SQL Server Reporting Services

An Introduction

pluralsight
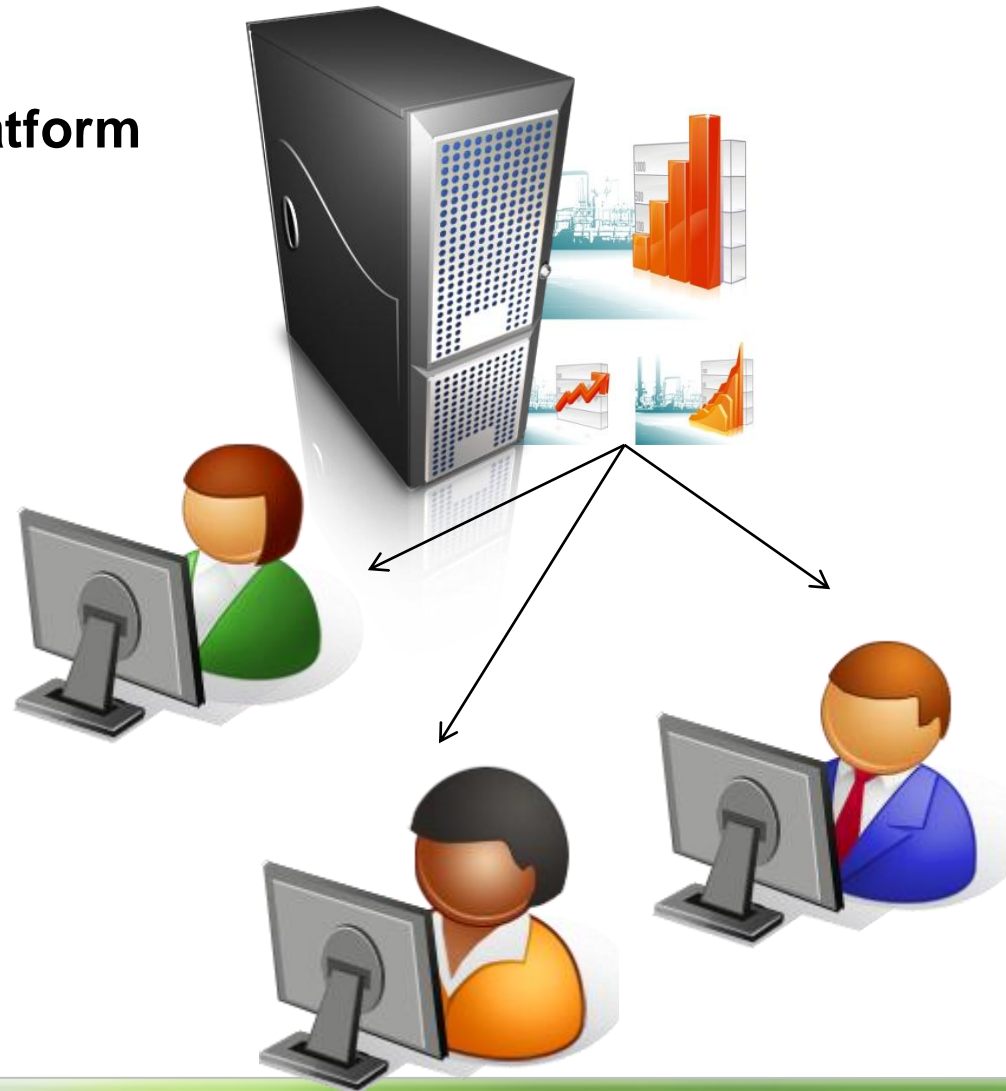see what you can learn

Agenda

- **What is SSRS?**
  - And why would I want to use it?
- **SSRS Architecture**
  - Server components
  - Client components
- **Building a basic report**

What is SSRS?

