SQL Server Specialist Certificate Program

Maintaining SQL Server 2005

Week 6 – SQL Server Reporting Services (SSRS)

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This Weeks Overview

- Review from Last Week
- Class Project
- SQL Server Reporting Services (SSRS)
  - Overview and Demo
  - Creating a Report
  - More Advanced Report Options
- Review and Homework

Topics from last week

- TSQL – Transact SQL
- Transactions
- Performance Tuning

Class Project

- Status Update
- Review of research and experimentation required for the group project.

- Presentations will be week 9 May 26

Preparation

Using AdventureWorks database.

Download the Class 6 Queries from blackboard.

You will need the Adobe Reader to view PDF files

- Visit http://Adobe.com
- Click Get Adobe Reader
- Then choose “Download”
- Finish the install

1. SSRS - Overview

- SQL Server Reporting Services Overview
- SSRS Details
- Demonstration in Action
- SSRS Architecture

SSRS Overview

- What is SSRS
  - SQL Server Reporting Services
  - Server-based report generation software
  - A tool for turning a query into a visual report
- Report builder / designer
- Competes with Crystal Reports and other business intelligence tools.

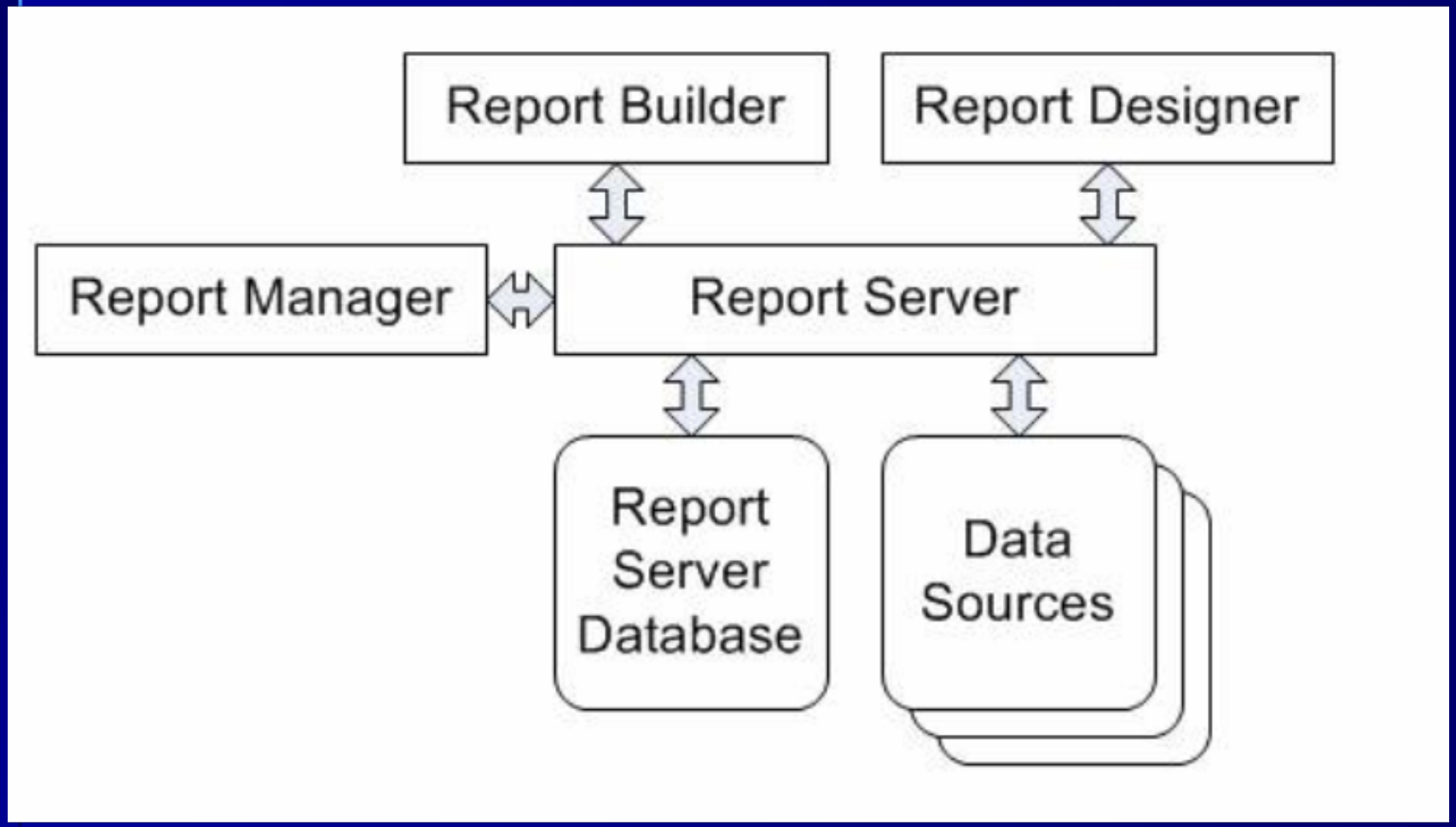
SSRS Details

- Reports are defined in RDL
  - Report Definition Language
  - Based on XML markup language
- Created with Visual Studio or Business Intelligence Studio
- You can run the report directly or publish it to a report server
- Can also be viewed on the web using the .NET report viewer control.

SSRS Demonstration

- Visit http://EmergencyReporting.com
- Click the login link
- Enter username of ClassUser
- Password of Sql2005!
- Click the reports link on the left side of the page
- Click the favorites link

SSRS Architecture



- End of this section. Any Questions?

1. Creating a Report

- Development Studio
- Report Designer
  - Designing from Scratch
  - Using the Wizard
- Using a matrix

Development Studio

1. Click **Start**, point to **Programs**, point to **Microsoft SQL Server 2005**, and then click **Business Intelligence Development Studio**.
2. On the **File** menu, point to **New**, and then click **Project**.
3. In the **Project Types** list, click **Business Intelligence Projects**.

A Report from Scratch
Step 1 – Create the Project

- In the **Templates** list, click **Report Server Project**.
- In **Name**, type **Tutorial**.
- Click **OK** to create the project.

- In Solution Explorer, right-click **Reports**, point to **Add**, and click **New Item**.
