

# SSRS: BEYOND 101

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tweets as [@sqlbelle](https://twitter.com/sqlbelle)



# Who I Am

## •SQL Server DBA/Developer/BI Developer

- Reports, ETL, data warehousing. **Fun stuff.**
- Operations, troubleshooting, optimization, scripting, and a **whole lot** of T-SQL, stored procs and functions. **More fun stuff.**
- I love working with SQL Server. **Period.**

## •SharePoint Developer (previous positions)

## •Instructor/Trainer

- SQL Server (Administration, Development, SSRS, SSIS)
- MySQL, Web Development (XHTML, CSS, JavaScript/jQuery)

## •Blogs ([sqlmusings.com](http://sqlmusings.com)) and tweets ([@sqlbelle](https://twitter.com/sqlbelle))

## •Contributor/Article Author

- SSWUG, Idera

## •Previous Presentations

- SQLSaturday, VANPASS, DevTeach,
- Victoria Users Group, VANTUG



**sqlbelle**



# Materials

- Presentation materials will be at my blog
- <http://www.sqlmusings.com>
  - Demo files
  - Slides
  - Cheatsheets
- Questions? Comments? Email me
  - [donabel.santos@queryworks.ca](mailto:donabel.santos@queryworks.ca)

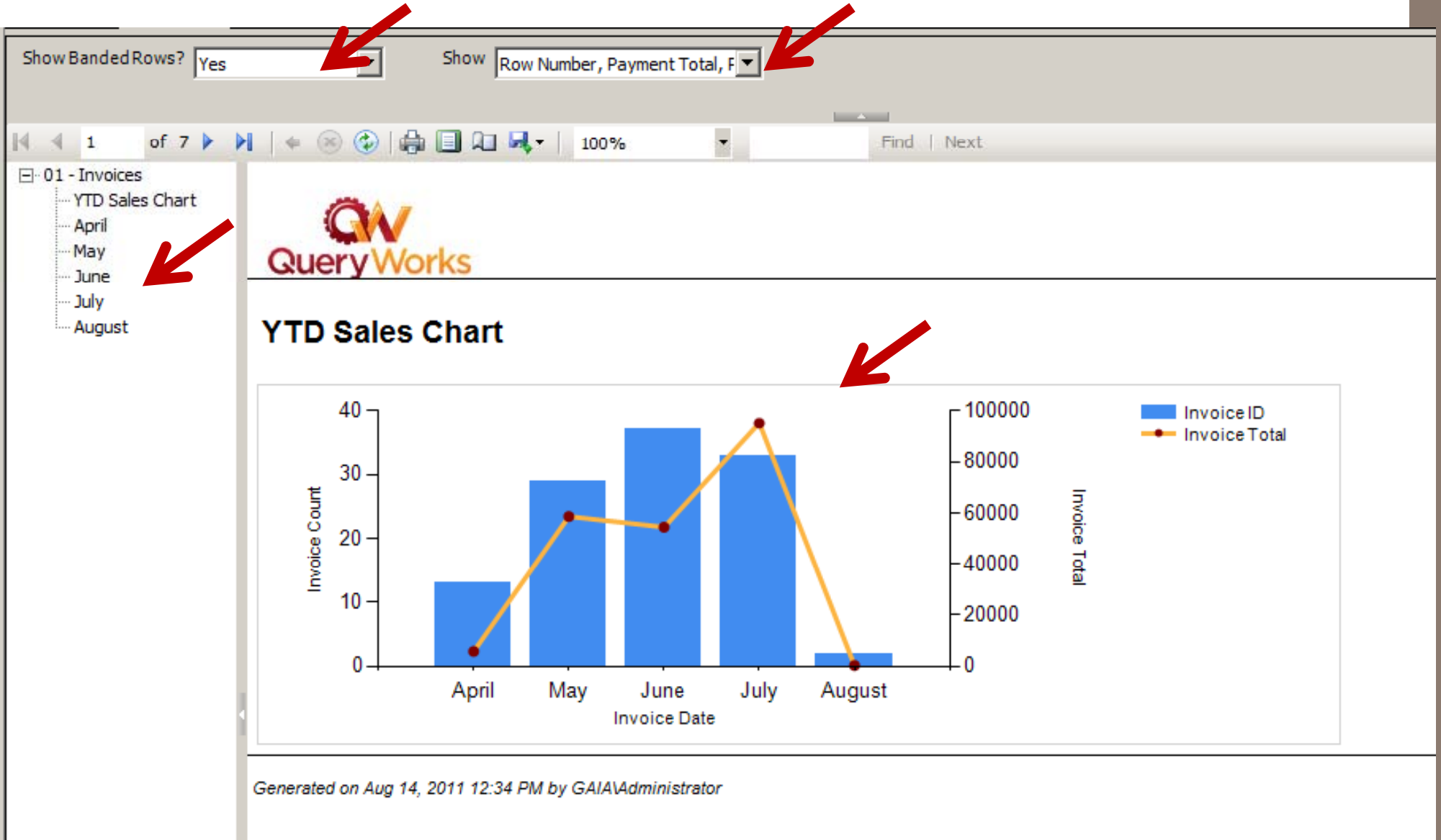


# Agenda

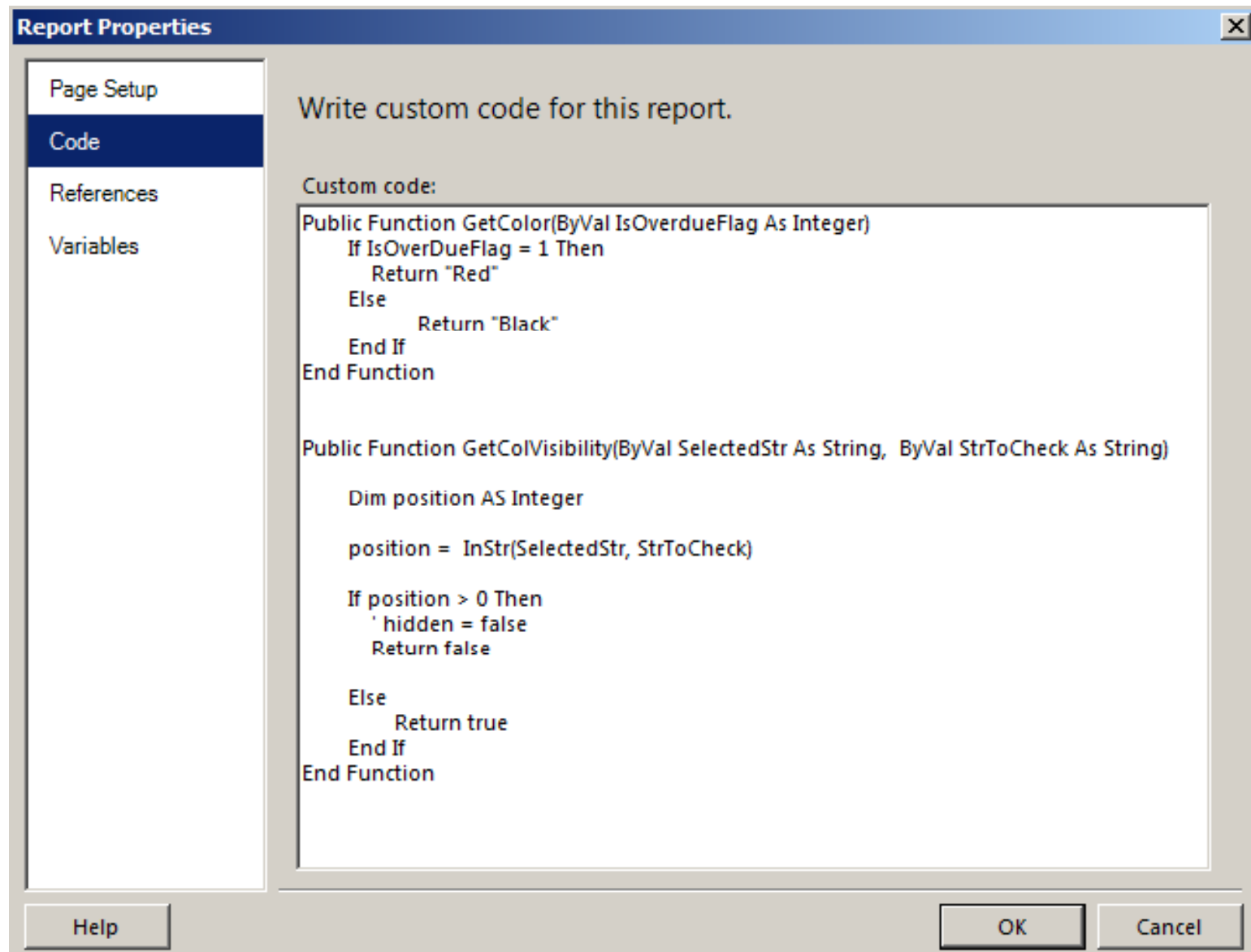
- Beyond 101
  - Expressions
  - Document Maps
  - Action
  - Custom Code
  - Drilldowns, Drillthroughs and Subreports
  - Charts
- Additional Tips and Tricks
  - Your very own templates
  - Barcode reporting
  - Auditing – what did they ask for??
  - More Expressions (MySQL)
  - Multi Value Parameters
- Some PowerShell Anyone?
  - Download RDL
  - Report Viewer
- Other Stuff? Questions?

## BEYOND 101

# Beyond 101



# Custom Code




# Beyond 101

Show Banded Rows?  Show

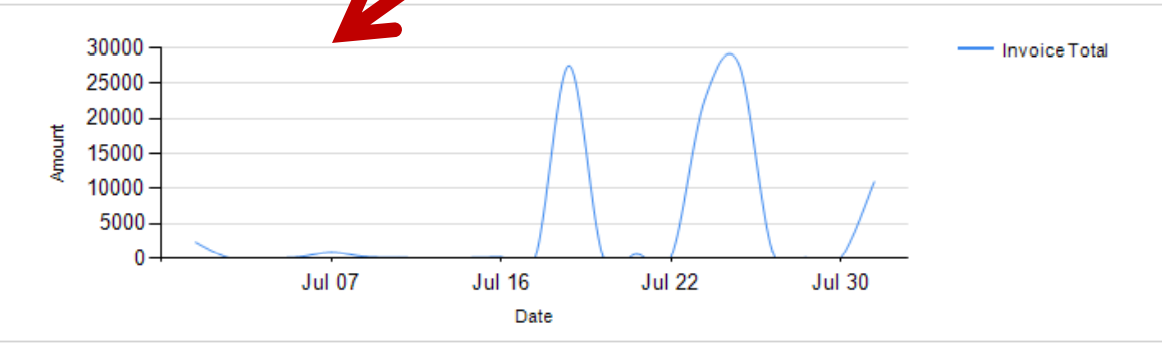
5 of 7 100% Find | Next

01 - Invoices

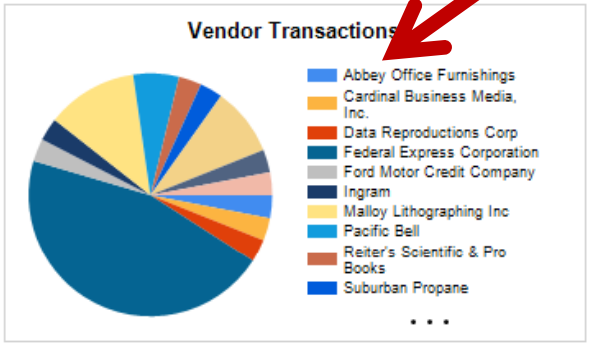
- YTD Sales Chart
- April
- May
- June
- July
- August



