

Core Web Application Technologies with Microsoft Visual Studio 2005

Workshop 2543: Three days; Instructor-Led

Introduction

This three-day instructor-led workshop provides students with the knowledge and skills to develop Microsoft ASP.NET 2.0 Web applications using Microsoft Visual Studio 2005. The workshop focuses on user interfaces, Web site structure and functionality, and implementation details.

Audience

This workshop is intended for corporate/ISV application developers who have a desire to learn more about specific technology areas in Web application development.

Objectives

After completing this workshop, students will be able to:

- Create a Web application.
- Program a Web application.
- Add and configure server controls for a Web application.
- Use master pages to establish a common layout for a Web application.
- Manage state data for a Web application.
- Access and display data in a Web application.
- Control access to a Web application.
- Deploy a Web application.
- Create a mobile Web application.

Prerequisites

Before attending this workshop, students must:

- Be able to manage a solution environment using the Visual Studio 2005 IDE and tools
- Understand Microsoft .NET Framework 2.0 and the Common Language Runtime
- Be able to program an application using a .NET Framework 2.0 compliant language
- Know how to make assemblies available to other applications
- Have a basic understanding of XML including XML declaration, elements, attributes, and namespaces
- Have a basic understanding of client-side scripts
- Have a basic understanding of HTML

Course Outline

Unit 1: Creating a Web Application

This unit describes the different types of Web sites that you can create with Visual Studio 2005. It introduces the concept of event handling, and shows how to work with default event handlers for an object. It also explains how to control a Web application through the hierarchy of configuration files.

Unit 2: Programming a Web Application

This unit introduces the advanced event-handling capabilities of ASP.NET 2.0 and describes how to work with events in Visual Studio 2005. It shows how to work with non-default event handlers and centralized event handlers. It also addresses other common Web programming concepts, including:

- Detecting the type, version, and capability of the browser being used to view a Web site.
- Accessing information in an ASP.NET Web Page header.
- Using the `HttpResponse.Write` method to provide feedback to users.
- Handling page-level errors.

Unit 3: Adding and Configuring Server Controls

This unit explains how to use the HTML controls and Web server controls provided by Visual Studio 2005 and ASP.NET 2.0. It shows how to design and build Web-based user interfaces, and it teaches how to program Web server controls. This unit also describes how the ASP.NET 2.0 postback model works and how it can be used.

Unit 4: Creating a Common Layout by Using Master Pages

This unit explains how to use master pages to define common layouts for Web pages. Master pages provide developers with a new set of features for ensuring consistent page layout. Students will work with master pages and nested master pages in the lab to build a Web application that has a consistent layout and functionality across Web pages.

Unit 5: Managing State for a Web Application

This unit describes the different state management technologies that students can use in ASP.NET 2.0 Web applications. It discusses how controls can retain state data over multiple requests, and then explains how developers can work with this state data. This unit then shows how to store state data in the Application and Session objects provided by ASP.NET 2.0. It also discusses the different session-data storage mechanisms. Finally, this unit explains how to use the Cache object to cache and retrieve state data.

Unit 6: Accessing and Displaying Data

This unit describes how to add database connections to the Web.Config file and the benefits that this approach adds when building manageable Web applications. This unit then describes the new data controls for accessing data in a variety of formats. It includes details about using the `SqlDataSource` control, the `XmlDataSource` control, and the `ObjectDataSource` control. This unit also describes how user interface data controls are bound to the data source controls, and it includes a discussion about binding data-aware standard controls to data.

Unit 7: Controlling Access to a Web Application

This unit describes authentication and authorization for Web applications. It also shows how to develop login, sign-up, and other membership pages for Web applications based on the ASP.NET 2.0 Membership system.

Unit 8: Deploying a Web Application

This unit describes three different ways to deploy Web applications:

- Using the Copy Web Site utility to deploy a Web application in a non-compiled state
- Using the Publish Web Site utility to deploy a precompiled version of the Web application
- Building Microsoft Windows(Installer packages to create a redistributable application with full setup logic

Unit 9: Making Web Applications Available to Mobile Devices

This unit explains how to enable browsers running on mobile devices, such as Pocket PCs and mobile phones, to access pages within your application.