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This document describes the design and deployment of the *Tracker Reports* product. While it covers the basics on editing reports and deploying them to *SQL Server 2008 Reporting Services*, some knowledge of Reporting Services will be required, particularly for enterprise deployments. In addition, advanced users that want to customize or create new reports will likely need additional references. One that we have found to be excellent is *Microsoft*® *SQL Server*TM *Reporting Services* by Brian Larson (ISBN 978-0-07-154808-3).

System Requirements

Tracker Reports is a set of SQL Server 2008 Reporting Services reports, data sources, and models. As such, your database needs to be SQL Server 2008 or later. In addition, Reporting Services needs to be installed. If you want to test on your local machine, you can install the free SQL Server 2008 or 2012 Express. It has the ability to show reports but does <u>not</u> have subscriptions (emailing reports on a scheduled basis) or ad-hoc reporting. If you have an older version of SQL Server, you can view and create reports within *Visual Studio* or *SQL Server Data Tools for Visual Studio*¹, but you cannot actually deploy them.

Getting Started

When you run the *Tracker Reports* installation, it will copy this document and all the report solutions to your local computer. This is shown to the right.

Report and Chart Solutions

As you might guess from the names, most of the directories correspond to either Reports or Charts for each of the main entities in Tracker.Net:

- Classes
- Courses
- Divisions
- Lessons
- Organizations
- Students

These directories contain a Solution file (.sln) as well as a subdirectory containing the files that go with it. This is shown to the left for the

٨ Name Documentation TrackerCharts_Classes TrackerCharts Courses TrackerCharts Divisions TrackerCharts_Lessons TrackerCharts_Organizations TrackerCharts_Students TrackerReports_Classes TrackerReports_Courses TrackerReports_Divisions TrackerReports_Lessons TrackerReports_Organizations TrackerReports_Students TrackerReports_Templates TrackerReportsModel

Name TrackerCharts_Classes TrackerCharts_Classes.sln TrackerCharts_Classes.suo

solution. The TrackerCharts_Classes.sln file is the one that you would open in *Visual Studio* or *SQL Server Data Tools for Visual Studio*. Within the *TrackerCharts_Classes* directory are the reports² themselves (*Courses Per Class.rdl* and the other *.rdl files), the Data

TrackerCharts Classes

¹ We will cover these tools later in this document.

 $^{^{2}}$ Both charts and reports are *.rdl files. The distinction is the way that we have chosen to display the data. As you will see later, we recommend separating the charts and reports. But this is optional. You can combine them if desired.

Source (*TrackerDataSource.rds*), the report graphic (*trackernet.gif*), and various temporary data files (*Courses Per Class.rdl.data* and other *.data files). These latter files are only used for display when in development. The file list (minus the *.data files) is shown below.

	_
Name	Туре
🚴 TrackerCharts_Classes.rptproj.user	Visual Studio Proj
🛐 TrackerCharts_Classes.rptproj	Report Project File
TrackerDataSource.rds	RDS File
Time Per Student.rdl	RDL File
Time Per Student - Pie.rdl	RDL File
Time Per Course and Class.rdl	RDL File
Time Per Course and Class - Pie.rdl	RDL File
Students Per Course and Class.rdl	RDL File
Students Per Course and Class - Pie.rdl	RDL File
Students Per Class.rdl	RDL File
Students Per Class - Pie.rdl	RDL File
Students Per Class - Breakout.rdl	RDL File
Student Course Status.rdl	RDL File
Student Course Status - Pie.rdl	RDL File
Student Course Lesson Status.rdl	RDL File
Student Course Lesson Status Consolidat	RDL File
Student Course Lesson Status - Pie.rdl	RDL File
Student Certificates.rdl	RDL File
Sessions Per Course and Class.rdl	RDL File
Sessions Per Course and Class - Pie.rdl	RDL File
Organizations Per Class.rdl	RDL File
Organizations Per Class - Pie.rdl	RDL File
Lesson Time Per Course and Class.rdl	RDL File
Divisions Per Class.rdl	RDL File
Divisions Per Class - Pie.rdl	RDL File
Courses Per Class.rdl	RDL File
Courses Per Class - Pie.rdl	RDL File
👗 trackernet.gif	GIF File
certificateclass.gif	GIF File

Documentation

In addition to the report and chart directories, the *Documentation* directory contains this Word file and its PDF equivalent.

Templates

The *TrackerReports_Templates* contains the portrait and landscape report templates used for these reports and charts. In most cases, those of you who want to create new reports will copy and paste an

existing report. However, if you want to create new reports based on these templates, copy *TrackerTemplate_Landscape.rdl* and *TrackerTemplate_Portrait.rdl* to C:\Program Files\Microsoft Visual Studio 9.0\Common7\IDE\PrivateAssemblies\ProjectItems\ReportProject³. This is shown below.



Once you have copied the files to this location, you will have these additional choices when you create a new report as shown to the right. The resulting dialog box is displayed below.

	Rer	orte			_	
_	E)	8	Add New Report	:	1	
			Add	•	8 .:	New Item
			Import Reports	►		Existing Item
			Properties			
1					·	

ategories:	<u>T</u> emplates:		шL
Report Project	Visual Studio installed templates Report Wizard Data Source TrackerTemplate_Landscape My Templates Search Online Templates	 ☐ Report ☐ GDSReport ☐ TrackerTemplate_Portrait 	
ame: Track	erTemplate Landscape1.rdl		

³ This is for Visual Studio 2008 on a 32-bit operating system. Adjust accordingly for your version of Visual Studio.

Model

The *TrackerReportsModel* directory contains the *TrackerReportsModel* data model solution used in adhoc reporting. We will cover the use of the model and the associated *Report Builder* application later in this document.

Deploying Reports

You have two options for deploying your reports and charts. Using the first option, Visual Studio, is normally preferable since it is considerably faster – you can deploy each solution as a whole rather than having to import each individual report or graph.

Visual Studio/SQL Server Data Tools for Visual Studio Deployment

You can use the full *Visual Studio* or the more specialized *SQL Server Data Tools for Visual Studio* to create, edit, and deploy reports. You launch either one from the Start menu as shown to the right. You can then open each of the Solutions mentioned in

the previous section. We break out the different type of reports and charts in separate solutions to make it easier to deploy them to their own folders with Reporting Services.



Data Source

For the first solution you edit, you will likely want to customize the data source. This is particularly true if you want to preview the report while within Visual Studio. Otherwise, you can wait to set up the data source from within Reporting Services. We will cover that aspect later in this document.

To edit the data source, open the TrackerDataSource rds

TrackerDataSource.rds file from within Solution Explorer as shown to the right. Note that this is a "Shared Data Source." This means that all the reports in the solution share this one data source. Once you select "Open," you will then see a dialog like the one below.

