C#.Net Training Course Content

C#.Net Training Course Objective

- Learn the fundamentals of C# programming in Visual Studio.
- Using .Net Framework
- Working with variables, data types
- Work with standard programming skills
- Exception Handling in C#
- Object oriented programming in C#
- Object oriented techniques
- Working with Arrays
- Create Generic classes and methods.
- Collections in C#
- Generate and test your own classes using the Class Designer and Object Test Bench tools.
- Use delegate types to provide flexibility and type safety.
- Use anonymous types, lambda expressions, extension methods, object initializers, and implicit type declarations

C#.Net Training Course Duration

- Normal Track 40 Working days, daily one and half hours
- Fast Track 30 Working days, daily two hours

C#.NET Training Course Overview

Introduction/Overview of .Net

- Introduction to .Net
- Platform for the .Net
- Drawbacks of Current Trend
- Net Framework – BCL & CLR | Key design goals
- CLR, CTS, MSIL & other tools.
- Multiple Language Interaction & support | Moving from Project to Assemblies...
- Security in .NET – CAS

.Net Framework [Advanced]

- Advantages/Disadvantages
- Features of .Net
- Assemblies in Detail
- GAC, Strong Names
- Language Interop
- Reflection

**Visual C#.Net Language**

- Advantages/Disadvantages
- Why C#/ Why Not C#
- Where does C# Fit in
- C, C++ to Visual C#
- Features of C#
- .NET Namespaces

**.Net Installations/C#.Net**

- .NET Versions – 1.1/2.0/3.0/3.5 Beta
- Windows Vista – New Look
- Gadgets/SideBars/UAC – relation with .NET
- Hardware/Software Requirements
- FAQ’s with detailed answers

**Programming Using Visual C#.Net**

- The start of the application
- C#.Net Program Design
- Variables and types
- Value types and reference types (CTS)
- Strings and arrays
- The Console class
- String formatting
- Statements and flows
- Programming Structures
- Command-line arguments
- VS.NET to Create C#.NET Apps
- C# 3.0/3.5 features – Implicit types, Extention Methods and more

**Introduction To Windows Forms – I**

- Windows forms library – WinForms
- Layout Enhancements
- Forms and controls – Hierarchy
- Creating simple GUI by hand
- Event handling
- Basic controls
• Windows forms – buttons, check boxes, radio buttons, panels, group boxes, list boxes, picture boxes...

Windows Forms – II

• Menus
• Built-in dialog boxes and printing
• Extender Controls
• ToolStrips, StatusStrips and progress bars
• A new MDI forms strategy
• Inheritance with forms
• New Controls – Web Browser, Property Grid etc

Object Oriented Concepts (Basic)

• Classes & objects
• Abstract & override methods
• Creating and using your own classes | Data members and member methods | Instantiate an object
• This keyword
• Properties – Read Only Write Only...
• Build process using windows class library | Generate classes for other clients
• How to use classes as part of project

Object Oriented Concepts (Advanced)

• Accessibility levels, specifiers
• Constructors
• Method overloading
• Class (static) variables & methods
• Object destruction
• ‘ref’ and ‘out’ parameters
• Constant values
• Enumerations
• Inheritance and Polymorphism
• The root of all classes
• Creating derived classes
• Method overriding and hiding
• Polymorphism and virtual functions
• Casting objects
• Abstract classes
• Sealed classes
• Static classes
Object Oriented Concepts (Implementation Oriented)

- Case Studies
- Class Diagram in VS.Net

Error Handling

- Unstructured error handling support
- Structured error handling
- Error categories
- Debugging the application
- Debug and Trace classes
- Code Optimization

Ado.Net 1.1/2.0/Linq

- History and background
- From DAO to ADO.NET
- ADO.NET LINQ
- ADO.NET design goals
- The ADO.NET architecture and its components
- ADO.NET in relation to the other .NET tools
- DataSet in RealTime Scenarios