- **A server based reporting platform**
- **Use SSRS for:**
  - Business reporting
  - Ad hoc reporting
  - Embedded reporting
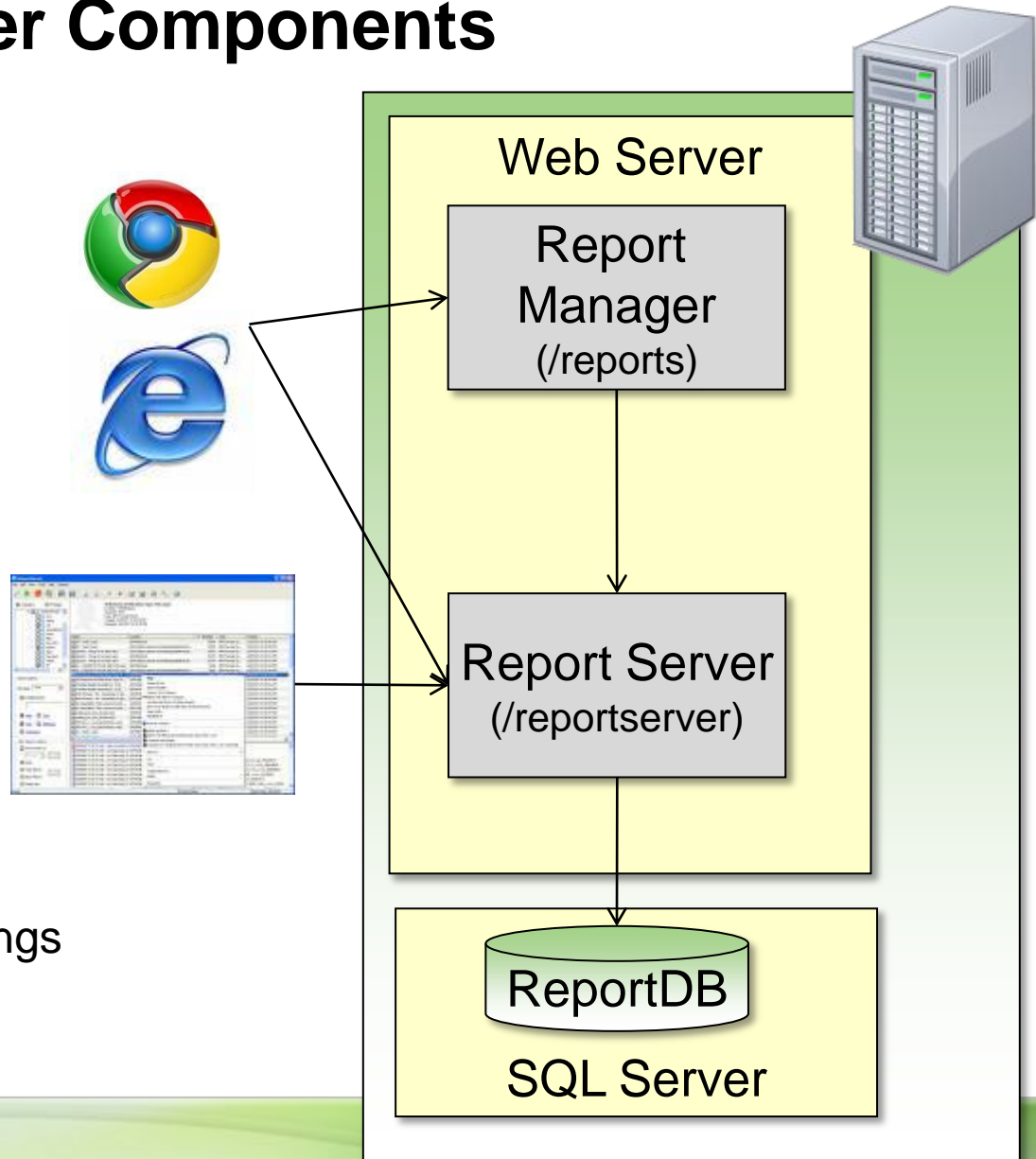 - Portal integration

Features

- **Can report from a variety of data sources**
  - Relational databases
  - XML files and feeds
  - Multidimensional data (OLAP)
  - Any ODBC or OLE-DB compliant source
- **Visualize data into a variety of formats**
  - Tabular, matrix, and free form reports
  - Charting and interactivity capabilities
  - Export to PDF, Excel, text, XML
- **Subscriptions, caching, deliveries, and snapshots**
- **Extensibility**
  - Extend with managed code
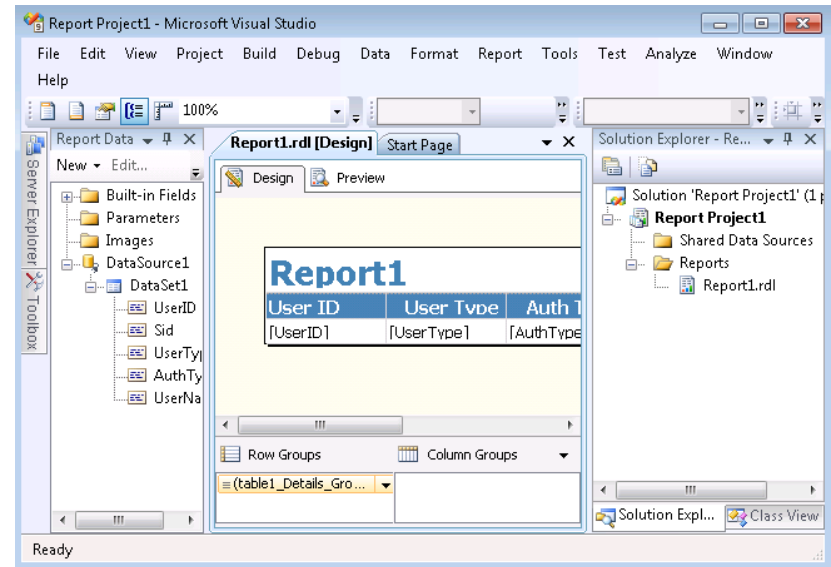 - Add new data sources, report logic, and render formats