	-	Solution Explorer	······ 🕶 🕂	×
		େ ି ଜି ତି - 🗊	ē 🕨 🔎 🖉	
	_	Search Solution Explorer (Ctrl+;)	-
		☐ TrackerCharts_Class ▲	es ces	1
ð	Onen	TrackerDataSr	purce.rds	
	open Real			
2	Compare Selected		if	
	Scope to This		s - Pie.rdl	
	New Solution Expl	orer View	s.rdl	
	Exclude From Proj	ect	ss - Pie.rdl	
Ж	Cut	Ctrl+X	Course and Class.rdl	
Ð	Сору	Ctrl+C	er Class - Pie.rdl	
×	Delete	Del	er Class.rdl	
X::	Rename		irse and Class - Pie.rdl	
	Build		ites.rdl	
	Deploy		_esson Status - Pie.rdl	÷
ų	Properties	Alt+Enter		x

	Shared Data Source Properties		×
General Credentials	Change name, type, and connection options.		
	Name: TrackerDataSource		
	Type: Microsoft SQL Server	¥	
	Connection string: Data Source=JEFF-8\\SQL2008;Initial Catalog=Tracker6		Edit
Help		ОК	Cancel

You will keep the *Type* as "Microsoft SQL Server," but you may want to change the "Connection string." To do that, click the "Edit…" button. The will show a screen like the one to the right. If you are connecting to a SQL Server instance on your local machine, you can select the instance from the list, as shown below.

Server name:					
JEFF-8\SQL2008					~
JEFF-8\SQL2008					
JEFF-8\SQLEXPRESS	63				

You can use either Windows or SQL Server authentication. Once that is set, you can select the database from the list. It is a good idea to click the "Test Connection" button to make sure everything is working. Note that you can select versions of SQL Server earlier than 2008 for testing from within Visual Studio but need to use 2008 or later once you connect to a data source from within Reporting Services. Once you close this dialog, you don't need

	Connection Properties	? ×
Data source:		
Microsoft SQL Serv	ver (SqlClient)	Change
Server name:		
JEFF-8\SQL2008		 Refresh
Log on to the serv	/er	
O Use Windows	Authentication	
Use SQL Serve	er Authentication	
User name:	happy	
Password:	••••	
	Save my password	
A 11 1		
Connect to a data	abase	
Select or ente	r a database name:	
○ Attach a data	base file:	2
Logical nam	01	Browse
Logical riarri	c;	
		Advanced
Test Connection	ОК	Cancel

to worry about the "Credentials" tab in the original dialog – that tab also shows the authentication information.

Deployment Properties

You next want to edit the properties of the project⁴ itself. To do that, right-click on the project and select "Properties" as shown to the right. You then see this dialog box:

8	rack	erCharts_Classes		
4	*	Build		
		ξ 'build		
4		Deploy		
		Clean		
		New Solution Explorer View		
		Calculate Code Metrics		
		Add		>
	Ħ	Manage NuGet Packages		
		Import Reports		+
		Debug		<u>+</u>
	100	Add Project to Source Control		
	Ж	Cut	Ctrl+X	
т	â	Paste	Ctrl+V	
C	10	Rename		
	٩	Properties	Alt+Enter	r
HOID	ero	ITIINE		

Configuration: Active(Debug)	✓ Platform: N/A	Configuration Manager
Configuration Properties General	Build ErrorLevel OutputPath Debug StartItem Deployment OverwriteDatasets OverwriteDataSources TargetDatasetFolder TargetReportFolder TargetReportFolder TargetReportPatFolder TargetServerURL	2 bin\Debug False False DataSource Charts/Class http://jeff-pc/reportserver
	Target ServerVersion OverwriteDataSources Indicates whether data source of when deploying the project.	SQL Server 2008

⁴ In Visual Studio parlance, the core unit is a project. A *solution* is then a collection of one or more projects. We talked about solution files earlier as that is the primary way you open up the solution. In our case, each of our solutions only has a single project. So in this document, solution and project are largely interchangeable.

The dialog above is configured for deployment to a local instance for testing. The values will be somewhat different if you are deploying straight to your web server, as we will show shortly. Let's look at each of the key settings in turn.

Setting	Description
OverwriteDataSources	This setting determines whether the deployment process overwrites an
	existing data source on your Reporting Services server. You typically
	want to leave this a <i>False</i> so that you can have a different data source
	locally when testing than what you use on the production server.
TargetDataSourceFolder	This is the folder within Reporting Services where you want to locate the
	data source. You normally want this to be a single folder which is the
	same for all of your solutions. That allows you to share that data source.
	It also keeps you from having to manually set the data source for each
	report once you deploy it, saving you quite a bit of time.
	If you are going straight to your web server, you may have a more
	complete path. For example, when we deploy directly to our Reporting
	Services application hosted by DiscountASP.NET, we use this value for
	the TargetDataSourceFolder: /plattecany1/reports/DataSource
TargetReportFolder	This is the folder within Reporting Services where you want to locate the
	reports/charts in the current solution. We recommend a layout like the
	chart on the next page. One advantage of separating items into different
	folders is that you can set different permissions for each folder. However,
	you are welcome to organize the reports in a way that best fits your
	organization.
	If you are going straight to your web server, you may have a more
	complete path. For example, when we deploy directly to our Reporting
	Services application hosted by DiscountASP.NET, we use a value like
	this for the TargetReportFolder: /plattecany1/reports/Charts/Class
TargetReportFolder	This is the folder within Reporting Services where you want to locate the
	reports/charts in the current solution. We recommend a layout like the
	chart on the next page. One advantage of separating items into different
	folders is that you can set different permissions for each folder. However,
	you are welcome to organize the reports in a way that best fits your
	organization.
	If you are going straight to your web server, you may have a more
	complete path. For example, when we deploy directly to our Reporting
	Services application hosted by DiscountASP.NET, we use a value like
	this for the <i>TargetReportFolder</i> : /plattecany1/reports/Charts/Class



Completing the Deployment

Once you have set all the properties to their desired values, right-click on the project and select the "Deploy" option as shown to the right. You will then see the results in the Visual Studio Output Window. This is shown below. Note that the warning about not copying the Data Source is normal once you have deployed it once. This is what the "False" value for *OverwriteDataSource* means.

