

# Working with .Net Technology

## **Introduction to .NET**

- What is .NET
- Why .NET
- Advantages of .NET

## **Understanding the CLR**

- Introduction of CLR
- CLR Architecture
- Just-in-time (JIT) compiler
- Microsoft Intermediate Language (MSIL)
- Understanding the IL with ILDASM

## **Understanding the Framework**

- Need of framework
- Types of Frameworks
  - .NET Framework
- Versions of Framework
- Common Class Library
- Namespaces and their components
- Common Type System (CTS)
- Common Language Specifications (CLS)
- Languages under .NET

## **Working with Assembly**

- Static Assembly
- Shared Assembly
- Satellite Assembly

## **Introduction to C# (15 days)**

## **Object Oriented Programming System (OOPS)**

### **Understanding OOP's pillars**

- Encapsulation
- Abstraction
- Polymorphism
- Inheritance

### **Concept of Class and Object**

#### **Components inside a class**

- Methods (Concrete Abstract, Sealed)
- Properties (Readable, Writeable, Re-writable)
- Indexers
- Delegates
-

## Types of Classes

- Partial Classes
- Abstract Class
- Interface

## Access Modifiers

## Method Overloading

## Operator Overloading

## Events and Delegates

- Learning about Delegates
- Delegates as base for events
- Event an overview
- User Defined Events

## String Handling

- Working with Strings
- **String** as Immutable class
- **String Builder** as Mutable class

## Exception Handling

- Introduction to Exceptions and Exception class
- Trapping Exceptions with **Try, Catch, Finally**
- Creating Custom Exceptions
- Throwing an exception with **Throw** keywords

## Working with Collections

- **System.Collections** Namespace
- Array vs. Collections
- ArrayList
- Hashtable
- Queue
- Stack
- ICollection interface
- IEnumerable interface
- IEnumerator interface
- IDictionaryEnumerable interface

## Working with Generics

- **System.Collections.Generic** namespace
- List
- Dictionary
- Stack
- Queue
- Name Value collection
- String Dictionary
- BitVector32

## **File Handling**

- *System.IO* namespace
- Path, File and Directory classes
- Reading and Writing with files
- StreamReader and StreamWriter class

## **Multi-Threading**

- *System.Threading* namespace
- Introduction to threads
- Life cycle of Thread
- Creating and using threads
- Thread, ThreadStart classes

## **Working with Reflection**

- System.Reflection namespace
- Introduction to Reflection
- Getting information with
- Assembly class
- MethodInfo class
- PropertyInfo class
- FieldInfo class
- ConstructorInfo class
- MemberInfo class
- Invoking methods and setting properties indirectly

## **Creating Client/Server Applications with Remoting**

- Client/Server technology
- Remoting architecture
- Types of Channels
- Activation types
- Marshal object
- Creating and using channels
- A sample application

## **Memory Management Issues**

- Introduction to Memory Management
- Garbage Collector and Collection Process
- Using System.GC class
- Suppressing finalization
- Automatic disposal of objects with *Using* blocks

# Introduction to Windows Application(7 days)

## **Working with windows controls**

### Interacting with controls

- Label, Textbox, Picture, ListBox, ComboBox, RichTextBox, Checkbox, RadioButton, PictureBox, ProgressBar, DateTimePicker
- Panel, GroupBox, Tab Control
- ToolStrip, MenuStrip, ContextMenuStrip, StatusStrip
- ToolTip, ErrorProvider, Timer
- List View, Tree View
- LinkLabel, Web Browser

### Dialog controls

- ColorDialog, FontDialog, OpenFileDialog, SaveFileDialog, FolderBrowserDialog

### Creating Dialogs with MessageBox.Show() method

- Simple Dialogs
- Selection Dialogs
- DialogResult enumerator

### Creating and using MDI Applications

### Creating custom controls

## **Database Programming with ADO.NET**

### Introduction to ADO Technology

### ADO vs. ADO.NET

### Types of ADO.NET operations and namespaces

- System.Data
- System.Data.Odbc
- System.Data.OleDb
- System.Data.SqlClient
- System.Data.OracleClient

### ADO.NET classes

- sqlConnection classes
- sqlCommand classes
- sqlDataReader classes
- sqlDataAdapter classes

### Data retrieval methods

- Connected
- Disconnected

### Disconnected operations with

- DataTable
- DataSet

### Creating DataTable dynamically

- DataColumn class
- DataRow class
- Adding new rows dynamically

## Working with DataSet

- Creating tables in DataSet
- Saving data to disc with DataSet
  - ReadXml()
  - WriteXml()
- Saving DataSet changes to database with Command Builder

## Data Binding with DataGridView and ComboBox controls

### Using sqlConnection objects

### Using sqlCommand objects

- ExecuteNonQuery()
- ExecuteReader()
- ExecuteScaler()

## **Web Programming with ASP.NET(20 days)**

### **Web Programming Concepts**

- Introduction to Web Programming
- Client/Server technology in Internet Environment
- Understanding Web Server IIS
- How Internet and Intranet works
- Creating Virtual Directory and Websites

### **Application Life Cycle in Asp.Net**

- Application Events
- Application, Directory, Structure
- Global.asax Application File
- Asp.Net Configuration
- Machine.Config
- Web.Config

### **Page Life Cycle in Asp.Net**

- Page\_Init
- LoadViewState
- LoadPostData
- Page\_Load
- RaisePostDatachangedEvent
- RaisePostBackEvent
- Page\_PreRender
- SaveViewState
- Page\_Render
- Page\_Unload

