

DOTNET TRAINING CURRICULUM

.Net Framework

- .NET Programming Framework
- .NET Languages
- VB.NET Versus VBScript
- Common Language Runtime
- .NET Class Library
- VB.NET and C#, some common differences
- Introduction to Visual Studio 2005

Writing Simple program using Visual Studio 2005 and using basic concepts (VB.NET and C#)

- Hello, World
- Compiling, Running
- Program Structure
- Namespaces
- Variables
- Inputs
- More about Classes
- Control Structures
- Switch
- Operators
- Data Types
- Integer Data Types

- Floating Point Data Types
- Implicit Conversions
- Explicit Conversions
- Boolean Data Type
- Struct
- Uninitialized Variables
- Nullable Types
- Reference Types
- Object
- String
- Copying Strings
- StringBuilder Class
- Classes and Structs
- Static and Instance Methods
- Method Parameters
- Classes with All Static Methods
- Parameter Passing
- Parameter Terminology
- Value Parameters
- Reference Parameters
- Method Overloading
- Variable Length Parameter Lists
- Arrays
- One-Dimensional Arrays
- System.Array
- Boxing and Unboxing
- Exceptions

- Checked Integer Arithmetic
- Throwing New Exceptions
- Finally
- System.Exception

Object-Oriented Programming in .NET

- Object-Oriented Features
- Encapsulation and Accessors
- Using a Property
- Namespace
- Constructors
- Static Members
- Static in Main
- Inheritance
- Derived Class
- Overriding a Virtual Function
- Abstract Classes
- Keyword: abstract
- Derived Class
- Sealed Classes
- Access Control and Assemblies
- Internal Accessibility
- Class Libraries

Programming with Interfaces and Collections

- Interfaces in .NET
- Interface Inheritance
- Programming with Interfaces
- Implementing Interfaces

- Using an Interface
- System.Object
- Collections
- ArrayList
- ArrayList Methods
- IEnumerable and IEnumerator
- Using Enumerators
- Collections of User-Defined Objects
- Deep Copy and ICloneable
- Attributes

.NET Programming Model

- Garbage Collection
- Finalize Method
- Destructor Notation
- Dispose
- Finalize/Dispose Test Program
- Processes
- Threads
- Simple Thread based Program
- Asynchronous Calls

Database Programming using ADO.NET

- ADO.NET Architecture
- .NET Data Providers
- Programming with ADO.NET Interfaces
- .NET Namespaces
- Connected Data Access
- ADO.NET Class Libraries

- Connecting to an OLE DB Data Provider
- Using Commands
- Creating a Command Object
- ExecuteNonQuery
- Using a Data Reader
- Disconnected Datasets
- Data Adapters
- Command Builder
- Main Program
- Creating a Data Adapter and Generating Commands
- Filling the Dataset
- Displaying the Data Set
- Adding a Row to the Data Set
- Deleting a Row
- Changing a Row
- Updating the Database
- Data Bound Controls
- DataGridView Control
- Performing a Query
- Creating a Dataset Manually
- Manual DataSet Code
- Using XML Data
- XML Schema and Data
- Using XML with a DataSet

Web Application Fundamentals

- Creating a Virtual Directory
- From ASP to ASP.NET

- Limitations of ASP
- Benefits of ASP.NET
- Sample ASP.NET Program
- ASP.NET Features
- Compiled Code
- Server Controls
- Browser Independence
- Separation of Code and Content

Web Forms Architecture

- Web Forms Architecture
- Sample ASP.NET Program
- Inheriting from Page Class
- Web Forms Life Cycle
- Web Forms Event Model
- Page Class
- Page Processing
- Page Directive
- Global.asax file
- Web.config file

State Management and Web Applications

- The Problem of State
- ViewState
- ViewState Example
- Transferring Information
- A Query String Example
- Cookies
- Cookie Example

- Session State
- Using Session State

Server Controls

- Server Controls in ASP.NET
- HTML Server Controls
- Using HTML Server Controls
- HTML Controls in Visual Studio
- Using HTML Controls
- Web Controls
- Validation Controls
- Required Field Validation
- Regular Expression Validation
- Rich Controls
- User Controls
- Using a User Control
- More Server Controls
- ASP.NET 2.0 Control Improvements
- New Controls in ASP.NET 2.0
- TreeView Control
- Master Page Application
- Visual Studio 2005 Solutions

Delegates and Events

- Callbacks and Delegates
- Usage of Delegates
- Declaring a Delegate
- Defining a Method
- Creating a Delegate Object

- Calling a Delegate

Introduction to Windows Forms, Reflection and Serialization

- Creating a Windows Forms App
- Windows Forms Event Handling
- Add Events for a Control
- Metadata
- Reflection
- System.Reflection.Assembly
- Dynamic Invocation
- Late Binding
- Serialization
- Types of Serialization
- Sample Application for serialization

.NET Remoting and Web Services

- What is .NET Remoting
- Basic Concepts in .NET Remoting
- ASP.NET and Web Services
- Industry Standards
- Web Services and Remoting
- XML
- XML Namespaces
- Uniform Resource Identifier
- XML Schema
- SOAP
- WSDL
- Web Services Architecture
- HTTP GET Web Service

- Client IE Web Form
- SOAP Web Service
- SOAP Description
- Web Service Enhancements

Using Ajax and Java Script

- What is AJAX
- ASP.NET AJAX Control (ATLAS)
- Using AJAX in existing application
- Java Script
- What is Java Script and need for it
- Sample application using AJAX and Java Script

Caching in ASP.NET

- What Is Caching?
- Need for Caching (Why Cache?)
- Data to be Cached ? Time Frame
- Caching in ASP.NET
- Three Types of Caching in ASP.NET
- Output Caching
- @ OutputCache Directive
- @ OutputCache ? Attributes in Detail
- VaryByParam in Detail
- HttpCachePolicy Class
- Page Fragment Caching
- Data Caching or Application Caching
- Add an Item to the Cache Object
- Insert and Add Methods

- Expiration
- Problems in Caching

Installation and Deployment in ASP.NET

- Xcopy Deployment
- Using Copy Project option in VS.Net
- Deployment using VS.NET Installer
- Deployment using ASP.NET Web Setup Project