

Microsoft .NET is an advance in programming technology that greatly simplifies application development both for traditional, proprietary applications and for the emerging paradigm of Web-based services. .NET is a complete restructuring of Microsoft's whole system infrastructure and represents a major learning challenge for programmers developing applications on Microsoft platforms.

This comprehensive 1-day C# & .NET training course is designed for the experienced programmer to help you quickly come up to speed on the C# language and the core features of the .NET Framework.

## Pre-requisites

We recommend having some coding experience and a good understanding of [HTML](#) before this course but as we run this course privately the content can be tailored to your requirements. Please call 01273 622272 to discuss your needs.

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## Course Objectives

This C# and .NET training course gives attendees:

- A rapid introduction to the C# language
- An understanding of the core features of the .NET framework
- An overview of object-oriented programming that can be applied to further development skills

## .NET - what you need to know

- .NET Executables and the CLR
- A .NET Testbed for C# Programming

## C# for the sophisticated programmer

- First C# Console Application
- Namespaces
- Data Types
- Control Structures
- Subroutines and Functions

- Classes
- Access Control
- Methods and Properties
- Static Data and Methods
- Inheritance
- Overriding Methods
- Interfaces

## **C# and the .NET framework**

- Class Hierarchies
- .NET Interfaces
- Using Generic Interfaces: icloneable and icomparable
- System.Array
- Collections
- Delegates
- Events

## **Interoperating with com and win32**

- .NET Client Calling a COM Server
- COM Client Calling a .NET Server
- pinvoke

## **Database programming using ado.net**

- ADO.NET Overview
- .NET Data Providers
- Using datareaders
- Using datasets
- Interacting with XML Data

## **Visual Studio .NET database testbed**

- Server Explorer
- Query Analyzer
- OSQL

## **Using Visual Studio .NET**

- Overview of Visual Studio.NET
- Creating a Console Application
- Project Configurations
- Debugging

## **.NET fundamentals**

- What is Microsoft .NET?
- Common Language Runtime
- Attribute Based Programming
- Interface Based Programming
- Metadata
- Common Type System
- Framework Class Library

- Web Services
- ASP.NET

## Class libraries

- Components in .NET
- Building Class Libraries at the Command Line
- Class Libraries Using Visual Studio .NET
- Using References

## Assemblies and deployment

- Assemblies
- Private Assembly Deployment

## Metadata and reflection

- Metadata
- Reflection
- Late Binding

## Introduction to windows forms

- Creating Windows Applications Using Visual Studio .NET
- Handling Events
- Shared Assembly Deployment
- Assembly Configuration
- Multi-Course Assemblies

## I/O and serialisation

- Directories
- Files
- Serialisation
- Attributes

## .NET programming model

- Threading and Synchronization
- Contexts
- Application Domains
- Marshal By Value
- Marshal By Reference
- Memory Management and Garbage Collection

## Security

- Authentication and Authorization
- Internet Security
- Configuring Security
- Code Access Security

- Permissions
- Role-Based Security
- Principals and Identities

Gain a working knowledge of C# & .NET in a day and start developing programs for a wide range of applications.

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