



ASP.NET Syllabus

Web Programming Introduction

- Understanding role of Web Server and Web Browser.
- Brief about HTTP Protocol.
- HTTP Request structure.
- Form Tag and comparison between Get and Post methods.
- HTTP Response Structure

HTML and JavaScript

- Understanding HTML Form Tag and elements within it.
- JavaScript using Sample Programs.

Traditional ASP Basics

- Introduction to ASP.
- How ASP Works.
- ASP Objects.
- Installing IIS on Windows 7 & Windows 8.
- Sample Programs.
- Importance's of Form tag and how it works.

ASP.NET Introduction & Controls

- ASP.NET Introduction
- First ASP.NET Application.
- Auto Postback Property.
- Event Handler Parameters.
- Dynamically initializing Controls
- IsPostBack property of Page class
- ListControls
- Comparison between HtmlControls and WebControls
- Control Properties and Methods
- FileUpload Control

ASP.NET Architecture

- What is AppDomain?
- Life Cycle of ASP.NET Page
- How Control Manages its State
- What is EnableViewState
- How Control raises events
- Event handling in Web Forms
- Writing Custom Classes in WebApplication



CSS & Themes

- Work with CSS
- Use Themes to Customize a Site
- Name Skins within a Theme
- Do server-side Styles using Themes
- Add contents of a Theme and Skin
- Apply themes and Profiles

Redirecting User to Another Page

- Redirecting Options
- Response.Redirect
- Server.Transfer
- Cross Page Postback
- Determine how the pages was invoked
- Passing values between pages

Master Pages

- Introduction to MasterPage
- ContentPlaceHolder and Content tags
- Accessing controls of MasterPage in ContentPage
- URL's in MasterPages
- UniqueID and ClientID

Working with User Control

- Overview of User Controls
- Creating a User Control
- Adding Properties to User Control
- Adding Events to User Control
- Using User Control in Web Form
- Rendering Clients Scripts Using Page.ClientScript methods

Validation Controls

- Base Validator
- Required Field Validator
- Compare Validator
- Range Validator
- Regular Expression Validator
- Custom Validator
- Causes Validation Property
- Grouping - Validation Group Property
- Page.Validators and Page.IsValid



ASP.NET State Management

- Static Members
- View State
- Hidden Field in Form
- Query String
- HttpContext
- Cookies-HttpCookie
- Sessions-HttpSessionState
- Application-HttpApplicationState
- Summary of All Features

WebConfiguration File and Global.asax

- Introduction to Configuration files
- Page setting in web.config
- Custom Errors
- URL Re-Writing
- Tracing
- Using ConfigSource Attribute
- Using Location Section
- HttpApplication class-Global.asax

Authentication & Authorization

- What is Authentication and Authorization
- Types of Authentication
- Forms Authentication
- Role based Authentication
- Windows and Basic Authentication
- What is ASP.NET Impersonation
- Using location section in web.config

Application Service Providers

- ASP.NET Providers Introduction
- Membership Providers
- Role Providers
- Writing Custom Providers
- Profile Providers
- Web Parts Personalization Providers

Globalization and Localization

- Definitions
- Creating Resource files for different cultures
- Designing the WebForm & linking controls to keys in Resource files
- Alternatives to initialize culture settings of the page.



Data Bound Controls

- Databinding traditional way
- SqlDataSource
- GridView
- DetailsView
- FormView
- DataList
- Repeater
- ListView
- DataPager

Web Caching

- Why Caching
- Types of Caching :-
 - i.Output Caching
 - ii.Fragment Caching
 - iii.Substitution Caching
 - iv.Data Caching
- SQL Cache Invalidation

AJAX.NET

- What is AJAX
- What is AJAX.NET
- Script Manager
- Update Panel
- Update Progress
- Timer
- AJAX Control Toolkit

Routing

- What is Routing?
- Mapping Route to Physical file
- Reading Route Parameters
- Route Expression
- Generate URL using Markup

Understanding & Publishing Web Application

- Introduction to ASP.NET Web Application
- Advantages of IIS Applications
- Creating web application in IIS
- Converting File System application to IIS Application
- Using Virtual Directory
- Publishing ASP.NET Website
- Culture specific formatting



C# Syllabus

C # Language Syntax

- Datatypes
- Global, Stack and Heap Memory
- Common Type System
- Reference Type and Value Type
- Datatypes & Variables Declaration
- Implicit and Explicit Casting
- Checked and Unchecked Blocks – Overflow Checks
- Casting between other datatypes
- Boxing and Unboxing
- Enum and Constant
- Operators
- Control Statements
- Working with Arrays
- Working with Methods
- Pass by value and by reference and out parameters

OOPs-Concept

- Learning about Class, Object, Component, Encapsulation, Inheritance, Polymorphism & Object Creation and Instantiation.

OOPs-Programming Encapsulation

- Understanding Encapsulation Concept through an example.

OOPs-Inheritance

- Introduction to Inheritance
- Constructor & Inheritance
- Type Casting of Reference Types
- Static and Dynamic Binding
- Abstract Class

OOPs-Interface & Polymorphism

- What is Polymorphism
- Overview of Interface
- Interface with examples
- Types of Inheritance



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

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Exception Handling

- Defining Exception
- 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



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

MS.NET Framework Introduction

- The .NET Framework - an Overview
- Framework Components
- Framework Versions
- Types of Applications which can be developed using MS.NET
- MS.NET Base Class Library
- MS.NET Namespaces
- MSIL / Metadata and PE files.
- The Common Language Runtime (CLR)
- Managed Code
- MS.NET Memory Management / Garbage Collection
- Common Type System (CTS)
- Common Language Specification (CLS)
- Types of JIT Compilers
- Security Manager

XML

- 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



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Multithreading

- Threading Overview
- Scheduling
- Thread States
- Programming Threads
- Methods of Thread Class
- Thread Pool
- Thread Synchronization
- Monitor
- Mutex
- Semaphore
- Events
- Parallel Programming using Task Parallel Library
- Asynchronous Programming using async and wait keywords

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