

C# Essentials (VS2008)

(2 Days) CTI 4102

This course is for programmers with experience in object-oriented languages.

Prerequisites: The student must be an experienced application developer or architect with a background in an object-oriented language.

Minimum software requirements: Microsoft Visual Studio 2008 Standard Edition or higher on Windows XP with Service Pack 2.

Minimum hardware requirements for all machines: Pentium 2GHz or better CPU; 512 Mb RAM; at least 4 GB free hard disk space before installation; Internet access; machines must be networked.

Microsoft PowerPoint and Internet access on instructor's workstation for presentation purposes.

Module 1: .NET: What You Need to Know

.NET Executables and the CLR
A .NET Testbed for C# Programming
Visual Studio 2008

Module 2: C# Overview for the Sophisticated Programmer

First C# Console Application
Namespaces
Data Types
Conversions
Control Structures
Subroutines and Functions
Parameter Passing
Strings
Arrays
Console I/O
Formatting
Exception Handling

Module 3: Object-Oriented Programming in C#

Classes
Access Control
Methods and Properties
Asymmetric Accessor Accessibility
Static Data and Methods
Inheritance
Overriding Methods
Abstract Classes
Sealed Classes
Access Control and Assemblies

Module 4: C# and the .NET Framework

Components
Interfaces
System.Object
.NET and COM
Collections
IEnumerable and IEnumerator
Copy Semantics in C#
Generic Types
Type-Safe Collections
Attributes

Module 5: Delegates and Events

Delegates
Anonymous Methods
Random Number Generation
Events

Module 6: Introduction to Windows Forms

Creating Windows Applications Using Visual Studio 2008
Partial Classes
Buttons, Labels and Textboxes
Handling Events
Listbox Controls

Module 7: New Features in C# 3.0

Auto-Implemented Properties
Implicitly Typed Variables
Object Initializers
Anonymous Types
Partial Methods
Extension Methods
Lambda Expressions
Language-Integrated Query (LINQ)

Appendix A: Using Visual Studio 2008

Versions of Visual Studio
Overview of Visual Studio 2008
Creating a Console Application
Project Configurations
Debugging
Multiple-Project Solutions

Appendix B: Learning Resources