Server Components

- **Report Manager**
  - Manage permissions
  - Manage data sources
  - Authorization settings
- **Report Server**
  - Report processor
  - Scheduling & delivery
  - URL access reports
  - Web service API
- **SSRS Database**
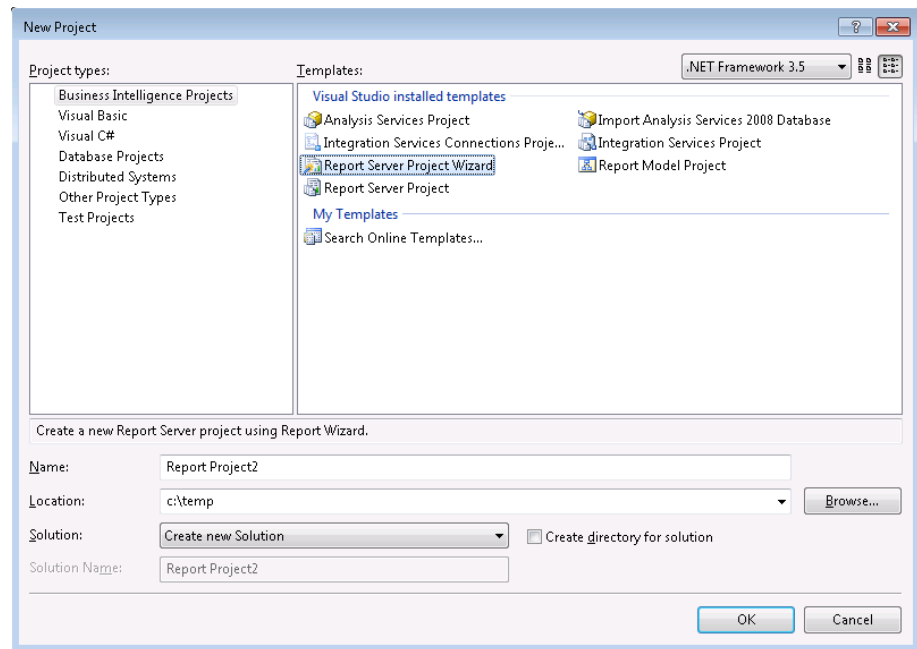 - Metadata
  - Report catalog and settings

Client Components

- **Visual Studio Reporting Projects**
  - Design reports
  - Deploy reports
- **Business Intelligence Development Studio**
  - Visual Studio shell installed by SQL Server installation
  - Also designs and deploys reports
- **SQL Server Management Studio**
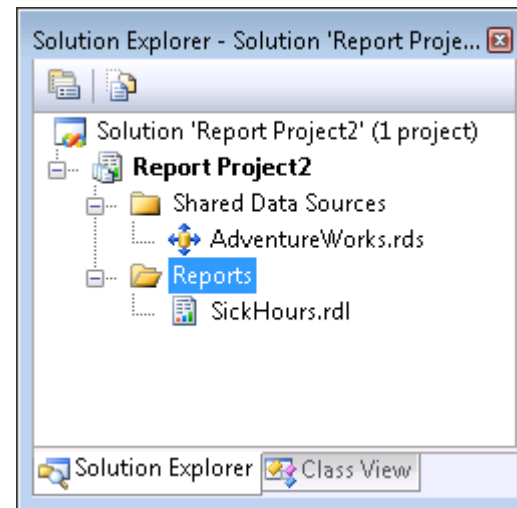 - Test queries
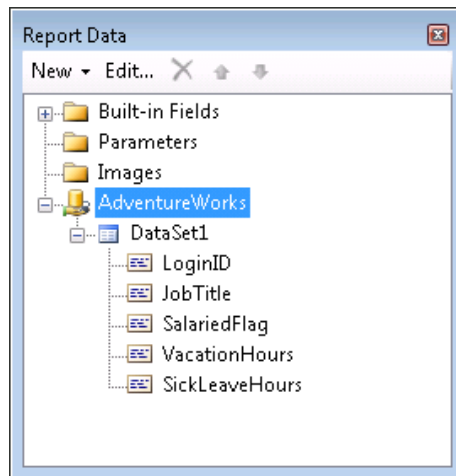 - Performance analysis

