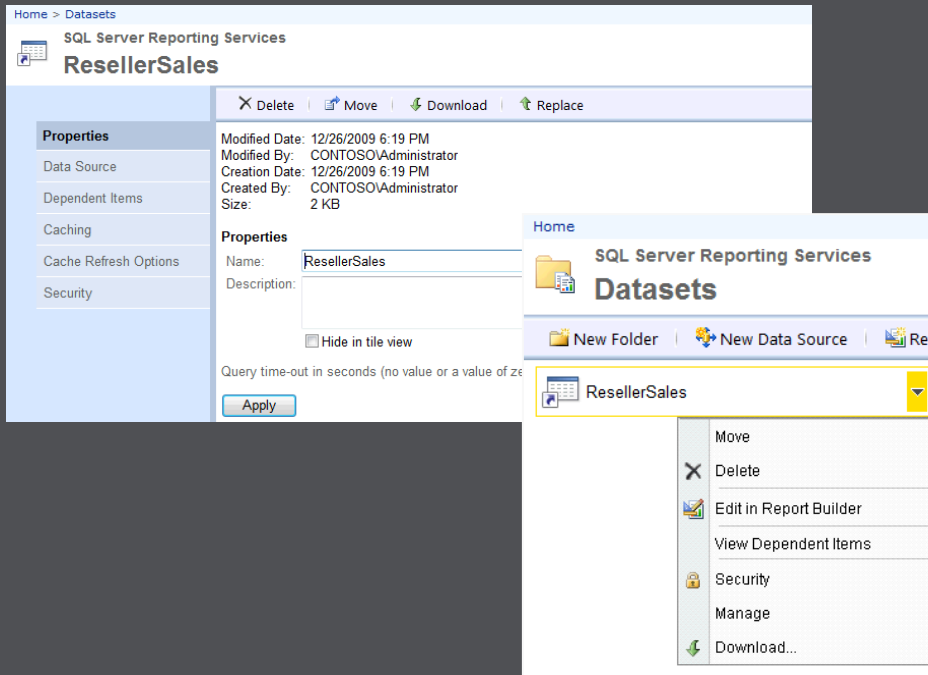
Project Properties:
OverwriteDatasets and TargetDatasetFolder

Report Builder 3.0



File | Save As
Deploys to specified location

Management



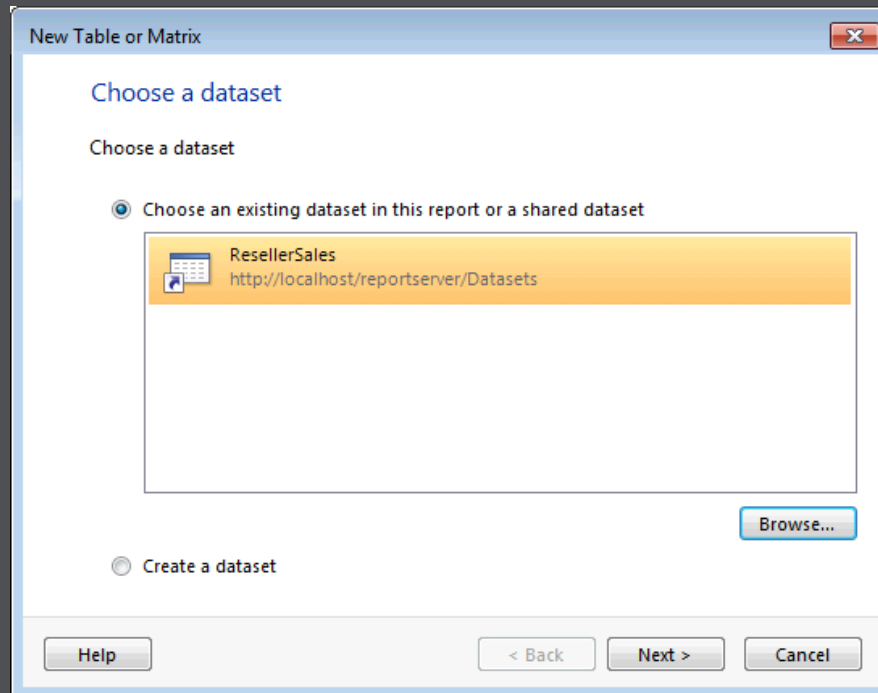
- Configure properties
 - Name
 - Visibility in tile view
 - Query time-out
- Change data source
- View dependent items
- Define caching, cache expiration, and cache refresh schedule
- Specify security

Tip: Use URL access to view query

Shared Dataset Access

Report Builder 3.0

- Browse report server for available datasets
- Adapt dataset properties as needed for report



