

Designing Reports using SQL Server 2012 Reporting Services

Updated May 18, 2012

Using Microsoft's Business Intelligence Suite to Design Reports from REMOTE

Once you receive your University of Arkansas MEC account, access will be via remote desktop connection. Remote access documentation is at the following link:

http://enterprise.waltoncollege.uark.edu/Remote_Desktop_MEC_GW.pdf

SQL Server Data Tools (formerly Business Intelligence Development Studio) provides tools that assist in all phases of business intelligence from building the data warehouse, creating and analyzing cubes to data mining and **report designing**. The following provides a report designing example using the UA_SAMSCLUB datasets.

Click Start \rightarrow All Program \rightarrow Microsoft SQL Server 2012 \rightarrow SQL Server Data Tools as shown below.



SQL Server Data Tools uses Microsoft Visual Studio (VS) as the Integrated Development Environment which will be familiar to VB.NET or C# users. When VS opens, most likely the top will include the menu and tool bar with the Start Page tab active. Along the left of the Start page are three windows: Recent Projects, if any; Getting Started and Visual Studio Headlines.

🛛 Start Page - Microsoft Visual Studio	
File Edit View Debug Tools Window Help	
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Rart Page × Class View	Get Started Guidance and Resources Latest News
New Project	Welcome Windows Web Cloud Office SharePoint Data
Recent Projects	What's New in Visual Studio 2010 Learn about the new features included in this release. Visual Studio 2010 Overview What's New in NET Framework 4 Customize the Visual Studio Start Page
	Creating Applications with Visual Studio
	Extending Visual Studio
	Community and Learning Resources
✓ Close page after project load ✓ Show page on startup	

A report building project requires a data source. Thus, assuming that the data from which the report is to be built is in an accessible data source, the first step is to create a Report Project. To do this, click File \rightarrow New \rightarrow Project

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File	Edit	View	Debug	Tools	Window	Help			
	New					•		Project	Ctrl+Shift+N
	Open					•	-	Web Site	Shift+Alt+N
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Make sure the Business Intelligence Projects in the Project types is selected and that the Report Server Project is selected from the Visual Studio installed templates. Provide a Name and Location for the project.

New Project									? ×
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Click the OK button. Visual Studio opens – and the default location for Solution Explorer is the top right. You may need to use the horizontal scroll bar to scroll to the right to see the Solution Explorer. If it is not there, then click View on the menu and then click Solution Explorer. The name of your project (UA_SAMS in this case) should be visible with a number of other entries as shown.

Solution Explorer - UA_SAMS	- ₽ ×
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B UA_SAMS	
🔤 🔚 Shared Data Sources	
🛄 🛄 Reports	

Steps required to design a Report include:

Create Shared Data Sources Create Reports

Create Shared Data Source

This step requires creating a shared data source to be used for report designing. Thus, right-click Shared Data Sources in the Solution Explorer and Click Add New Data Source... the Data Source Wizard opens to its Welcome page (not shown).



The Shared Data Source Wizard opens ... Provide a name and type of data source from the drop down list of options. Note that you can use relational databases (Microsoft SQL Server) or cubes (Microsoft SQL Server Analysis Services).

Shared Data Source Pr	operties X
General Credentials	Change name, type, and connection options.
	Name: UA_SAMS Type: Microsoft SQL Server Analysis Services Microsoft SQL Server Analysis Services Oracle ODBC XML Report Server Model SAP NetWeaver BI Hyperion Essbase TERADATA EGUIL
Help	OK Cancel
	Connection

We use Microsoft SQL Server Analysis Services for this example. Click the Edit... button to create the connection string. Enter ENT-ASRS1 for the Server name and select the UA_SAMSCLUB_STAR Analysis Services database from the drop down list of databases, as shown in the screen shot below.

Click the Test Connection button to ensure a connection exists to the database. Click OK to close the Connection Properties window. Click OK again to close the Shared Data Source window. Now, we are ready to create Reports.

Microsoft SQL Server Analysis S	Services Change
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ent-asis1	
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Create Reports

In the Solution Explorer, right click Reports and click Add New Report. This starts a Report Wizard to assist you with designing your report; click the Next button.



Click Query Builder... to design the query for your report.

🧟 Report Wizard	_ 🗆 🗙
Design the Query Specify a query to execute to get the data for the report.	
Use a query builder to design your query.	
Query string:	<u> </u>
	<u>~</u>
Help Next >	Cancel

The Query Builder page of the Report Wizard shown below, provides a drag and drop capability to design a report. It looks similar to the cube browser page of Analysis Services.

Query Designer						
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		Deep levels as a second				
		Drag levels of measure	es here to add to the	query.		
Calculated Members						
Help	2)			ОК	Cancel	

For this example, drag the <u>Item Quantity</u> and <u>Total Scan Amount</u> from the **Measures** list to the data pane. Then, drag the attribute <u>Transaction Type Description</u> from the **Scan Type Dimension** and <u>State</u> and <u>City</u> attributes

from the **Store Dimension**, as shown below. Once finished selecting the attributes, click the OK button. Note that, you can filter your report as well by adding a filter expression in the filter pane.

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Help	1		-		OK Cancel

This screen of the Report Wizard shows you the query string. Click Next.



Select the Report Type Tabular and click Next.

🤽 Report Wizard		_ 🗆 🗙
Select the Report Type Select the type of report that you want to create.		
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In the Design the Table window of the wizard, choose how to group the data in the table

🧟 Report Wizard			
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Help	< <u>B</u> ack	Next >	Einish >> Cancel

Hold Ctrl+Shift to select the State, City, Item_Quantity, and Total_Scan_Amount from the Available fields list and click Details> button to move them to the details displayed fields side. Select Transaction_Type_Desc and

click Group> to move that field to the Group by displayed fields side. At the end, you will have a screen as shown below. Click Next.

Report Wizard Design the Tabl Choose how to gro	e up the data in the table.		
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	<u>Group></u> Trans	action_Type_(NXX XXXX XXXX XXXXX XXX XXX XXX XXX XXXXX XXXXX XXXXX XXXXX XXXXX
	Details>	Quantity Scan_Amount	
Help	< Remove	Next > Einish >>	Cancel

Choose the Table Design to be Stepped, Include subtotals and Enable drilldown. Click Next.