Report Project Wizard

- **File -> New Project -> Report Server Project Wizard**
  - Quick and easy starting point
- **Wizard guides you through steps needed for every report**
  - Data source
  - Define DataSet
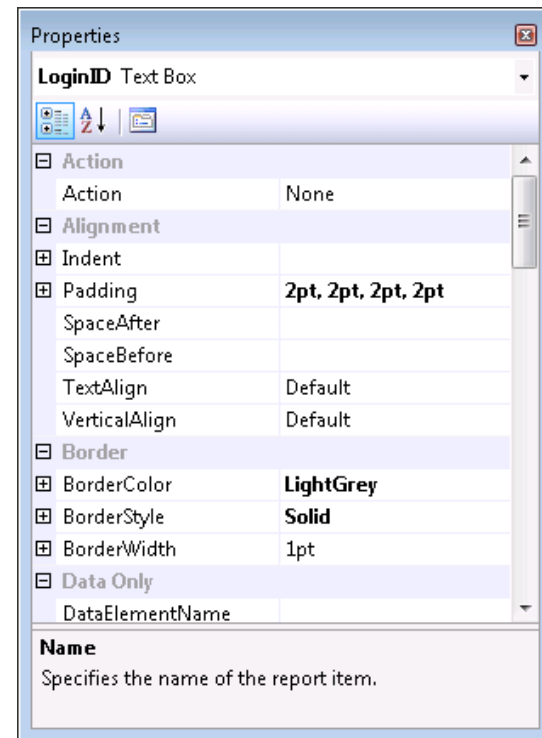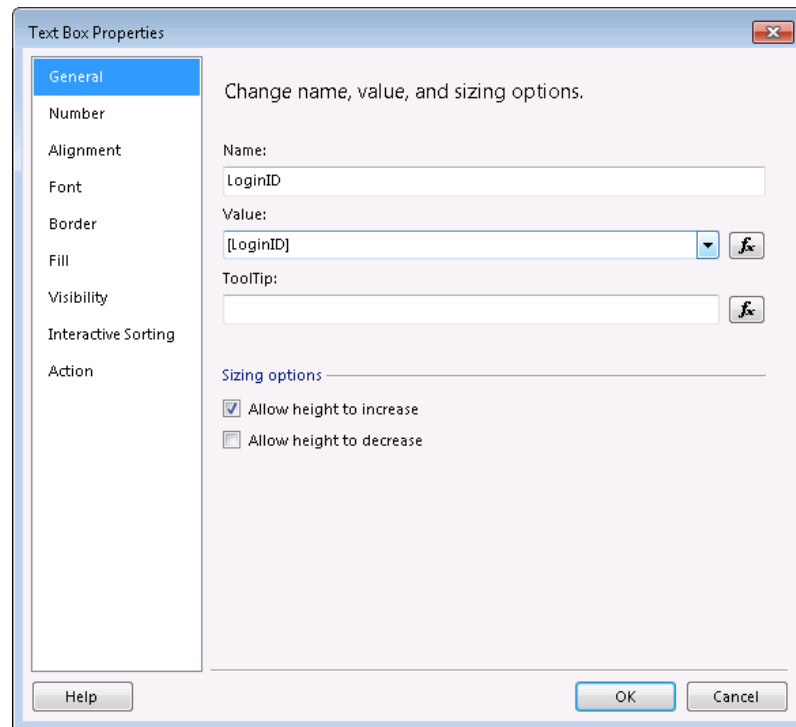
Working Without a Wizard

- **Define a data source**
  - Shared data sources generally work the best
  - If database moves, only one data source connection to update for multiple reports
- **Define at least one DataSet**
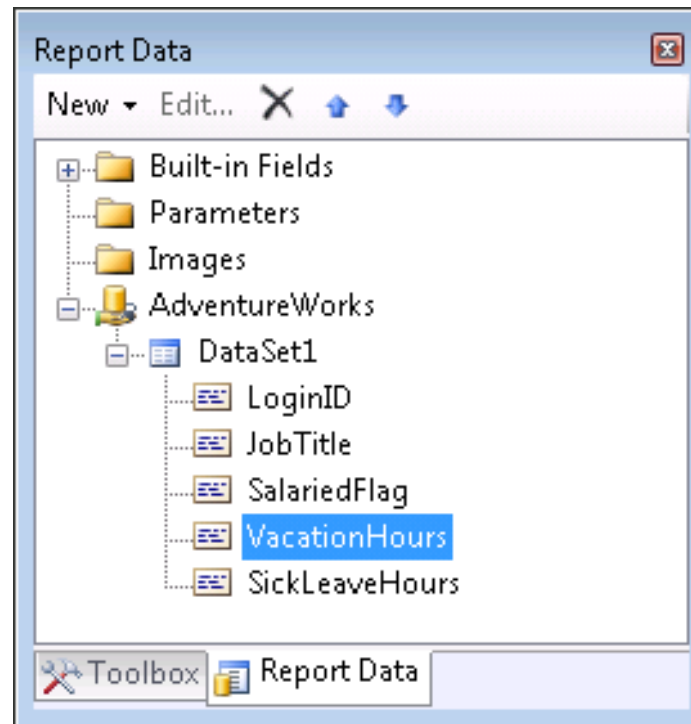- **Begin adding controls and report items to report**