Ado.Net Components

- Connected and disconnected environment
- ADO.NET object model
- Data sources, providers and connections
- Commands and data readers
- Data sets and data adaptors
- Data tables, rows and columns
- Constraints and relations
- Data-centric applications – New ADO.Net Hierarchy

Data Sources And .Net Data Providers

- Connecting to a data source
- SQL Server .NET data provider
- OLE-DB .NET data provider
- Connections and connection strings
- SQL-Server integrated security
- Connection pooling
- ADO.NET exceptions
Accessing Data In The Connected Environment

- Commands
- Creating and executing commands
- Reading data using a data reader
- Batch queries & single result queries
- Parameterised queries (input & output parameters)
- Adding, editing and deleting data
- Stored procedures

Accessing Data In Disconnected Environment

- Why using a disconnected environment?
- DataSet and DataAdapter features
- Filling data sets using data adapters
- Read data using data tables, rows and columns
- Batch queries and data sets
- Visual Studio Data Menu & tools
- DataSet Navigation
- DataSet Functionality
- DataSet Optimistic Concurrency

Sorting, Searching And Filtering

- Searching in data sets
- Find on primary keys
- Searching on any column
- Searching on row state
- Sorting and filtering using data views
- Searching in a data view

XML

- XML Basics – Importance in Today's world
- XML designers/support in VS.NET
- XML Derived Technologies – XSD, XSL, SOAP, WSDL

Creating Custom Windows Controls

- About user – defined controls
- Understanding the control class with Container
- Add Properties/Methods/Events to Control
- Pack & use control in other windows applications
- Create & implement a windows control
Windows Services*

- Understanding services
- Creating windows services
- Setting properties
- Compile, run & install services
- Event log services

.Net Remoting

- About Distributed Applications
- COM/DCOM in Distributed Environment
- .NET Remoting – New distributed environment
- Advantages & Disadvantages
- Remoting – Web Services comparisons
- MBR, MBV
- Channels
- Formatters
- Programming Model – Object Styles & Lifestyles
- Activation

RDLC Reports*

- Reporting Need in the application
- RDLC Reports – Reporting Tool
- Developing a RDLC Report

Application Deployment

- Packaging Code
- ClickOnce Deployment
- Configuring the .Net framework
- Deploying the application in Web Server
- Deployment – other methods

ASP.Net Course Content

ASP.NET Training Course Objective

- Introduction to web technologies
• Web Forms Architecture
• ASP.Net and HTTP
• Web application developing using Visual Studio
• State Management and Web Applications
• ASP.Net Server-side controls
• Caching in ASP.Net
• ASP.Net application configuration
• Debugging, Diagnostics of application
• Connectivity with Database using ADO.Net/Entity Framework
• Data Access Controls
• Personalization and Security
• Introduction to Web Services
• Introduction to WCF

ASP.NET Training Course Overview

Introduction To Web Applications [Prerequisites]

• Types of Applications – Web, Desktop & Mobile Applications
• Web applications with Web Server
• Web Server role, about IIS, APACHE, and CASSINI
• Web Browsers, Web Support Languages
• Understanding http, TCP/IP, LAN, WAN & O/S role in web development
• Why Scripting & its importance
• Client-Side & Server-Side Scripting

OVERVIEW OF .NET (ASP.NET)

• Intro to .NET
• Drawbacks of Current Trend
• .NET Framework
• Key Design Goals
• CLR, CTS, MSIL, & Other Tools
• Multiple Language Interaction & Support
• Moving from Project to Assemblies...
• Security Services and environment
• Vista & IIS 6.0/7.0 & their requirements
• Installing & Configuring VS.NET/.NET 2.0/3.0/3.5

