

Introduction to .NET Framework

- .NET Framework
- CLR,CLS
- MSIL
- Assemblies
- Namespaces
- .NET Languages

Basics:

- Using Variables and Arrays
- Methods and Parameters
- Decision Structures and Loops
- Handling Errors and Exceptions

OBJECT ORIENTED PROGRAMMING (With live examples)

- Classes, structures and enums
- Constructors
- Destructors
- Properties
- Inheritance
 - Shadowing(new methods)
 - Overriding
- Method Overloading
- this and base Keyword
- Sealed classes
- Interfaces, Abstract Classes
- Working with Delegates
- Designing and Implementing Events
- Generics

- Sealed classes and Partial classes
- C#.NET Application Architecture
- Solution, Projects
- Compiling, Debugging and Running in IDE

INTRODUCTION TO GUI PROGRAMMING

- The Form Class
- Win Forms
- Visual Inheritance
- Programming with Controls
- User Controls

Non Generic Collections

- Hashtable
- ArrayList
- Stack
- Queue

Generic Collections

- Generic List

System.IO

- Readers and Writers
- Streams

Serialization Formatters

- Binary Serialization
- Formatters, Binary Formatter
- SOAP Serialization
- XML Serialization

ADO .NET

- Client Server Architecture
- Understanding Drivers and Providers
- ADO .NET Architecture
- Using OLEDB Providers
- Data Readers
- Using Oracle and SQL Server Managed Providers
- Disconnected Architecture with Data sets
- Data controls
- Data Table and Data View difference and usage
- Invoking Stored Procedures

ADO.NET II: Data Adapters and Datasets

- Data Tables
- Data Relations
- Data Views

ASSEMBLIES

- GAC
- Strong Names
- Private and Shared Assemblies

Conditional Statements

- Definition of conditional statement
- Why "if" is as conditional statement
- Use of conditional statement
- Type of conditional statement

Loops

- For Loop
- While Loop
- Do While Loop
- Foreach Loop
- Switch Case

Exception Handling

- What is Exception
- Error Handling
- Using Try, Catch, Finally and Throw
- Defining our own exception classes
- Debugging the Application

Custom Windows Controls (User Controls)

- Creating and Using them in other applications
- Defining properties to controls using Property Procedures
- Defining Events to controls and invoke them

Windows Services

- Understanding Windows Services
- Creating Windows Services
- Installing and Uninstalling Windows services

ASP.NET

- Basics
- Web Programming
- HTML, DHTML

- JavaScript
- IIS(Internet Information Service)

ASP.NET INTRODUCTION

- Architecture
- Inline Technique & Code-Behind Technique
- Code Render Blocks
- Server Controls
- Page Basics, Page lifecycle
- Post back Request
- View State, Directives

PROGRAMMING WITH SERVER CONTROLS (With live examples in application)

- Html Server Controls
- Web Server Controls
- Basic Web Controls
- List Controls, Data Controls
- Controls, User Controls

CUSTOM CONTROL Development

- Create and use custom controls

THEMES AND SKINS

- How to create and use themes and skins

MASTERPAGES AND SITE NAVIGATION

- Create and using master page

ADO.NET PROGRAMMING

- Architecture
- Data Readers and Datasets
- Command Object
- Transaction Programming
- Procedure Execution
- Data Adapter and Data Set
- Data Tables
- Data Relation
- Data Views
- Updating Dataset

ADO.NET AND ASP.NET

- Working with Data Controls
- GridView
 - Inserting, Updating, Deleting
 - Sorting in Data Grid
 - Paging in Data Grid
- DataSource Controls
- Dataset
- DetailsView
- FormView
- Data List
- Repeater Control

XML PROGRAMMING XML

- XML Programming in .Net
- XML Readers
- XML Serialization

STATE MANAGEMENT WITH ASP.NET

- View State
- Cookie State
- Session State
- Session Tracking
- Application Object
- Session and Application Events

ASP .NET APPLICATION TUNING

- Machine.Config & Web.Config.
- App Setting
- Compilation Settings
- Custom Error Settings
- Session State Settings
- In Process & OutProcess Session States
- State Server & SQL Server
- Cookieless Session State
- Application and Global. SAX

CACHING

- Introduction to Caching
- Types of Caching
- Page Caching
- Diff. between Webuser Controls & Custom Controls
- Page fragmentation Caching
- Data Caching
- Data Caching – Application Object

TRACING

- Page Level
- Application Level

SECURITY

- Authentication & Authorization
- Windows Authentications
- Forms Authentications
- Passport Authentications
- Memberships