### **Designing Models of the Web Forms**

- Single Page Model
- Two Page Model
- Comparison of Model

## **Working with Server Controls**

### Standard Controls

- Label, Text, Image
- Button, LinkButton, ImageButton
- DropDownList

### Navigation Controls

- HyperLink, ImageMap, Menu

### Data Source controls

- AccessDataSource
- SqlDataSource

### Database operations with Data Source controls

- Insertion
- Updation
- Deletion
- Selection

## **Validation Controls in ASP.NET**

### Introduction validation controls

- RequiredFieldValidator
- RangeValidator
- CompareValidator
- RegularExpressionValidator
- CustomValidator
- Validation Summary

### Using IsValid Property of Page class

### Creating and using Validation Groups

### Removing validation from controls

## **ASP.NET Page Class Objects**

- Request object
- Response object
- Session object
- Application object
- Server object
- Cache
- User
- Trace

## **State Management**

- View State
- Query String
- Cookies
- Session
- Application
- Profile

## Data Binding and Reporting

Data binding concept

Master/Details reports with DropDownList

GridView

Repeater

DataList

DetailsView

FormView

In-Line Editing of records

Advance functions with GridView

- Paging, Auto-editing, Auto-Hyperlinking

Binding to Collections and Lists

Using DataBinder.Eval () method with <%# ... %>

Using connection strings with <%\$ ...%>

## Merging contents of a page in Web Forms

Simple merging of contents with

- <!-- #include file="filename" -->

Advance merging with Web User Controls

- Creating a Web User Control (.ascx)
- Registering a control with <%@ Register ...%> directive
- Using the custom control to merge the output

Master Pages

- Creating common page for multiple pages as master page (.master)
- Providing Content Placeholders
- Creating Content Pages
- Advantages of Master Pages

## Caching

- Usage of caching
- Using <%@ OutputCache ...%> directive
- Page Output Cache
- Data Caching based on control or parameter
- Setting cache duration
- Expiring items from cache

## Mailing with ASP.NET

- Creating and sending mails with MailMessage and SmtMail class
- Creating auto-responders
- Providing security while sending mails

## Uploading files

- Using **File Upload** control to select the file
- Setting the location and filename to upload the files
- Upload the files
- Restricting the type and size of files

## **Creating Auto changeable Ads**

- Creating a schedule files for ads
- Define the adv. Size
- Providing XML files to *AdRotator* control

## **Skins and Themes**

- Understanding the themes and skins
- Creating themes with default skin
- Creating skins with defined SkinId
- Applying Themes and Skins to the Web Forms
- Applying a theme to a website

## **Web Services**

- Introduction to XML Web Services
- Creating Web Services with Visual Studio.NET
- Testing a Web Method
- Consuming a Web Service in Client Application
- Using Data with Web Services
- Understanding the WSDL and Disco
- Creating a Proxy for Web Service with WSDL tool
- Using a Proxy service

## **AJAX with ASP.NET**

- Understanding the AJAX technology
- How AJAX works
- Creating AJAX enabled website
- Creating a AJAX enabled web service
- Using Update Panel control

## **Security in ASP.NET Applications**

Security with Session object

Code based security

- Windows
- Forms
- Passport

Role Based Security

Working with Login controls

Administrating the web site

## **Globalization and Localization**

- Understanding the resources (.resx)
- Local and Global Resources
- Accessing information from Resources
- Setting information specific to the country with Culture and UICulture
- Creating Multi-lingual websites using localization
- Creating and using satellite assemblies
- Using CultureInfo class



## **Creating and using the Crystal Reports**

- Overview to Crystal Reports
- Creating reports with Wizard
- Creating Sub-Reports
- Integrating reports with windows and web applications
- Customizing the Report Viewer
- Using Formula and Logic
- Working with .NET data
- Adding a database or Table to a report
- Providing security information in reports

## **Deployment of Website**

- Using FTP Software
- Using Browsers
- Using Visual Studio.NET tools
- Creating an MSI file for the website

## **Learning SQL and T-SQL with SQL Server 2005(5 days)**

### **Introduction to Management Studio**

- Window Authentication
- SQL Server Authentication
- Creating and using databases
- Writing SQL Queries in Query Window

### **SQL Statements**

- CREATE DATABASE
- CREATE TABLE
- ALTER DATABASE
- DROP DATABASE
- DROP TABLE

### **JOINS**

- Inner Joins
- Outer Joins
- Cross Joins

### **Constraints**

Introduction to Constraints

Types of Constraints

- Domains constraints
- Entity con straints
- Referential Integrity constraints

## Key Constraints

- PRIMARY KEY
- FOREIGN KEY
- UNIQUE
- CHECK
- DEFAULT

## Creating and using Views

- Creating Simple Views
- Editing views with T-SQL
- Dropping views

## Stored Procedures

- Creating stored procedures
- Altering the stored procedures
- Dropping the stored procedures
- Handling errors

## Transaction Management

- BEGIN TRAN
- COMMIT TRAN
- ROLLBACK TRAN
- SAVE TRAN

## Creating and Using Triggers

- Introduction to triggers
- Using triggers for Data Integrity rules
- Nested Triggers
- Dropping triggers

**It's a Software Development Company so, after completion of training according to performance we provide ongoing projects.**