

AN ISO 9001:2008 CERTIFIED COMPANY



.NET PROGRAMMING USING FRAMEWORK 4.0



SPIRO IT ACADEMY

(Unit of Spiro Solutions Pvt. Ltd)

Nasscom Listed Company

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ABOUT SPIRO ITA



Spiro ITA is Subsidiary of Spiro solutions Pvt. Ltd . Spiro ITA is a premier provider of IT Training, Research and Development ,Project Training skills across The India, Singapore and the Malaysia We offer true competency-based programs, we guarantee quality, and we guarantee to lower your costs, all at the same time. Our courses cover over 40 different subject areas, including programming, Domain Training, Project Training and system administration skills. We offer stand-alone classes in addition to all-inclusive certification training tracks. Founded in 2005 by experienced professionals, Spiro ITA has served thousands of Institutes and Lakhs of individuals over the seven years.

Objectives

- To function as an efficient industrial skill provider for students.
- To increase the eligibility of students to enter various industries.
- To reduce the knowledge deficiency in student career.
- To recognize the students exact desires and making them to grow in it.
- To create a Maximum awareness about Research & Development and its importance.



Vision

Spiro ITA will be recognized as, the predominating Research & Development Project Training and IT Training organization for students, Trainees to acquire excellent knowledge, professional development and personal growth. To be a leading organization and recognized as global leader in industrial skill training. By providing real time training and trusted communication. Our vision doesn't begin and end with the execution of R & D, Projects, IT Training. The main intension is to provide world-class training to the students in Research & Development sector by sharing our knowledge and expertise to create value is our ultimate goal.

C# AND ASP.NET USING FRAMEWORK 4.0:

COURSE DURATION: FEES: BATCH START DATE:

TIME SLOT :

STUDENTS WILL LEARN

- .NET Framework Base Class Library •Using Windows Forms Controls C# Syntax •Application Design •Controlling Program Flow Using Conditional Tests and Loops •Object-Oriented Programming Concepts •Building and Using Classes •Arrays and Data Collections
- Exception Handling •Working with Files •String Manipulation •GUI Programming Concepts •Database Access Using ADO.NET
- Building N-Tier Applications •Working with Modal and Modeless Forms •Interacting with Databases •Using Data Binding
- Building and Calling WCF SOAP Services •Working with Files and the File System Managing Run-time Exceptions •Using Web Forms & Handling Events •Working with ASP.NET Server Controls •Designing Master Pages •Managing State •Interacting with Databases •Using ASP.NET Data Bound Controls •Building Secure Web Sites Building Windows Forms Applications

COURSE DESCRIPTION

This hands on course provides students with hands on experience using Visual Studio to create desktop Windows Forms and web applications using the .NET 4.0 Framework using C#. The course provides a thorough introduction to the C# programming language, including coverage of the essentials of the C# programming language, built in data types, operators, control structures, classes and methods, collections and exception handling.

Students then learn how to leverage the power of the .NET Framework to build desktop and Web applications. Students learn how to build Windows and Web Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the Background Worker to perform asynchronous operations.

Students also learn how to use ADO.NET to interact with databases and XML files. Students learn how Windows Forms uses data binding to display data in controls such as the Data Grid View and Chart. Students also learn how to build and interact with simple WCF SOAP Web Services.

Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

COURSE PREREQUISITES

Familiarity with computers. Knowledge of fundamental HTML syntax is helpful, but not required.

FOLLOW-UP COURSES

Windows Presentation Foundation (WPF) Programming Using C#, WCF Programming Using C#, Silver Light Programming, XML Programming.

C# AND ASP.NET USING FRAMEWORK 4.0 COURSE OVERVIEW:

CONTENTS
<u>.NET FRAMEWORK 4.0</u> About .Net Framework 4.0- Common Language Runtime- Base Class Library, Namespaces- Understanding the Role of Namespaces- Defining Custom Namespaces- Referencing Members in a Namespace- Common Type System (CTS)- Intermediate Language- Assemblies- Stack and Heap Memory, Garbage Collection-.Net Compilers
<u>COMPARISON OF .NET FRAMEWORKS</u> Comparison of Framework 1.14 VS 2.0 VS 3.0 VS 3.5 VS 4.0
<u>INTRODUCTION TO VISUAL STUDIO .NET 2010</u> Creating a Project-Using the Code Editor-Correcting Syntax Errors-Setting Project Properties-Adding References-Compiling ,Running and Debugging your first Program-Using the MSDN (Help)
<u>INTRODUCTION TO C#</u> C# Basic Data types and Statements-Overview of Programming Structure and Concepts-Understanding Data Types-Working with Variables, Constants and Literals-Reference Types & Value Types, Boxing and Un Boxing-Conditional Constructs -Working with if/else Constructs-Working with switch -Working with while Constructs-Working with for and for each -Goto, break, Continue, Return-Formatting Numbers, Date and Times-Using Console I/O.
<u>INDRODUCTION TO VB.NET</u> VB.Net Basic Data types and Statements: Overview of Programming Concepts-Understanding Data Types-Working with Variables, Constants and Literals-Reference Types & Value Types, Boxing and Un Boxing-Conditional Constructs -Working with if/else Constructs-Working with switch -Working with while Constructs-Working with for and for each -Goto,break,Continue,Return-Formatting Numbers, Date and Times-Using Console I/O.
<u>OBJECT-ORIENTED PROGRAMMING</u> Understanding Object-Oriented Concepts, Designing Classes & Constructors, Coding Properties and Methods, Initializing Objects with Constructors, Overloading Constructors, Declaring and Instantiating Objects, Using the using Statement, Calling and Methods, Working with Shared Data Members and Methods.

CONTENT

ENCAPSULATION

Creating and using Properties

USING PROCEDURES TO MODULARIZE CODE

Polymorphism, Defining and Calling Subroutines, Defining and Calling Functions, Understanding Variable Scope, Overloading Procedures, Passing Parameters.

UNDERSTANDING BY VALUE VS. BY REFERENCE PARAMETERS

Understanding the Call Stack

BUILDING INHERITANCE HIERARCHIES

Understanding Inheritance, Building Derived Classes, Understanding Constructors in Derived Classes, Defining and Using Protected Class Members, Understanding Polymorphism, Defining Overridable Methods, Overriding Methods.

ABSTRACTION DEFINITION

Understanding Abstract Classes, Defining Abstract Classes, Inheriting from Abstract Classes.

INTERFACE

Understanding About Interface, Types of Interface, Abstract Vs Interface.

DELEGATES & EVENT HANDLERS

Overview of Delegates, When to Use Delegates Instead of Interfaces, Named Methods, Anonymous Methods, Calling Static Functions, Calling Member Functions, Multicasting, Single-cast vs. Multi-cast Delegates, Working with Synchronous and Asynchronous Delegates, Understanding the Relationship between Delegates and Events, Simple Event, Handling and Raising Events, Creating Event Handlers, Default Event Handlers, Associating Event Handlers at Run Time.

REMOTING

What is Remoting?, .NET Framework Remoting Architecture, Making Objects Remotable, Marshall By Ref and Value, Object Activation and Lifetimes Channels, Configuration of Remote Applications, Version Information in Remoting, Security in Remoting , Asynchronous Remoting, How to: Call the Methods of a Remote Object Asynchronously, Issues with Calling Methods of Remote Objects Asynchronously, CallContexts and Direct Remoting.

WORKING WITH STRINGS

Working with the String Class, Working with String Literals and Escape, Sequences, Understanding String Manipulation Performance Issues, Working with the StringBuilder Class, Formatting Output with String.Format.

WORKING WITH DATA COLLECTIONS

Understanding Arrays, Declaring and Instantiating Arrays, Iterating through Arrays, Working with System.Array Methods, Copying, Sorting, Searching and Resizing, Passing Arrays to Methods, Working with param array Parameters, Working with Command-line Arguments, Understanding .NET Collections, Managing Data Using List, Managing Data Using Dictionary<TKey, TValue>, Working with LINQ, Making LINQ Queries, Enumerating LINQ Query Results, Working with Anonymous Types, Using Extension Methods with LINQ.

EXCEPTION HANDLING

Understanding Exception Handling, Using try/catch to Handle Exceptions, Working with the Exception Class, Understanding Exception Propagation, Using finally to Manage Cleanup Processing, Throwing Custom Exceptions, Implementing and Using Exception Block.

WORKING WITH FILES, DIRECTORIES AND STREAMS

Using the System.IO Namespace, Discovering Drives, Working with Directories, Working with Files, Parsing a File Path, Understanding Streams, Working with FileStream, Reading and Writing Text Files, Understanding other Types of Streams, Using LINQ with Files.