ACTIVE SERVER PAGES .NET ROLE

• Shifting from ASP to ASP.Net, Asp.net to web 2.0 (new)
• ASP.Net as Framework, Namespaces
• ASP.Net – New Scenario in development process with IDE – VS.NET
• Web Pages to Web Forms, HTML – ASP.NET, State management- an Important Objective
• Understanding the ASP.NET Execution Scenario
• C#.Net role in ASP.NET Development
• ASP.NET/C#.Net – the Industry approach
• HTML, HTML Controls, ASP.NET Controls
• Client-side & Server-side Controls
• Consuming HTML Client/Server Controls in WebForms
• Consuming ASP.Net Controls in WebForms
• Understanding the Rendering Nature of Controls Developing a Simple Startup Application

ASP.NET WEB FORMS – THE NEW TECHNOLOGY(BEGINNING)

• Introducing Web Forms, Worker process
• Working with Server Controls
• Applying Styles to Controls, Themes, Skins etc

FORM

• Page Directives and its use
• Separating Code & Design
• New Code behind Techniques
• Implementing ASP.NET Server Controls
• Types of ASP.NET & their need/render
• Intrinsic – Validation – Bound – DataSource
• Navigation – Login – Web Parts & AJAX.-as building blocks Asp.net.

WEB FORMS – INTRODUCTION TO AJAX INPUT VALIDATION

• Validating Form with Validation Controls of Asp.net
• Using RequiredFieldvalidator control
• Using CompareValidator Control Using RangeValidator Control
• Using CustomValidator control
• Create Server-side / Client-side functions for – CustomValidator Control
• Group Validations & avoiding Validations.
• Finally – Client Targets & ValidationSummary control

ADO.NET I – DATABASE SERVICES (V1.1/2.0/3.5)

• XML, XML to HTML, XML & Databases
• XML Schema Definition Tool
• Overview of ADO.NET/ XML Support in .NET
• Connect/Insert/Update/Delete,Query data -using ADO.NET
• Retrieve data with datasets
• Data Adapters, Understanding Data tables
• Build Data table programmatically
• Filter and sort Data table, Data Relations
• ADO.NET LINQ

**ADO.NET – II**

• Parameters with Command Object
• Stored Procedures with ADO.NET using –output parameters
• Develop a Registration form using ADO

**PRESENTING DATA USING ASP.NET BOUND CONTROLS (USING VB.NET/C#)**

• ASP.Net bound controls
• DataSource Controls
• Repeater & its uses.
• DataBound and DataAware Controls
• Bind data to Dropdownlist Control
• Datalist control
• GridView & its importance in Development
• GridView(Basic) – simple uses
• GridView (Advanced) –Runtime Fields, Empty DataRows,
• FormView & DetailsView
• ListView

**ASP.NET ERROR HANDLING & DEBUG.**

• Error Handling & .NET Runtime
• Avoid Errors before they occur
• Structured Error Handling
• Catching General Exceptions
• Throwing Exceptions
• Custom Exceptions

**USER CONTROLS**

• Creating User Controls
• Adding member to user controls.
• Registering User Controls
• Properties & Methods
• Dynamically loading user controls
• Master Pages

**CONFIGURING ASP.NET APPLICATION**

• Web Application configuration-Advantages.
• New Configuration Model, ASP.NET Confn Tool
• Web Application Machine Configuration
• Global Assembly Cache, Strong Names VS2005.
• Working with Assembly Info
• Web.Config,
• Process Model – System Configuration.

**ASP.NET WEB APPLICATIONS**

• About Session & Application object
• Comparison between Session & Application
• Using the Global.asax file
• Managing Application State
• Http Handlers
• Application & Session Variables
• Application & Session Events

**CACHE SERVICES**

• Caching Overview
• Advantages of Caching
• Page Output Caching
• Page Data Caching
• Fragment Caching

**SECURITY**

• Security Overview
• Authentication & Authorization
• Windows-based Authentication
• Passport Authentication
• Forms-based Authentication
• Authorizing Users and Roles
• User Account Impersonation

**ASP.NET XML WEB SERVICES**

• Introducing XML Web Services
• Differences Between DCOM / Remoting / Web Services
• Asp.net Webservices.
• Writing a Simple Web Service
• Xml web services stack, SOAP, WSDL, UDDI, Sync an
• Using Data in Web Services