Control Properties

- **Set properties through generic properties window (F4)**
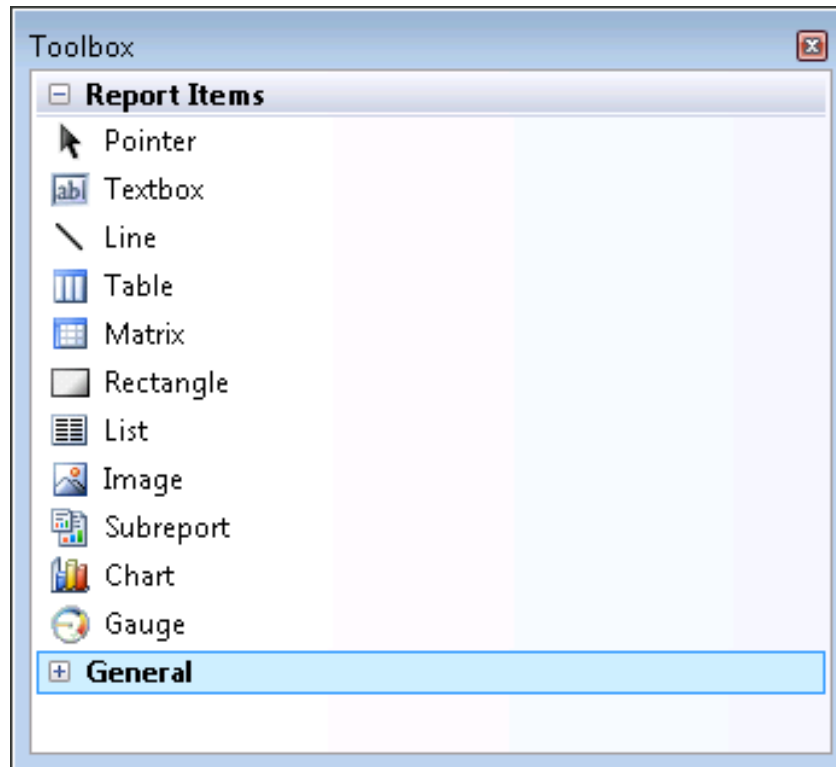 - Or dedicated property window (right-click)

Report Data

- **Parameters & Fields for report to consume**
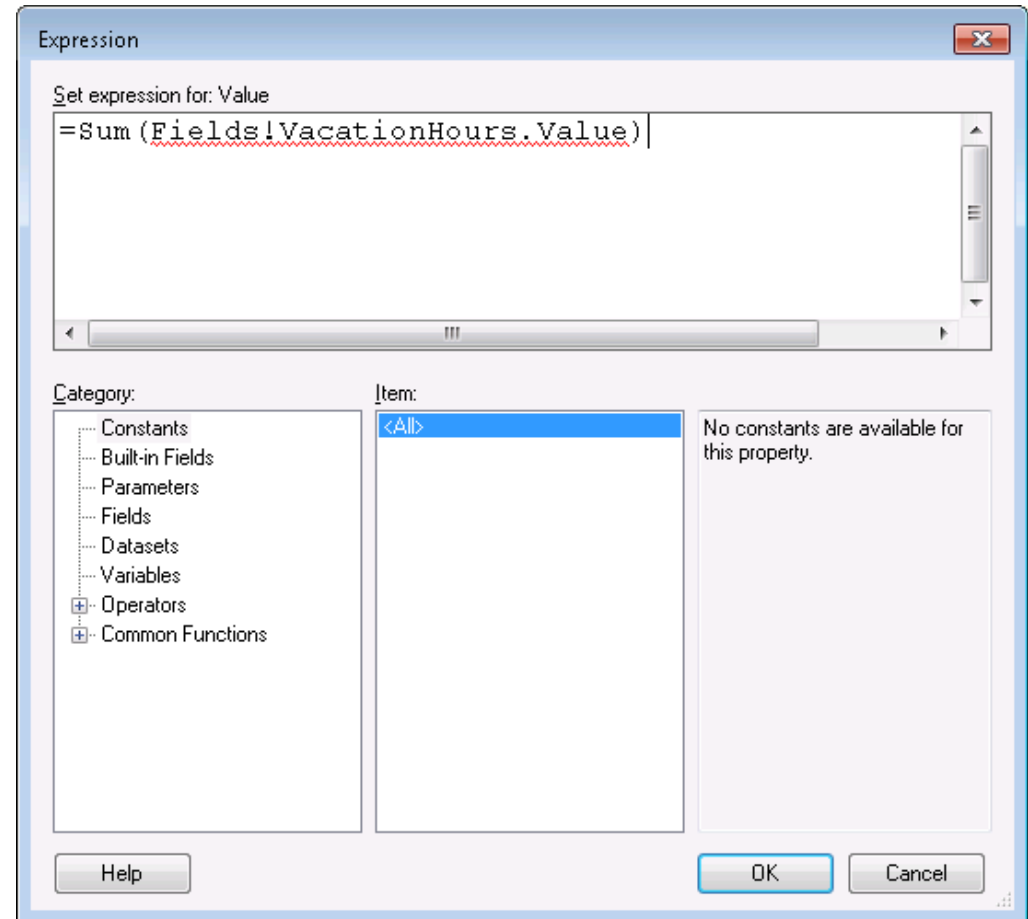- **Can drag and drop into report**

