

Price: R7,800.00 excl. VAT
Duration: 4.5 days
Code: CSHRP

C# Programming

Description

C# is Microsoft's preferred language for developing systems for the Windows .NET framework. C# is also used in Mono, which provides .NET functionality on other operating systems, such as Linux. This course will teach you the fundamentals of the C# language so that you can write C# programs, or maintain existing C# code. You will learn .NET concepts and the basics of object orientation, as used in C#. The course will also teach you some of the skills you need to develop web applications for .NET and Mono.

Objectives

After you have completed the C# Programming course, you will be able to:

- Understand basic principles of object orientation and how they apply to C#.
- Understand the principles of the .NET framework.
- Write your own C# programs for .NET or Mono.
- Read and maintain C# programs.
- Debug C# code to find and correct mistakes.

Intended Audience

You should attend the C# Programming course if:

- You are a programmer and you want to learn the C# language.
- You need to support existing C# or ASP.NET systems.
- You want to develop .NET web applications. You need to attend this course before you attend the ASP.NET Development course .
- You have already learnt some C# - perhaps on your own or at university - but struggle with some concepts or have gaps in your knowledge.

Prerequisites

Before you attend the C# Programming course:

- You must already be a programmer and have experience in programming.
- If you are a mainframe programmer, please consider first attending our Object-Oriented Analysis and Design Course. It will make your move to C# faster and easier.

Course Contents

.NET Framework Fundamentals

- .NET Framework SDK.
- Principles.
- Prerequisites and installation.
- MSIL - Microsoft Intermediate Language.
- CTS - Common Type System.
- Assemblies and the GAC - Global Assembly Cache.
- BCL - Base Class Library.
- Reflection.
- .NET languages.

- JIT - Just In Time compilation.
- Features and benefits.
- Other implementations - GNU, Mono.

Getting Started with C#

- Command line compilation.
- Hello World program.
- Comments.
- The Main() function.
- Console I/O.
- Using elements in the Base Class Library.
- Example assemblies and modules.
- Visual Studio.NET.
- Solutions and Projects.
- Toolbox, Property Explorer and Solution Explorer.
- Debugging.

C# Language Syntax

- Program structure.
- Iteration and selection statements.
- Tokens.
- Literals.
- Namespaces.
- Variables.
- Scope.
- Classes.
- Keywords.
- Expressions.
- Operators.
- Events.
- Delegates.
- Reference and value types.
- Embedded documentation.
- Exception handling.
- Attributes.

Classes and Structs

- Principles.
- Classes.
- Methods and Properties.
- Constructors.
- Encapsulation.
- Polymorphism.
- Abstraction.
- Indexers.
- Delegates.

- Regular expressions.
- Finalize method.

Windows Forms

- Forms and GDI+ classes.
- Creating forms.
- Controls.
- Properties.
- Events.
- Menus.
- Dialog forms.
- Visual inheritance.
- Listview and Treeview.
- Dynamic controls and events.

Base Class Library

- Network Programming.
- File I/O.
- ADO.NET Database programming.
- Remoting.
- SOAP.
- XML.
- Collections.
- Win32 API access.
- ASP.NET.
- Web Services.
- COM Interop.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*