

Microsoft Visual C# - Course Outline

This Course oriented to Programmers and Students who want to specify in C# Programming, After This Course You Will Be Able to Programming on .Net Platform and to Build Businesses Solutions Applications and Analysis and solves any Problem in .Net Programming.

Introduction to Microsoft .Net Platform:

- What is .Net Framework?
- The Benefit of using .Net Framework
- .Net Framework Components
- The Languages of .Net Framework and Compare between Them

An Overview on C# by Using Console Application:

- The Structure of C# Program
- Input/output Logical/Mathematical operators
- Compiling, Running and Debugging
- Exceptions (Exception Types, Jumping, Debugging)
- Convert Variables Types (Integers, floating, strings, Boolean ...)
- Arrays (Types of Array, Fill Array, and Read from Array ...)
- Looping (While, do While, For, Foreach) & Conditions (if, if/else, Switch)

More Advanced Topics:

- Using Pointers in C# (unsafe code, Reference value)
- Working with Functions
 - o Function Declaration and Function Call
 - o Parameters Contain Sender and Return Value or Void
 - o Working With Methods , Properties , Collections
- Access Modifier (Public, Private, Static, Protected)
- Constructor / Deconstructor
- Namespaces in The .Net Framework
- XML Documentation

The Concept of OOP (Object Oriented Programming) on C#:

- Classis
- Inheritance
- Polymorphisms
 - Overloading
 - Virtual Function & overriding
- Encapsulation
- Other Selections Topics (Events, Interfaces, Indexers , Delegates)

Introduction to Visual C# - Windows Application:

- **Working With Forms (Create an Form , Using Hide/Show/Close Methods, Using Properties and Events)**
- **Working With Controls :**
 - Buttons Control
 - Textbox Control
 - Radio Box Control
 - List Box Control
 - Checkbox Control
 - Combo Box Control
 - List view Control
 - Tab Control
 - Status bar Control
 - Menus
 - Tool bar
 - File dialog
 - Printing overview
 -
- **Working with Files (Stream, Write/Read to/from File, Copy/Delete File)**
- **Working with Windows Registry**
- **Working with DLL Files (Create a DLL File, Using DLL Files)**

ADO.NET (ActiveX Data Object) Programming:

- ADO.NET Overview
- Connection to Database (Access DB , SQL Server DB & Oracle Database)
- Data Provider
- Using Dataset to Filling and Reading Data
- Introduction to SQL- Structure Query Language
- Using Controls With ADO.NET For Example Using Textbox to Read and Write Data, DataGrid Control to Read/Write Data
- Create an Application By Using (Select , Insert , Update , Delete)
- Crystal Report Programming

C# Network Programming:

- Introduction to Networking (TCP/IP, Layers, Ports, Protocols)
- The Concept of Socket in Dot Net
- Using TCP Connection Oriented and UDP Connectionless in Dot Net
- Using Streams Library (Memory Stream , Network Stream, IO Stream)
- Using Threading and Multithreading With Network Applications
- Create Simple Messenger System

Programming skills:

- How to Solve Your Programming Problems
- Thinking and Analysis
- How to build Your Project

References:

- 1- Karli Watson, Beginning C#, Wrox Press 2004.
- 2- Simon Robinson, Professional C# 2nd Edition, Wrox Press 2004
- 3- Christa Anderson, Mastering Local Area Networks , Mastering 1998
- 4- Richard Blum, C# Network Programming, Sybex 2003.
- 5- Microsoft MSDN 2005, <http://msdn.microsoft.com>
- 6- C# Corner, www.c-sharpcorner.com , C# Corner Team.
- 7- Code Project www.codeproject.com/cs , Code Project Team.

Implemented By: Mr. FADI Mohammad Abdel-qader– Mobile# +962 796 28 44 75
