



A comprehensive .NET Course with
C#, ASP.NET, ADO.Net &
ASP Advanced – WCF and MVC
From Yes-M Systems LLC

Length: Approx 85 hours

Audience: Students with experience in object-oriented programming
Student Location – To students from around the world

Delivery Method: Instructor-Led – Live online Training

A. Contact us for more details:

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Kudzu Reviews: <http://www.kudzu.com/m/Yes-M-Systems-30363491/reviews/>

Facebook: <http://www.facebook.com/yesmsystems>

Youtube: <http://www.youtube.com/yesmsystems>

B. .NET Course with C#, ASP.NET, ADO.Net & ASP Advanced – WCF and MVC Course Details

C# Syllabus:

Assuming the basic concepts of C# are covered, we would work on the following concepts more:

Collections and Generics

- Introducing Collections .
- Benefits of Collection Classes .
- Understanding and using commonly used collections.
- Generics
- Advantages of Generics .
- How Generics Work at Runtime .
- Constraint on Type Parameters .
- Generic Methods
- Generic Collections
- Selecting a Collection Class
- Using Func delegate and implementing LINQ concept.

Assemblies and GAC

- What is a DLL and how is it different from EXE
- Types of DLL
- What is an Assembly Assemblies
- How to build a ClassLibrary?
- How to use a ClassLibrary in another Application?
- What is Namespace?
- Internal Access Specifier
- Types of Assemblies
- Global Assembly Cache
- Using Reflection to invoke classes and activate methods,Delegates and Events

Exception Handling

- Defining Exception

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- Understandings try and catch keywords
 - Using “finally” block
 - “using” statement
 - Throwing exceptions
 - Creating User defined/Custom Exception class.

IO Streams

- What is a streams?
- Types of Stream
- Standard I/O Streams Console
- Handling text in files
- Dealing with Binary files
- Serialization / Deserialization

Unsafe Code

- Reflection and Attributes
- What is Reflection?
- Using Reflection to read type information
- Attributes.
- Pre-defined Attributes
- Custom Attributes.
- Using Reflection to read custom attributes

More on Classes

- Operator Overloading
- Partial Classes and Methods
- Anonymous Types
- Extension Methods
- Tuples
- Caller Method Information
- Configuration File

Developing GUI Application Using WINFORMS

- Basic Controls
- Panel & Layouts
- Drawing and GDI Devices
- MenuStrip, ToolStrip and ContextMenuStrip
- Model and Modeless Dialog boxes
- Multiple Document Interface(MDI)
- Form Inheritance
- Building Login Form
- Working with Resource Files and Setting
- Notify Icon Controls
- Using Components like Timer, FileSystemWatcher, Process, BackgroundWorker
- Drag and Drop
- Working with Advanced Controls like TreeView and ListView

Database Programming Using ADO.NET

- Prerequisite - Knowledge of SQL Queries
- Introduction and Evolution of ADO.NET
- Understanding the Role of Managed Provider and ADO.NET Objects
- installing Required Software - Sql Server and Management studio
- Connecting to Database and Connection Pooling
- Performing Insert, Update and Delete Operations
- Fetching Data from database - Executing Select Statements
- How to implement Login facility with database
- Use of Multiple Active Result Sets
- Parameterized Prepared Statements
- Inserting Image into Database table
- Executing Stored Procedure
- Using Transaction
- Asynchronous Execution of Queries
- Writing Provider Independent Code

- Writing Common Code for Execution of Stored Procedures
- Quick Overview of all ADO.NET objects
- Managing Data using DataSet
- Introduction DataSet and its Object Model
- Filling DataSet using DataAdapter
- Binding DataSet to DataGridView
- Updating changes to database using DataAdapter
- Using SqlCommandBuilder
- Managing DataTable Programmatically
- DataAdapter events
- Handling concurrency issue
- Working with DataViews
- Constraints in DataTable
- Using DataRelations object
- Creating DataSet/DataTable dynamically
- Working with Typed DataSet
- Summary and Important Classes and their properties and methods
- N-Tier Layered Architecture Application
- Understanding Tier and Layer
- Dividing Application into multiple layers
- Developing an application using Layered Architecture

