

<< Week 4

COIN-078B

Internet Programming with XML

XML and Data Binding in Internet Explorer

Module Objectives

- Use Data Source Objects (DSO)
- Know the properties, methods, and events of XML DSO
- Do single-record binding using XML data islands
- Make tabular binding with XML data islands
- Do single-record data binding with the XML DSO
- Make tabular data binding with the XML DSO
- Search XML-based databases

Reading Assignments:

- **Textbook:** Chapters 8
-

Data Binding

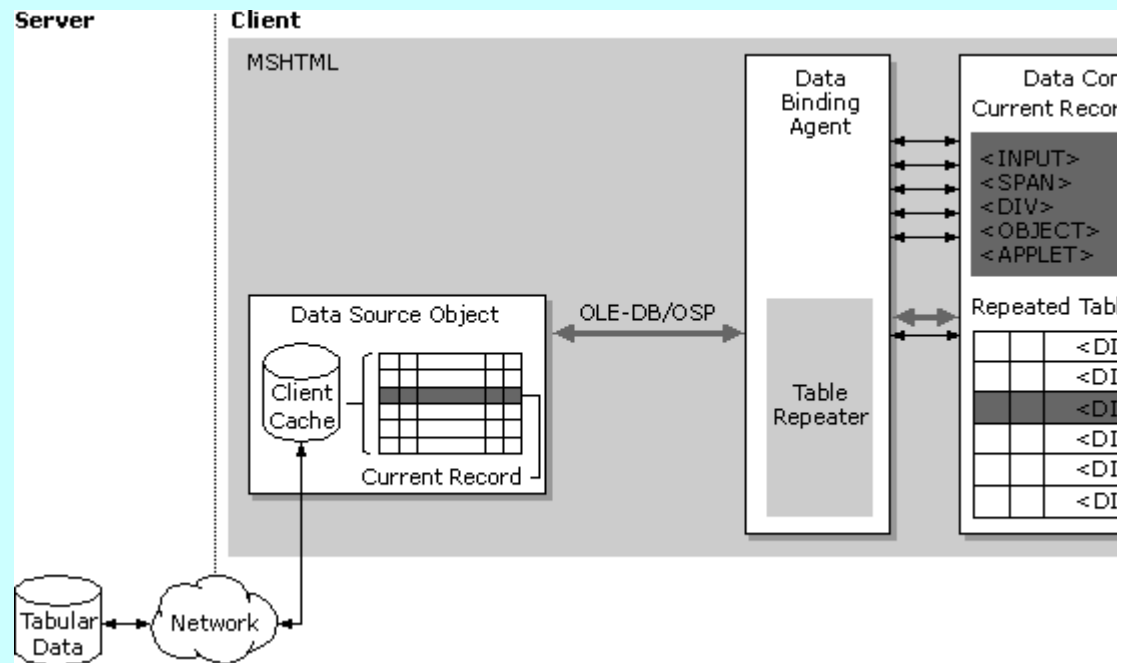
Besides using XML DOM, there's another way of handling XML documents in Internet Explorer. Microsoft® Internet Explorer (4.0 and later) lets you develop data-centric Web applications that support client-side retrieval and update through native data binding facilities. By using HTML extensions and pluggable data source object (DSO) you can author data-driven pages easily, with minimal scripting required. Because data is downloaded to the client asynchronously, pages render quickly and provide immediate interactivity. Once downloaded, the data can be sorted and filtered without requiring additional trips to the server. Compare that to traditional web pages and those generated by server-side scripts. Once the data reaches the client, it's static, and any manipulation of that data requires another server request.

Data Binding Architecture

Data binding in Internet Explorer (5 & later) is based on a component architecture that consists of four major pieces — the data source object (DSO), data consumers, the binding agent, and the table repetition agent. Data source objects provide the data to a page, data-consuming

HTML elements display the data, and the agents ensure that both the provider and the consumer are synchronized.

The following diagram illustrates how the components fit together.



Read more info from [MSDN](#).

Adding Data Source Object to a Page

When you've identified the data that you want to display on a page, the next step is to choose the data source object (DSO) that will supply the data, and to add a reference to the DSO to that page. Internet Explorer ships with five data source objects, namely

- [Tabular Data Control \(TDC\)](#)

The TDC is a simple DSO that provides access to delimited text files.

- [Remote Data Service \(RDS\)](#)

The RDS is a more sophisticated DSO that obtains its data from a database using OLE-DB or Open Database Connectivity (ODBC).

- [MSHTML Data Source](#)

You can define your data sets within an HTML document and use MSHTML itself to provide read-only data to a page.

- [XML Data Source](#) ★

Internet Explorer shipped with a Java applet that serves as an XML data provider. While the XML DSO is a read-only data provider, you should consider using it to display hierarchical data.

- [XML Data Islands](#) ★

Internet Explorer 5 further integrates XML support directly into the browser through the use of XML data islands. XML data islands can be used to embed data in XML format directly (either internally or from external source) into an HTML page using the <xml> element.

Note: There are severe limitations to DSO handling of XML, for example

- problem binding elements with attributes
- difficulties in handling deeply nested elements
- no support for namespace

Binding HTML Elements to Data

To display the data provided by a data source object (DSO), you bind elements on an HTML page to the DSO.

Bindable HTML elements fall into two categories - single-valued and tabular consumers. Single-valued consumers bind to a single field of the current record provided by a DSO. Tabular consumers bind to an entire data set and use their contained elements as a template to repeat the data.

- [Binding a Single-Valued Element to Data](#)
- [Binding a TABLE to Data](#)
- [Elements That Support Data Binding](#)

Recordset Methods

- [MoveFirst, MoveLast, MoveNext, and MovePrevious Methods](#)

Resources:

- [Data Binding in Microsoft Internet Explorer](#)

Hands-on Assignment:

- [Assignment 3](#) due **Week 6**

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