## July 2011 Invoices



### Vendor Transactions



33 invoice(s)

Row #	Vendor Name	Invoice Number	Line Items	Invoice Date	Invoice Total	Due Date	Payment Total	Payment Date	Days Overdue												
80	United Parcel Service	989319-467	1	Jul 01, 2011	\$2,318.03	Jul 31, 2011	\$2,318.03	Jul 29, 2011		<input type="checkbox"/> Details											
			<table border="1"> <thead> <tr> <th>Sequence</th> <th>Line Item</th> <th>Amount</th> <th>Account No</th> <th>Account</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Freight</td> <td>2318.0300</td> <td>553</td> <td>Freight</td> </tr> </tbody> </table>	Sequence	Line Item	Amount	Account No	Account	1	Freight	2318.0300	553	Freight								<input type="checkbox"/> Details
Sequence	Line Item	Amount	Account No	Account																	
1	Freight	2318.0300	553	Freight																	
81	Federal Express Corporation	263253265	1	Jul 02, 2011	\$26.25	Aug 01, 2011	\$26.25	Jul 28, 2011		<input type="checkbox"/> Details											
82	Abbey Office Furnishings	203339-13	1	Jul 05, 2011	\$17.50	Jul 25, 2011	\$17.50	Jul 27, 2011		<input type="checkbox"/> Details											
83	Pacific Bell	111-92R-10093	1	Jul 06, 2011	\$39.77	Jul 26, 2011	\$39.77	Jul 22, 2011		<input type="checkbox"/> Details											
84	Federal Express Corporation	963253258	1	Jul 06, 2011	\$111.00	Aug 05, 2011	\$111.00	Aug 05, 2011		<input type="checkbox"/> Details											



## ADDITIONAL TIPS AND TRICKS

# Your own templates!

The screenshot shows a Windows Explorer window titled 'ReportProject' displaying the contents of a folder. The folder contains several files, including 'DataSet', 'DataSet.vsz', 'DataSource', 'DataSource.vsz', 'QueryWorks Landscape', 'QueryWorks Portrait', 'Report', 'Report', 'ReportProjectItems.vsd', 'ReportWizard', and 'ReportWizard.vsz'. A red arrow points to the 'QueryWorks Landscape' and 'QueryWorks Portrait' files. Below the Explorer window, the 'Add New Item - VANPASS' dialog box is open, showing the 'Visual Studio installed templates' section with 'QueryWorks Landscape' and 'QueryWorks Portrait' selected. The 'Categories' section shows 'Report Project'. The 'Name' field at the bottom is 'Report1.rdl'.

Name	Date modified	Type	Size
DataSet	3/31/2010 3:14 AM	Icon	54 KB
DataSet.vsz	3/31/2010 3:14 AM	VSZ File	1 KB
DataSource	3/31/2010 3:14 AM	Icon	6 KB
DataSource.vsz	3/31/2010 3:14 AM	VSZ File	1 KB
QueryWorks Landscape	3/31/2010 3:14 AM	Report Definition File	1 KB
QueryWorks Portrait	3/31/2010 3:14 AM	Report Definition File	1 KB
Report	3/31/2010 3:14 AM	Icon	9 KB
Report	3/31/2010 3:14 AM	Report Definition File	1 KB
ReportProjectItems.vsd			
ReportWizard			
ReportWizard.vsz			

**Add New Item - VANPASS**

Categories: Report Project

Templates:

**Visual Studio installed templates**

- Report Wizard
- Data Source
- QueryWorks Landscape
- Report
- Dataset
- QueryWorks Portrait

**My Templates**

- Search Online Templates...

Name: Report1.rdl

Add Cancel

C:\Program Files (x86)\Microsoft Visual Studio 9\Common7\IDE\PrivateAssemblies\ProjectItems\ReportProject





# Barcode!

Free 3 of 9 36pt

04 - Barcode.rdl [Design]