5	Tene	korCharte Classos		_
4	*	Build		
		Rebuild		
		Deploy		
1		Clean 63		
		New Solution Explorer View		
		Calculate Code Metrics		
		Add		Þ
	苗	Manage NuGet Packages		
		Import Reports		F
		Debug		F
	1	Add Project to Source Control		
	ቾ	Cut	Ctrl+X	
	â	Paste	Ctrl+V	
ear	X	Rename		
Э	ىر	Properties	Alt+Enter	
				_

```
Output
                                        - Ŗ 🖉 🖻 🛒 🖃
Show output from: Build
 ----- Build started: Project: TrackerCharts Classes, Configuration: Debug -----
Build complete -- 0 errors, 0 warnings
----- Deploy started: Project: TrackerCharts_Classes, Configuration: Debug -----
Deploying to http://jeff-pc/reportserver
Deploying data source '/DataSource/TrackerDataSource'.
Warning : Cannot deploy data source TrackerDataSource to the server because it already exists
Deploying report '/Charts/Class/Courses Per Class - Pie'.
 Deploying report '/Charts/Class/Courses Per Class'.
 Deploying report '/Charts/Class/Lesson Time Per Course and Class'.
Deploying report '/Charts/Class/Organizations Per Class - Pie'.
Deploying report '/Charts/Class/Organizations Per Class'.
Deploying report '/Charts/Class/Sessions Per Course and Class - Pie'.
Deploying report '/Charts/Class/Sessions Per Course and Class'.
Deploying report '/Charts/Class/Student Course Lesson Status - Pie'.
Deploying report '/Charts/Class/Student Course Lesson Status Consolidated'.
```

Model Deployment

You can use the same approach for deploying the *TrackerModel* for ad-hoc reporting if you have sufficient rights. The first thing to watch is that the version of Reporting Services that comes with *SQL Server 2008 Express* does not support models. Our shared hosting Reporting Services provider does support them, but we are not able to upload the model directly due to their security setting. This is apparently a common issue. Here is a screen capture of our project properties:

TrackerReportsModel Property Pages		? ×
Configuration: Active(Production) Platform: N/A	Configuration Manager
Configuration Properties General	Deployment Overwrite Data Sources Target Data Source Folder Target Model Folder Target Server URL	False /plattecany1/reports/Models https://rs2k801.discountasp.net/Re
	OverwriteDataSources Indicates whether data source defin when deploying the project.	itions on the report server can be overwritten
	(OK Cancel Apply

Trying to deploy gives this error message:

Er	ror	List
6	1	Error 0 Warnings 0 Messages
		Description
8	1	The path of the item '//plattecany1/reports/Models' is not valid.

The next recommended step is to use a complete URL for the *TargetModelFolder*, such as https://rs2k801.discountasp.net/ReportServer/plattecany1/reports/Models. Unfortunately, that gives this security error.

1 Error	1 0 Warnings i) 0 Messages
Descr	iption
Except	ion of type 'Microsoft.ReportingServices.RsProxy.AccessDeniedException' was thrown.
	Descr Except

Luckily, not all is lost. The answer is to import the files directly from *Report Manager* as described in the next section. However, it is important to use the *TrackerModel.smdl* file from the *MergedModel* directory rather



than the one in the *TrackerReportsModel* directory as shown to the right. This is needed since modifications needed to be made to the file in order to be accepted directly into *Report Manager*.

Import Files from Report Manager

You and your users will log into *Report Manager* to actually view reports. You can also use it to deploy reports in the first place or change their values later.

Logging into Report Manager

The first step is to log in. The URL for your local machine will be http://localhost/Reports or http://<machine name>/Reports. For your server, it will be something like https://rs2k801.discountasp.net/Reports. Unless you have done special programming, *Report Manager* uses Windows Authentication. In an Enterprise environment, this means that you may not be prompted for a username and password once you are already logged into your network. Otherwise, you will see a dialog box like the one to the right.

	Windows Security ×
iexplore.ex Connecting to	e o rs2k801.discountasp.net.
P	JEFF-8\reports Password Remember my credentials
0	Use another account
	OK Cancel

The Report Manager interface is shown below.

	https://rs2k801.discount	t asp.net /Reports/F	ages/Folder.aspx?lte	mPath=%2fplatteca	୦ ଛ ≞ - ସ୍	<i>ể</i> Report Manager	3	- □ ×
E Re	ountASP.NET Reporting : e > <u>plattecany1</u> > ports	Services				Search	<u>Home !</u> h for:	My Subscriptions Help
Contents Prope	rties	💫 Upload File	🔝 Report Builder	Show Details				
Charts		늘 Model	5		I			
DataSource		ia <u>Repor</u>	ts					

Uploading Individual Reports/Charts

Let's go through an example of adding a report to a new "Test" directory.

1. Our first step is to click the "New Folder" button on the toolbar. We'll enter "Test" for the name as shown below.

	🍘 https://rs2k801.discountasp.net/Reports/Pages/FolderProperties.aspx?CreateNew= 🔎 マ 🔒 🗟 🖒	ar Report Manager	- □ ×
	DiscountASP.NET Reporting Services New Folder	Home Search for:	My Subscriptions Help
Create a new Name: Description:	r folder in Reports. Test × Image: State of the state o		
ок	ancel		

2. We navigate to that folder and click the "Upload File" button on the toolbar. We then click the "Browse..." button to navigate to the desired *.rdl file on our local machine. In the screen capture below, we chose "Course Lesson Information.rdl" from the *TrackerReports_Students* directory.

	_ 🗆 🗙
🗲 🕞 🎑 http://rs2k801.discountasp.net/Reports/Pages/Import.aspx?ItemPatl 🔎 👻 🗟	<i>@</i> Report Manager 🗙 🔐 🟠 🔅
DiscountASP.NET Reporting Services Upload File	Home <u>My Subscriptions Help</u> Search for:
Upload a report or resource into Test. To upload a report, choose a report definition (.rdl) file. File to upload: D:\VBTrainProducts\Tracker\Tracker6\Tracl Browse Name: Course Lesson Information Overwrite item if it exists OK Cancel	

3. We may get an initial error message, but you can ignore it for now. We then navigate to the *Test* directory and click the "Show Details" button as shown below.



4. We next click on the properties button in the "Edit" column. On the left side, click on "Data Sources." You will then see a screen like the one below.

	×
🧲 🔿 🏉 ht	ttp://rs2k801.discountasp.net/Reports/Pages/Report.aspx?ltemPatł 🔎 👻 🖄 🏈 Report Manager 🛛 🗴 🛱
Discou Home Cou	untASP.NET Reporting Services Home My Subscriptions Hell a > plattecanv1 > Reports > Test > Search for:
<u>View</u> Properties	History Subscriptions
<u>General</u>	Tracker O A shared data source
Parameters Data Sources	Select a shared data source Browse 1 The shared data source reference is no longer valid
Execution	O A custom data source
History	Data Source Type: Microsoft SQL Server V
<u>Security</u>	Connection string:
	Connect using: Credentials supplied by the user running the report Display the following text to prompt user for a user name and password: Type or enter a user name and password to access the data sou Use as Windows credentials when connecting to the data source Credentials stored securely in the report server User name: Password: Use as Windows credentials when connecting to the data source Use as Windows credentials when connecting to the data source Use as Windows credentials when connecting to the data source Use as Windows credentials when connecting to the data source Use as Windows credentials when connecting to the data source Credentials are not required Apply

5. We will cover creating a Data Source in the next section. You typically do NOT want to use a custom data source but rather a shared data source. Otherwise, you'll have multiple data sources all pointing to the same database. Since we already have a data source on the server, we click the "Browse" button to select it. This is shown below.