Report Items

- **Toolbox of controls and regions to place on a report**
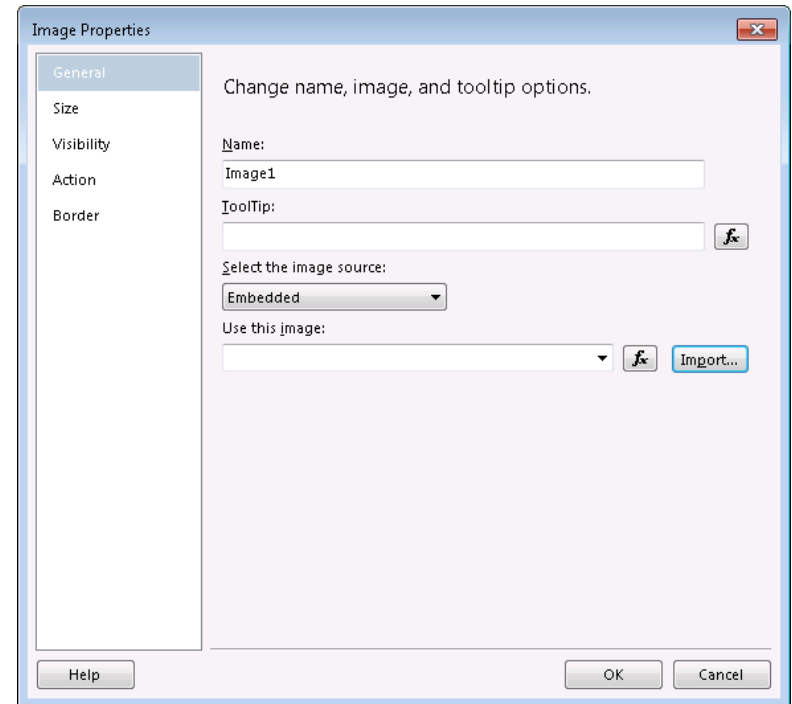- **Use View -> Toolbox to open the window**

TextBox Items

- **Display static or data bound text**

- **Use expressions to manipulate text**
  - Expressions can be used on almost any property of any control
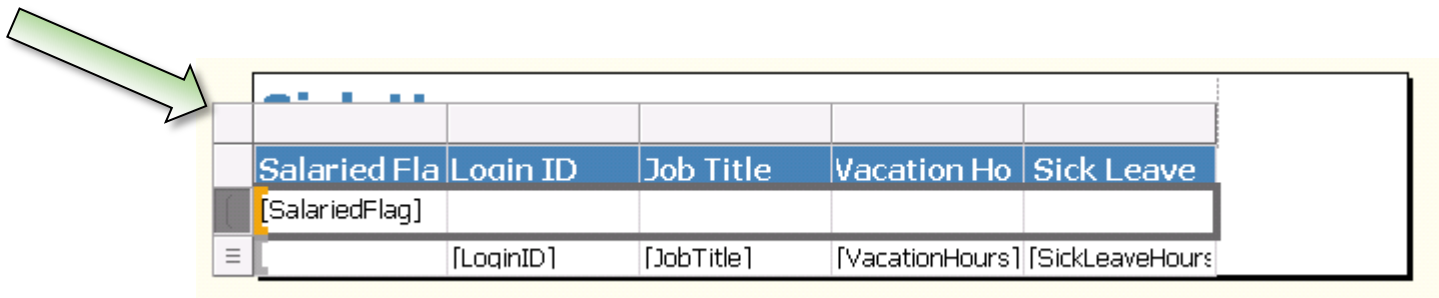
Images

- **Supports JPG, GIF, PNG, BMP**
- **Image types**
  - External (on the network or web)
  - Embedded (part of the report to report server)
  - Database (retrieved as part of DataSet)