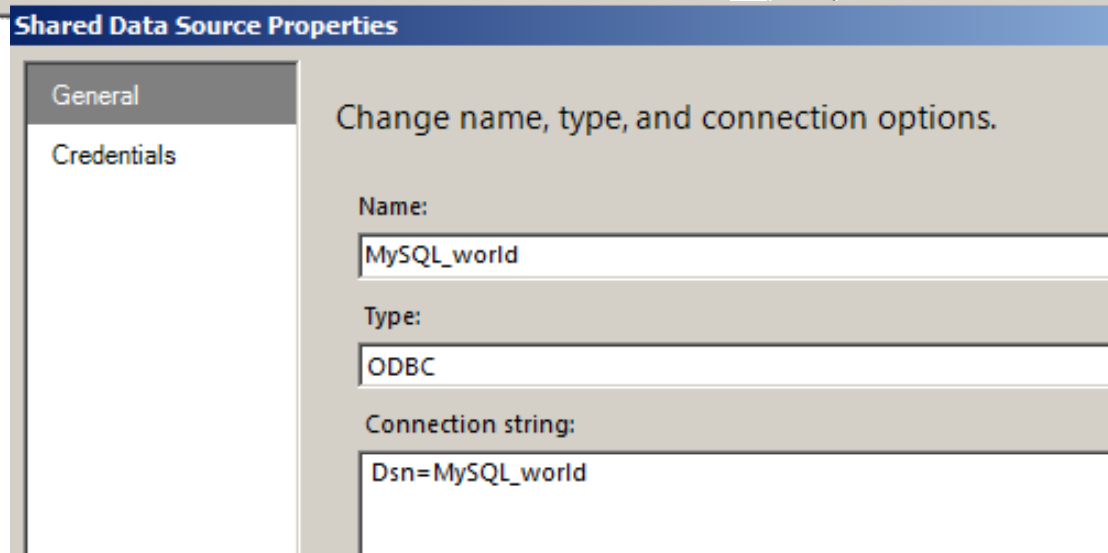
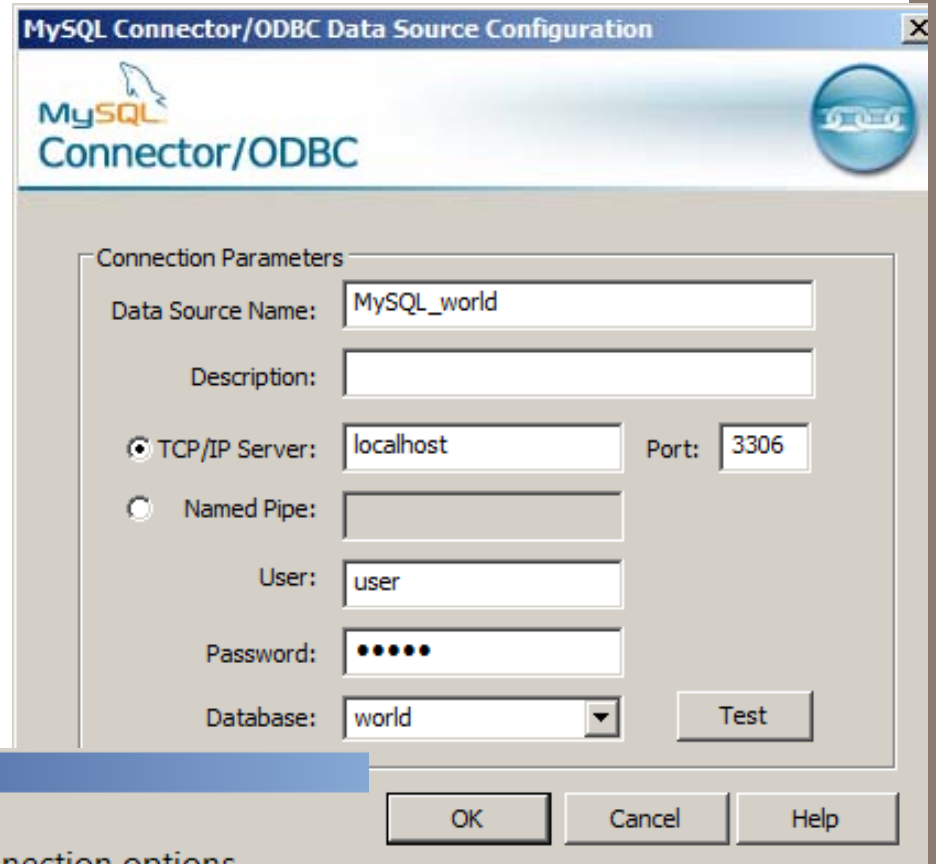
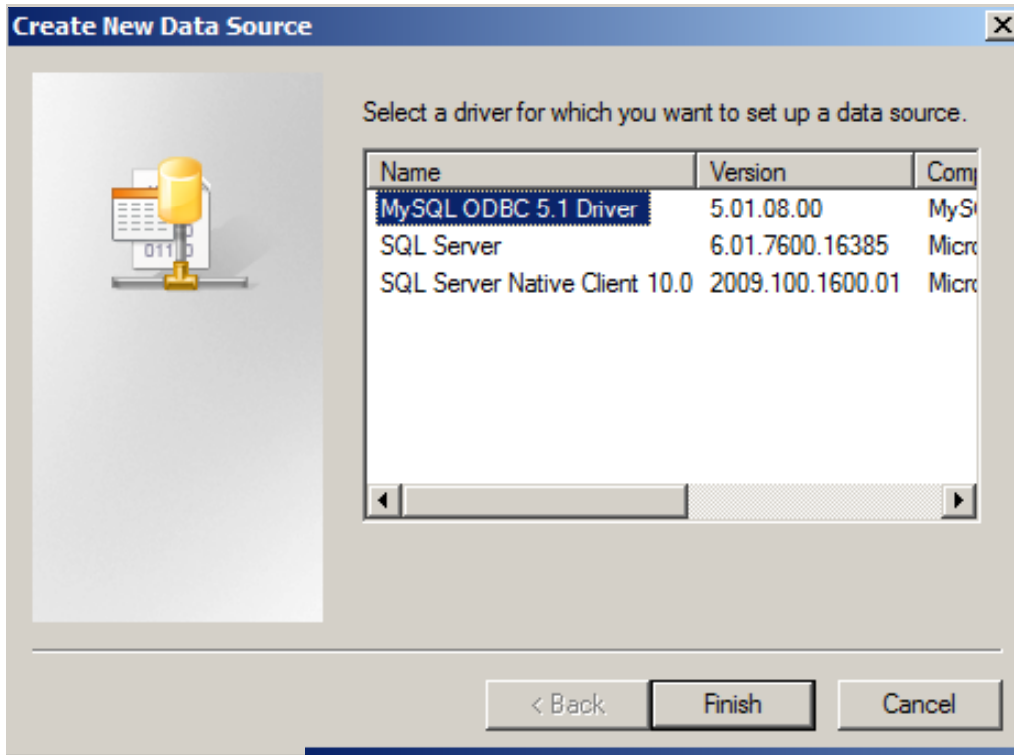
Design Preview

