

The ASP.NET 2.0 Data Controls

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- **Developer**
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 - ? Author/co-author of a dozen books, including...
 - *ASP.NET for Developers*
 - *Access Cookbook, 2nd edition*
 - *Access 2002 Desktop/Enterprise Dev Handbook*

Slides & Samples Download

- You will find them on conference CD
- Also, you can download them from:
? www.deeprtraining.com/litwin

Agenda

- Data Binding with No Code
- Bulleted List Control
- Grid View Control
- Form and Details View Controls
- Creating a Master-Detail Page

Binding Data to Controls

- ASP.NET 1.x supported rich 1-way binding syntax but you still had to write quite a bit of code to get data in and out of controls
- ASP.NET 2.0 supports two-way (read/write) binding with no code in many situations

Data Source Control

- A family of controls that assist in data binding
 - ? Middleman between data bound controls and data sources
- Types of Data Source Controls
 - ? Tabular
 - SqlDataSource
 - AccessDataSource
 - ObjectDataSource
 - ? Hierarchical
 - XmlDataSource
 - SiteMapDataSource

SqlDataSource

- Supports reading and writing to ADO.NET data provider
 - ? Supports SqlClient, OracleClient, OleDb, and Odbc providers

AccessDataSource

- Supports reading and writing of Jet 4.0 OLE DB provider
- Simpler to use than SqlDataSource for Access data

ObjectDataSource

- Allows you to take advantage of data binding even if you are using an n-tier architecture
- In order to use with a class, the class must...
 - ? have a default, parameterless constructor
 - ? be stateless
 - ? have select, update, insert, and delete methods with certain signature

Hierarchical Data Sources

- SiteMapDataSource
 - ? Pumps site map info from web.sitemap file to TreeView
- XmlDataSource
 - ? Used to map XML data to controls, such as TreeView, GridView
 - ? Support both tabular and hierarchical views of XML data
 - ? Can be linked to XSLT file

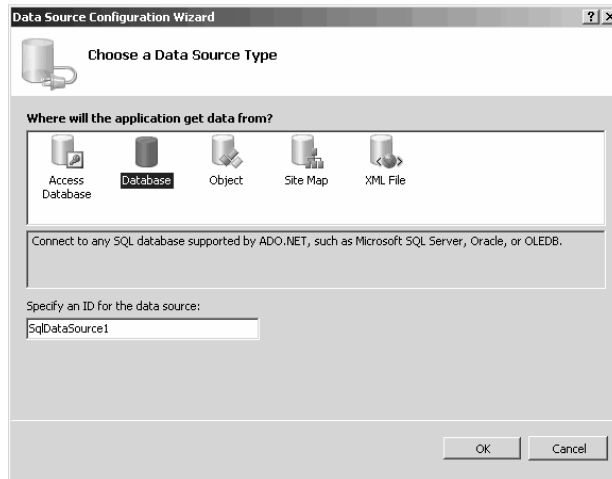
New 2.0 Data-Bound Controls

- List Controls
 - ? BulletedList
- Composite Controls
 - ? GridView
 - ? DetailsView
 - ? FormView
- Hierarchical Controls
 - ? TreeView
 - ? Menu

BulletedList Control

- Can be used to produce a bulleted or enumerated list using `BulletStyle` property
- `DisplayMode` can be
 - ? Text
 - ? Hyperlink
 - ? Linkbutton
- `DataBinding` properties
 - ? `DataSourceID` – point to Data Source Control
 - ? `DataTextField`
 - ? `DataValueField`
 - ? `DataTextFormatString` – useful for Hyperlink style

Choosing a Data Source



BulletedList Control Example: BulletedList.aspx



GridView Control

Example: GridView.aspx

- A “code-less” DataGrid
- Walk-through of grid with automatic sorting (ascending & descending), pagination
 1. Add GridView to page
 2. Using GridView Tasks pane, choose DataSource
 3. Check EnablePaging & EnableSorting

Sometimes You Do Have to Write Code, Even in ASP.NET 2.0

- What if we want to add an image to show which column is the sorted column and which direction is it sorted by?
- Write code for RowCreated event of GridView