	- 🗆 ×
🧲 🔿 🏉 h	ttp://rs2k801.discountasp.net/Reports/Pages/Report.aspx?ltemPatł 🔎 🛪 🗟 🙋 <i>@</i> Report Manager 🛛 🗙 🟠 🎲
Disco Home COU	untASP.NET Reporting Services Home My Subscriptions Help a > plattecany1 > Reports > Test > Search for: JIFSE LESSON Information
	Browse folders to select a shared data source to use with this item.
General	Location: /plattecany1/Reports/DataSource/TrackerDataSource
Parameters	
Data Sources	i nome
Execution	
History	i i i i i i i i i i i i i i i i i i i
Security	
	TrackerDataSource
	🗐 💼 Platte Canyon
	E - Carlos
	🗐 - 🧰 Test
	TrackerDataSource
	OK Cancel

6. We navigate to the *DataSource* directory and select *TrackerDataSource*. We will show how to configure this source in the next section. Click the OK button and then the Apply button to save your changes⁵. Navigate to the Test directory and click on the report.

	_ 🗆 🗙	
🗲 🕞 🧟 http://rs2k801.discountasp.net/Reports/Pages/Folder.aspx?itemPath 🔎 🗝 🗟 🖒	<i> ि</i> Report Manager 🗙 ि 🏠 छि	3
Discussion NET Base time Consistent	Home My Subscriptions Help	
Home > plattecany1 > Reports >	Search for:	
Test		
Contents Properties		
📸 New Folder 🛯 🌺 New Data Source 🛛 🖓 Upload File 🔝 Report Builder 🇮 Show Details		
Course Lesson Information INEW		~

7. We get some results but have a bad graphic link at the upper left. This is because we did not upload trackernet.gif to our *Test* directory. Note that you can take your own logo and name it trackernet.gif and add that so that the reports show your logo instead of ours.

⁵ I have forgotten to click the *Apply* button several times and lost my edits. Be sure to scroll down the window and look for the Apply button.

×
DiscountASP.NET Reporting Services
Home > plattecanv1 > Reports > Test > Search for:
Course Lesson Information
View Properties History Subscriptions
🖉 New Subscription
Select Student(s) Demo, Nancy, Smoe, Joe, Tom, V
Image:
Course Lesson Information
Demo, Nancy Drganization: _None
Course Lesson Completion Cumulative Time Most Recent Test Score
Status (Minutes) Completion Date
E Sample Course In Progress 274.9 Avg: 33.3

8. We use the same "Upload File" button as before to add the graphic file.

	×
🗲 🕞 🎑 http://rs2k801.discountasp.net/Reports/Pages/Import.aspx?ItemPatl 🔎 👻 🖄	🥖 Report Manager 🛛 🖌 份 公 戀
	Home My Subscriptions Help
DiscountASP.NET Reporting Services	Search for:
Upload a report or resource into Test. To upload a report, choose a report definition (.rdl) file.	
File to upload: D:\VBTrainProducts\Tracker\Tracker6\Track	
Name: trackernet.gif	
Overwrite item if it exists	
OK Cancel	

Since we need to go through this process for <u>each</u> of our reports/graphs⁶, you can see why we recommend deploying via Visual Studio if possible.

Data Source

Adding a data source is a matter of knowing the important connection information:

⁶ Except that you only need to upload trackernet.gif once per directory.

- Server name/path
- Database name
- Username
- Password

To get started, create a folder as in the previous section or navigate to the desired folder. Then click the "New Data Source" button on the toolbar. The resulting screen is shown below:

			_ 🗆 🗙		
🗲 🕞 🏉 http	p://rs2k801. discountasp.net /Reports/Pages/DataSource.aspx?Cre 🔎 👻 💆	<i>e</i> Report Manager	× 命公戀		
		Home	My Subscriptions Help		
New	Data Source	Search for:	→		
•					
Name:	TrackerDataSource				
Description:					
	Hide in list view				
	✓ Enable this data source				
Data Source Type:	Microsoft SQL Server				
Connection string:	Data Source= <server name="" or="" path="">;Initial Catalog=<database name=""></database></server>				
Connect using:					
○ Credentials	supplied by the user running the report				
Display th	e following text to prompt user for a user name and password:				
Type or e	nter a user name and password to access the data sou				
Use as	Windows credentials when connecting to the data source				
Credentials	stored securely in the report server				
User nam	e: happy				
Password	: ••••				
Use as	Windows credentials when connecting to the data source				
Windows int	tegrated security. Windows Integrated Security is disabled for this report con	ver			
	are not required				
	are not requires				
ок	Cancel				

Note the format of the *Connection String*. You want to have *DataSource* = and *InitialCatalog* =. The DataSource is the name of the server. It can be something like (local) or a complete URL or IP address like tcp:servername.discountasp.net. Note that this is the same as the "server=" value in the "ConnectionString" key in your main Tracker.Net web.config file. The *InitialCatalog* is your database name. It will be something like Tracker. It is the same as the "database=" value in the Tracker.Net web.config file.

While you have the option of prompting the user for a username and password, that is typically not information that you want them to know. Instead, you can use Windows Authentication if available or store the credentials on the server. That is what we are doing in the screen capture above.

Click the "OK" button when you are finished. You can then assign this Data Source to individual reports as described in the previous section.

Model Deployment

As we mentioned earlier in the document, security considerations can make it difficult to deploy a model via Visual Studio. Here are the steps for doing it via *Report Manager*.

- 1. Navigate to the desired directory and click on the "Upload File" button on the toolbar.
- 2. Browse to the *TrackerModel.smdl* file in the *TrackerReportsModel**MergedModel* directory. This is shown below.

http://rs2	:K801. aiscountasp.net /Keports/Pages/Import.aspx?li		Report Manager ×	いんぷ
DiscountASP.	NET Reporting Services		Court for	
🕙 👌 Upload	File		Search for:	
Upload a report or resourc	e into Models. To upload a report, choose a report de	inition (.rdl) file.		
File to upload:	Browse			
Name: New Item				
	ite item if it exists			
OK Cancel	Chool	ose File to Upload		×
	🛞 ∋ 🔻 ↑ 퉬 « TrackerR → Merge	Model v C	Search MergedModel	۹.
	Organize 🔻 New folder		** •	0
	 ★ Favorites ▲ TrackerN ▲ Desktop ▲ Downloads ▲ Recent places ▲ SkyDrive 	lpdel.smdl iew.dsv		
	File name: TrackerMode	l.smdl v	All Files (*.*) Open Cance	·

- 3. Click the OK button. Repeat the steps above and upload *TrackerView.dsv* to the same directory.
- 4. Click on *TrackerModel* and then on the *Data Sources* item on the left. The result is shown below.

	s2k801. discountasp.net /Reports/Pages/Model.aspx?ltemPatł 🔎 👻 🗟	<i>e</i> Report Manager	×□- ×
DiscountASP Home > play Tracke	P.NET Reporting Services t <u>tecany1 > Reports</u> > <u>Test</u> > rModel	<u>Home</u> Search for:	My Subscriptions Help
Properties Dependent I General Data Sources Clickthrough Model Item Security Security	TrackerDataSource	ence is no longer valid	

5. Browse to your shared data source as shown below.

		×
	s2k801.discountasp.net/Reports/Pages/Model.aspx?ItemPatł 🔎 👻 🖉 👔	🥌 Report Manager 🗙 🕅 🏹 🐯
DiscountASP Home > plat Tracke	P.NET Reporting Services <u>ttecany1</u> > <u>Reports</u> > <u>Test</u> > rModel	Home <u>My Subscriptions</u> <u>Help</u> Search for:
Properties Dependent I	tems	
General Data Sources Clickthrough Model Item Security Security	Browse folders to select a shared data source to use with this item. Location: /plattecany1/Reports/DataSource/TrackerDataSource Home 	

6. Click the OK button and then the Apply button.

We will cover use of the model later in this document. Notice that models are not available in the Reporting Services that comes with *SQL Server 2008 Express*.