Note - Table Design for tabular reports:

•Stepped – Displays hierarchy of data in such a way that repeated values are not shown, but only the first occurrence is shown. This results a report that looks like it is "stepped."

•Block – Displays the hierarchy of data where values are repeated.

•Include Subtotals – Includes subtotals for each grouping.

•Enable drilldown – Enables the user to drill down into the details of a grouping. This option is only available for Stepped reports. Choose the Table Style and click Next.

To complete the Report wizard, provide a Report name (UA_SAMS for this example) and see the Report Summary page and click Finish.

🗟 Report Wizard						🗙 🧟 Report Wizard 📃 🗖
Choose the Table Style Choose a style for the table.						Completing the Wizard Provide a name and click Finish to create the new report.
						Report name: UA_SAMS
Slate Forest	xxxx	xx				Report summary: Data source: IIA: SAMS
Corporate	~~~~					
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	XXXXX	XXXX	XXXX	XXXX	XXXX	COLUMNS, NON EMPTY { ([Scan Type Dimension].[Transaction Type Description].[Transaction Type
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Now, you can see your report Design and make any changes. Screen below shows a report Design.

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Click the Preview tab to see a preview of your report. Note that the report is grouped by Transaction Type Description (Purchase and Return).

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You can drill down and see your report by State and City.

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Note that this report is saved locally; you can deploy it to the server to allow access from multiple users.

To deploy your project, right click the project in the solution explorer and select Properties. Set the properties of the TargetServerURL as shown in the screen below. Provide a name (that you can uniquely identify) for your

TargetDataSourceFolder and TargetReportFolder and you must enter the TargetServerURL as <u>http://ENT-ASRS.waltoncollege.uark.edu/reportserver</u> and click Apply and OK.

				UA_SAMS Property Pages		? ×
Solution Explo	orer -	UA_SAMS		Configuration: Active(Debug)	Platform: N/A	Configuration Manager
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		Properties			[OK Cancel Apply

Return to the Solution Explorer and right click the UA_SAMS project and click Deploy. You will see at the left bottom of your screen that Deploy succeeded or any error messages if it doesn't.

				∎ Return
Solution Explor	rer - UA_SAMS			
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Once the report is deployed, it means a copy of your report is saved on the server. In which case you can view and edit the report in the Report Manager.

Report Manager

Report Manager is a Web-based report access and management tool that you access through Microsoft Internet Explorer. Now that your report is deployed to the server, you can view, export (to a different format, excel, pdf,

etc) and print your report in the Report Manger using the reporting services website. To access the reporting services website, open your browser and go to <u>http://ent-asrs.waltoncollege.uark.edu/Reports/</u>. Enter your walton credentials (the login and password supplied by the University of Arkansas) if prompted.

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SQL Server Reporting Services Home My Subscriptions Site Settings Help] Home Search for:	
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Your Home page will look similar to this screen – which shows the Data source and Report we just created and deployed to the server.

Click the UA_SAMS report under the UA_SAMS folder. You will be able to view your report in a web page as shown below.

Address 🕘 http://msenterprise/Reports/Pages/Report.aspx?ItemPath=%2fUA_SAMS%2fUA_SAMS

SQL Serv Home > UA_SA	ver Reporting S <u>UA_SAMS</u> > M MS istory Subscript	ervices			Search
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	тх	CHESAPEAKE	-4892	-175868.06	
	тх	CHESTERFIELD	-1362	-27898.18	
	тх	CICERO	-1386	-16502	
	тх	CINCINNATI	-6996	-100159.12	
	тх	CITY OF INDUSTRY	-2540	-39780.54	

You can also export this report to PDF format by selecting a format Acrobat (PDF) file and click Export as shown below.

🚰 Report Manager - Microsoft Internet Explorer									
File Edit View Favo	orites Tools Hel	p							
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	ТХ	CHESTERFIELD	146660	3110953.28000 002					
	ТХ	CICERO	150196	2757295.32000 001					

You can then save your report in PDF format which is more convenient for printing and emailing.

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We can do some formatting changes to our report to make it look more professional. Click the Design Tab and select the top Header row as shown below.

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The Properties window (right bottom by default) is displayed. Change the BackgroundColor to DimGray. Select the row below the header and change the BackgroundColor to DarkGray. Select the Title UA SAMS and change the Color to DimGray in the properties window.

Color selector	Color system	
Palette - Standard colors	RGB	
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Help	OK Cancel	HOLE COOLS.

Your report Design will look similar to the screen below. Note that the Item Quantity detail field is selected.

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Select the Item_Quantity detail field and change the Format in the Properties window to N0 to change it to a Number format with no decimal points. Select the the Total_Scan_Amount detail field and change the Format in the Properties window to C2 to change it to a Currency format with two decimal points. Similarly, change the format of the Sums above these fields to appropriate format string. As you can see from the Properties window, you can similarly change the Font, Size and more.

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Form Speci	nat ifies the expression that formats	s the string in the report item.	Fe Sp	ormat becifies the expression that form	ats the string in the report item.	

Now, click the Preview tab to view you report. You can drag and increase/decrease the sizes of the report boxes in the Design tab of your report to make sure the numbers are displayed properly. Note that this report looks more professional after simple formatting than the one on page 13. Click Save to save the changes made.

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	Purchase			3697934	67753086.25 99997	
		тх	CHESAPEAKE	NO	\$4,821,365.38	
		ТХ	CHESTERFIELD	NO	\$3,110,953.28	
		ТХ	CICERO	NO	\$2,757,295.32	
		ТХ	CINCINNATI	NO	\$11,726,935.34	
		тх	CITY OF INDUSTRY	NO	\$3,617,879.82	

Note that this report is saved locally; you can deploy it to the server to allow access from multiple users. Once deployed, you can view your report from within Report Manager (web based).

You can also add an Image to your report, like Company Logo. In the Design tab, align the title to the right and move the report table a little down to make a space for the Logo. Then, select Image from the Toolbox and click on the left of the screen to the top right of the report.