1 of 2? 100% Find | Next

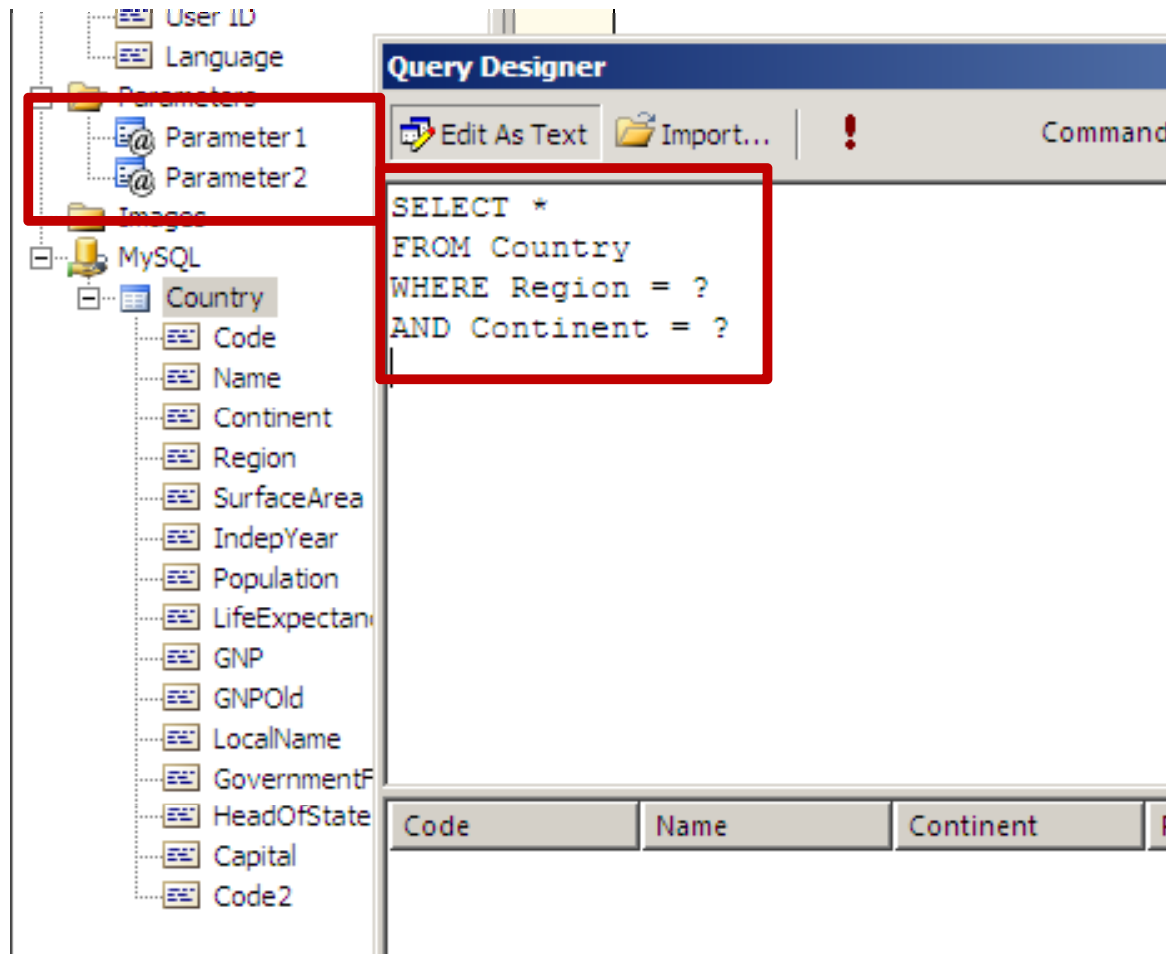
Invoice Date	Vendor Name	Invoice Total	Invoice Total
Apr 08, 2011	United Parcel Service	\$3,813.33	
Apr 10, 2011	Federal Express Corporation	\$40.20	
Apr 13, 2011	Federal Express Corporation	\$138.75	
Apr 16, 2011	Federal Express Corporation	\$144.70	