Sometimes You Do Have to Write Code

Example: GridView.aspx



title_id	title	type	price	pubdate
BU2075	You Can Combat Computer Stress!	business	2.9900	06/30/91
MC3026	The Psychology of Computer Cooking	UNDECIDED		10/12/04
MC3021	The Gourmet Microwave	mod_cook	2.9900	06/18/91
BU1032	The Busy Executive's Database Guide	business	19.9900	06/12/91
TC7777	Sushi, Anyone?	trad_cook	14.9900	06/12/91
BU7832	Straight Talk About Computers	business	19.9900	06/22/91
MC2222	Silicon Valley Gastronomic Treats	mod_cook	19.9900	06/09/91
PC8888	Secrets of Silicon Valley	popular_comp	20.0000	06/12/94
PS3333	Prolonged Data Deprivation: Four Case Studies	psychology	19.9900	06/12/91
TC3218	Onions, Leeks, and Garlic: Cooking Secrets of the Mediterranean	trad_cook	20.9500	10/21/91

Sometimes You Do Have to Write Code

Example: GridViewSortImage.aspx (1 of 2)

```
protected void gvCustomers_RowCreated(...)
{
    if (e.Row.RowType == DataControlRowType.Header)
    {
        Label lblArrow = new Label();
        lblArrow.EnableTheming = false;
        lblArrow.Font.Name = "Webdings";
        lblArrow.Font.Size = FontUnit.XSmall;
        if (gvCustomers.SortDirection == SortDirection.Ascending)
            lblArrow.Text = "5";
        else
            lblArrow.Text = "6";
    }
}
```

... continued on next slide...

Sometimes You Do Have to Write Code

Example: GridViewSortImage.aspx (2 of 2)

...continued from last slide...

```
foreach (TableCell tc in e.Row.Cells)
{
    try
    {
        if (((LinkButton)tc.Controls[0]).Text ==
            gvCustomers.SortExpression)
            tc.Controls.Add(lblArrow);
    }
    catch
    {
        // Skip over the cell if an exception is triggered.
        // This should handle any fields which are not sortable.
    }
}
}
```

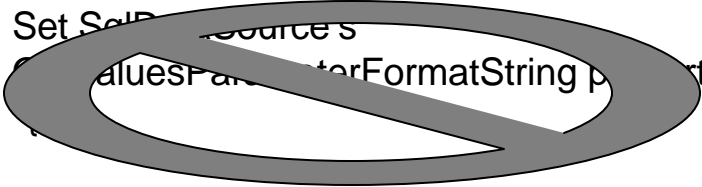
GridView with Updating

Example: GridViewUpdate1.aspx

- Can also be done without code
 1. Add GridView to page
 2. Choose Data Source
 - On "Configure the select statement" page
 - Click Advanced Options
 - Check "Generate Insert, Update, and Delete statements"
 3. Configure GridView
 - Check "Enable Editing" and/or Enable Deleting

GridView with SP Updating

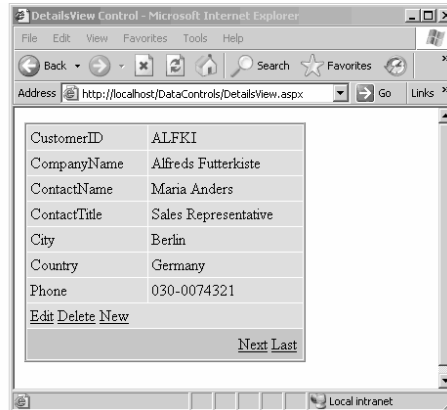
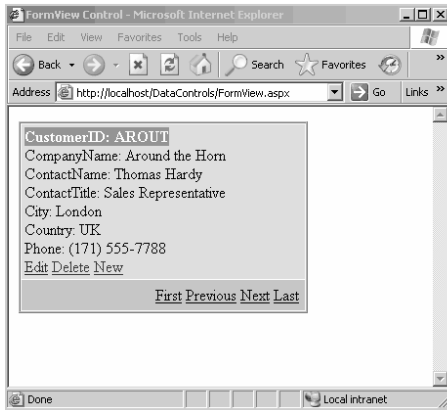
Example: GridViewUpdate2.aspx

