

REVIEW LESSON

MTA Course: Web Development Fundamentals
Lesson name: Web Development Fundamentals 2.4
Topic: Understand Data Source controls
File name: WebDevFund_RL_2.4

Lesson Objective

2.4: Understand Data Source controls. *This objective may include but is not limited to:* LinqDataSource, ObjectDataSource, XmlDataSource, SqlDataSource.

Preparation Details

Prerequisite student experiences and knowledge

This MTA Certification Exam Review lesson is written for students who have learned about Web design and Web application programming. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft® resources and Web links at the end of this review lesson.

Students should have experience with Web pages that use various Web controls that employ events. Students should be able to select an appropriate DataSource control for various scenarios.

Instructor preparation activities

For this lesson, you will need a computer with Microsoft Office 2007®, and Microsoft Visual Studio 2008® attached to a liquid crystal display (LCD) projector to display and review the attached Microsoft PowerPoint® document.

Resources, software, and additional files needed for this lesson:

- WebDevFund_PPT_2.4
- WebDevFund_SA_2.4

- A Windows®-based PC with installed Web development software. Examples include Visual Studio 2008, or
 - Microsoft Visual Basic 2008®, Express Edition
(<http://www.microsoft.com/express/downloads/#2008-Visual-Basic>)
 - Microsoft Visual C# 2008®, Express Edition
(<http://www.microsoft.com/express/downloads/#2008-Visual-CS>)
 - Microsoft Visual Web Developer 2008, Express Edition
(<http://www.microsoft.com/express/downloads/#2008-Visual-Web-Developer>)

Teaching Guide

Essential Vocabulary:

LINQ—acronym for Language Integrated Query; a set of extensions to the Microsoft .NET Framework that encompass LINQ, set, and transform operations. It extends Microsoft C#® and Microsoft Visual Basic® with native language syntax for queries and provides class libraries to take advantage of these capabilities.

LinqDataSource—enables the use of LINQ in an ASP.NET Web page through markup text to retrieve and modify data from a data object.

ObjectDataSource—represents a business object that provides data to data-bound controls in multitier Web application architectures.

XmlDataSource—belongs to the family of data source controls in ASP.NET, which enables a declarative data-binding model against a variety of underlying data stores. The XMLDataSource control supports declarative databinding to Extensible Markup Language (XML) files.

SqlDataSource—a data source control that represents a connection to an ADO.NET SQL database provider, such as Structured Query Language (SQL), OLEDB, ODBC, or Oracle.

Lesson Sequence

Activating prior knowledge/lesson staging (10 minutes)

Warm-up Activity—“LINQ”

1. Divide the class into groups of three to four students.
2. Instruct each group to write a code sample representing a LINQ query.
3. A student from each group writes the code on the board.
This may be assigned the previous day for homework so that students may have a chance to research the exact syntax.

Lesson activity (30 minutes)

1. Using the PowerPoint presentation WebDevFund_PPT_2.4, review the concepts for this lesson.
2. Distribute Student Activity Worksheet WebDevFund_SA_2.4.
 - a. Students will review the use of various DataSource controls.
3. Discuss the key objectives of the review assignment.

Assessment/lesson reflection (10 minutes)

1. Ask students to demonstrate how DataSource controls work using a diagram, either on paper or on the whiteboard.
2. Wrap up and provide homework/enrichment opportunities.

Microsoft resources and Web links

Students who wish to explore this lesson topic further may visit the following links:

Video lessons and references on DataSource controls:

<http://msdn.microsoft.com/en-us/library/ms227679.aspx>

<http://www.asp.net/learn/linq-videos/video-247.aspx>

<http://www.asp.net/learn/linq-videos/>

Microsoft ASP.NET:

<http://www.asp.net>

Suggested best practices:

- It may be beneficial to display code examples using the LCD projector for each of the major concepts, particularly when the vocabulary is being reviewed. Randomly choose students to come up to demonstrate the concepts to the class. It may also be advantageous to have students complete this activity in small groups.