WEB SERVICES

- Architecture
- WSDL, SOAP, UDDI
- Publishing and Consuming Web Services
- Web Client
- Windows Client
- Caching Web Services
- Security in Web Services

Overview of Advanced .NET Technologies

- ASP.NET-AJAX
- WCF

WCF Service with C#

- Review the Challenges of Building Distributed Applications
- Examine the Concept of Service Oriented Application
- See a High Level Overview of Windows Communication Foundation
- Build and Host your First WCF Service

Hosting and Calling WCF Services

- Understand how to Host a WCF Service
- Understand how Clients Communicate with Services
- See how to Host and Call a Service using Multiple Bindings
- See how to Configure Endpoint in Code and in Configuration Files

Bindings and Contracts

- Understand how to Work with Bindings
- Explore how to Create Service and Data Contracts
- See the Implications of Modifying Service and Data Contracts

Exceptions handling using fault contract in WCF

- Learn how to Handle Exceptions in WCF Services

Sessions and Transactions

- See how to use Sessions to Maintain State in WCF Services
- Explore Options for Controlling the Lifetime of a Service Instance
- Learn how to Add Transactions Support to a WCF Service

WCF Security

- Explore the Basics of WCF Security
- See how to Authenticate Callers of a Service
- See how to Authorize Callers Based on Roles

RESTful Services

- Explore how to Build WCF Services that Support Representational State Transfer (REST)

Web API 2

- Creation and how to call web API in asp.net, MVC and Angularjs applications.

Introduction to LINQ

- LINQ expressions

- Using via extension methods
- Filtering
- Sorting
- Aggregation
- Skip and Take operators
- Joins

LINQ to XML

- New XML classes
- Generating XML
- Querying XML

LINQ to SQL

- Attributes and mapping
- Creating a DataContext
- Deferred loading
- Saving changes
- Inserts and deletes
- Transactions
- Concurrency
- Handling exceptions

LINQ to Entities

- ADO.NET Entity Framework
- Differences from LINQ to SQL
- Available providers
- Defining an Entity Data Model (EDM)
- Database-first vs. Model-first
- Object Services
- Change tracking
- Using EntityClient

- Using stored procedures
- Plain-Old CLR Object support (POCO) [.NET 4.0 only]
- N-tier and service-based applications

Entity framework code first

- How to create database using model classes
- Enable migrations, Add Migration and update database.

SQL Server 2012

- SQL Server Design Architecture
- Database Design Techniques
- Table Design Principles
- Data Integrity & Consistency
- Aliasing & Naming Conventions
- Schema Creation & Namespace
- Views and Data Security
- JOINS and Sub Queries
- Indexes and Performance
- Index Selectivity & Options
- Stored Procedures & Tuning
- Functions and Limitations
- DML and DDL Trigger Types
- System Objects & Metadata
- Cursors Usage and Issues
- Synonyms and Limitations
- Transaction ACID Properties
- Transaction Locks and Memory
- Query Hints & Tuning Options
- New Functions in DENALI

Introduction to AngularJS

- Client-Side Templates
- Model View Controller (MVC)
- Data Binding
- Dependency Injection
- Directives
- An Example: Shopping Cart
- Up Next
- Anatomy of an AngularJS Application
- Invoking Angular
- Loading the Script
- Declaring Angular's Boundaries with ng-app
- Model View Controller
- Templates and Data Binding
- Displaying Text
- Form Inputs
- A Few Words on Unobtrusive JavaScript
- Lists, Tables, and Other Repeated Elements
- Hiding and Showing
- CSS Classes and Styles
- Considerations for src and href Attributes
- Expressions
- Separating UI Responsibilities with Controllers
- Publishing Model Data with Scopes
- Observing Model Changes with \$watch

MVC5 with Razor

- Web API
- The benefits of the MVC Design Pattern
- MVC Architecture Principles and Benefits

- Implementing industrial-strength ASP.NET MVC solutions
 - View Techniques - Responsive Design with MVC
 - Implementing Navigation
 - MVC State Management
 - Using AJAX & jQuery with MVC
 - Creating RESTful services using the Web API
 - Creating Mobile web applications and sites with MVC 5
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- ✓ **Ajax, JavaScript and JQuery uses in applications**

 - ✓ **Agile Methodology, SDLC and Design patterns overview in project development.**

 - ✓ **Projects creation and deployment in ASP.NET, MVC, Angularjs, WCF, Web API, and Webservice.**