- In **Add New Item**, click **Report**.
- In **Name**, type **Sales Orders.rdl** and then click **Add**.

Step 2 Set Up Your Connection

- In the Data tab, expand the contents of the **Dataset** drop-down list at the top of the page, and select **New Dataset**. The **Data Source** dialog box appears.
- In **Name**, type **AdventureWorks**.
- In **Type**, select **Microsoft SQL Server**.
- Click the Edit button to Edit the connection String

- You are now connected to the AdventureWorks Database

Step 3 Add your query

- Copy and Paste QUERY1 from class6 sql notes.

```
SELECT S.OrderDate, S.SalesOrderNumber, S.TotalDue, C.
FirstName, C.LastName
FROM HumanResources.Employee E
INNER JOIN Person.Contact C ON E.ContactID = C.ContactID
INNER JOIN Sales.SalesOrderHeader S
ON E.EmployeeID = S.SalesPersonID
```

- Click the run (!) button

Step 4 Adding a Table Data Region

- Click the **Layout** tab.
- In the **Toolbox**, click **Table**, and then click on the design surface. Report Designer draws a table, with three columns, spanning the width of the design surface.
- In the **Datasets** window, expand the report dataset to display the fields.
- Drag the **OrderDate** field from the **Datasets** window to the middle (detail) row of the first column in the table.
- Drag the **SalesOrderNumber** field from the **Datasets** window to the middle (detail) row of the second column in the table.
- Drag the **TotalDue** field from the **Datasets** window to the middle (detail) row of the third column in the table.

Step 5 Preview the Report

- Save the report project. On the **File** menu, click **Save All**.
- Click the **Preview** tab. Report Designer runs the report and displays it in Preview view.

- Things to try in the preview
  - Paging, Export, Print Layout

Building a Report from Scratch

- Any Questions?

Using the Report Wizard – Getting Started

1. Click **Start**, point to **Programs**, point to **Microsoft SQL Server 2005**, and then click **Business Intelligence Development Studio**.
2. On the **File** menu, point to **New**, and then click **Project**.
3. In the **Project Types** list, click **Business Intelligence Project Wizard**.
4. Click **Next** on the **Welcome to the Report Wizard** page.

Report Wizard – Data Source

- In **Name**, type **AdventureWorks**.
- In **Type**, select **Microsoft SQL Server**.
- Click the **Edit** button to Edit the connection String
- Click **OK** then **Next** once you have selected your datasource.

