

Advanced VB.Net

Programming with the .NET 3.5 Framework

Introduction to .NET

- Overview of the .NET Framework
- How .NET is Different from Traditional Programming
- Common Language Runtime (CLR)
- Common Language Specification (CLS)
- Common Type System (CTS)
- Overview of .NET Assemblies
- Microsoft Intermediate Language (MSIL)
- .NET Namespaces
- .NET Framework Classes

Introduction to Visual Studio.NET

- Setting Profiles
- Creating a Project
- Using the Solution Explorer
- Setting Project Properties
- Adding References
- Using the Code Editor
- Compiling a Program
- Running a Program

Language Fundamentals

- VB.NET Project Types
- Program Structure
- Defining Namespaces
- VB.NET Data Types
- Declaration and use of Variables and Constants
- Operators and Expressions
- Console I/O
- Type Conversions and Type Checking

Control.of.Flow Language

Conditional Statements

- If...Else
- If...Elseif...Else

Iterative statements

- Do...Loop
- While
- For...Next
- For Each...Next

Select Case

Procedures and Parameters

- Subroutines vs. Functions
- Parameters
- Passing by Value
- Passing by Reference
- Value Types versus Reference Types
- The Stack
- The Heap
- Procedure Overloading
- Variable Length Parameter Lists
- Type Checking
- Static Members

Exception Handling

- What are Exceptions
- Catching Exceptions
- .NET Exception Hierarchy
- Throwing Exceptions
- Managing Resources with Finally
- Defining Custom Exception Types

Data Structures

- Defining and Using Arrays
- Using System.Array
- Defining and Using Structures
- Defining and Using Enumerations
- Using System.Enum

Object-Oriented Programming Concepts

- Purpose of Object-Oriented Programming
- Building Classes
- Creating Objects
- Using Inheritance with .NET Classes
- Understanding the Role of Interfaces in .NET
- Understanding the Role of delegates in .NET
- ICollection
- IList
- IDictionary

Windows Forms Programming in Visual Studio.NET

- What are Windows Forms
- Overview of Controls
- The .NET Control Hierarchy
- Label and TextBox Controls
- Button Controls
- Using the Windows Forms Designer
- The Life-cycle of a Form

Using Controls

- Enabling/Disabling Controls
- Showing/Hiding Controls
- Setting Focus to a Control
- Making Choices Using the CheckBox and RadioButton Controls
- Managing Lists Using the ListBox, ComboBox, ListView and TreeView Controls
- Providing Assistance with the ToolTip Control
- Using the Up/Down Controls
- Building Menus, Toolbars and Statusbars in .NET 2.0
- New Controls in .NET 2.0

Working with Dialogs

- Using the MessageBox Class
- Using the Standard Dialogs
- Creating and Using Windows Dialogs
- Modal versus Modeless Dialogs
- Working with Modal Dialogs
- Using DialogResult
- Setting the Default and Cancel Buttons
- Using the ErrorProvider Control
- Working with Modeless Dialogs

ADO.NET

- The ADO.NET Object Model
- Client-Side vs. Server-Side Cursors
- Connected vs. Disconnected Access
- Using Connection Classes to Connect to a Data Source
- Using Command Classes to Execute Queries and Stored Procedures
- Insert, Update and Delete with ADO.NET
- Using DataReader Classes to Work with Cursors
- Using the DataSet Class with Disconnected Data
- Using DataAdapter Classes with DataSets

Data Binding

- Introduction to Data Binding
- Binding Controls using .NET 2.0

Using XML

- Introduction to XML and XML Schemas
- Reading XML Data with a DataSet

- Writing XML Data with a DataSet
- Working with Xml Documents
- Working with Configuration Files

Working with Assemblies

- The Role of .NET Assemblies
- Private and Shared Assemblies
- Understanding Private Assemblies
- Building and Using Single-File Assemblies
- Building and Using Multi-File Assemblies
- Understanding Shared Assemblies
- Strong Names
- Global Assembly Cache (GAC)
- Building, Configuring and Consuming Shared Assemblies

MDI Applications

- Introduction to MDI Applications
- Building the Parent Form
- Building the Child Form
- Spawning Child Forms

Working with Files

- System.IO Namespace
- Examining Files and Directories
- Opening Files
- Reading Files
- Writing Files

Deploying Applications

- Issues with Deployment
- Using XCOPY Deployment
- Using Visual Studio Deployment Projects

Visual Studio2008(.Net3.5) Features:

- Anonymous constructors
- Automatic properties
- Anonymous types
- The 'var' keyword
- Lambda expressions
- Extension methods
- Partial Methods
- Understanding Object Initializer Syntax.
- Language Integrated Query (LINQ)
 - Understanding the Role of LINK
 - First Look at LINK Query Expressions
 - LINK and Generic Collections
 - LINK and Non Generic Collections

- Internal Representation of LINK Query Operators
- LINK Queries
- The Role of LINK to ADO.NET
- Programming with LINK to DataSet
- Programming with LINK to SQL
- Introduction to Windows Communication Foundation(WCF)
- Introduction to Windows Presentation Foundation(WPF)
- Introduction to Windows Workflow foundation(WWF).
- Introduction to Silver Light.