

Course Outline



Tel: +44 (0) 118 979 4000 Fax: +44 (0) 118 979 4000

Email: training@ptr.co.uk Web: www.ptr.co.uk

Building Effective ASP.NET 4.0 Web Applications using Visual Studio 2010

Course Description:

This course provides the necessary skills and techniques to design and write scalable, robust and secure Web applications using Microsoft Visual Studio 2010 and the ASP.NET 4.0 Framework. You will gain in-depth technical knowledge of ASP.NET and its related technologies and obtain practical insights into developing enterprise-scale, data-driven Web applications.

Throughout the course you will be building a fully functional ASP.NET 4.0 web solution, using best practices including writing secure code to protect against potential malicious attacks. The course is presented as a mixture of lectures and hands-on exercises. Instructions and solutions are provided in both C# 4.0 and Visual Basic 2010, enabling you to work with your choice of language. (Before attending, delegates must already know one of these .NET languages.)

Delegates will learn how to:

- Create file- and HTTP-based web projects using Visual Studio 2008
- Use validation techniques to ensure input data accuracy
- Use Master Pages and CSS to enforce design principles
- Personalise web applications using profiles, themes and skins
- Create modular user interfaces using web parts and user controls
- Implement menus, wizards and other site navigation mechanisms
- Use routing to simplify URLs within your ASP.NET 4.0 web application
- Diagnose problems and implement a coherent error handling architecture
- Create data-driven and data-bound user interfaces using XML, relational data sources, and LINQ
- Use the Chart control to display high-quality business metric and trends within your ASP.NET 4.0 Web Application
- Use ASP.NET Dynamic Data to quickly create data-driven web applications
- Understand and manage state across and within page transitions
- Implement authentication, authorisation and role based security using the ASP.NET 4.0 membership system and the login controls
 - Extend the pipeline using custom modules and handlers
 - Create and use simple ASP.NET Web Services and WCF services
 - Describe and implement ASP.NET AJAX functionality to provide a richer UI experience

Pre-requisites:

21a Peach Street Wokingham Berkshire RG40 1XJ

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Registered Office: Grenville Court Britwell Road Burnham Bucks SL1 8DF Company Registered No: 2442290 – VAT registration No:532 1929 56

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- Delegates should have basic knowledge of HTML and web page creation using JavaScript and CSS.
- Delegates should have an existing knowledge of a .NET programming language (C#3.0/4.0 or VB 2008/2010).

Course Content:

- **Fundamentals**
 - Internet fundamentals review
 - Application configuration
 - Processing model
 - Page execution
 - Event lifecycle
 - Object model overview
- **Using Visual Studio 2010**
 - Creating a Web Site
 - Project and solution structures
 - ASP.NET folder structure
 - Essential features for Web development
 - Understanding code separation
 - Copying and Publishing a Web Site
 - One-click Publish for Web Applications
- **Designing your web site**
 - Overview of layout options
 - Creating common layout with Master Pages
 - Server controls overview
 - CSS functionality
 - HTML & JScript Snippets
 - JScript IntelliSense Enhancements
 - Themes and Skins

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- **Validation and Error Handling**
 - The need for validation
 - Validation on the Client and Server
 - ASP.NET validation controls
 - Ensuring correctness in posted data
 - Exception handling in ASP.NET

- **Site Navigation**
 - Navigation scenarios
 - Basic navigation
 - Crosspage postbacks
 - Accessing the previous page
 - Creating Wizards; Templating Wizards.
 - The Navigation API and Controls

- **User controls and Web Parts**
 - Introduction to Usercontrols
 - Overview of Custom Controls
 - Building common page parts
 - Web Parts

- **Components and Architecture**
 - Web architecture considerations
 - Component based development
 - Data access issues
 - Distributed architectural issues

- **Databinding and Presentation – Part 1 – The Databinding Controls**
 - Data source controls
 - GridView, FormView, DetailsView
 - ListView, DataPager
 - Treeview

- **Databinding & Presentation – Part 2 - Charting**
 - Charting in Business Web Applications
 - Using the Chart Control
 - Advanced functionality using Ajax

- **Databinding & Presentation – Part 3 - Dynamic Data**
 - What is Dynamic Data?
 - Data Model

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- **Databinding & Presentation – Part 3 - Dynamic Data**
 - Fields and Validation
 - DynamicDataManager
 - Binding Controls and Dynamic Data

- **Caching**
 - Cache API
 - Caching data
 - Managing data refreshing – Cache dependencies
 - Output caching and substitution
 - Cache Providers
 - Cache Extensibility

- **State Management**
 - Managing state within a page
 - Managing state across pages
 - Managing state within a single visit
 - Managing long-term state across visits

- **Security for Web Applications**
 - IIS authentication/authorization
 - ASP.NET authentication/authorization
 - Security objects
 - Scenario based best practice
 - Custom (Forms) authentication
 - Using the Membership and Roles APIs
 - Membership controls

- **Under the covers**
 - ASP.NET pipeline
 - Writing Custom ASP.NET modules
 - Writing Custom ASP.NET handlers

- **Routing**
 - Why Routing?
 - Routing and Web Forms
 - RouteTable and PageRouteHandler
 - RouteData
 - Expression Builders

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- **Routing**
- **ASP.NET Web & WCF Services**
- **Introduction to ASP.NET AJAX**
- Parameters
- Exposing a simple Web Service
- Consuming a simple Web Service
- Creating a WCF service
- Consuming a WCF service
- AJAX Scenarios
- Infrastructure
- ASP.NET AJAX controls
- Introduction to ASP.NET AJAX script library
- Consuming a Web Service from the client
- ASP.NET AJAX Application Services

Course Duration:

5 Days