Accessing Reports and Charts

The primary way that users get access to your reports is by logging into *Report Manager*. Note that it is possible to limit which reports users are able to access. In addition, the ability to create linked reports

(covered in a later section) makes it possible to set different parameters for different users. For example, you can link *Organization* reports and set which organization can be viewed. You could then give a manager of that organization rights only to that linked report or to a directory of those reports.

Logging into Report Manager

The first step is to log in. The URL for your local machine will be http://localhost/Reports or http://<machine name>/Reports. For your server, it will be something like https://rs2k801.discountasp.net/Reports. Unless you have done special programming, *Report Manager* uses Windows Authentication. In an Enterprise environment, this means that you may not be prompted for a username and password once you are already logged into your network. Otherwise, you will see a dialog box like the one to the right.

Windows Security ×		
iexplore.ex Connecting to	(e o rs2k801.discountasp.net.	
P	JEFF-8\reports Password Remember my credentials	
٩	Use another account	-
	OK Cancel	

The *Report Manager* interface is shown below.

	_ 🗆 🗙
+ The second sec	emPath 🔎 – 🗟 🖒 🏉 Report Manager 🛛 🗙 💮 🕁 😳
DiscountASP NET Reporting Services	Home My Subscriptions Help
Home > plattecany1 >	Search for:
Contents Properties	
📸 New Folder 🛛 🏶 New Data Source 🔓 Upload File 🛛 🔠 Report Builder	Show Details
Charts Charts	

You may have noticed that some of the items like *DataSource* and *Models* that were in earlier screen captures are no longer present. This is because we have set them to be hidden in the "list view." You do this in the properties of the folder as shown below. You can also hide items like trackernet.gif within a folder.

		- 🗆 ×
\leftarrow	🥞 http://rs2k801. discountasp.net /Reports/Pages/Folder.aspx?ltemPath 🔎 👻 🗟 🖒	<i>@</i> Report Manager 🗙 份 公 戀
	DiscountASP.NET Reporting Services	Home My Subscriptions Help
	<u>iome</u> > <u>plattecany1</u> > <u>Reports</u> > Modicale	Search for:
	Models	
<u>Contents</u> Pr	operties	
	Modified Date: 7/11/2013 1:11 PM	
General	Modified By: RS2K801\reports Creation Date: 5/25/2010 2:46 PM	
Security	Created By: RS2K801\rs_481512	
	Name: Models ×	
	Description:	
	~	
	✓ Hide in list view	
	Apply Delete Move	

Running Reports

To actually view a report or chart, go to either the *Reports* or *Charts* folder and then to the *Class, Course, Division, Lesson, Organization*, or *Student* folder. Doing this for *Charts – Course* is shown below.

		- 🗆 ×
+ ttp://rs2k801.discountasp.net/	Reports/Pages/Folder.aspx?ltemPath= 🔎 👻 💆	<i>@</i> Report Manager 🗙 🔐 🟠 袋
DiscountASP.NET Reporting Services		Home My Subscriptions Help
Home > plattecanv1 > Reports > Ch	arts >	Search for:
- Course		
Contents Properties		
📸 New Folder 🛛 🍀 New Data Source 🛛 🔓 Up	oload File 🛛 👔 Report Builder 🔠 Show Details	
First Completion Date By Month	Student Lesson Status Consolidated	
First Completion Date By Month - Pie	Student Status	
Lesson Time Per Course	📓 Student Status - Pie	
Lesson Time Per Course - Pie	Students Per Course	
Most Recent Completion Date By Month	Students Per Course - Pie	
Most Recent Completion Date By Month - Pie	Time Per Course	
Sessions Per Course	🔢 <u>Time Per Course - Pie</u>	
Sessions Per Course - Pie	Time Per Student	
Student Lesson Status	Time Per Student - Pie	
Student Lesson Status - Pie		

You then click on the report/chart that is of interest. In most cases, there are one or more *parameters* that you need to set for the report. For example, in the *Lesson Time Per Course* report shown below, you choose the start date⁷, end date, and course(s) you are interested in.

View <u>Properties</u> <u>History</u> <u>Sul</u>	bscriptions			
🚰 New Subscription				*
Select Start Date 7/11/2012 2 Select Course(s)	2:05:30 PM	Select End Date	7/11/2013 2:05:30 PM	View Report
2 Sample (

Once you have set the parameters, click the "View Report" button to actually display the report/chart. You can see an example below.

⁷ All the reports default to one year ago from the current date for the *start date* and the current date for the *end date*. You can change this in the *.rdl file for the report/chart if you desire.



On the far left is the *Document Map*. It allows you to select from the items and jump to them in the report. You can show or hide the map with the far left button on the toolbar. Next to the *Document Map* button are navigation buttons for moving to the first, last, next, or previous page of the report. Next to those is the *Zoom* drop-down box. You can select



choices like 200%, Page Width, Whole Page, and more⁸. Still moving right on the toolbar, you can enter some text in the field and click the "Find" and "Next" links to jump to that text within the report. After that is the ability to export the report in various formats. These include XML, CSV, PDF, MHTML⁹ Excel, TIFF, and Word. Once you select your choice, click the *Export* link. Finishing up the toolbar are options to *Refresh* your data (rerunning the query on the database) and *Print* the current report/graph.

Setting up Subscriptions

One of the nicest features of Reporting Services is the ability to email reports (this is <u>not</u> available for the version that comes with *SQL Server 2008 Express*). To use this feature, go to the properties for the report/chart for which you want to set up the description. To get to the properties, navigate to the desired folder and click the "Show Details" button on the toolbar. That will give a view like this:

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K	16) 🥖	http://rs2k801. discountasp.r	net/Reports/Pages/Fol	P - ⊠ ¢	<i> </i> Rep	ort Manager	× ŵ	않 않
	Ē	Dis <u>Ho</u> C	scountASP.NET Reporting Serv me > plattecany1 > <u>Reports</u> > OUI'SC	ices • <u>Reports</u> >		•	<u>Home</u> Search for:	My Subscriptions	
Con	itents	Prop	erties						_
×	Delete	•	🕈 Move 📔 🚞 New Folder	💱 New Data Source	💫 Upload F	ile 🔝	Report Builder	Hide Details	
	Edit	Туре	Name↓	Description	Modified Date	2	Modified By	When Run	
	2	F	Class Assignments		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	P		Compliance Report - Student		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	1	.	Compliance Report - Student	Lesson	5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	<u></u>		Course Completions		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	1		Course List		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	7		Course Report		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	7		Course Summary		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	1		Expired Alert Critical Courses		5/24/2010 5:	:14 PM	RS2K801\rs_48	1512	
	*		Lesson Information		5/24/2010 5:	:15 PM	RS2K801\rs_48	1512	\sim

To set up the "Compliance Report – Student" report, we click the properties graphic underneath the Edit column. When then click the Subscriptions tab as shown below:

⁸ Those of you familiar with reports within Tracker.Net might notice that these use the same Microsoft *Report Viewer* control as some of the built-in reports. This should allow your users to be already familiar with the report functionality.