Toolbox 🗸 🗸	× /u	A_S	AMS.rdl [Design]	* Start Page			
E Report Items			cian 🖻 Drouiou				
R Pointer			ssight 🔜 Preview	,			
abi Text Box							
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🛃 Image		l≡	[[State]	[City]	[Item_Quantity]	[Total_Scan_Arr
Subreport							
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🕘 Gauge	INELO	ompo	Dhenc				
🖃 General	Display	sab	itmapped image, su	ch as a logo or	a photo.		
There are no usable controls in this group. Drag an item onto this text to							

This starts a wizard; you can select how your image is stored (four options given). In this example, select the image to be stored as a part of the report (Embedded). Click Next.

Image Properties	×
General Size	Change name, image, and tooltip options.
Visibility	<u>N</u> ame:
Action	Image2
Border	<u>I</u> oolTip:
	fx
	Select the image source:
	Embedded
	Use this image:
Help	OK Cancel
Image Properties	X
Image Properties	×
Image Properties	Change name, image, and tooltip options.
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Image Properties General Size Visibility Action Border	Change name, image, and tooltip options. Name: Image2 IooITip: Select the image source: Embedded Use this image: UAWValtonLogo IMAWValtonLogo Image1

Click on Import to browse to your computer and choose the image you would like to add. Once you select the picture, click OK (For this exercise, you may use the image found in S:\Logo\waltonlogo.jpg

Your screen will look similar to the one below. View your report by clicking the Preview tab.

Image: Contract of the second seco		JA_SAMS.rdl [Desig	n]* Start Page			·
UA_SAMS Image: City Item Quantity Total Scan Amount Transaction State City Item Quantity Sum(Ital Scan Amount) Total Scan State City Item Quantity Total Scan Amount Total Scan State City Item Quantity Total Scan Amount Total Scan State City Item Quantity Total Scan Amount UA_SAMS.dl Designit State Page Image: City Image: City Image: City UA_SAMS.dl Image: City Image: City Image: City Image: City Image: City UA_SAMS.dl Image: City Image: City Image: City Image: City Image: City UA_SAMS.dl Image: City Image: City Image: City Image: City Image: City UA_SAMS.dl Image: City Image: City Image: City Image: City Image: City Umage: City Image: City Image: City Image: City Image: City Image: City Umage: City Image: City Image: City Image: City Image: City Image: City Umage: City Im		🕽 Design 🔯 Previa	эм			
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UA_SAMS Transaction State City Item Quantity Total Scan Amount Type Description 3697934 67753086.2599997 Purchase 36977934 67753086.2599997 Return -37228 -751483.6			of 1 b	4 6 3		и. – Е
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Description Operation Purchase 3697934 Return -37228	UA	Saction State	City		Item Quantity	Total Scan Amount
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You can move the boxes and tables, and image of the report up and down, right and left until you achieve a good looking report.

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- -	UA_SAMS.rdl [Design]* Start Page			• ×
	🚫 Design 🔝 Previe	w			
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	Transaction	1 State	Citv	Item Ouantity	Total Scan Amount
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📰 👘 j 🕅 🔌 1	of 1 🕨 🕨 🗢 🔕 🖻 🎒 🔲 💭 戻 - 100%	-

UA_SAMS



Transaction Type Description	State	City	Item Quantity	Total Scan Amount
Purchase			3697934	67753086.2599997
	ТХ	CHESAPEAKE	NO	\$4,821,365.38
	тх	CHESTERFIELD	NO	\$3,110,953.28
	ТХ	CICERO	NO	\$2,757,295.32
	тх	CINCINNATI	NO	\$11,726,935.34
	ТХ	CITY OF INDUSTRY	NO	\$3,617,879.82

Change the Title (UA_SAMS) of the report to UA SAMSCLUB SALES. Click the Design tab, select the title and overwrite it with the new name and change the font size to Tahoma, 18pt, Bold.

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UA_SAMS.rdl [Design]* Start Page 8pt 9pt	▼ ×
1 Design 🔝 Preview 10pt	
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Transaction State City Item Ouantity Total Scan Am	nount
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[State] [City] [Item Quantity] [Total Scan Amou	unt]

Click the Preview tab to view your report. Click Save to save the changes made locally, and you can also deploy it to the Server and make it accessible to multiple users.

UA_SAMS.rd	l [Design]* Sta	art Page				
📓 Design 🚦	Preview					
i 🖬 👘 i 🛛 🕅	🔺 1 of	1 🕨 🕅 🗢 🕄 🛛	2 4 🔲 🔍 💭 🖌 100	0% 🔹		
UA S	UNIVERSITY OF ARKANSAS SAM M. WALTON COLLEGE OF AUSINESS					
Transactio Type Descriptio	n State n	City	Item Quantity	Total Scan Amount		
🛛 🖻 Purchase			3697934	67753086.2599997		
	TX	CHESAPEAKE	NO	\$4,821,365.38		
	TX	CHESTERFIELD	NO	\$3,110,953.28		
	TX	CICERO	NO	\$2,757,295.32		
	TX	CINCINNATI	NO	\$11,726,935.34		

You can also launch Report Builder, a report design tool used for creating and modifying model-driven, ad hoc reports in the Report Manager. Report Builder allows business users to create their own reports based on a user-friendly report model created in Model Designer.

To create a report model, start a new project. To do this, click File \rightarrow New \rightarrow Project or click the new project icon.



Be sure the Business Intelligence Projects in the Project types is selected and that the Report Model Project is selected from the VS installed templates. Provide a Name and Location for the project.

New Project			?	×
Project types:		Templates:	00	6-6- 6-6- 6-6-
⊡ - Other Project	lligence Projects Types	Visual Studio installed templates Analysis Services Project Integration Services Project Report Model Project My Templates Search Online Templates		
Create an empty	Report Model project.			_
<u>N</u> ame:	Report Model ES900	00		
Location:	C:\Documents and S	Settings\es90000\My Documents\Visual Studio 2005\projects	wse	
Solution Name:	Report Model ES900	00 Create directory for solution		
		ок с	ancel	

Click the OK button. The new report model project is created – and the default location for Solution Explorer is the top right. You may need to use the horizontal scroll bar to scroll to the right to see the Solution Explorer. If it is not there, then click View on the menu and then click Solution Explorer.