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Data Visualization

- Data bars

Sales Amount		
Accessories	2005	20,235
	2006	92,735
	2007	296,533
	2008	161,794
Bikes	2005	7,395,349
	2006	19,956,015
	2007	25,551,775
	2008	13,399,243
Clothing	2005	34,376
	2006	485,587
	2007	871,864
	2008	386,013
Components	2005	615,475
	2006	3,610,092
	2007	5,482,497
	2008	2,091,012

- Sparklines

-

- Indicators

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Sales Amount			
Accessories	2005	20,235	✗
	2006	92,735	✗
	2007	296,533	✗
	2008	161,794	✗
Bikes	2005	7,395,349	💡
	2006	19,956,015	✓
	2007	25,551,775	✓
	2008	13,399,243	💡
Clothing	2005	34,376	✗
	2006	485,587	✗
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Chart Improvements

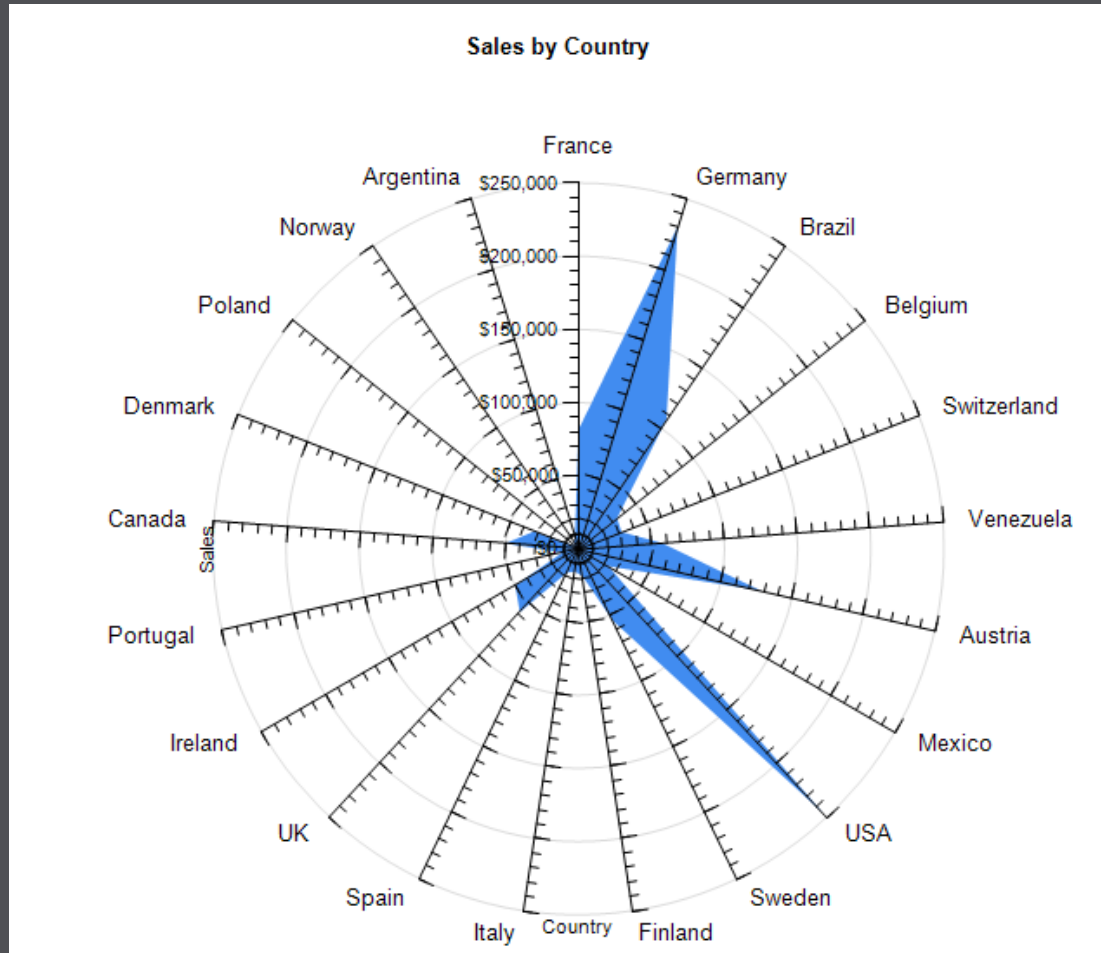
- **Key Features**

- Improved Chart Customization
- Custom Palettes
- Multiple Axes
- Axis Break
- Large data volumes
- Error Bars
- Merged charts
- Anti-aliasing
- Alpha Blending

- **Additional Chart types**

- Stepped Line
- Spline Area
- Pie Callout
- Polar
- Radar
- Gantt
- Range Line/Column
- Funnel
- Pyramid
- Histogram
- Box

Chart Example: rptSalesChartPolar



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