



## **.NET**

### **OVERVIEW OF THE .NET FRAMEWORK**

- Getting started
- The Visual Studio .Net Development Environment
- Creating .Net Solutions and Projects
- Choices of projects, Managed code philosophy
- Intermediate Language (IL) & metadata, JIT Compiler

### **INTRODUCTION TO THE C# LANGUAGE THE EVOLUTION OF C#**

- OOP's in C#, Value and reference types
- Object Oriented Programming, What is Object?
- Encapsulation, Inheritance
- Abstraction, Polymorphism

### **DEFINING AND CALLING METHODS**

- The Main method specification
- Passing arguments and returning values
- The scope and lifetime of variables
- Static vs Instance methods, Classes & Namespaces
- Properties, Accessors & Indexers
- Namespace & using Alias

### **EXCEPTION HANDLING**

- What is Exception? Using try, catch & Finally
- Throwing Exceptions, User defined Exceptions
- Checked & Unchecked statements
- Boxing & Unboxing

### **ASSEMBLIES IN C#**

- The DLL Component, Creating DLLs
- Working with DLLs, Assemblies

### **WORKING WITH FILES**

- Files & Dir Class, File info & Dir info
- File Stream Object, Stream Writer & Reader
- Threading, Reflection, Generics, Delegates

### **PROJECT ASSIGNING AND DISCUSSION**

- ASP .Net Overview Differences between HTML Controls, .Net Web Controls
- Creating Web user controls for ASP .Net
- Separation of code and HTML
- Using Visual Studio to Create Web Forms

### **WORKING WITH ASP .NET**

- Introducing ASP .Net, Creating Web Forms
- Adding ASP .Net code to a Page, Using Web Controls

### **STATE MANAGEMENT**

- User & Applications, Cookies
- Session, Application, Caching

### **WEB & HTML CONTROLS COMPARED**

- Using Input Validation controls, Intr. to User control

### **SEPARATING CODE FROM CONTENT**

- Advantages of Partitioning an ASP .Net Page
- Creating and using Code Behind Pages & .cs files

## **DATABASE ACCESS**

### **INTRODUCTION TO ADO .NET**

- Database connections & references
- Saving form data to a database
- The Repeater control for formatting database data
- The DataList control for creating menus

### **THE DATAGRID CONTROL: PAGING, SORTING & EDITING DATA**

- Data Reader vs. Data Adapter, Datasets & XML
- Datasets vs. Data Views, Accessing Text Files
- Connecting to a Data Source, Accessing Data with Sets, Complex Data Bound Control
- Repeater Control, DataList control, GridView Manipulation, Building the Data Layer
- Architecting a scalable Data layer
- Adapting data tables into business objects
- Writing and calling stored procedures
- Optimizing data performance with caching
- DataTable, DataRow, TableAdapter
- Working with ADO.NET low-level objects Connection
- Command, DataReader, Parameters, Transaction
- Returning custom business entities using generics
- Leveraging the using block and IDisposable

### **USING TRACE IN ASP .NET PAGES**

- Overview to Tracing, Trace Information
- Page Level Trace & Application Level Trace

### **SECURITY**

- Integrating ASP .NET security Authentication
- Authenticating anonymous Internet users
- Achieving role-based Web security
- Leveraging the membership API

### **WEB SERVICES**

- Why Web Services?
- All about SOAP, Three steps to a Web Service
- Accessing a Web Services in any .Net Application

### **XML**

- Learning XML Basics Ensuring Consistency of Data In XML, Document, Rendering XML Documents
- Displaying Data with XSLT

### **UTILIZING LINQ IN A 3-LAYER ARCHITECTURE**

- Creating object models with LINQ to SQL
- Working with LINQ in the data access layer
- Filtering sorting & aggregating with LINQ to Object

### **ENHANCING WEB FORM CONTROLS WITH AJAX**

### **CONTROL EXTENDERS**

- CalendarExtender, SliderExtender
- Always Visible Control Extender, Auto Complete Extender, Building a XAML presentation layer



**HEADSTAR**  
**TECHNOLOGIES**

- Designing a UI with XAML  
**TESTING & HOSTING PROJECT**