Image: Second state sta	Solution Explorer	- ₽×
Data Source Data Source Data Source Data Source Data Source Data Source	🛐 Report Model ES	90000
Data Source	🔤 Data Sources	
Report Mi and	🔤 🗀 Data Sou	Add New Data Source
Add	🔤 Report M	Add 🕨

The next step requires creating a data source to be used for the report model. Thus, right-click Data Sources in the Solution Explorer and click New Data Source... Clicking the new Data Source option, the Data Source Wizard opens to its Welcome page. Click Next >

The Data Source Wizard then allows the creation of a connection by clicking the New... button.

	💼 Data Carwaas
	Connection Manager
🚽 😳 Data Source Wizard	Provider: SalClient Date Provider
Select how to define the connection You can select from a number of ways in which your data source will define it connection string.	Server name:
Create a data source based on an existing or new connection Data connections: Data connection properties: Property Value	ent-asrs1 Refresh Connection Log on to the server Image: Connect to a database Refresh
Create a data source based on another object A valid connection must be selected. CBack Next > Finish >>	Select or enter a database name: JA_SAMSCLUB_STAR Attach a database file: Browse Logical name:
	Test Connection OK Cancel Help

Leave the default Provider: as SQLClient Data Provider. Enter the Server name **ent-asrs1**. Also, leave the default security as Windows Authentication. Use the drop down list box to select a database that is going to be used by the report model (for this example, the database is UA_SAMSCLUB_STAR).

Data Source Wizard Select how to define the connection You can select from a number of ways in which your data source will define its connection string.				
Data connections:	Data connection properties:			
ent-asrs1.UA_SAMSCLUB_STAR1	Property Value Data Source ent-asrs1 Initial Catalog UA_SAMSCLUB_STAR Integrated Se True Managed Pro System.Data.SqlClient			
New Delete C Create a data source based on another object				

Click the Test Connection button to ensure a connection exists to the database and click OK.

Then, click Next.

Click Finish after you give name to your Data Source (in this example UA SAMSCLUB STAR).

🔋 Data Source Wizard 📃 🗆 🗙
Completing the Wizard Provide a name and then click Finish to create the new data source.
Data source name:
UA SAMSCLUB STAR
Preview:
Connection string: Data Source=ent-asrs1;Initial Catalog=UA_SAMSCLUB_STAR;Integrated Security=True
< <u>B</u> ack <u>N</u> ext > <u>Finish</u> Cancel

Next, a Data Source View will be needed. The Data Source View is sort of an abstract client view of the data. Right-click Data Source Views in the Solution Explorer and click Add New Data Source View to open the Data Source View Wizard. Click the Next button on the Welcome page (not shown).

Solution Explorer 🛛 🗸 🕂 🗙	
🛐 Report Model E590000	
🚊 🔤 Data Sources	
🛶 🚯 UA SAMSCLUB STAR.ds	
🛅 Data Sou <u>rce Viewe</u>	
🔚 🔤 Report M 🗘 Add New Data Source View	
Add	۲

Note that the Relational data source is the one just created. Actually, this page allows creating a new data source in case one has not yet been created. Because the desired data source exists, click the Next button to define the Data Source View.

🔢 Data Source View Wizard		
Select a Data Source Select an existing relational data sou	urce or create a new one.	E B B
<u>R</u> elational data sources:	Data source prope	erties:
UA SAMSCLUB STAR	Property Data Source Initial Catalog Integrated Se	Value MSENTERPRISE UA_SAMSCLUB_STAR True
	N <u>e</u> w Data Source	<u>A</u> dvanced
< <u>B</u> ack	Next >	jnish >> Cancel

🗵 Data Source View Wiz	ard					
Select Tables and Views Select objects from the relational database to be included in the data source view.						
<u>A</u> vailable objects:				Included obje	ects:	
Name	Туре			Name		Туре
Scan_Type_Dimen	Table					
Item_Dimension	Table		>			
Item_Scan_Fact	Table					
Member_Dimension	Table					
Store_Dimension	Table					
Date_Dimension	Table					
Membership_Event	Table					
Membership_Fact	Table		>>			
STORE_INFORMA	Table					
STORE_INFORMA	Table		<<			
🔲 sysdiaarams	Table	•				
Fil <u>t</u> er:		T		A	dd <u>R</u> elated T	ables
📕 Show system objects						
	< <u>B</u> a	:k	<u>N</u> ext	> <u>En</u>	ish >>	Cancel

From the Available objects of the Select Tables and Views dialog, locate and click the desired data sources in Available objects and click the > to move them to the list of Included objects. In this example, all the tables except the two STORE_INFORMATION tables, sysdiagrams, vScanRep, and UserAccess tables will be used for reporting and thus they are all selected and moved to the Included objects list. Click the Next button.

🗵 Data Source View Wizard		🕱 Data Source View Wizard	_ 🗆 🗵
Select Tables and Views Select objects from the relational database view.	to be included in the data source	Completing the Wizard Provide a name, and then click Finish to create the new data source view.	a da
Available objects: Name Type Sysdiagrams Table STORE_INFORMA Table STORE_INFORMA Table	Name Type Scan_Type_Dimen Table Item_Dimension Table Item_Scan_Fact Table Member_Dimension Table Store_Dimension Table Date_Dimension Table Membership_Even Table Membership_Fact Table Time_Dimension Table	Name: JA SAMSCLUB STAR Preview: Scan_Type_Dimension Scan_Type_Dimension Item_Dimension Store_Dimension Store_Dimension Date_Dimension Membership_Event_Dimension Membership_Fact Time_Dimension	
Filter: T Show system objects	Add <u>R</u> elated Tables		
<u> </u>	Next > Einish >> Cancel	<back next=""> Einish</back>	Cancel

Click Finish. You can look at the data source view by double clicking UA SAMSCLUB STAR.dsv. Note that Item_Scan_Fact and Membership_Fact tables do not have a primary key. We can add a Logical Primary key to make sure those tables are included in the report model (Note: If a table doesn't have a primary key, the Report Model Wizard excludes it.)

The Data Source View is displayed as shown below (double click on your .dsv file).