Tables

- **Associate table with a data set**
  - Can add header, footer, and grouping rows
  - Can drag fields into table from Report Data window
- **Table selection tool is important to master**
  - Select entire rows or columns for formatting
  - Select entire table for table level properties
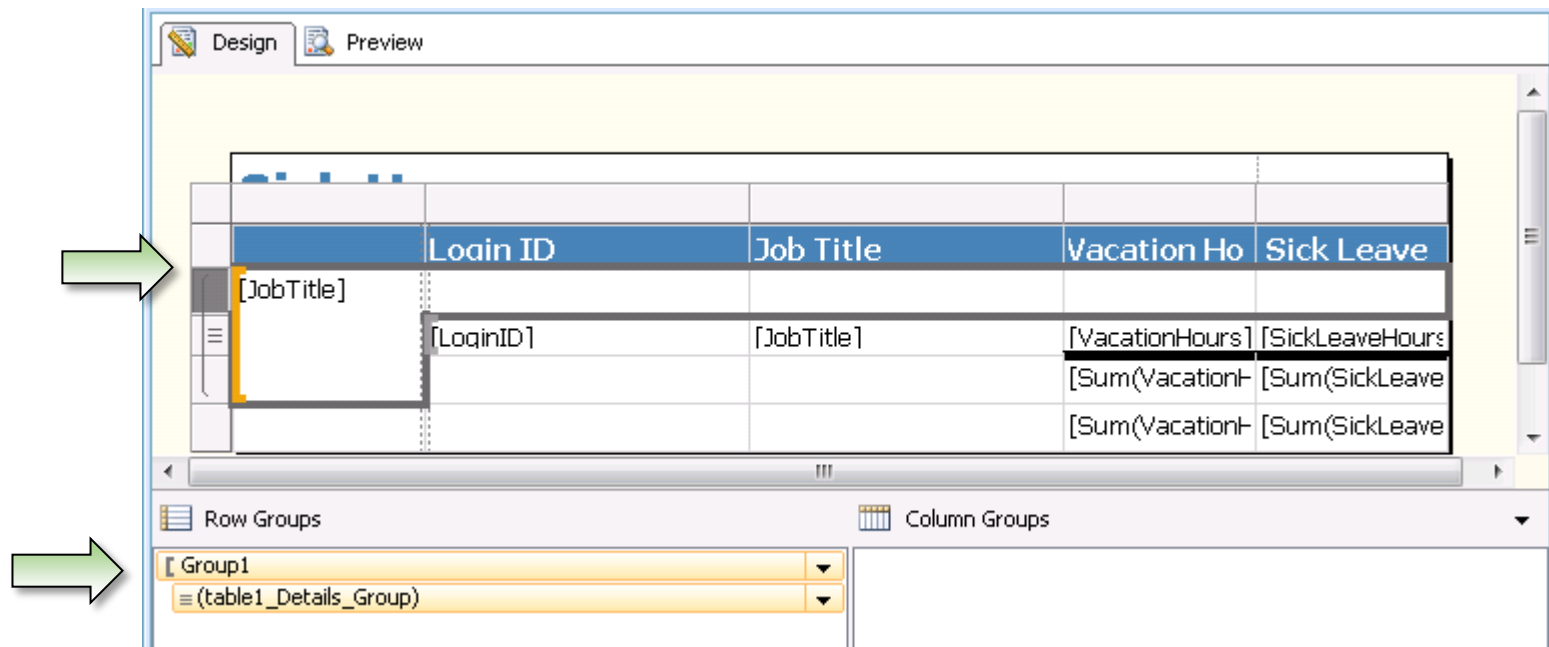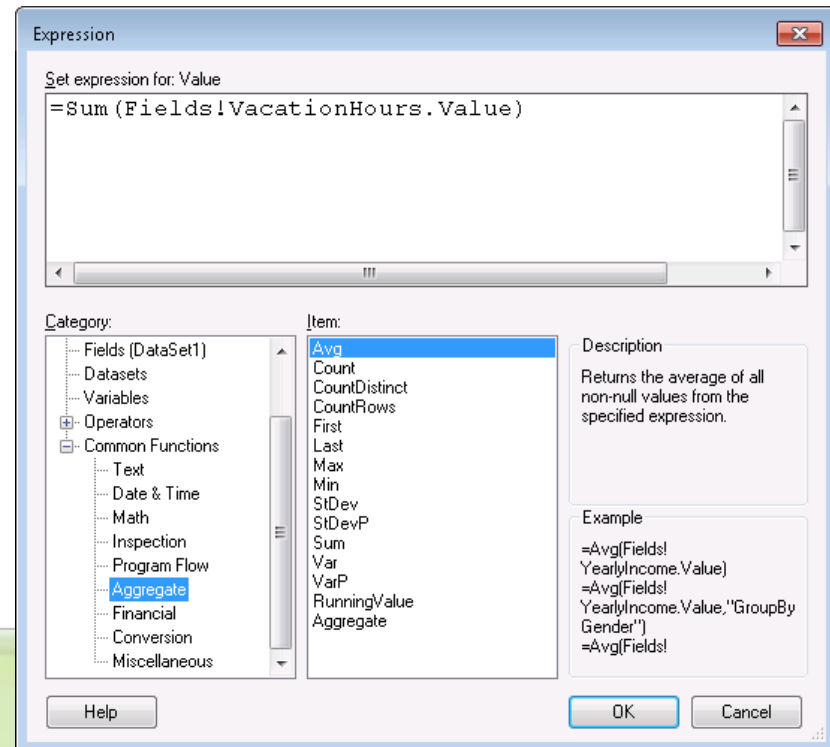 - Can also select individual text boxes