XML

- Creating Table and Stored Procedure
- b.Creating Data Class
- c.Creating DAL Class
- d.Creating BO Class
- e.Creating Form and handling events
- f.Creating Dialog Box for Add and Edit Operations.
- Introduction
- Well Formed and Valid XML Document

- Structure of XML Document
- XML DOM Parser
- XPath Specification
- XML and DataSet
- XMLDataDocument for reading from DataSet
- XMLTextWriter & XMLTextReader
- XPathDocument & XPathNavigator

Windows Services

- Introduction to Windows Service
- Windows Service Project Template
- Developing Windows Services
- Installing, Deploying and Launching Windows Service
- Developing a Service Controller Application
- Handling Custom Commands in Windows Services

Delegates & Events

- Introduction to Delegates
- Creating a Chat Application Using Delegates
- Events Declaration, Raising and Handling
- Anonymous Methods
- User Control and Custom Control
- Multithreading
- Threading Overview
- Scheduling
- Thread States
- Programming Threads
- Methods of Thread Class
- Thread Pool
- Thread Synchronization
- Monitor
- Mutex
- Semaphore

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- Events
 - Parallel Programming using Task Parallel Library
 - Asynchronous Programming using async and wait
 - Packaging and Deployment
 - File System Editor
 - Registry Editor
 - File Types Editor
 - User Interface Editor
 - Custom Actions
 - Launch Condition Editor
 - Creating Uninstall Shortcut

Debugging and Diagnostics

- What is Debugging?
- Build Configuration(Debug and Release)
- List of Debugging Windows
- Breakpoint Hit Count and Condition
- Debugging Exception
- What is Diagnostics?
- Debug and Trace Classes
- Types of Listeners
- Boolean and Trace Switch

ASP.NET

- Introduction to asp.net
- Writing Asp.net pages
- Server controls
- Html Controls
- Validation controls
- Managing Session and Application
- View State and Query String and Cookies

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- Aspx Pages and Events.
 - Using Site map Controls
 - Web form Controls
 - Asp.net page structure.
 - Using Name spaces
 - Define and Use a Class
 - Classes in asp.net
 - Define Namespaces
 - Database connectivity Using ASP.Net

ADO.Net

- Implementing Data Bound controls
- Managing Connection And transaction
- Connected And Disconnected Databases
- Exception Handling
- Asp.net Error handling
- Importance of global.asax
- Web.config
- Introduction to XML in Dot net

ASP.Net Advanced

- Web Forms & Controls
- Web Control Class
- Creating Web Forms Application
- Handling Images
- Navigating between Pages
- Managing Server Controls
- Server Control Events
- Using HTML Controls
- Using Data Controls
- Web Site Navigation and Validation

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- Navigation Controls
 - Tree View Control Menu
 - Control Site MapPath
 - ControlWizard Control
 - Validation Controls
 - Master Pages & Themes
 - Simple Master Page Nested Master Page
 - Configuring Master Page Creating Themes
 - Applying Themes
 - Applying Stylesheet
 - State Management
 - Preserving State in Web Applications
 - Using Cookies to Preserve State
 - ASP.NET Session State
 - Application State
 - ASP.NET Web Services
 - Introduction to XML Web services
 - Creating Web Service
 - Setting the Web Service Attribute
 - Test and Run Your Web Service
 - Consuming a Web Service in Client Application
 - Consuming a Third Party Web service
 - Ajax
 - Ajax Implementation

WCF

Web Services Review

- Technology (HTTP, SOAP, WSDL, Proxy, ASMX)
- Purposes
- WS Design (the Service pattern)

- WS-* Protocols
- Intro to SOA
- The Motivation for SOA
- SOA Principles
- SOA and the Service
- SOA follow standards

Introduction to WCF

- Architecture
- The Tenets
- Why WCF
- Interoperability

Programming WCF

- Address
- Binding
- Contract
- Behaviour

The service

- The host (Win Process / IIS)
- The client
- Tools
- Patterns
- Request Response
- One way
- Duplex

Bindings

- List of all WCF built in Bindings
- Custom Binding
- Bindings elements
- Binding and channels

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- Reliability
 - Reliable Sessions
 - Transactions

MSMQ

- Duplex Communication
- Streaming
- Concurrency
- Single
- Multiple
- Re-entrant

Asynchronous Programming

- Asynchronous Client
- Asynchronous Servers
- Best Practice
- One way messaging and Asynchronous programming
- Versioning – scale to the unknown