Set Visit_Number as the Logical Primary Key for the Item_Scan_Fact table



Set Member_Key as the Logical Primary Key for the Membership_Fact table

Now that we have a Data Source View, we are ready to build a Report Model.

Solution Explorer 🚽 🗣
🖷 🏠
🛐 Report Model ES90000
🚊 🗇 🛅 Data Sources
📖 🧄 UA SAMSCLUB STAR.ds
🖻 🖷 🧰 Data Source Views
📖 🦣 UA SAMSCLUB STAR.dsv
Report Models
📶 Add New Report Model
Add

Right-click Report Models in the Solution Explorer and click Add New Report Model to open the Report Model Wizard. Click the Next button on the Welcome page (not shown).

📲 Report Model Wizard	
Select Data Source View Select a data source view for your report model or create a new one.	
<u>A</u> vailable data source views:	
UA SAMSCLUB STAR.dsv	
New <u>D</u> ata So	urce View
Help < Back Next > Einish >>	Cancel

Accept the defaults in the Select report model generation rules page (shown below).

In the Select Data Source View page, select UA SAMSCLUB STAR.dsv. Note that the Available data source view is the one just created. Actually, this page allows creating a New Data Source View... in case one hasn't yet been created. Because the desired data source exists, click the Next button.

🕕 R	eport Model Wizard		
S	elect report model generati Select the rules that control how met source.	on rules adata will be generated from the data	
	Name	Description	<u>S</u> elect all
	Create entities for all tables	Create an entity for each disc	
	Create entities for non-empty ta	Create an entity for each disc	<u>lear</u>
	Create count aggregates	Creates a Count aggregate fo	
	Create attributes	Create an attribute for each d	
	Create attributes for non-empty	Create an attribute for each d	
	Create attributes for auto-incre	Create a hidden attribute for	
	Create date variations	Create variations for date attr	
	Create numeric aggregates	Create Sum, Avg, Min, and M	
	Create date aggregates	Create First, Last aggregates	
	Create roles	Create roles for each discover	
Sel	ect model language:		
En	glish (United States)		
Ĺ			
	Help < Back	Next > Enish >>	Cancel

Accept the defaults in the Select report model generation rules page (shown on the left).

🎉 Report Model Wizard	_ 🗆 🗙
Collect Model Statistics Collect data statistics stored in the Data Source View before generating the model.	
Semantic model generation relies on the number of unique instances of values within a attribute and cardinality information contained within the database. This information is generate specific settings within the model. Gathering this information does not affect statistics. It is recommended that you update model statistics only if the data source been modified or the data in the data source has changed significantly since the last t generated model statistics.	each s used to : database view has ime you
 Update model statistics before generating. Uppe current model statistics stored in the data source view. 	
Help < Back Next > Finish >>	Cancel

In the Collect Model Statistics page of the Report Model Wizard, make sure that Update model statistics before generating is selected.

🔢 Report Model Wizard		
Completing the Wizard Provide a name, then click Run to cr	eate the new report model.	and a star
Name:		
UA SAMSCLUB STAR		
Status:		
Metadata Rule	Schema Object	Message
Help< Bac	k Next > Run	Stop

Provide a name, (UA
SAMSCLUB STAR in this
example) then Run it to create
the new report model.

anc.		
IA SAMSCLUB STAR tatus:		
Metadata Rule	Schema Object	Message
i) Date formatting	Status_Change_Date	Modified A
i) List value selection	Status_Change_Date	Modified A
i) Dropdown value selection	Activity_Code	Modified A
i) Very large lists	dbo_Member_Dimension	Modified E
i) Set identifying attributes	dbo_Member_Dimension	Set Identi
i) Set default detail attributes	dbo_Member_Dimension	Set Defaul
 Set identifying attributes Set default detail attributes ass 2: Processing rules on tables and bo_Member_Dimension : Member_Ke 	dbo_Member_Dimension dbo_Member_Dimension d columns	Set Identi

It is processing rules on tables and columns...

Report Model Wizard Completing the Wizard		Click Fin
Provide a name, then click Run to	create the new report model.	Report N
Name:		
UA SAMSCLUB STAR		
, Status:		
Metadata Rule	Schema Object	Message
i) Set identifying attributes	dbo Time Dimension	Set Identi
Set default detail attributes	dbo Time Dimension	Set Defaul
Numeric/date formatting	Time Key	Modified A
Integer formatting	Time Key	Modified A
	Time Key	Modified A
		Modified A
Discourage grouping Discourage grouping		Modified A
Report Model E590000 - Microsoft Vi ille Edit View Project Build Deb]]] → []] [] [] [] [] [] [] [] [] [] [] [] []	isual Studio nug Reporting Model Tools Window → ▶ Production 💽 🟹 🚰 🎇	Community Help
: [] [] [] [] [] [] [] [] [] [] [] [] []	비를했路神(빨광왕왕)	· · · · · · · · · · · · · · · · · · ·
UA SAMSCLUB Ssmdl [Design]		The second se
Report Model		
Model Date Dimension Date Dimension Date Dimension Dimension Member Dimension Membership Event Dimension Membership Fact Scan Type Dimension Store Dimension Time Dimension	Name Type Date Dimension Entity Item Dimension Entity Item Scan Fact Entity Member Dimension Entity Membership Even Entity Membership Fact Entity Scan Type Dimension Entity Store Dimension Entity Time Dimension Entity	Image: Second state sta
Output	•	4 × (ID)
Show output from: Build	- 🤤 🚑 🛼 素	The globally unique identifier of the object.
======= Deploy: 1 succee	ded, 0 failed, 0 skipped =====	===

ick Finish to close the eport Model Wizard.

_ 🗆 🗙

Project creation succeeded. Use the Solution Explorer to deploy the report model.

🗟 Error List Item(s) Saved

Solution Explorer - Report Mod	lel ES90000 👻 🕂 🗙	
🔓 🚯		
Report Model ES Data Sources UA SAMSCI Data Source Vie Data Source Vie	New Assembly Reference Build Rebuild Deploy Add	
Properties	Debug •	
Report Model E59000 👗	Cut	
	Paste	
🗆 Location	Rename	
	Properties	

Before deploying the project, right-click the project in the solution explorer and select Properties to make sure the project is deployed to the appropriate server.