1. Add GridView to page
 2. Configure Data Source
 - ? "Specify a custom SQL statement or stored proc"
 - ? Select stored procs for each data source operation
 3. Configure GridView
 - ? Check "Enable Editing"
 4. Set SqlDataSource's `UpdateCommand` property to
- 

The Single-Record Form Problem

- ASP.NET 1.x provided no help to the developer having to create a single-record "form" view of data
- ASP.NET 2.0 gives us two solutions
 - ? DetailsView – fixed look (supports styles but no field templates)
 - ? FormView – fully templated (VS will generate basic template for you; supports validation controls, etc.)
- Both support editing, pagination

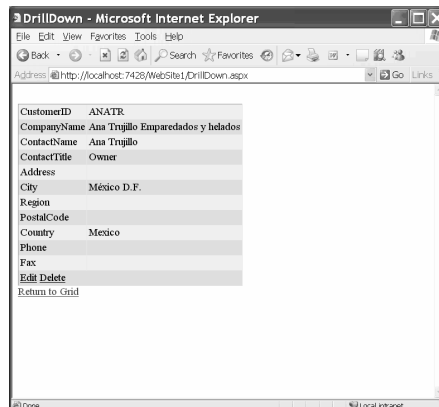
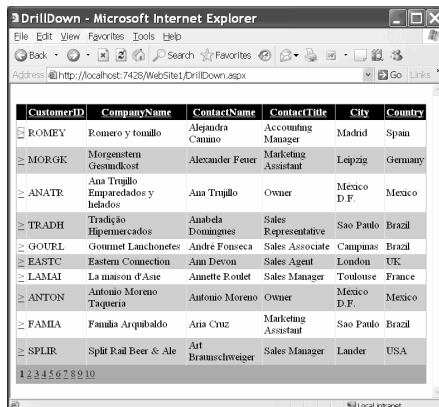
FormView vs. DetailsView Controls



Master-Detail Page

Example: DrillDown.aspx

- Uses GridView, DetailsView, MultiView controls



Master-Detail Page

Example: DrillDown.aspx, HTML

```
<asp:SqlDataSource ID="sdsCustomersGrid" Runat="server"
SelectCommand="SELECT [CustomerID], [CompanyName],
[ContactName], [ContactTitle], [City], [Country] FROM
[Customers] ORDER BY [ContactName]"
ConnectionString="<%= $ ConnectionStrings:NwindCnx %>"
/>

<asp:SqlDataSource ID="sdsCustomersDetail"
Runat="server" ConnectionString="<%= $
ConnectionStrings:NwindCnx %>"
SelectCommand="SELECT [CustomerID], [CompanyName],
[ContactName], [ContactTitle], [Address], [City],
[Region], [PostalCode], [Country], [Phone], [Fax] FROM
[Customers]"
FilterExpression="CustomerId= '@customerid' ">

<FilterParameters>
  <asp:ControlParameter Name="customerid"
ControlID="gvCustomers" PropertyName="SelectedValue">
  </asp:ControlParameter>
</FilterParameters>
```

Master-Detail Page

Example: DrillDown.aspx, Code

```
public partial class DrillDown : System.Web.UI.Page {
    protected void gvCustomers_SelectedIndexChanged() {
        mvCustomers.SetActiveView(vwDetail);
    }
    protected void dvCustomers_ItemDeleted() {
        gvCustomers.DataBind();
        gvCustomers.SelectedIndex = -1;
        mvCustomers.SetActiveView(vwMaster);
    }
    protected void dvCustomers_ItemUpdated() {
        gvCustomers.DataBind();
    }
    protected void lbReturn_Click() {
        gvCustomers.SelectedIndex = -1;
        mvCustomers.SetActiveView(vwMaster);
    }
    protected void dvCustomers_ItemInserted() {
        gvCustomers.DataBind();
        gvCustomers.SelectedIndex = -1;
        mvCustomers.SetActiveView(vwMaster);
    }
}
```

Summary

- ASP.NET 2.0 supports two-way code-less data binding
- Data Source Controls are a family of controls that assist in data binding
- GridView control is like a DataGrid on steroids
- Single-record form problem solved with DetailsView and FormView controls

Thank You!

- Please complete evaluation forms
- Contact: paul@deeptraining.com
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