# Auditing – what did they ask for??

# MySQL Connection



# MySQL Connection

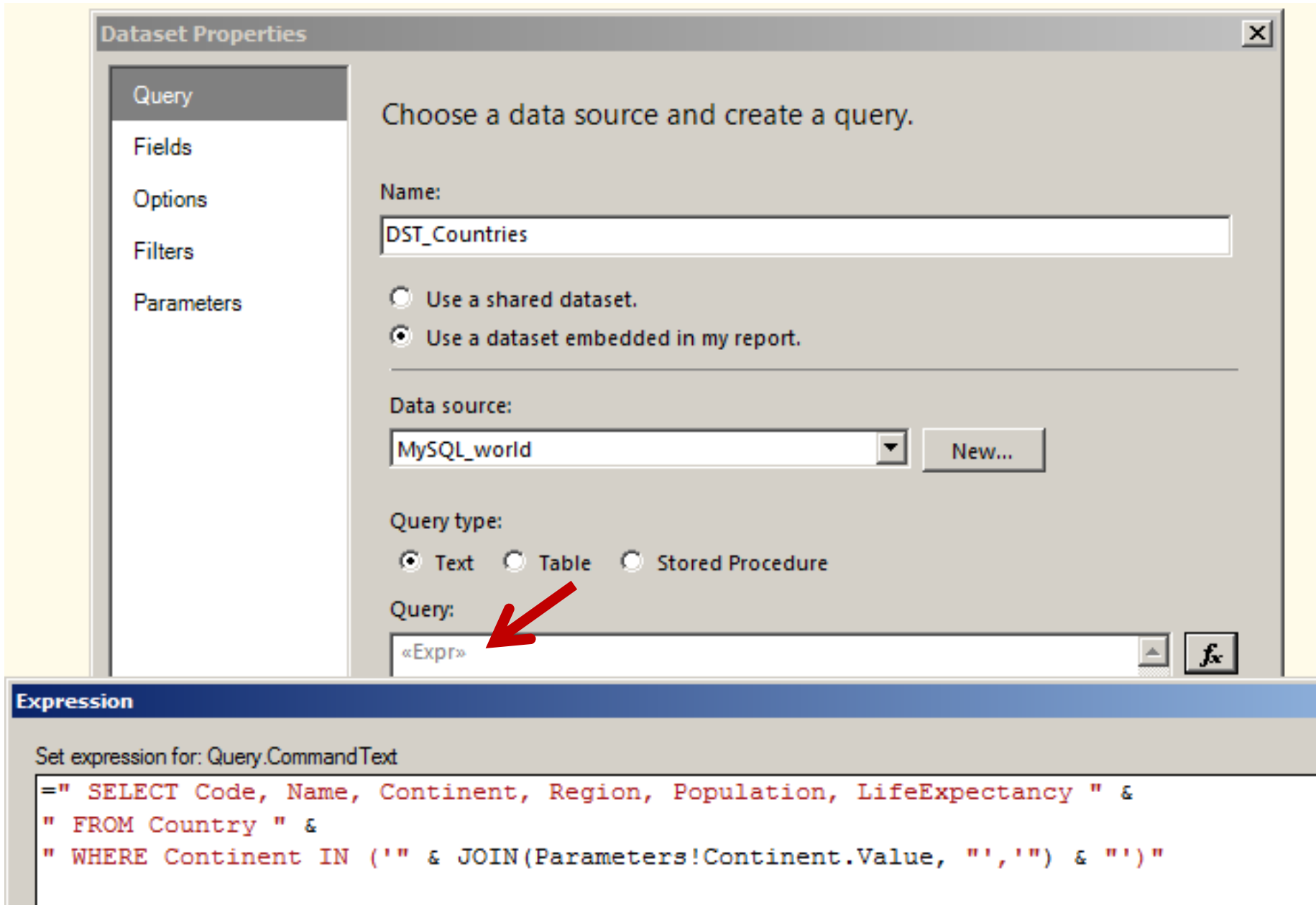


If you rename parameters, will not work

An error occurred during local report processing.  
The definition of the report '/Report2' is invalid.

The Value expression for the query parameter '?' refers to a non-existing report parameter 'Parameter 1'.

# MySQL Connection



**Dataset Properties**

Choose a data source and create a query.

Name: DST\_Countries

Use a shared dataset.  
 Use a dataset embedded in my report.

Data source: MySQL\_world

Query type:  Text  Table  Stored Procedure

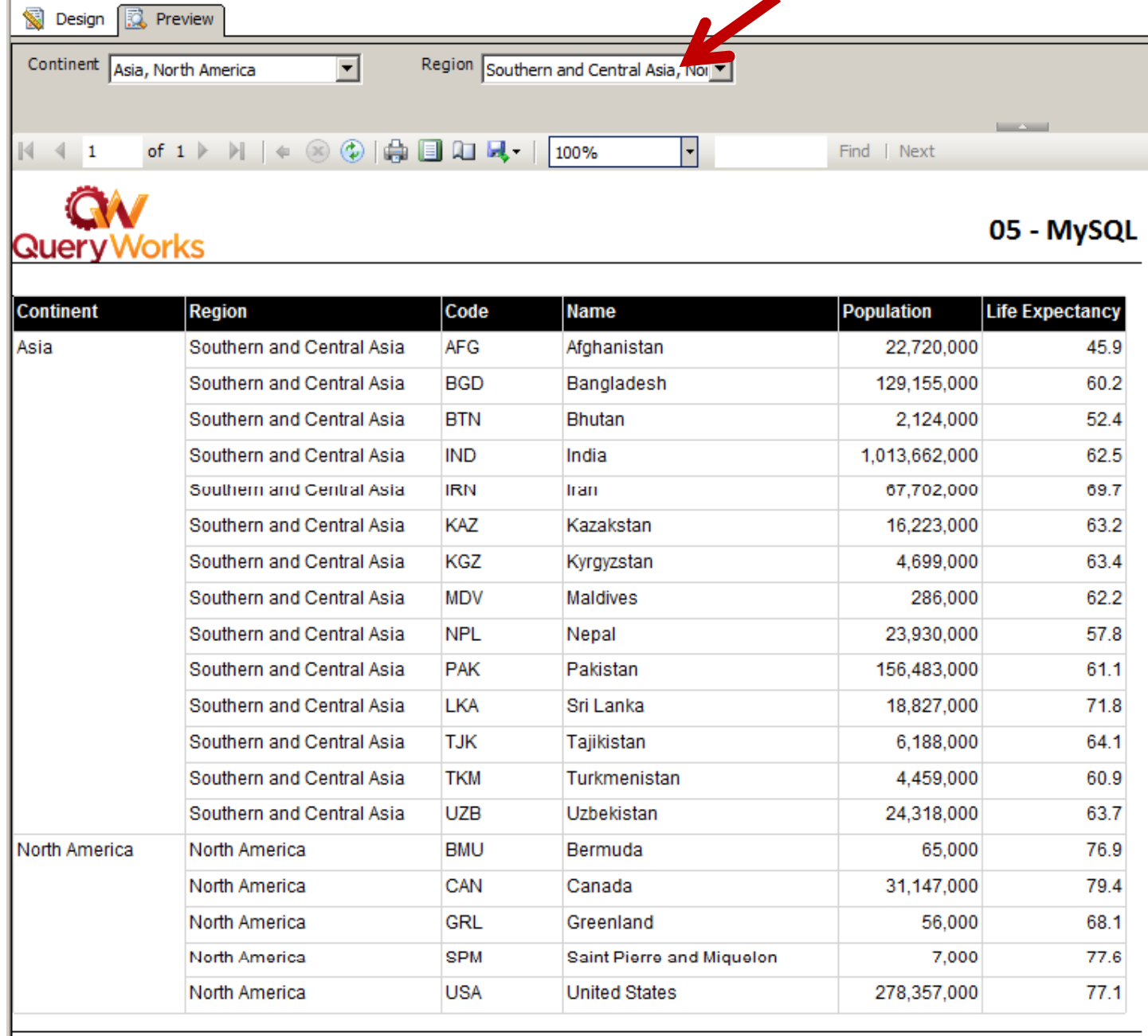
Query: «Expr»

