

Visual Basic .NET

Course Aims:

This course is design to provide programmers with the essential skills and knowledge necessary to allow them to become competent in developing VB .NET applications. This course can also be used as a VB6 to VB .NET upgrade.

Course Outline:

Overview of the .NET platform:

- The .NET Framework

The Microsoft Visual Studio IDE:

- The menus in the IDE
- The IDE toolbars
- The IDE Windows
- Visual Studio 2008
- Creating a Visual Basic Console Application
- Using Namespaces
- Windows vs Console Applications
- Code Snippets

Variables, Operators & Expressions:

- VB Primitive Data Types
- Declaration & Initialisation of Variables
- Variable Scope & Persistency
- Static Variables
- Operators
- Operator Precedence
- Infinity & Other Oddities
- Byte Variables
- Boolean Variables
- Characte & String Variables
- Date Variables
- Object Variables
- Option Strict
- Type Conversion
- User Defined Types
- Constants
- Enumerations
- Arrays
- Formatting Numbers & Dates

Programming in VB:

- Decision Statements
- Loop Statements
- Exceptions
- Procedures & Functions

Windows Forms Applications:

- Basic Windows Controls
- Working With Forms
- Menus, Toolbars & StatusBars
- MDI Applications
- Advanced Controls
- Data Validation

Object Oriented Programming:

- OO Concepts
- Classes
- Creating & Destroying Objects
- Operator Overloading
- References & Values
- Inheritance
- Polymorphism
- Interfaces
- Visual Inheritance

Object Oriented Programming(Cont):

- Properties & Indexers
- Delegates
- Events

Collection Classes:

- The ArrayList Class
- The Queue Class
- The Stack Class
- The SortedList Class
- The Hashtable Class

File I/O:

- Sequential (text) files
- Binary files
- File management

Drawing with GDI+:

- The Graphics Class
- Graphics Objects
- The Pen Class
- The Color Structure
- The Font Class
- The Brush Class
- The Rectangle Structure
- The Point Structure
- The Size Structure

Databases & ADO.NET

- Introduction to ADO.NET
- The System.Data Namespace
- The AdventureWorks Database
- Connecting to a Database
- Connecting to a Database Programmatically
- Accessing the Data
- Displaying Data in a Forms Application
- Disconnected DataSets
- What is a DataSet?
- ADO NET Data Provider
- The Connection Object
- The Command Object
- The DataReader Object
- The DataAdapter Object
- Commands & Stored Procedures
- Transactions
- Database Exceptions

MultiThreaded Applications:

- What is Multithreading?
- When To Use Multiple Threads
- Advantages of Multiple Threads
- Disadvantages of Multiple Threads
- Threading and Application Design
- Using a Thread Pool
- Creating Your Own Threads
- BackgroundWorker
- Thread Synchronisation
- Synchronisation Using the Monitor Class

Target Audience:

Systems and applications programmers who will be developing systems in VB .NET Anyone who wants a practical understanding of VB .NET will benefit from this course. It is suitable for software engineers who want to expand their knowledge in a powerful all-purpose language and managers who want to manage VB programming projects.

Assumed Knowledge:

Participants should have a basic knowledge of programming techniques and at least one programming language.