ASP.NET 4.0 Programming Using Visual Basic.NET

Duration: 5 Days | **Price:** CDN$2875 *Prices are subject to GST/HST

Course Description: This course provides students with hands on experience using Visual Studio to create dynamic web applications with the ASP.NET 4.0 Framework using Visual Basic.NET. This class provides a thorough introduction to the Visual Basic programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods.

Students then learn how to leverage the power of the .NET Framework to build web user interfaces. Students will learn how to build web forms and work with a variety of ASP.NET controls, including validation controls and user controls. Students explore why state management is difficult within web applications and learn many different ASP.NET techniques for managing state, including application, session and view state objects, as well as effective use of cookies. Students also learn how to use ADO.NET to interact with data sources and display data.

Other topics include: error handling and debugging; using Web.config to control application configuration; uploading files and sending e-mail; using master pages to provide a consistent look and feel to a web application; developing and consuming web services; file I/O; using XML data with DataSets; and deploying ASP.NET applications. Comprehensive labs and exercises provide the students with experience creating and deploying dynamic web applications.

This course provides thorough coverage of the use of **Web Forms** for web applications. Students requiring additional coverage of **Windows Forms** or **Windows Presentation Foundation** should contact HOTT to discuss additional training available.

Students who are already familiar with the VB.NET language syntax may want to take the 3-day ASP.NET 4.0 Programming for Experienced Visual Basic.NET Programmers class instead.

Course Prerequisites: Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

ASP.NET 4.0 Programming Using Visual Basic.NET Course Overview:

Introduction to .NET

- Overview of the .NET Framework
- How .NET is Different from Traditional Programming
- Common Language Runtime (CLR)
- Common Language Specification (CLS)
- Common Type System (CTS)
- .NET Assemblies
- Microsoft Intermediate Language (CIL)
- .NET Namespaces
- .NET Framework Class Library

Introduction to Visual Studio

- Setting Profiles
- Creating a Project
- Using the Code Editor
- Setting Project Properties
- Adding References
- Compiling a Program
- Running a Program
- Debugging a Program
- Using the MSDN (Help)

Language Fundamentals

- VB.NET Program Structure
- Defining Namespaces

Conditionals and Looping

- If
- If/Else

- Understanding VB.NET's My Namespace
- Understanding VB.NET Data Types
- Defining Variables and Constants
- Comparing Value Types versus Reference Types
- Working with Operators and Expressions
- Performing Type Conversions
- Using Console I/O
- Formatting Numbers, Date and Times

- If/ElseIf/Else
- Select Case
- Do Loop
- While Loop
- For/Next
- For Each/Next

Procedures and Parameters

- Subroutines versus Functions
- Defining Shared and Instance Procedures
- Passing Parameters by value and by reference
- Overloading Procedures
- Optional Parameters
- Using Variable Length Parameter Lists

Exception Handling

- What are Exceptions?
- .NET Exception Hierarchy
- Catching Exceptions
- Throwing Exceptions
- Managing Resources with Finally

Collections

- Defining and Using Arrays
- Understanding System.Array
- Using .NET Collections
- Working with ArrayLists and Hashtables
- Working with Lists and Dictionaries
- Introducing LINQ

Object-Oriented Programming

- Overview of Object-Oriented Programming
- Defining and Using Classes
- Extending .NET Classes via Inheritance
- Defining and Implementing Interfaces
- Understanding the Role of Interfaces in .NET
- Working With Enumerations

Introducing ASP.NET

- Overview of ASP.NET 4.0
- Understanding Client-Side vs. Server-Side Execution
- Working with Web Forms
- Understanding ASP.NET Application Folders
- Using Web.config

Creating ASP.NET Pages

- Building ASP.NET Pages
- Using Page Directives
- Working with the Code-Behind Model
- Understanding the Life-cycle of a Web Form
- Handling Page Events

Using Controls

- Working with HTML Controls
- Working with Web Controls
- Creating Controls at Runtime
- Defining and Using Custom User Controls

Handling Events

- Understanding the Event Driven Programming Model
- Writing Event Handlers
- Understanding PostBack versus Non-PostBack Events
- Sharing Event Handlers between Events
- Using Global.asax

Validation

- Understanding the ASP.NET Validation Controls
- Performing Client-Side Validation

Master Pages

- Understanding the Master Page Architecture
- Designing a Master Page

- Performing Server-Side Validation
- Using the Regular Expression Validator
- Customizing Validation
- Working with Validation Groups

- Designing Content Pages

Maintaining State

- Understanding why the Web is Stateless
- Maintaining State within ASP.NET Applications
- Using the Application Object
- Using the Session Object
- Using the ViewState Object
- Reading and Writing Cookies
- Using the Query String

ADO.NET

- Understanding the ADO.NET Object Model
- Connected vs. Disconnected Access
- Using a Connection to Connect to a Data Source
- Using a Command to Execute Queries and Stored Procedures
- Using a DataReader to Work with Cursors
- Using the DataSet with Disconnected Data
- Using DataAdapters with DataSets

Using XML

- Understanding XML and XML Schemas
- Reading XML Data with a DataSet
- Writing XML Data with a DataSet

Data Binding

- Understanding ASP.NET Data Binding
- Examining ASP.NET Data Bound Controls
- Using the ListBox Control
- Using the GridView Control
- Using the DetailsView Control
- Using the FormView Control

Securing ASP.NET Applications

- Understanding the ASP.NET 4.0 Security Models
- Authenticating Users
- Authorization User Requests
- Using the ASP.NET Login Controls
- Using the ASP.NET Web Site Administration Tool

Introduction to Web Services

- Overview of Web Services
- Creating a Web Service
- Using WSDL and Proxy Classes
- Consuming a Web Service

Deploying ASP.NET Applications

- Overview of ASP.NET Deployment Options
- Using Copy Web Site Tool
- Using Publish Web Site Tool
- Using Web Setup Projects

Student Testimonials

"Instructor was excellent. He made the class enjoyable and was able to convey difficult concepts into meaningful, understandable and easy to grasp concepts. His knowledge and experience is obviously at expert level."
– S.H., Tyco/ADT

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