Provide a name (that you can uniquely identify) for your TargetDataSourceFolder = **Data Sources ES90000** and TargetModelFolder = **Models ES90000** (used ES90000 in this example, since logged in as ES90000 and you may use your unique user id ES#####).

Then, you must set the TargetServerURL as <u>http://Ent-ASRS.waltoncollege.uark.edu/reportserver</u> and click Apply and OK.

Report Model Project1 Property Pag	jes	? ×
Configuration: Active(Production)	Platform: N/A	Configuration Manager
Configuration Properties	Deployment	
General	OverwriteDataSources	False 🗾
	TargetDataSourceFolder	Data Sources
	TargetModelFolder	Models
	TargetServerURL	http://ent-asrs.waltoncollege.uark.e
	T	
	OverwriteDataSources	
	Indicates whether data source defin	itions on the report server can be overwritten
	when deploying the project.	
1		
	[OK Cancel Anoly
	L	Cancer Approv

Solution Explorer - Report Ma Report Model ESON Data S Data S Mew A Build Data S Report Deplo Add	idel ES90000 - 4 × Assembly Reference iild	Return click th	to the Solutione project and	on Explorer, right- click Deploy.
📯 Report Model ES90000 -	- Microsoft Visual Studio			
File Edit View Project	Build Debug Tools	Window Community duction Image: Community Image: Community	Help	Solution Explorer - Report Model E • • • • • • • • • • • • • • • • •
Store Dimension Time Dimension		Scan Type Dimen Ei Store Dimension Ei Time Dimension Ei	ntity ntity ntity	Properties
Output			- 4 ×	Name
Show output from: Build	· 1 susseeded - 0 fee	▼	➡ ₹	specines the name or the project.
Error List	r. I Succeeded, U fai	iiea, o skipped :		
Deploy succeeded				1.

Deploy succeeded.

NOTE: If for some reason, you make changes to your model and need to redeploy it, you may receive an error saying 'The model ID of the submitted model must match that of the current model'. In such an instance all you need to do is just log in to the reporting server web site (Report Manager), go to your models folder and delete the report model. Then, re-deploy and its updated version is back in the folder.

Report Manage	r - Microsoft Internet Explorer		
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Address 🔕 http://r	msenterprise/Reports/Pages/Model.aspx?ItemPath=%2fModels+ES90000%2fUA+SAMSCLUB+STAR	💌 🔁 Go	Links 3
SQL Hom UA	Server Reporting Services e > Models ES90000 > SAMSCLUB STAR	Home My Subscriptions Search for:	Help Go
Properties Dep	endent Items		_
General <u>Data Sources</u>	Modified Date: 3/27/2008 1:56 PM Modified By: WALTON/ES90000 Creation Date: 3/27/2008 11:22 AM Created By: WALTON/ES90000 Properties Name: UA SAMSCLUB STAR		_
	Description:		
	Model definition Edit Update Apply Delete Move		_

Log in back to your Report Manager (using your UA credentials) or refresh the page if you are still logged on. Your Report Manager home page will look similar to the screen below. Note that new Data Sources ES##### and Models ES##### folders are added to the home page.

👰 Report Manager - Microsoft Internet Explor	er _OX
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SQL Server Reporting Servic	es Search for: Go
Contents	
📸 New Folder 🛛 🎭 New Data Source	🎝 Upload File 🔝 Report Builder 🏢 Show Details
Data Sources ES90000 !NEW	DA SAMS
Models ES90000 !NEW	🗀 <u>UA</u> SAMS Data Sources
<u> </u>	
Done	Trusted sites

Click the Models ES##### folder to see the model created above. Note that the UA SAMSCLUB STAR model is shown below.

🎒 Report Manage	er - Microsoft Internet Explorer 📃 🗆 🗙					
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Address 🙆 http://	/msenterprise/Reports/Pages/Folder.aspx?ItemPath=%2fModels+E590000&ViewMode=🗾 🔁 Go 👘 Links ᠉					
SOL	L Server Reporting Services Home <u>My Subscriptions Help</u>					
Hon Hon	me > Search for: Go					
Contents Prop	perties					
道 New Folder	r 🏘 New Data Source 🖓 Upload File [Report Builder 📗 Show Details 👘					
	CLUB STAR !NEW					
I E Done	Trusted sites					

Now that you have created a report model that connect to and retrieve data from a Microsoft SQL Server relational data source and deployed to the server, you can use the Report Builder to create ad hoc reports. To create ad hoc reports, click the Report Builder button on the Report Manager home page. The Application Run – Security Warning page will appear when you run the Report Builder for the first time in your desktop; click the Run button.



It will automatically open the Microsoft Report Builder page. Create a table (columnar) report that uses the UA SAMSCLUB STAR data source.

B <mark>Microsoft Report Builder</mark> File Help		- I ×	
		Getting Started × New Select a site or server: Click to select Select a source of data for your report.	Getting Started X New Select a site or server: http://msenterprise/reportserver Select a source of data for your report.
	Microsoft SQL Server Benorting Services	Show path Description: (no description available)	Characteristics Characteristi
	Report Builder 1.0 © 2008 Microsoft Corporation. All rights reserved. Microso Connecting to http://zeppo/ReportServer	ft Report layout: Table (columnar) Matrix (cross-tab) C Chart	Table (columnar) Matrix (cross-tab) C Chart OK
		Open Copen from Report Server Open from File W Help	Open Open from Report Server Open from File Whelp

Select the data source you want to use to create your report and select Report Design of Table (columnar) as shown in the screen shot above and click OK. Then, design your ad hoc reports in the Report Designer page by dragging and dropping fields to the design area.



In the Explorer pane, select the Item Scan Fact entity from the **Entities** list and add the # Item Quantity and the # Total Scan Amount attribute to the report. Drag both attributes to the **Drag and drop column fields** area in the Design Area.

Select the Transaction Type entity from the **Entities** list and add the Transaction Type Description attribute to the table in the report to the front that it shows as the first column. Edit the Transaction Type Description text box and replace the Text with Transaction Type.

Select the Store entity from the **Entities** list and add the State attribute to the table in the report just between Transaction Type and Item Quantity that it shows as the second column.

