

Complete C# programming

A 5 day **Hands on** training course



Description

This training course teaches developers the programming skills that are required for developers to create Windows applications using the C# language. Students review the basics of C# program structure, language syntax, and implementation details, and then consolidate their knowledge throughout the week as they build an application that incorporates several features of the .NET Framework.



Key outcomes

By the end of the course delegates will be able to:

- ✓ Use the syntax and features of C#.
- ✓ Create and call methods, catch and handle exceptions, and describe the monitoring requirements of large-scale applications.
- ✓ Implement a typical desktop application.
- ✓ Create class, define and implement interfaces, and create and generic collections.
- ✓ Read and write data to/from files.
- ✓ Build a GUI using XAML.



Training Approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.



Details

Who will benefit?

Those wishing to program in C#.

Prerequisites

Developers attending this course should already have gained some limited experience using C# to complete basic programming tasks.

Duration: 5 days

Customer rating: ★★★★★

Generic Training



Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"Friendly environment with expert teaching that teaches the why before the how."
G.C. Fasthosts

Small Class Sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."
M.B. IBM

Hands On Training



The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."
J.W. Vodafone

Our Courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Comprehensive materials that made the course easy to follow and will be used as a reference point."
V.B. Rockwell Collins

Customise Your Course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."
S.R. Qinetiq

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Course Content

Review of C# Syntax

Overview of Writing Applications using C#, Datatypes, Operators, and Expressions. C# Programming Language Constructs. Lab: Developing the Class Enrolment Application.

Methods, exceptions and monitoring apps

Creating and Invoking Methods. Creating Overloaded Methods and Using Optional and Output Parameters. Handling Exceptions. Monitoring Applications. Lab: Extending the Class Enrolment Application Functionality.

Developing a graphical application

Implementing Structs and Enums. Organizing Data into Collections. Handling Events. Lab: Writing the Grades Prototype Application.

Classes and Type-safe collections

Creating Classes. Defining and Implementing Interfaces. Implementing Type-safe Collections. Lab: Adding Data Validation and Type-safety to the Grades Application.

Class hierarchy using Inheritance

Class hierarchies. Extending .NET framework classes. Creating generic types. Lab: Refactoring common functionality into the User Class.

Reading and writing local data

Reading and Writing Files. Serializing and Deserializing Data. Performing I/O Using Streams. Lab: Generating the Grades Report.

Accessing a Database

Creating and using entity data models. Querying and updating data by using LINQ. Lab: Retrieving and modifying grade data.

Accessing remote data

Accessing data across the web and in the cloud. Lab: Modifying grade data in the Cloud.

Designing the UI for a graphical application

Using XAML to design a User Interface. Binding controls to data. Styling a UI. Lab: Customizing Student Photographs and Styling the Application.

Improving performance and responsiveness

Implementing Multitasking by using tasks and Lambda Expressions. Performing operations asynchronously. Synchronizing concurrent data access. Lab: Improving the responsiveness and performance of the application.

Integrating with unmanaged code

Creating and using dynamic objects. Managing the Lifetime of objects and controlling unmanaged resources. Lab: Upgrading the grades report.

Creating reusable types and assemblies

Examining Object Metadata. Creating and Using Custom Attributes. Generating Managed Code. Versioning, Signing and Deploying Assemblies. Lab: Specifying the Data to Include in the Grades Report.

Encrypting and Decrypting Data

Implementing Symmetric Encryption. Implementing Asymmetric Encryption. Lab: Encrypting and Decrypting Grades Reports.

What our customers say

"Absolutely brilliant, very knowledgeable and helpful trainer would recommend to teach anyone. Kept me interested 100% of the time which is very impressive as this does not happen often, if at all!"

O. B. Network Rail

"The best technical course I've been on!"

L. W. Fujitsu Telecoms Europe

"Very well thought out and structured course. Would recommend 100%. Lots of equipment, good quality."

A.R. Unipart

"Course content is interesting. Relevant to current systems and presented well."

S.S-T. Arqiva

Step back

Software development fundamentals

Complete C# programming

Step forward

Object Oriented Analysis & Design

Git and GitHub for engineers