**Expression**

Set expression for: Query.CommandText

```
= " SELECT Code, Name, Continent, Region, Population, LifeExpectancy " &  
" FROM Country " &  
" WHERE Continent IN ('" & JOIN(Parameters!Continent.Value, "','') & "' )"
```

# MySQL Connection



Design Preview

Continent: Asia, North America Region: Southern and Central Asia, Nor

1 of 1 100% Find Next

**QueryWorks** 05 - MySQL

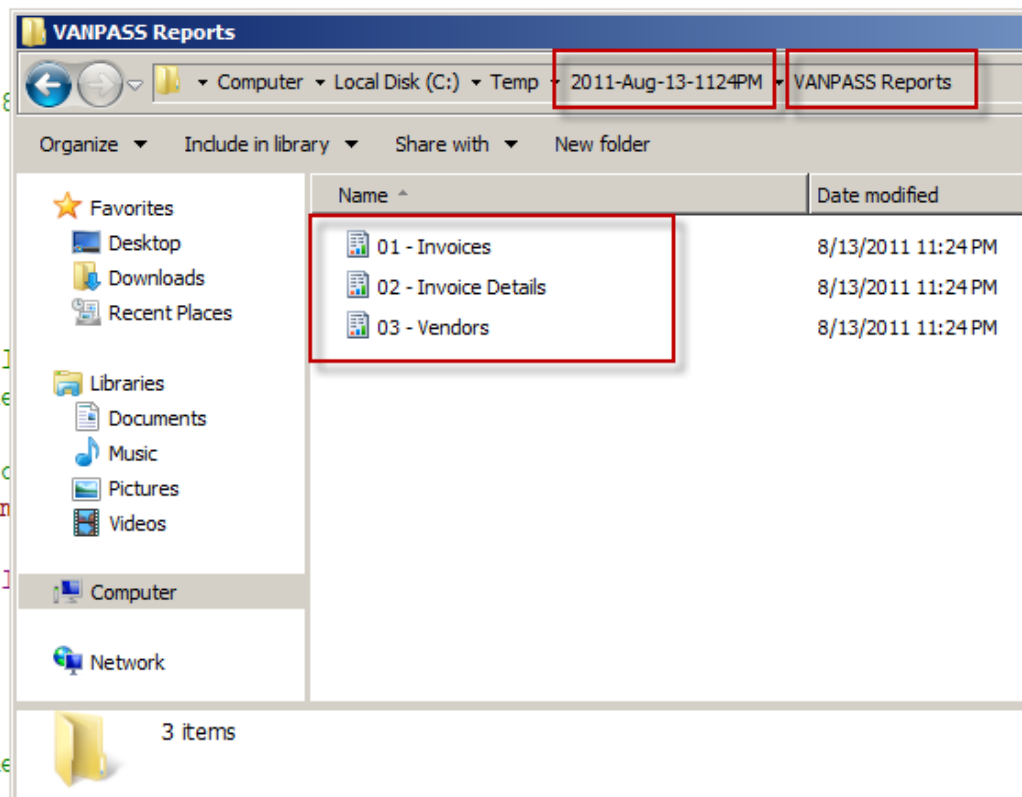
Continent	Region	Code	Name	Population	Life Expectancy
Asia	Southern and Central Asia	AFG	Afghanistan	22,720,000	45.9
	Southern and Central Asia	BGD	Bangladesh	129,155,000	60.2
	Southern and Central Asia	BTN	Bhutan	2,124,000	52.4
	Southern and Central Asia	IND	India	1,013,662,000	62.5
	Southern and Central Asia	IRN	Iran	67,702,000	69.7
	Southern and Central Asia	KAZ	Kazakistan	16,223,000	63.2
	Southern and Central Asia	KGZ	Kyrgyzstan	4,699,000	63.4
	Southern and Central Asia	MDV	Maldives	286,000	62.2
	Southern and Central Asia	NPL	Nepal	23,930,000	57.8
	Southern and Central Asia	PAK	Pakistan	156,483,000	61.1
	Southern and Central Asia	LKA	Sri Lanka	18,827,000	71.8
	Southern and Central Asia	TJK	Tajikistan	6,188,000	64.1
	Southern and Central Asia	TKM	Turkmenistan	4,459,000	60.9
	Southern and Central Asia	UZB	Uzbekistan	24,318,000	63.7
North America	North America	BMU	Bermuda	65,000	76.9
	North America	CAN	Canada	31,147,000	79.4
	North America	GRL	Greenland	56,000	68.1
	North America	SPM	Saint Pierre and Miquelon	7,000	77.6
	North America	USA	United States	278,357,000	77.1



