

REVIEW LESSON

MTA Course: Web Development Fundamentals
Lesson name: Web Development Fundamentals 1.5
Topic 1.5: Understand controls.
File name: WebDevFund_RL_1.5

Lesson Objective:

1.5: Understand controls. *This objective may include but is not limited to:* various types of controls, including user, server, Web, and validation controls; know which is the appropriate type of control for a scenario.

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 are wired to events. Students should be able to select an appropriate 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_1.5
- WebDevFund_SA_1.5

- A Windows®-based PC with installed Web development software. Examples include:
 - Visual Studio 2008
 - 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>)
- Note cards for warm-up activity

Teaching Guide

Essential Vocabulary:

user control—Composite controls which may contain HTML markup, Web controls, and server controls, created using a visual design surface resulting in an .ascx file. User controls are compiled at run-time before being rendered into the .aspx page in which they are placed. User controls are usually designed to provide a consistent look and functionality across multiple pages within a single ASP.NET application for which it was designed.

server control—Precompiled controls which can be used in .aspx pages, user controls, and other server controls, rendering HTML markup when viewed in an ASP.NET Web page. Server controls have no visual design capabilities and must be designed programmatically and compiled before being placed into an .aspx file. Custom server controls may be added to the Visual Studio toolbox and reused across multiple ASP.NET applications in a similar manor to Web Controls.

Web control—The base class that defines the methods, properties, and events common to all *controls* in the WebControls namespace. There are many ASP.NET Web Controls that inherit from this base class, such as the TextBox, Label, CheckBox and various validation controls. You can control the appearance and behavior of a Web control by setting properties at both design time and runtime. Web controls are rendered into HTML markup when viewed in an ASP.NET Web page.

validation control—a group of controls that inherit from the base Web Control class providing validation functions using very specific sets of rules that are applied to user-entered data. Validation controls must be assigned to other controls which it validates by applying validation rules against the controls' data. Validation controls may be used to test for valid dates, values within a range, or comparison of two controls' values against each other

Lesson Sequence

Activating prior knowledge/lesson staging (10 minutes)

Warm up Activity—“Define Me”

1. Divide the class into groups of three to four people.
2. Instruct each group to design and describe a unique user-defined control and provide a rationale for its control (i.e., how it can improve the functionality of a website).
3. Each group will then briefly describe its user-defined control.
4. If time permits, groups may be allowed to challenge the justification for another group's control. For instance, students may believe that the control is already defined and therefore unnecessary.

Lesson activity (30 minutes)

1. Using the PowerPoint presentation WebDevFund_PPT_1.5, review the concepts for this lesson.
2. Distribute Student Activity Worksheet WebDevFund_SA_1.5.
 - a. Students will demonstrate the use of various controls and create code examples that illustrate the appropriate use of controls for each scenario.
3. Discuss the key objectives of review assignment.

Assessment/lesson reflection (10 minutes)

1. Students to write three key facts about controls on the board.
2. Some students display their solution to portions of the Student Activity using the LCD projector.
3. Wrap-up and provide homework/enrichment opportunities.

Microsoft resources and Web links

Video lessons and references on controls:

<http://msdn.microsoft.com/en-us/library/yhzc935f.aspx>

<http://www.asp.net/learn/3.5-videos/video-221.aspx>

<http://www.asp.net/learn/3.5-videos/video-225.aspx>

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 demonstrate the concepts to the class. It may be effective for students to complete this activity in small groups.