⁹ This is the default format that is emailed to users when you set up subscriptions, which we will cover shortly.

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DiscountASD NET Reporting Services	Home My Subscriptions Help
Home > plattecany1 > Reports > Reports > Course >	Search for:
Compliance Report - Student	
View Properties History Subscriptions	
😤 New Subscription	
There are no items to show in this view. Click Help for more information about this	page.

We then click the "New Subscription" button. That gives us the screen shown below Most of the options are self-explanatory, but we will go over the rest.

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🗲 🛞 🥖 http://rs2k801.discountasp.net/Reports/Pages/Suk 🔎 < 🗟 🖒 🌽 Report Manager 🛛 🗴 🕼 ☆ 🍪
DiscountASP.NET Reporting Services Home > plattecany1 > Reports > Course > Subscription: Compliance Report - Student
Report Delivery Options
Delivered by: E-Mail
To: jrhodes@plattecanyon.com
Cc:
Bcc:
(Use (;) to separate multiple e-mail addresses.) Benly-To: info@nlatteranyon.com
Subject: @ReportName was executed at @ExecutionTime
✓ Include Report Render Format: MHTML (web archive) ✓
Priority: Normal
Comment:
Subscription Processing Options
Specify options for subscription processing.
Bun the subscription:
When the scheduled report run is complete. Select Schedule At 8:00 AM every Mon of every week, starting 7/11/2013
Report Parameter Values
Specify the report parameter values to use with this subscription.
Select Course(s)
Incel

The choices for delivery are E-mail and Windows File Share. The latter means that the report will be written to a shared folder on your network. If the user has a shortcut to that file, she could launch it each morning to get the most current copy. If you are running SharePoint, you can deliver to a SharePoint library as well.

The render formats are the same as for exporting reports. We recommend the default MHTML as then the report will show up nicely in the email itself. However, users may prefer Excel or PDF. Including a link means that the user can follow the link to view and interact with the report in the browser.

The schedule defaults to every Monday at 8 AM. But you can change it by clicking the "Select Schedule" button, giving the screen below.

	ttp://rs2k801.disc 오 - 쩝 C 🥔 🥔 Report Manager 🛛 🖌 값 값 않
	Home My Subscriptions Help a > plattecany1 > Reports > Course > bscription: Compliance > Search for: > port - Student > >
Use this schedule	e to determine how often this report is delivered.
Schedule detail	s
Choose whether	to run the report on an hourly, daily, weekly, monthly, or one time basis.
All times are exp	ressed in (GMT -07:00) Pacific Daylight Time.
	Daily Schedule
Day	• On the following days:
Oweek	Sun Mon Tue Wed Thu Fri Sat
Once	U Every weekday
	O Repeat after this number of days: 1
	Start time: 08 : 00
Start and end d	ates
Specify the date	to start and optionally end this schedule.
Begin running	this schedule on: 7/11/2013
Stop this :	schedule on:
ОК	Cancel

Finally, you can set any of the parameters of the report. In our case, we can set which course(s) to include in the report. This feature can be particularly helpful if a user is interested in a particular

organization, class, course, lesson, or student. You can set that parameter and hide all other data. This is similar to the idea of a linked report, as we will discuss in the next section.

The ability to create subscriptions depends on your user rights within *Report Manager*. Assuming you have rights, you can also create "Data-Driven Subscriptions" to mass mail reports to a list of emails stored in a data source. This can be helpful if the desired list of recipients changes frequently.

Creating Linked Reports

Linked reports involve the ability to customize the same report for different users. For *Tracker Reports*, the most common use of linked reports is to limit information to a particular organization. For example, one of the organizations in our database is Platte Canyon Multimedia Software Corporation. Suppose that I want to create a "Platte Canyon" folder that only specific user(s) can access. In that folder would be organization reports limited to only Platte Canyon. The user(s) would NOT have access then to the *Reports* or *Charts* directories, since those have reports with data from other organizations. Let's go through these steps in turn.

- We create a new folder called "Platte Canyon." We go to its properties and then to the Security link. Then click the "Edit Item Security" button as shown to the right.
- 2. You can edit the

permissions for any of the users listed or click the "New Role Assignment" button on the toolbar. This shows the screen below.



< l> http://rs	s2k801.disc 오 - ⊠ Ċ	<i>e</i> Report Ma	nager X	- □ ×
DiscountASE New Ro	P.NET Reporting Services	S	<u>Home My</u> Search for:	Subscriptions Help
Use this page to define ro Group or user name:	ole-based security for Platte	Canyon.		
Select one or more roles	to assign to the group or use Description May view folders, reports a	er. nd subscribe to r	reports.	
Content Manager My Reports Publisher	May manage content in the resources. May publish reports and lin in a users My Reports folde May publish reports and lin	Report Server. ked reports; mai r. ked reports to th	This includes folden nage folders, reported the report of	ers, reports and resources
Cancel	May view report definitions	•		

- 3. You can give the new group or user "Browser" or even more rights to this folder.
- 4. We will now link the "Compliance Report Course" report to the Platte Canyon folder. To do that, we go to the report properties and click the "Create Linked Report" button as shown below.

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(←) 🖉 ht	ttp://rs2k801.disc ク - 🗟 C 🥔 Report Manager 🛛 🗙 🟠 🏠 🔅
Disco	untASP.NET Reporting Services Home <u>My Subscriptions</u> <u>Help</u>
Cor	nization > Search for:
View Properties	History Subscriptions
	Modified Date: 5/24/2010 5:07 PM
General	Modified By: RS2K801\rs_481512 Creation Date: 5/24/2010 5:07 PM
Parameters	Created By: RS2K801\rs_481512
Data Sources	512E. 00 KB
Execution	Properties
History	Name: Compliance Report - Course ×
Security	Description:
	\sim
	Hide in list view
	Report Definition
	Edit Update
	Apply Create Linked Report Delete Move
	Create a linked report when you want to use different security or parameters with the report.