ATTRIBUTES AND REFLECTION

ATTRIBUTES

Intrinsic Attributes, Attribute Targets, Applying Attributes, Custom Attributes, Declaring an Attribute, Naming an Attribute, Constructing an Attribute, Using an Attribute.

REFLECTION

Viewing MetaData, Type Discovery, Reflecting on a Type, Finding all type members, Finding type methods, Finding particular type members, Reflection Emit, Dynamic Invocation with InvokeMember(), Dynamic Invocation with Interfaces, Dynamic Invocation with Reflection Emit.

SERIALIZATION & DESERIALIZATION

How Serialization Works, Uses for Serialization, Making an Object Serializable, Implementing the ISerializable Interface, Binary and XML Serialization, Binary Serialization, XML Serialization, SOAP Serialization, Basic and Custom Serialization, Basic Serialization, Custom Serialization, Serialization Guidelines, About Deserialization.

THREADING

Threading Objects and Features, Creating and executing a thread, Passing Data to Threads & Returning Data from Threads, Synchronization of threads, Interaction between threads, Using a thread pool, Using a mutex object to protect a shared resource, lock Statement, Interlocked, BackgroundWorker, Mutex, Join method, Sleep, Pausing and Resuming threads, Thread Safety, Problems with Threads.

CONTENT

USING CONTROLS

Working with Windows Forms Controls, Using Text Controls, Using Button Controls, Using Selection Controls, Using List Controls, Using Container Controls, Using Image Controls, Using Up/Down Controls, Using the ErrorProvider and ToolTip Provider Controls.

WORKING WITH MENUS, TOOLBARS AND STATUS BARS

Working with Menus, Working with Toolbars, Working with Status Bars

WINDOWS FORMS APPLICATIONS

Windows Forms Applications, Setting Form Properties, Understanding the Life-cycle of a Form, Using the Windows Forms Designer, Using the MessageBox Class, Using a .config File.

WORKING WITH FORMS

Understanding Modal vs Modeless Forms, Displaying Modal Forms, Working with DialogResult, Retrieving Data from Modal Forms, Displaying Modeless Forms, Working with Data in Modeless Forms, Using the Common Dialogs.

INTRODUCTION TO RDBMS(SQL SERVER)

Introduction to SQL SERVER, SQL Server - Management Studio, Create a Database, Tables, Views, Constrains, Stored Procedures, Functions, Joins, Triggers, User Logins, Server Roles, Backup and Restore, About Query execution Plan.

ADO.NET

Understanding the ADO.NET, Object Model, Connected vs. Disconnected Access, Using a Connection to Connect to a Data Source, Using a Command,command builders and Data Adaptor to Execute Queries and Stored Procedures, Using a DataReader to Work with Cursors, Using the DataSet with Disconnected Data, Using DataAdapters with DataSets, Implementing Data Block from Enterprise Library.

DATA BINDING

Binding to Simple and Complex Controls, Manually Binding Controls, Using the BindingSource Control, Using the BindingNavigator Control, Using the DataGridView Control, Using the Chart Control.

OVERVIEW OF XML

Creating XML Documents, Attributes, XML Schema Basics, XML Schema Data Types, XML Schema validation, XSLT Basics, The XSLT Stylesheet and XPath, XSLT Functions, XML Namespaces.

OVERVIEW OF WEB TECHNOLOGY

Overview Of HTML , Overview of CSS, Overview of Javascript.

OVERVIEW OF ASP.NET

Client-Side vs. Server-Side Code Execution, Asp.Net Handlers and Modulers, Understanding the ASP.NET HTTP Pipeline, Working with HTML and HTML5, Understanding ASP.NET Application Folders, Using Web.config.

CREATING WEB FORMS USING ASP.NET

Using Page Directives, Working with the Code-Behind Model, Understanding the Life-cycle of a Web Form, Handling Page Events.

MASTER PAGES

Understanding the Master Page Architecture, Designing a Master Page, Designing Content Pages.

MAINTAINING STATE

Maintaining State within ASP.NET Applications, Using the Application Object, Using the Session Object, About In Proc, About SQL Server Session Management, About State Server, Using the ViewState Object, Reading and Writing Cookies, Using the Query String.

SECURING ASP.NET APPLICATIONS

Understanding the ASP.NET Security Model, Authentication, Windows Authentication, Form Authentication, Passport Authentication, None Mode Authentication, Authorizing User Requests, Using the Login Controls, Using the ASP.NET Web Site Administration Tool, Implementing SSL.