Resize the text boxes appropriately. Set the format of the Total Scan Amount value to display values as currency. To do this, right click the value under the Total Scan Amount and select Format... as shown below.

Transaction Type	State	Item Quantity	Total Sca	an Amo	
Transaction Type	State	Item Quantity	Total So Amount	an :	
xxxxxxxx	xx	(0.00	
					Format
					Edit Formula
				×	Delete

Select the number with currency value in front, set the Decimal places: to 2, Symbol: \$, check the Use 1000 Separator box and show Negative numbers in brackets (see screen below) and click OK.

Format	×
Number Alignment Font Border F	an
Defined formats	
Eormat: General 1234.56 \$1,234.56 1,234.56 %	Sample \$1,234.56 (\$1,234.56) \$0.00
1.234560e+003	Decimal places:
	S Postfix Use 1000 Separator Negative numbers:
Custom format	(1234.56)
Help	OK Cancel

Your Design page will look similar to this screen below.

🔄 Report1 - Microsoft Report B	Builder						
<u>File E</u> dit <u>V</u> iew Insert F	⁼ ormat <u>R</u> epor	rt <u>H</u> elp					
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Explorer ×	<	1 1 1	1 ' <mark>Filter</mark> ' 2 '	I · 3	· I · 4	1 1 1	5 ·
UA SAMSCLUB STAR							
Entities:	. -						
💷 Item Scan Fact							
🗉 Store							
🗊 Membership Facts	-						
	-		Click to add	title			
	-						
	-						
	~						
			Transaction Type	State	Item Quantity	Total 9	5can
	_					Amou	iit.
r:-Id-:			xxxxxxxx	XX		0	\$0.00
							•
# Store Key							
Total Store Number							
a Store Name	-						
a Subdivision Number							
🗉 🚦 Total Region Number			Total rows: 0				
🗉 🛃 Total District Number							
# Open Date Key	4		Filter: All Item Scan Facts	3			
-							

Add a Filter to the report so that it contains the State of WI only. Click the Filter button in the toolbar...see the screen above. Click Store entity from the Entities list and double click the State attribute from the Fields list. Select WI from the dropdown list of States. So, you will have State equals WI and click OK. Note that you can add as many filters as you wish and you can also change the parameter equals to other parameters listed below just by clicking the equals link and selecting a different parameter.

		Fi	lter Data		
	Ļ		Entities:	۹ 🗐	
State <u>equ</u>	uals WI		Item Scan Fact		
	Not		🗉 Store		Item Scan Facts with:
	Is Blank or Empty		Membership Facts		State equals WI 💌
	Is Blank		💷 Item		
	Is Empty		💷 Member		
~	Equals		Transaction Type		
	In a List				
	Greater Than				
	Greater Than or Equals				
	Less Than				
	Less Than or Equals			÷	
	FromTo		Fields:		
	Contains		a State		

Add a title to the report – Samsclub WI Stores, and format it - like change font type and size, bold, center, etc. You Designer page will look similar to the screen below. Note that the Design Report button is selected in the toolbar.

ilder							
yrmat	<u>R</u> eport	<u>H</u> elp					
sign Rep	ort 🔝	R <u>u</u> n Repor	t 🍸 Fil <u>t</u> er (ि 🔚 Sort and	Group Taho	ma 🔻 18 💌	BIU	₽
		1 .	· · · · 1	2		1 4	
					Samsclub	WT Sto	re
					Samsciub	**1 500	TC.
and the second se						1	
			Ö				
-			Ö				
-			0		C)	
- 2			O Transaction Type	State	Item Quantity	Total Scan	
- 2			O Transaction Type	State	Item Quantity	Total Scan Amount	
1 - 2 -			O Transaction Type	State	Item Quantity	Total Scan Amount	to oo
1 - 2 -			Transaction Type	State xx	Item Quantity	Total Scan Amount	\$0.00
. 1 . 2 .			O Transaction Type XXXXXXX	State xx	Item Quantity	Total Scan Amount	\$0.00
3 - 1 - 2 -			Transaction Type	State xx	Item Quantity	Total Scan Amount	\$0.00
3 - 1 - 2 -			Transaction Type	State xx	Item Quantity	Total Scan Amount	\$0.00

You can view your report by clicking the Run Report button in the toolbar. The report will look similar to the one below

_								
Ę	🖥 Rep	ort1 -	Microsol	it Report	Builder			
	Eile	<u>E</u> dit	<u>V</u> iew	<u>R</u> eport	Help			
		j 🛃	50	\times	Design Report	🔝 Run Report	🛛 🍸 Filṯer	[{≣ <u>S</u> ort and Group
	113	₩ 4	1	of 216	▶ № ←	3 🖬 🎒 🕻		• 100%

Samsclub WI Stores

Transaction Type 💲	State 🖨	Item Quantity 💲	Total Scan ≑ Amount	
Purchase	WI	1,280	\$6,146.20	
		320	\$1,931.80	
				\$1,547.80
		300	\$7,230.00	
		208	\$822.04	
		200	\$1,133.00	

You can return back to the Design Report toolbar and add some more attributes.

Select the Store entity from the **Entities** list and add the City attribute to the table in the report- drag and drop City just after the State attribute, as shown on the screen below.

Samsc	lub WI	Stores		
Transaction Typ	oe State	Store	Item Quantity	Total Scan Am
Transaction Ty Transaction Ty Description	vpe State vpe	City	Item Quantity	Total Scan Amount

You can delete columns by just right clicking the attribute and clicking Delete to exclude it from your report

Samsciu	D VVI	Stores		
Transaction Type	State	Store	Item Quantity	Total Scan Ar
Transaction Type	State	City	Item Quantity	Total Scan Amount
Transaction Type				THIOGHT

Click Run Report toolbar to view the report.

Samsclub WI Stores				
Transaction Type Transaction Type Description	ŧ	State ≑	City \$	Total ≑ Scan Amount
Purchase		WI	ANCHORAGE	\$1,114.9
				\$1,014.9
				\$994.98
				\$798.20
				\$614.98
				\$515.0
				\$511.3

You need to save the ad hoc report so that you will be able to view/update it again. To save it in the server, click File > Save As... Save it to the default location in the server as shown below, after providing a name. In this example, the name provided is AdHocReport1 and click Save.

