

Developing ASP .NET Web Forms Applications using Visual Studio

Learn via: **Classroom / Virtual Classroom**

Duration: **5 Days**

Overview

This course provides the necessary skills and techniques to design and write scalable, robust and secure Web applications using Microsoft Visual Studio and the ASP.NET Framework.

You will gain in-depth 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 web application. The course is presented as a mixture of lectures and hands-on exercises. Instructions and solutions are provided in both C# and Visual Basic, enabling you to work with your choice of language. (Before attending, delegates must already know one of these .NET languages.)

Prerequisites

- Delegates must have basic knowledge of HTML and web page creation using JavaScript and CSS.
- Delegates should have existing knowledge of a .NET programming language (C# or VB.NET).
- Delegates without these skills would benefit from attending a .NET programming language course.

What You Will Learn

- Create web application projects using Visual Studio 2015
- Use Master Pages, CSS, themes and skins to enforce design principles Understand and manage state across and within page transitions
- Create modular user interfaces with user controls
- Implement site navigation mechanisms
- Use validation techniques to ensure input data accuracy
- Diagnose problems and implement a coherent error handling architecture
- Create data-driven and data-bound user interfaces using relational data sources, LINQ, and the Entity Framework
- Use routing to simplify URLs within an ASP.NET web application Create and use simple ASP.NET Web Services and WCF services
- Describe and implement ASP.NET AJAX functionality to provide a richer UI experience Improve performance with caching
- Implement authentication, authorisation and role based security using the ASP.NET Understand the membership system and the login controls
- Use some of the new elements and attributes of HTML5
- Extend the pipeline using custom modules and handlers

Outline

Module 1: Welcome to ASP.NET

- What is ASP.NET
- Creating a Web Site
- Project and solution structures ASP.NET folder structure
- Essential features for Web development
- Understanding code separation
- Creating a page and using server controls

Module 2: Building blocks of the web

- HTTP Refresher
- The DOM
- CSS Refresher
- Javascript primer
- Themes
- Skinning controls

Module 3: ASP.NET Page Processing

- Application configuration
- Processing model Page execution Event lifecycle
- Object model overview

Module 4: State Management

- ViewState
- ControlState
- Cookies
- Application and Session state

Module 5: User controls

- Refresher - encapsulation and properties
- Introduction to User controls
- Benefits of reuse

Module 6: Master pages

- Revisiting Control Trees
- Naming Containers
- Benefits of Master pages
- Nested master pages

Module 7: Moving the user and transferring data

- Navigation API
- Crosspage postbacks
- Redirects
- Server.Transfer
- Server.Execute

Module 8: 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

Module 9: Understanding Data in ASP.NET

- Building blocks of data with ADO.NET
- Separation of Data
- Using Entity Framework
- Building a model
- Consuming a model
- Binding to data

Module 10: Databinding and controls

- Data source controls
- Entity Data Source
- The GridView, FormView, DetailsView ListView, DataPager
- Treeview Charts
- Strongly typed controls

Module 11: Routing

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

Module 12: WCF Services

- Exposing a simple Web Service Consuming a simple Web Service
- Creating a WCF service
- Consuming a WCF service
- RESTful services

Module 13: Creating a modern UI using ASP.NET AJAX

- What is AJAX?
- Update Panels
- Nuget and package dependencies
- Using the AJAX Control Toolkit
- AJAX with web services

Module 14: Caching and data reuse

- Output caching and substitution Cache Providers
- Cache API Caching data
- Cache dependencies

Module 15: Security and Membership API

- IIS authentication/authorization
- ASP.NET authentication/authorization
- Security objects
- Custom (Forms) authentication
- Using the Membership and Roles APIs Membership controls

Module 16: ASP.NET and HTML5

- ASP.NET and HTML5

Appendix A: Under the covers

- The ASP.NET pipeline
- Writing Custom ASP.NET Modules
- Writing Custom ASP.NET Handlers