5. We next see the screen shown below.

					- 🗆	×
🧲 🕀 🏉 ht	ttp://rs2k801. d	isc 🔎 🗕 🖻 🖒	<i>e</i> Report Manage	r ×	លិជ	£3 £3
Disco Home Organ	untASP.NET Re > <u>plattecanv1</u> <u>nization</u> >	porting Services > <u>Reports</u> > <u>Report</u>	<u>s</u> > Searc	Home <u>My Sub</u>	scriptions	i <u>Help</u>
View Properties	History Sub		ourse			
Canaral	Create a new on /plattecan	linked report that is 1/Reports/Reports/	s based /Organization/Complia	ance Report - Cou	urse.	
Parameters	Name:	Compliance Report	- Course (Platte Cany	ron) ×]	
Data Sources	Description:			0		
History	Location: /pl	attecany1/Reports/F	eports/Organization	Change Locatio)n	
<u>Security</u>	ОКС	ancel				

6. We enter a name and then click the "Change Location" button.

	_ 🗆 🗙
(-) (2) h	ttp://rs2k801.disc 🔎 - 🗟 🖒 🔏 Report Manager 🛛 🗙 🏠 🏠 🏵
Disco	untASP.NET Reporting Services Home My Subscriptions Help
Organ	> plattecany1 > Reports > Reports > Search for:
Cor	npliance Report - Course
<u>View</u> Properties	History Subscriptions
	Select a folder to contain this item.
General	Location: /plattecany1/Reports/Platte Canyon
Parameters	
Data Sources	i plattecany1
Execution	
History	
<u>Security</u>	⊡- [_] Charts
	···· Platte Canyon
	Reports
	Class
	🗄 💼 Course
	🗄 💼 Division
	🖻 💼 Lesson
	···· 📴 Organization
	😟 - 🚞 Student
	test
	OK Cancel

- 7. We select "Platte Canyon" from the list. We then click "OK."
- 8. To set the parameters, we need to navigate back to the Platte Canyon directory. The icon next to the new report means that it is linked report.

(→) ② http://rs2k801.disc ♀ ~ ॆ ♂	_ □ × ② Report Manager × 价 ☆ 袋
DiscountASP.NET Reporting Services <u>Home > plattecany1 > Reports ></u> Platte Canyon Contents Properties	Home My Subscriptions Help
Mew Folder 💱 New Data Source 🔓 Upload	d File 🔛 Report Builder 📰 Show Details

9. Click the "Show Details" button, click Properties, and then click on the Parameters link. You will see a screen like the one below. This part is a bit tricky. Check the "Hide" box and the "Has Default" box. Then click the "Default Value" drop-down box. We would expect to get a list of available organizations, but unfortunately the list is blank. To proceed, you'll need to go to the original database and find the correct numeric identifier for what we want. In our case, we go to the *Tracker_Organizations* table and find that the correct *OrganizationID* is 2. We type in that value and click the drop-down box to get it to "take." We then click the "Apply" button.

									-	□ ×
(←) ⊘ @	http://rs2k801.disco	untasp.net/F	Reports/Pages	s/Report.aspx?ltemPath	P = 🛛	Ċ 🤇	👂 Report Mana	ger ×	វ័	6 ☆ 😳
Dis Hor CC	countASP.NET Report me > <u>plattecany1</u> > <u>R</u> ompliance Ro History Subscri	ing Services <u>Reports</u> > <u>Plai</u> EPORT - 1 ptions	tte Canyon > Course	(Platte Canyo	n)		Se	Home M	/ Subscrip	tions Help
<u>General</u> Parameters <u>Execution</u> <u>History</u> <u>Security</u>	Select the paramet Parameter Name OrganizationID Apply	ters that all u Data Type Integer	sers can chan Has Default 🔽	ge, and choose a defau Default Value 2 2	It value for Null	each. Hide 🗹	Prompt User	Display Text		

10. We click the "View" tab to see the results. Notice how there is no "Select Organization(s)" dropdown.

					_ □	×
+ ttp://rs2k801.discountasp.net/Reports/Pages	/Report.aspx?ltem	ath=%2fplattecan 🔎) 🔻 🗟 🖒 🌽 Report I	Manager	×	2 £33
DiscountASP.NET Reporting Services				Home	My Subscriptions He	
Home > plattecany1 > Reports > Platte Canyon > Search for:						
View Properties History Subscriptions		,				
😤 New Subscription						*
■ 4 4 1 of 1 > 100% ▼		Find Next Selec	t a format 🗸 🗸	Export 🚺	3	
Tracker Net	Tracker Compliance Report					^
Organization: _None Demo, Nancy						
Course Name	<u>Status</u>	First Completion Date	Most Recent Completion Date	Expiration Date	Cumulative Time (Min)	
Sample Course	In Progress	May 30, 2012		Sep 30, 2013	274.9	
Count: 1					Avg: 274.9	
						• •

We could link additional reports/charts to this directory using the same process.

Ad-Hoc Reporting and Report Builder

Our last topic is ad-hoc reporting. This is again not available in *SQL Server 2008 Express*. Ad-hoc reporting is for advanced users. We previously showed you how to upload the *Tracker Model* to *Report Manager*. Once you have done that, you can click on the *Report Builder* button on the toolbar:

				-	- □ >
<-)⊜@	http://rs2k801. discount a	asp 🔎 - 🗟 🖒	🥖 Report Manag	jer ×	6 2 3
Disc Hom Re	ountASP.NET Reporting S 1 <u>e</u> > <u>plattecany1</u> > : PORTS	Services	Sea	Home My Subs	criptions <u>H</u>
New Folder	New Data Severe	🖸 Upland File	🙉 Report Builder	📰 Chara Dataile	_
New Folder	www.bata.source	Opload File	Treport builder	Show Details	
Charts	W New Data Source	Piped Pie		Show Details	
Charts		Report		Show Details	
Charts		Report	<u>s</u>	Show Details	

The *Report Builder* application is a "Click Once" installation of a .NET executable. You may be prompted to authorize it and will see a download screen like the one below.



One it is finished, you see an application similar to the report tools in Microsoft Access and a bit like a simplified version of Visual Studio. You can also install the Report Builder via a free download from Microsoft.

B 190	Untitled - Microsoft SQL Server Report Builder	_ = X
Home Insert V	/iew	0
Run Paste B Z U	✓ ✓ ▼ Ipt ✓ ✓ ✓ ▲ ▲ ▲ ▲ Ipt ✓ ✓ Ipt ✓ Image: Second conditions Imag	erge plit lign ~
Report Data	· · · 1 · · · 1 · · · 2 · · · 1 · · · 3 · · · 1 · · · 4 · · · 1 · · ·	5 · · · 1 · · ·
New - Edit X Built-in Fields Parameters Images	Click to add title	&ExecutionTime]
	Row Groups Column Groups	• •

Let's create a simple report to see how to proceed.

- 1. Click on the *New* button in the Report Data window and select "Data Source" as shown to the right.
- 2. If *TrackerModel* is not shown as a connection, click on the "Browse…" button and navigate to the location of it. For example, it might be in /Reports/Models. You can name the data source as well.



	Data Source Properties	×
General Credentials	Change name, type, and connection options.	
	Name:	
	TrackerData	
	Use a shared connection or report model	
	O Use a connection embedded in my report	
	TrackerModel http://rs2k801.discountasp.net/ReportServer/plattecany1/Reports/Models	
	Browse Use single transaction when processing the queries	
Help	OK Can	cel

3. Next, follow a similar process to create a new Data Set, which is a .NET representation of one or more database tables. It will already default to the data source that we created in the previous step.