🖷 AdHocReport1 - Microsoft Rep	ort Bi	ülder	
File Edit View Insert Eo	mat	Report Help	
	sign Re		= .
Explorer X		• • • • • • • • • • • • • • • • • • • •	
UA SAMSCLUB STAR			
Entities: 🔍 🖫	-		
🗉 Item Scan Fact			
🗉 Store	_	Save As Report 🛛 🗙	
💷 Item	-		
	-	📃 💷 Look in: 🍃 http://msenterprise/reportserver/Models ES90000 🔽 🗾	
Transaction Type		1000	
		AdHocReport1	
	-		
	-	otal 1	Scan A
		iotal	Scan
I	-		
ralda.	-		\$0
	-		
F #Item Scan Facts	~		
# Transaction Date Key			
# Transaction Store Time	-		
# Transaction Base Time	-		
🖂 🚦 Total Item Quantity	-		
# Item Quantity			
Avg Item Quantity	4	Name: AdHocReport1 Save	
Min Item Quantity	-		
Max Item Quantity	-	Items of type: Heport Cancel	
🖃 🔋 Total Total Scan Amount			

You can return to your Report Manager and browse to the Models ES##### folder and view your report.

🚈 Report Manager - Microsoft Internet Explorer	_ 🗆 ×						
Eile Edit View Favorites Tools Help	1						
🔇 Back 🝷 🕥 👻 😰 🐔 🔎 Search 🛭 👷 Favorites 🐼 🗣 🌺 📝 🝷							
Address 🕘 http://msenterprise/Reports/Pages/Folder.aspx?ItemPath=%2fModels+ES90000&ViewMode=List 💽 💽 Go 🛛 Links 🌺							
SOL Server Reporting Services Home My Subscriptions	<u>Help</u> 🔺						
Home > Search for:	Go						
Models ES90000							
Contents Properties							
🞬 New Folder 🛯 🏘 New Data Source 🔓 Upload File 🔝 Report Builder 🛛 🏢 Show De	tails						
AdHocReport1 !NEW IN UA SAMSCLUB STAR							

Note that you can also use the Report Manager to create Report Model to be used by the Report Builder to create ad hoc reports. Below is how to create a model for Report Builder using Report Manager.

The first step is creating a data source to use for your report model. The second step is generating the report model. Once that is done you can use the report model to create reports.

To create a data source:

In your Web browser, type the URL <u>http://ENT-ASRS.waltoncollege.uark.edu/Reports</u> for your report server in the address bar. Click New Data Source.

B	SQL Server Reporting Services							
Contents								
道 New F	Folder	🎨 New Data Source	🔊 Upload File	🔝 Report Builder				
📜 <u>Data</u>	Data Sources ES9000(New Data Source)							
🗀 <u>Mode</u>	ls ES90	000		🗀 <u>UA_SAMS Data Sources</u>				

In the Name box, enter a name for the data source. Optionally, enter a brief description of the mode in the Description text box. Verify that the Enable this data source check box is selected. See screen below.

In the Connection type list, select the data source type to which you want to connect. The connection type for this example is Microsoft SQL Server. Options include Microsoft SQL Server Analysis Services and Oracle.

In the Connection string box, enter the connection string that points to the database. [Data Source=msenterprise; Initial Catalog=UA_SAMSCLUB_STAR]

SQL Serve New Da	er Reporting Services Ata Source	
Name:	RepMgrSamsDS	
Description:	Samsclub datasource using Report	
	Hide in list view	
	🗹 Enable this data source	
Connection type:	Microsoft SQL Server	
Connection string:	Data Source=msenterprise;Initial Catalog=UA_SAMSCLUB_STAR	

Select the connection method that Report Builder users will need to use to connect to the database. Select the Windows integrated security radio button and click OK. Verify that the Data Source is added to your Home page in the Report Manager.

SQL Server Reporting Services Home				
contents				
道 New F	older	🎨 New Data Source	💫 Upload File	🔚 Report Builder
🗀 <u>Data Sources ES90000</u>			🗀 <u>UA SAMS</u>	
Models ES90000			📁 <u>UA_SAMS Data Sources</u>	
RepMgrSamsDS !NEW				
Samsclub datasource using Report Manager				

To create a report model from the data source:

In Report Manager, select the data source that you want to use for your model. Click RepMgrSamsDS data source. The Properties page is displayed. Verify that you want to use the options specified for the data source. Click Generate Model at the bottom of the page.

	Impersonate the authenticated user after a cor			
	• Windows integrated security			
	C Credentials are not required			
	Apply Move Generate Model Delete			
🕘 Done				

In the Name box, enter a name for the report model- RepMgrSamsModel. In the "Description" box, enter a brief description of the model, optional. To specify a new location to save the report model to, click "Change Location." By default, the report model is saved to Report Manager Home. Click OK.

Location.	By default, the report model is buyed to report manuger mome. On				
	SQL Server Reporting Services Home >				
*	RepMgrSamsDS				
Properties	Dependent Items Subscriptions				
Ceneral	Generate a new model for data source /RepMgrSamsDS.				
General	Name: RepMgrSamsModel				
	Description:				
	Location: / Change Location				
	OK Cancel				

By default, if you do not Change Location, the report model is saved to Report Manager Home. Click OK. Verify that the model is added to your Report Manager Home page.

SQL Server Reporting Services Home			
Contents	s		
道 New I	v Folder 🛛 🍕 New Data Source 🛛 🖓 Upload File 🔠 Report B	Juilder	
🗀 <u>Data</u>	a Sources ES90000	🔝 <u>RepMgrSamsModel</u> !NEW	
📄 <u>Mode</u>	dels ES90000	🗀 <u>UA SAMS</u>	
💠 <u>RepM</u> Sams	RepMgrSamsDS !NEW Samsclub datasource using Report Manager		

At this point you are ready to create a report using Report Builder. Click the Report Builder button on the toolbar within Report Manager. This will launch Report Builder and display the report model just created and other models that can be used to build a report by following the example of creating ad hoc reports above.