

Programming with .NET: A Comprehensive Hands-On Introduction - 4 Days

Course 502 Overview

- You Will Learn How To**
- Design and program Web and Windows applications using Microsoft .NET and Visual Studio
 - Write object-oriented code using Visual Basic and C#
 - Leverage Visual Studio for code generation, user interface design, automated testing and debugging
 - Create ASP.NET Web applications and process Web Forms
 - Control Web site access with Web Forms authentication
 - Build SQL Server databases and access them using ADO.NET
- Course Benefits** Microsoft .NET is a suite of tools which enables you to easily develop modern software applications. In this course, you acquire the fundamental knowledge and hands-on experience to write object-oriented applications using Visual Basic and C#. You learn how to design and test applications with Visual Studio, create ASP.NET Web applications and connect to the database using ADO.NET.
- Who Should Attend** Web designers, administrators, power users and others who want an introduction to programming applications using .NET and are new to object-oriented programming. Prior programming experience is helpful but not required.
- Hands-On Training** You develop ASP.NET and Windows applications with VB or C# and the .NET Framework. Exercises include:
- Writing object-oriented applications using Visual Basic or C# language constructs
 - Programming Windows desktop and console applications
 - Planning and designing object-oriented applications, classes and UIs
 - Leveraging Visual Studio tools for rapid application development and testing
 - Creating ASP.NET Web applications and processing Web Forms
 - Managing Web users with ASP.NET Forms authentication
 - Saving data to SQL Server databases using ADO.NET

Programming with .NET: A Comprehensive Hands-On Introduction - 4 Days

Course 502 Outline

.NET Programming Fundamentals

Building applications with Visual Studio

- Managing projects with Solution Explorer
- Setting project properties and adding references
- Adding files, folders and code
- Compiling, debugging and testing programs

Coding object-oriented applications

- Dividing code into classes
- Adding fields, methods properties, events and constructors to classes
- Defining scope and visibility

VB and C# Language Syntax

Working with data types and conversions

- Strings
- Dates and time
- Integers
- Real numbers
- Booleans
- Performing calculations with mathematical operators
- Converting between data types

Controlling program execution

- IF statements
- CASE (switch) statements
- For...Next loops
- Do-While...loops
- Storing multiple values with arrays

Handling errors

- Throwing exceptions
- Try...Catch...Finally error handling
- Using the debugger

Automating testing with Visual Studio

- Creating Visual Studio test projects
- Writing unit tests
- Testing classes, properties, method and exceptions

Crafting Windows Applications

Windows application basics

- Creating forms and controls
- Navigating with menus
- Automating code with the Toolbox and Properties window

Event-driven programming

- Handling events from the user interface
- Declaring and raising events within custom classes

- Displaying dialog forms

Designing Object-Oriented

Applications

Separating application responsibilities into classes

- Single responsibility principle
- Programming models, views and controllers

Simplifying maintenance through inheritance

- Implementing a base class
- Defining virtual and abstract methods
- Overriding methods in derived classes

Programming Web Applications with ASP.NET

Constructing ASP.NET Web sites with Visual Studio

- Writing HTML pages and forms
- Maintaining consistency with Master Pages
- Designing pages with ASP.NET controls
- Styling sites with ASP.NET themes

Processing ASP.NET Web Forms

- Displaying data and gathering user input
- Initialising Web Forms controls
- Activating Web Forms with events
- Maintaining variables with Sessions

Controlling Web site access

- Configuring Web Forms security
- Setting up a user login page
- Automating user account creation

Incorporating Relational Databases

Relational database concepts

- Employing databases for fast, efficient storage
- Selecting, inserting, updating and deleting query syntax

Creating a SQL Server database

- Adding tables, fields and indexes
- Defining primary and foreign key relationships

Accessing the database with ADO.NET

- Connecting to the database and running SQL commands
- Storing user information
- Retrieving existing records

Deploying .NET Applications

- Installing the .NET Framework
- Publishing applications with ClickOnce
- Moving ASP.NET applications to the Web