# POWERSHELL

# Download 'em RDL files! PowerShell baby!

```
4
5 [void][System.Reflection.Assembly]::LoadWithPartialName("System.Xml.XmlDocument");
6 [void][System.Reflection.Assembly]::LoadWithPartialName("System.IO");
7
8 $ReportServerUri = "http://localhost/ReportServer_SQL01/ReportService2005.asmx";
9 $Proxy = New-WebServiceProxy -Uri $ReportServerUri -Namespace SSRS.ReportingService2005 -UseDefaultCred
10
11 #check out all members of $Proxy
12 #$$Proxy | Get-Member
13 #http://msdn.microsoft.com/en-us/library/aa2258
14
15 #second parameter means recursive
16 $items = $Proxy.ListChildren("/", $true) | `
17     select Type, Path, ID, Name | `
18     Where-Object {$_.type -eq "Report"};
19
20 #create a new folder where we will save the fil
21 #PowerShell datetime format codes http://techn
22
23 #create a timestamped folder, format similar to
24 $folderName = Get-Date -format "yyyy-MMM-dd-hhmm";
25 $fullFolderName = "C:\Temp\" + $folderName;
26 [System.IO.Directory]::CreateDirectory($fullFolderName);
27
28 foreach($item in $items)
29 {
30
31     #need to figure out if it has a folder name
32     $subfolderName = split-path $item.Path;
33     $reportName = split-path $item.Path -Leaf;
34     $fullSubfolderName = $fullFolderName + $subfolderName;
35     if(-not(Test-Path $fullSubfolderName))
36     {
37         #note this will create the full folder hierarchy
38         [System.IO.Directory]::CreateDirectory($fullSubfolderName) | out-null
39     }
40 }
```



## More PowerShell

- Open in WinForm/ReportViewer
- Download Excel
- Download PDF

OTHER

## Other Stuff I would have wanted to cover

- Table Variables or PIVOT for No-Gap Matrices
- NoRowsMessage
- Customizing Chart Colors, Labels
- MultiValue Parameters – alternatives
- Parameter Dependence, Forward References
- Accessing via URL
- Conversions
- ReportItems
- Common Errors
- Report Sizes (and how they drive you crazy)
- Etc etc – I can go on and on 😊

# What we covered

- Beyond 101
  - Expressions
  - Document Maps
  - Action
  - Custom Code
  - Drilldowns, Drillthroughs and Subreports
  - Charts
- Additional Tips and Tricks
  - Your very own templates
  - Barcode reporting
  - Auditing – what did they ask for??
  - More Expressions (MySQL)
  - Multi Value Parameters
- Some PowerShell Anyone?
  - Download RDL
  - Report Viewer
- Other Stuff? Questions?

## JOB POSTING

## Looking for Report Developer (Contract)

- 8 month contract
- Downtown Vancouver

### Mandatory requirements (4+ years)

- Relational Database skills (SQL Server, SSRS, SSIS, T-SQL)
- Data Analysis
  - Ability to work directly with users and create and document report specifications.
  - Demonstrate ability to work with TA, BA and end users to understand requirements and design.
  - Strong understanding of SDLC Methodologies.
- SQL (Stored Procedures, functions, queries, views)
- Reporting Services (SQL Server Reporting Services, SSRS)
- Financial industry experience
- Technical Experience
  - Demonstrate with working experience solid knowledge of programming languages including VB.NET, ASP, XML, SSRS, MS Office Suite and MS SQL Server.



## RESOURCES

## Resources

- SQL Server 2008 R2 Update for Developers Training Kit (Jan 2011 Update)
  - <http://www.microsoft.com/downloads/en/details.aspx?FamilyID=fffaad6a-0153-4d41-b289-a3ed1d637c0d&displaylang=en>
- SQL Server Reporting Services Team Blog
- Books
  - Wrox. SQL Server Reporting Services Recipes for Designing Expert Reports
  - Wrox. Professional SQL Server 2008 Reporting Services
  - Prologika Press. Applied SQL Server 2008 Reporting Services
- Free Barcode Font (Code 39)
  - <http://www.barcodesinc.com/free-barcode-font/>
- ReportViewer 2010
  - <http://www.microsoft.com/download/en/details.aspx?id=6442>

## PowerShell Resources – to start

- PowerShell.com
  - <http://powershell.com>
- PowerShell Tip of the Day
  - <http://powershell.com/cs/blogs/tips/>
- Free PowerShell Ebook – really good!
  - <http://powershell.com/Mastering-PowerShell.pdf>
- Books
  - PowerShell in Action by Bruce Payette
  - Scripting Management Objects in PowerShell by Willis Johnson
  - Microsoft SQL Server 2008 Administration with Windows PowerShell by MAK and Yan Pan
- Technet Virtual Lab on Windows PowerShell
  - <http://msevents.microsoft.com/CUI/WebCastEventDetails.aspx?culture=en-US&EventID=1032314395&EventCategory=3>

# PowerShell Resources

- Understanding PowerShell Support in SQL Server 2008
  - [http://msdn.microsoft.com/en-us/library/dd938892\(printer\).aspx](http://msdn.microsoft.com/en-us/library/dd938892(printer).aspx)
- Payette. Windows PowerShell in Action
  - <http://www.manning.com/payette/>
- Free Ebooks
  - Mastering PowerShell (<http://powershell.com/Mastering-PowerShell.pdf>)
  - Effective PowerShell (<http://keithhill.spaces.live.com/blog/cns!5A8D2641E0963A97!6930.entry>)
- Cheat Sheets
  - <http://blogs.msdn.com/powershell/attachment/1521595.ashx>
  - <http://www.microsoft.com/downloadS/details.aspx?FamilyID=df8ed469-9007-401c-85e7-46649a32d0e0&displaylang=en>
- Blogs/Sites
  - PowerShell Script Center (<http://www.microsoft.com/technet/scriptcenter/hubs/msh.mspix>)
  - PowerShell Team Blog (<http://blogs.msdn.com/PowerShell>)
  - PowerShell.com (<http://powershell.com/cs/>)
  - PowerShell Pro (<http://www.powershellpro.com/>)
  - Keith Hill (<http://keithhill.spaces.live.com/Blog>)
  - Chad Miller (<http://chadwickmiller.spaces.live.com/>)

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SQL Server?



QueryWorks

SharePoint?



THANK YOU!