THEMES AND CONTROL SKINS

Skins, Creating CSS for Themes, Theme Graphics and Other Resources, Scoping Themes, Page Themes, Global Themes, Theme Settings Precedence, Properties You Can Define Using Themes, Themes vs. Cascading Style Sheets, Security Considerations.

PERSONALIZATION AND USER PROFILES

About Personalization, Managing Personalization Data, Managing User Profiles, Data Storage, Pages and User Profiles, Handling Anonymous Users, Internal Implementation.

USING CONTROLS

Working with Web Controls, Using Text- and Button-based Controls, Using List Controls, Examining Other Web Server Controls, Defining and Using User Controls.

HANDLING EVENTS

Writing Event Handlers, Sharing Event Handlers, UnderstandingPostBack versus Non-PostBack Events, Using Global.asax.

CONTENT

DATA BINDING

Understanding ASP.NET Data Binding, Examining ASP.NET Data Bound Controls, Using the ListBox Control, Using the GridView Control, Using the ListView Control, Using the DetailsView Control, Using the FormView Control, Using the Chart Control.

CACHING

ASP.NET Caching Overview, Caching ASP.NET Pages, Caching Portions of an ASP.NET Page, Caching Application Data, Caching Multiple Versions of a Page, Caching Portions of an ASP.NET Page, Dynamically Updating Portions of a Cached Page, Caching in ASP.NET with the SqlCacheDependency Class, Cache Configuration in ASP.NET, Implementing and Using Cache block from Enterprise Library.

TRACING

Enabling Tracing for a Page, Writing Trace Messages ,Enabling Application-Level Tracing ,Reading Trace Information, Programmatic access to trace messages, Application-level tracing.

WEB SERVICES

What is Web Services? Why Web Services? About SOAP Messages, SOAP Header, SOAP Body, SOAP Encoding, Making Objects Serializable, SOAP Extension, SOAP Message Encoding, Using XML Attributes to Customize the SOAP Message, about WSDL, UDDI, Creating a simple Web Service, About Web Method and Attributes, Maintaining State in Web Service, Returning Object from Web Service, Consuming a web Service, The Web Services Utility.

AJAX AND TOOL KITA

Core AJAX, Toolkit.

DEPLOYING ASP.NET APPLICATIONS

Understanding Deployment Issues, Configuring an ASP.NET Application for Deployment, Using XCOPY Deployment, Using Visual Studio to Deploy a Web Application.

OVERVIEW OF ASP.NET MVC

Overview of Model-View-Controller Design Pattern,ASP.NET MVC Application Architecture, Understanding the MVC Execution Process, Building an ASP.NET MVC Application Using Visual Studio, Visual Studio MVC Project Templates, Using a web.config File.

INTEGRATING ASP.NET MVC AND WEB FORMS

What are Web Forms, Using Web Forms in an MVC Application, Using MVC in a Web Form Application, Linking to MVC Actions from Web Forms.

DEVELOPING CONTROLLERS

Creating Controllers, Defining Action Methods, Mapping URLs to Action Methods, Understanding ActionResult Types, Working with ViewData and ViewBag.

DEVELOPING VIEWS

Creating Views, Understanding View Engines, Using the ASMX View Engine, Using the Razor View Engines, Using HTML Helpers, Adding Validation, Working with Strongly-Typed Views, HTML5 Project Templates.

DEVELOPING MODELS

Creating Model Classes, Working with the Entity Framework, Working with LINQ to SQL, Using Scaffolding.

ROUTING CONTROL

Understanding Routing in ASP.NET MVC, Defining URL Routes, Registering Routes, Adding Constraints to Routes, Debugging Routes.

SECURING MVC APPLICATIONS

ASP.NET Security, Windows vs Forms Authentication, Configuring Authentication, Configuring Authorization, Building a Secure Web Site, Defending against Attacks, Cross-site Scripting, Session Hijacking, SQL Injection, Input Forgery.

MVC UNIT TESTING

Test-Driven Development, Designing Test Cases, Creating Unit Tests, Using MS Test, , Using NUnit, Dependency Injection.

REVISION CLASS

PROJECT BASED ON WINDOWS APPLICATION

PROJECT BASED ON WEB APPLICATION

PROJECT BASED ON WEB APPLICATION

SPIRO CERTIFIED .NET PROGRAMMER EXAM

CONTACT US

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