

Dotnet (4 Month)



Course Content

Introduction to .net Framework

- What is .Net
- Why .Net
- Advantages of .Net Framework
- Understanding the .Net Framework
- Need Of .Net Framework
- Version of .Net Framework
- Introduction of CLR
- CLR Architecture
- Just In Time(JIT)Compiler
- Microsoft Intermediate Language(MSIL)
- Common Type System(CTS)
- Common Language Infrastructure (CLI)
- Framework Class Libraries(FCL)

Programming Language Fundamentals – C#

- Data Types in C# - Primitive & Reference Types
- Nullable Types in C#
- Operators & Operands in C#
- Conditional Constructs, Looping Constructs
- Jumping Statements
- Implicit & Explicit Conversion

Object Oriented Programming Structure (OOPS)

- Need and Key Feature of OOPS
- Concepts of Classes and Objects
- Components of OOPS
- Overview of Constructors
- Creating and Using Namespaces
- Access Modifiers & Access Specifiers
- Instance and Static members in Class
- Methods in C#
- Defining properties and their type
- Events and Delegates
- Understanding Delegates
- Understanding events
- Concept of Polymorphism
- Concept of Inheritance
- Threading in C#

File handling

- System IO Namespace
- Stream reader and stream writer
- File Handling Classes for Reader & Writer

- Reading and writing a file
- Synchronous & Asynchronous file operation

Exception Handling

- Means of error, bug and exceptions
- Concept of Exception Handling
- System level Exception
- Application level exception
- Try and catch & Finally block
- Handling multiple Exception
- Throw Exception on request
- Custom exception

Events & Delegates

- Types of Delegates
- Anonymous Methods through Delegates
- SingleCast & MultiCast Delegate
- Generic Delegates
- Events Process Cycle
- Event Handlers
- User Define Events
- Create & Bind User Events

Threading in C#

Asp.Net Framework

- Need of web application
- Http protocol & Methods
- Static and dynamic page
- Introduction to IIS Server
- Difference between asp and asp.net

Server Controls

- Standard Controls
- Validation Controls
- Navigation Controls
- Login Controls
- Data Bound Controls

Master & Content Pages

- Introduction and Need of Master Page
- Creating a master page
- Add Content Pages to Master Page
- Applying master page through configuration file
- Dynamic setting a Master Page
- Nested Master Page
- Multiple Content Pages in a Master Page
- Master page and Relative Path

State Management

- Client-Side Management
 - View
 - Hidden Fields
 - Cookies
 - Control State
 - Query String
- Server-Side Management
 - Session State
 - Application State

Partial PostBack Mechanism

- Introduction of Ajax
- Creating Ajax enabled website
- Understanding and working with update panel
- Role of script manager
- Creating a Ajax enabled web service
- Ajax Toolkit Introduction

ADO.Net Architecture

- Evaluation of ADO
- Difference between ADO and ADO.Net
- Data Providers
- Connected and disconnected architecture
- Data Readers and Connected Access
- Data Sets and Disconnected Access
- ADO.Net Architecture
- ADO.Net Commands
 - Command Objects
 - Creating Commands
 - Executing Commands
 - Parameterized Queries
 - Using Stored Procedures
 - Batch Queries
- Data Binding
- Asynchronous Database Operations
- Multiple Active Result Sets

Introduction to LINQ

- Introduction to var data type
- Understanding the role of LINQ
- LINQ query expression
- LINQ and non generic collection
- LINQ and generic collection
- PLINQ

LINQ to ADO.NET

- Language Integrated Query (LINQ)
- Bridging Objects and Data
- Using Object Relational Designer
- Filtering, Ordering and Aggregation
- Inserts, Deletes and Updates
- LINQ to SQL
- LINQ to Dataset

Entity Framework 7.0

- Overview of Entity

- Difference between LINQ to SQL and Entity Framework
- Learn how to create an Entity Data Model
- Conceptual schema definition language (CSDL)
- Store schema definition language (SSDL)
- Mapping specification language (MSL)
- Techniques for using LINQ to Entities to query data in a SQL Server database
- Creating/managing 1-many and many-1 relations
- Associations & Foreign Keys
- Giving life to a Model
- Mapping object to Data

Types of Entity Framework

- Database First
- Model First
- Code First

MVC 4.0

- Understand the MVC design pattern
- Use Asp.Net MVC's routing system to achieve a REST-style architecture
- Building Model
- Routes and URLs
- Controllers and their types
- View and View Templates
- HTML user interface using both the ASP.NET and new Razor view engine
- Filters
- Layout Views
- HTML Helpers
- Working with Forms in MVC
- Scaffold Templates
- Validations in MVC
- Data Annotations
- Partial Views
- Action Filters
- URL Routing
- JQuery & AJAX in MVC 4
- Bundling & Minification
- Web API
- NuGet Package Manager in MVC 4
- Code First in ASP.NET MVC 4