Grouping

- **Right-click on row selectors to add groups (2005 & 2008)**
  - Also available in "Row Groups" area (2008)
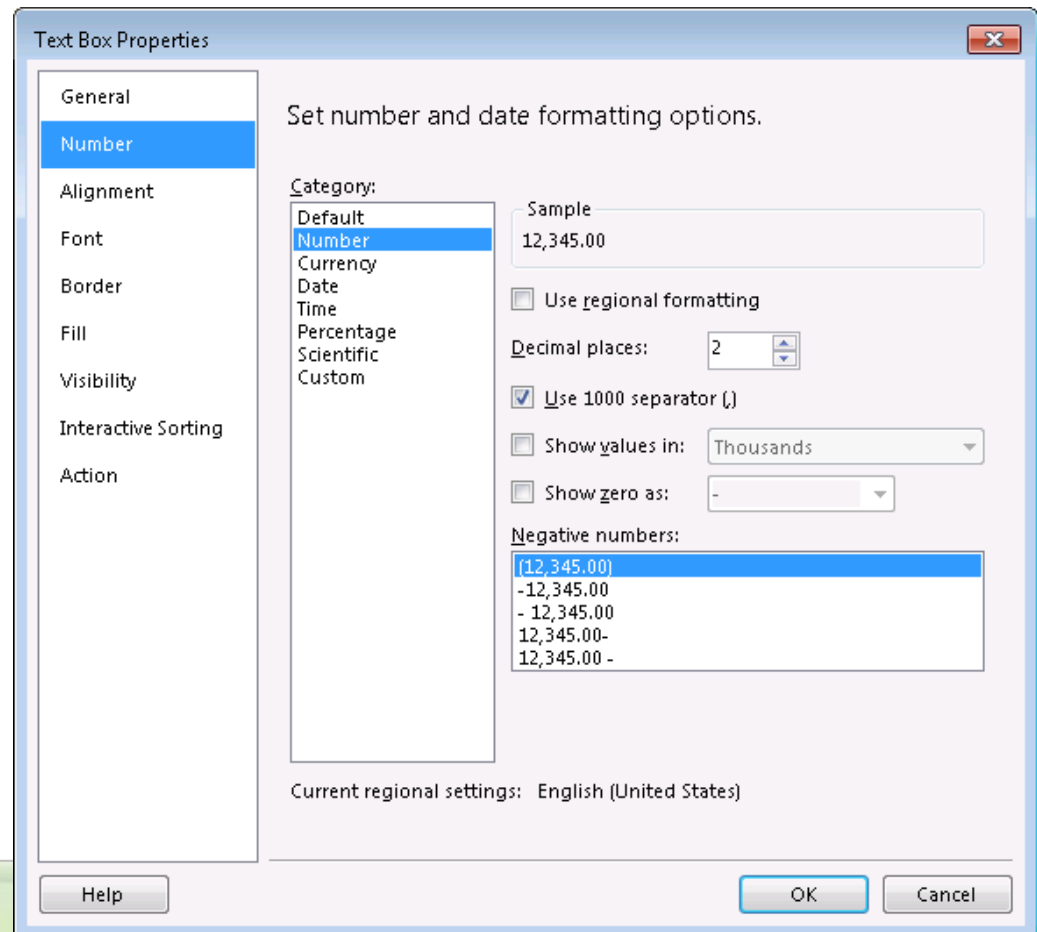
Aggregations

- **Fields outside of detail area need aggregated**
  - First, last
  - Sum, Avg
  - Count
- **Where does aggregation happen?**
  - On the report server

Formatting

- **Standard .NET formatting codes apply**
  - C for Currency
  - D for Decimal
  - F for Fixed-point
  - D for long date
  - d for short date
  - g for general date time

Parameters

- **Use @variable in a query**
  - SSRS will detect parameter
- **Parameters can have a default value, and a list of valid values**
  - Specify in parameter properties
- **You can navigate to drill down reports and pass a parameter**

Summary

- SSRS supports the reporting life cycle
  - Author reports
  - Manage reports
  - Deliver reports
  - Secure reports
- Scenarios
  - Enterprise reporting
  - Ad hoc reporting
  - Embedded reporting
  - Portal integration