

## ASP .NET 3.5 Programming Using Visual Basic.NET

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

**Length:** 5 Days

**Summary:** This course provides students with hands on experience using Visual Studio to create dynamic web applications with the ASP.NET 3.5 Framework using VB.NET. This class provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods.

### COURSE CONTENT

#### 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
- Using 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

#### CONDITIONALS AND LOOPING

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

#### PROCEDURES AND PARAMETERS

- Subroutines vs. Functions
- Defining Static and Instance Procedures
- Passing Parameters by value and by reference
- Overloading Procedures
- Using Variable Length Parameter Lists

#### EXCEPTION HANDLING

- What are Exceptions?
- .NET Exception Hierarchy
- Catching Exceptions
- Throwing Exceptions

- Managing Resources with Finally
- Defining Custom Exception Types

## COLLECTIONS

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

## OBJECT-ORIENTED PROGRAMMING

- Overview of Object-Oriented Programming
- Defining and using Structures
- Defining and using Enumerations
- Understanding System.Enum
- Defining and Using Classes
- Extending .NET Classes via Inheritance
- Defining and Implementing Interfaces
- Understanding the Role of Interfaces in .NET

## ASP.NET 3.5 FEATURES

- Overview of ASP.NET 3.5
- Understanding Client-Side vs. Server-Side Execution
- Working with Web Forms
- Understanding ASP.NET Application Folders
- Using Web.config
- Integrating AJAX with ASP.NET

## 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
- UnderstandingPostBack versus Non-PostBack Events
- Sharing Event Handlers between Events
- Using Global.asax

## VALIDATION

- Understanding the ASP.NET Validation Controls
- Performing Client-Side Validation
- Performing Server-Side Validation
- Using the Regular Expression Validator
- Customizing Validation
- Working with Validation Groups

## MASTER PAGES

- Understanding the Master Page Architecture
- Designing a Master Page
- 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 IN ASP.NET 3.5**

- Understanding ASP.NET Data Binding
- Examining ASP.NET Data Bound Controls
- Using the List Box Control
- Using the Grid View Control
- Using the Details View Control
- Using the Form View Control
- Using the List View Control

#### **SECURING ASP.NET APPLICATIONS**

- Understanding the ASP.NET 3.5 Security Model
- 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 3.5 Deployment Options
- Using Copy Web Site Tool
- Using Publish Web Site Tool
- Using Web Setup Projects