Report	Data			
New -	Edit 🗙 🐁 🚸			
D	ata Source			
Dataset				
- VS	arameter			
Ir	mage			

	Dataset Properties ×
Query Parameters	Choose a data source and create a query.
Fields	Name:
Options	DataSet1
Filters	Data source:
	TrackerData V New
	Query type:
	Text Table Stored Procedure
	Query:
	∧ f _x
	Query Designer Import Refresh Fields
	Time out (in seconds):
Help	OK Cancel

- 4. We click on the "Query Designer..." button to build the query that we need for our report.
- 5. This is where the idea of the model comes into focus. The *TrackerReportsModel* solution has information on the various interrelated tables in the database. In addition, it has *Student Information*, *Tracker Store*, and *Administrator Information* perspectives as shown below. These perspectives organize just the information a report writer might need. For example, *Student Information* excludes tables like *Tracker_Globals* and *Tracker_LanguageSettings*.

Choose Perspective
Choose a perspective to design the query:
 (Entire model) Student Information Tracker Store Administrator Information
ОК

6. Once we have picked our desired perspective, we see a list of Entities (basically tables) and Fields (columns as well as some

aggregates like Count and Average). When you click on an Entity, then related entities are shown automatically. For example, in the screen capture below, we started with *Tracker Lessons*, clicked on *Tracker Student Lesson Information*, and then on *Tracker Students* to get the data we want. Notice that the weird AAEAA and related columns are for use by the model and not something we want to display in our report.

			Qu	ery Desi	gner		-		ĸ
🕏 Edit As Text 🛛 🔓 Import 🏼 🌱	e 1 :	👕 Filter							
Student Information									^
Entities: 🔍 🗒									
Student A	1	Less	on	Student	Completion Stat				
Tracker Supervisor Assign		Lesson Les		Last	Completion				
Tracker Supervisor Assign Organization		>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	0000000	x0000000X	x00000000x				
Tracker Student Lesson C									
Tracker Student Lesson Ir									~
Tracker Student Course I	Tracker	lesson	Lesson	Lesson	Student	Last Name	Completion Sta		
× >	AAEAAA	A=	Exam E	ngine (F	ΑΟΥΑΑΑΑ=	Demo	passed		
Fields:		A=	ToolBo	ok Less	AAEAAAA=	Smoe	incomplete		
} #Tracker Students	AAIAAA	A=	ToolBo	ok Less	ΑΟΥΑΑΑΑ=	Demo	incomplete		
# Student ID	AAIAAA	A=	ToolBo	ok Less	AO.cAAAA=	user	incomplete		
a Last Name	AAMAA	AA=	Trainin	g Studio	AAEAAAA=	Smoe	completed		
a Middle Initial	AAMAA	AA=	Trainin	a Studio	ΑΟΥΑΑΑΑ=	Demo	completed		
a Department	AAMAA	AA=	Trainin	a Studio	AO.cAAAA=	user	completed		
a Telephone Number	AAQAA	A=	Non-S	CORM C	ΑΟΥΑΑΑΑ=	Demo	completed		
a Email a Eax Number	AAUAA	AA=	Exam E	naine (S	ΑΟΥΑΑΑΑ=	Demo	incomplete		
a Telephone 2	ALOAAA	A=	Exam E	naine	AAEAAAA=	Smoe	passed		
a Cell Phone	ALOAAA	A=	Exam E	ngine	ΑΟΥΑΑΑΑ=	Demo	passed		
a Pager	ΔΙ ςΔΔΔ	Δ=	Trainin	a Studi	ΔΔΕΔΔΔΔ=	Smoe	incomplete		
a Identifier 1		Δ-	Trainin	a Studi	AOYAAAA-	Demo	incomplete		
a Identifier 2	AIISAAA	~-	rrainin	y studi	AUTAAA-	Dellio	ancomplete		
Help							ОК	Cancel	

7. Once we click "OK" on both dialog boxes, we are back to the main screen but now with data available.

	Untitled - Microsoft SQL Server Report Builder	_ = ×
Home Insert V	ew	0
Table Matrix Chart Gauge Lis	Image Image <td< td=""><td></td></td<>	
Report Data		. 5 1
New • Edt X	Click to add title	[&ExecutionTime]
	Row Groups Column Groups	•
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8. We next click on either "Table or Matrix" or "Chart." In our case, we'll do the former. *Report Builder* gives us a wizard. To use it effectively will take some practice and perhaps some outside references. Here, we will build a simple table with only values and no groups.

New Table or Matrix		×
Arrange fields		
Arrange fields to group data in rows, colur down the page in row groups. Use functic Available fields Tracker_Lesson Lesson_Lesson_Long_Name	nns, or both, and choose values to display. Data nns such as Sum, Avg, and Count on the fields in	expands across the page in column groups and the Values box. Column groups
Student Last_Name Completion_Status		
	Row groups	∑ Values Lesson_Lesson_Long_Name ▼ Last_Name ▼ Completion_Status ▼
Help		< <u>B</u> ack <u>N</u> ext > Cancel

9. Taking the defaults for everything else, we get back to the design surface.

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10. With a little formatting and adding a title, we get this result (after clicking the "Run" button).

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Flash Lesson	McCartney	incomplete	
Flash Lesson	Jungle	incomplete	
Flash Lesson	Mustillo	incomplete	
Flash Lesson	Brown	completed	
Flash Lesson	beehjae shealtielle	completed	
Flash Lesson	Somoza	completed	
Flash Lesson	Stratton	completed	
Flash Lesson	test	completed	
Flash Lesson	User	incomplete	
ToolBook Lesson	Smoe	completed	
ToolBook Lesson	Jungle	completed	-
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11. We can then save the report on either the server or our local machine. In the screen capture below, we save it to the *Test* directory we created earlier in this document.

Save As Report ×					
Look in:	🗁 http://rs2k	801.discountasp.net/ReportServer/plattecany1/Reports/Test	~	2	
Recent Sites and Servers Desktop My Documents My Computer	Course Lesse	on Information ort			
	Name:	Custom Report	Save	2	
	Items of type:	Reports (*.rdl) V	Cano	el .:	

12. Any users with rights to that folder can now run the custom report. Here is how it looks in *Report Manager*.

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Contents Properties					
🗙 Delete 📑 Move 📔 🚞 New Folder 🛛 🏶 New Data Sourc	e 🚡 Upload File 🔛 Report Builder 🌉 Hide Details				
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Course Lesson Information !NEW	7/11/2013 12:54 PM RS2K801\reports				
Custom Report	5/28/2010 3:47 PM RS2K801\rs_481512				

13. Finally, here is our ad-hoc report from within *Report Manager*.

🏉 Report Manager - Internet Exp	lorer provided by Dell			
	discountasp.net/Reports/Pages/Rep	ort.aspx?ItemPath=%2fpl 🔻 😽 🗙	🚼 Google 🛛 🔎 👻	
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Flash Lesson	Brown	completed		