Wizard – Design the Query

- Copy and Paste QUERY1 from class6 sql notes.

```
SELECT S.OrderDate, S.SalesOrderNumber, S.TotalDue, C.
FirstName, C.LastName
FROM HumanResources.Employee E
INNER JOIN Person.Contact C ON E.ContactID = C.ContactID
INNER JOIN Sales.SalesOrderHeader S
ON E.EmployeeID = S.SalesPersonID
```

- Click **Next**
- On the **Report Type** page, choose **Tabular** then click **next**

Wizard – Design the Table

- Click on **OrderDate** then click the **Details** button to add it to the details list
- Repeat the process for **SalesOrderNumber** and **TotalDue**
- Click **next**
- Choose a table Style
- Click **next**

Wizard – Deployment Location and Completion

- For now, just go with the defaults.
- Click **next**

- On the **Completing the Wizard** page enter, just click **Finish** and wait a moment while your report is generated.
- Once the report is generated, click the **Preview** tab

Report Wizard

- Any Questions?

Design the Matrix

- Select **FirstName** and **LastName** and click the **Columns** button.
- Select **OrderDate** and click the **Rows** button.
- Select **SalesOrderNumber** and **TotalDue** and click the **Details** button.
- Then click **Finish**
- Once the report has been created, click **Preview**

Using a Matrix in your Report

- Follow the same wizard steps up to the **Report Type Page**
- Choose **Matrix**, not tabular
- Click **Next**

Lab Project – TSQL

- Using Query2 – Execution Count and Time
- Create a report to show which queries in the database are being run the most, and which are taking the most time
- Save this report – We will be using it later in the class

- End of this section. Any Questions?
- 10 Minute Break

1. Advanced Report Options

- Grouping
- Sorting
- Formatting
- Report Properties

Grouping

- Open The Tutorial Project - Copy the SalesOrder.rdl and name it Group.rdl
- In the Layout pane, click the table so that column and row handles appear above and next to the table
- Right-click on the handle of a row and then click **Insert Group**.
- On the **General** tab, for **Group on**, select **=Fields!LastName.Value** in the first row and **=Fields!FirstName.Value** in the second row. This will group the data by sales person name.
- On the **Sorting** tab, for **Sort on**, select **=Fields!LastName.Value** in the first row and **=Fields!FirstName.Value**
- Click **OK**. Now Preview the report.

Add a New Column For the Group Heading

- Click the table so that column and row handles appear above and next to the table.
- On the first column (Order Date), right-click on the handle and then click **Insert Column to the Left**.
- Click on the second cell in the new column and type the following expression.

  =Fields!FirstName.Value & " " & Fields!LastName.Value
- Click on the first cell in the first column and type **Sales Person**.

Sorting

- Open The Tutorial Project - Copy the SalesOrder.rdl and name it Sort.rdl
- Preview the report to be sure that it still runs
- Click on the **Layout** tab to view the report editor

Sorting – adding and interactive sort

- Right click on one of the column headings like **OrderDate**
- From the popup menu, choose **Properties**
- On the **Properties** dialog, select the **Interactive Sort** tab
- Click the checkbox to **Add an interactive sort**
- In the **Sort Expression** dropdown, select **=Fields!OrderDate.Value** option.
- Click **OK** and preview the report

Formatting - Currency

- From the **Layout Panel** right click on **=Fields!TotalDue.Value** and select properties
- On the **Properties** dialog, select the **Format** tab
- Click the "…" button under **Format Code**
- In the popup window, choose **Currency**
- Click **OK** twice, then preview the report. Notice the Total Due column is now formatted as currency.

Formatting – Changing Fonts

- From the **Layout Panel** right click on **=Fields!TotalDue.Value** and select properties
- On the **Properties** dialog, select the **Font** tab, and change the font
- Click **OK** and preview your report

Report Properties

- There are 2 places to find report properties
- Properties Panel in the Editor
- Report Properties from the Menu
  - For instance Autorefresh

- Very different settings at each of these locations

Lab Project – TSQL

- Using the Execution Count and Time report from the earlier lab
- Modify the font on the query text column to something smaller
- Add the st.text in the query with substring(st.text, 0, 300) as text
- Fix up the column names
- Confirm that the report looks good on the Print Layout view
- Export as PDF, save it and view it

- End of this section. Any Questions?

Additional Topics

- Publishing Reports to an IIS Server
- Using the Report Manager

Homework

- Continue working on your class projects
- Using a query of your choice
  - Create a report that has more than 3 columns
  - Print the report be sure that the report is not more than 1 page wide
  - If more than 3 pages, turn in the first 3 pages of the report.

Questions?