XML Serialization

- Service Versioning
- Data Contract Versioning
- Best Practices

Instance Management

- Using Per-Call Services
- Using Per-Session Services
- Using Singleton Services

Configuring Behaviours

- Data Contracts
- Implementing Data Contracts
- Mapping Data Contracts to XSD Schema

Serialization

- Arrays and Generic Collections
- Enums
- Versioning Data Contracts
- Handling Errors
- Faults and Exceptions
- Generating and Handling Faults
- Fault Contracts
- Faults and Sessions

ASP.NET MVC

Introduction to ASP.NET MVC

- The role of the Model, View, and Controller
- Key benefits of ASP.NET MVC
- Getting Started with ASP.NET MVC
- ASP.NET MVC project templates

Understanding the structure of an ASP.NET MVC project

- Naming conventions
- Creating views
- Defining controllers
- Defining a data model

Creating a Complete ASP.NET MVC 4

- Application
- Creating strongly-typed views
- Understanding URLs and action methods
- Using HTML helpers
- Handling form post-backs
- Data validation

Using the Razor View Engine

- Getting started with Razor
- Razor design goals
- Implementing a Razor view
- Razor syntax
- Accessing Model Data in Razor views

Industrial-Strength ASP.NET MVC Applications

- ASP.NET application architecture best practices
- Implementing a Repository and Entity Framework Data
- Using Dependency Injection
- Implementing a custom controller factory

Test Driven Development (TDD) with ASP.NET MVC 4

- Recap of TDD
- Unit Testing Frameworks
- TDD Hands-on with ASP.NET MVC
- View Techniques
- Defining and using custom HTML Helpers
- Defining a layout / MVC Master Page
- Using Styles
- Defining and using partial views
- Razor Helper Method syntax
- Implementing Navigation in MVC web apps
- Defining view-model classes
- Implementing Data Filtering in a Controller
- Understanding the Routing mechanism
- Adding custom entries to a route table
- Defining defaults, parameters, and validation
- Generating URLs and Hyperlinks
- Custom Route constraints
- MVC State Management
- Using hidden fields

Custom model bindings

- Additional Techniques
- View Scaffold Templates
- Controller Scaffold Templates
- Global Filters

- Model binding
- Asynchronous Controllers
- Using AJAX and jQuery with ASP.NET MVC
- Overview of AJAX and ASP.NET MVC
- Unobtrusive AJAX
- Using AJAX Action Links
- Overview of jQuery
- jQuery Techniques
- Using jQuery UI

ASP.NET MVC4 & LINQ - working with Data

- Language features used in LINQ
- Creating simple LINQ queries
- Using LINQ queries in a Web application;
- Defining a data repository;
- Using LINQ to define a data access component
- ASP.NET MVC 4 Techniques & Best Practices
- View scaffold templates
- Controller scaffold templates
- Dependency injection
- ASP.NET Web API with MVC
- Overview of the ASP.NET Web API
- Building servers and clients

ASP.NET MVC4 contents

- Content negotiation
- Validation
- Queryable Interfaces
- Dependency Injection
- Creating Mobile MVC 4 Apps
- Overview of the mobile templates
- Creating a mobile application
- Understanding the underlying jQuery UI mobile APIs

Disclaimer: Yes-M Systems and/or their instructors reserve the right to make any changes to the syllabus as deemed necessary to best fulfil the course objectives. Students registered for this course will be made aware of any changes in a timely fashion using reasonable means.

C. About Yes-M Systems:

- a. Established in 2005 (Atlanta, GA, USA), 10th year in business.
- b. A+ accreditation from US Better Business Bureau (<http://www.bbb.org/atlanta/business-reviews/internet-consultants/yes-m-systems-in-duluth-ga-27431372>)
- c. Received the “Best of 2012” and “Best of 2013” awards from US-based Kudzu (<http://www.kudzu.com/m/Yes-M-Systems-30363491/reviews/>)
- d. Trained close to 3000+ students from all over the world.
- e. Experienced, passionate and committed trainers
- f. IT Training in various technologies including Java, Dot Net, SAP, Oracle, QA, BA etc (See Courses We offer section for more information)
- g. Professional guidance/help with resumes and interview preparations.
- h. Recruiter help with marketing/jobs
- i. Certification at the end of the training.