

C# .NET COURSE CONTENT

Duration: 10 Hours

Prerequisite: C++

Our Strength
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C# Syllabus

- ❖ **Introduction to .NET 5.0**
Introduction of Language, Introduction of Web Application, Platform Dependence , Independence & Portability, Introduction of .NET Framework, Introduction of Compiler & MSIL, Introduction of CLR, Introduction of CLS, CTS, CLI
- ❖ **OOPS Implementation**
Encapsulation, Abstraction, Class & object , Relation b/w objects and reference variables, Method Overloading & Types of Methods, Description of Memory blocks: Stacks, Heap & Class Area, Constructors and Destructor & Garbage Collection, Using Scope &, Dispose Method, Usage of this keyword , Static Data members, Constructors & methods, Relation & Implementing Has-A relation, Implementing Is-A relation using Inheritance, Method Overriding & Hiding, Usage of Base keyword, Static & Dynamic binding, Runtime polymorphism and generalization, Abstract classes & methods, Interfaces and Role based Inheritance, Usage of sealed, partial, out, ref, param keyword, Namespace, Assembly & GAC, Property & Indexer, Windows Application, Delegates & Event, Event Handling
Windows App. Component., Object class and its role
- ❖ **String Handling**
String class & concept of Immutability, Pool of String Constants & its use, Common String operations, Use of String Builder.
- ❖ **Exception Handling**
Difference b/w exception and error, Exception Handling & Robustness, Common, Exceptions and Errors, Try and catch block, Exception handlers, Throw keyword and its usage, Role of finally, Exception Class Methods & properties, Creating User defined Exceptions
- ❖ **Multithreading in .NET**
Multitasking and Multithreading, Process & thread, States of Thread Thread based execution model of .NET Applications, Implementing User threads, Thread synchronization, Inter Thread communication, Thread Interrupting, Daemon Threads and their use
- ❖ **Input Output Streams**
Streams & their advantages over conventional input output, Reading & writing data byte by byte, line by line, and in one go. Redirecting Standard input & output streams, Serialization & Deserialization, Serialization Formatter, Xml Formatter
Binary Formatter, Soap Formatter, Json Formatter, File class and File System Interaction, Zip & Unzip Files
- ❖ **Reflection**
Understanding object representation of classes, Loading classes dynamically, Instantiating classes indirectly, Obtaining information of classes dynamically
Invoking methods indirectly, Referencing data members indirectly, Overriding access policy and referencing private members
- ❖ **Collection Framework**
Role and Importance of Collection Framework, Index Based Collection Array List, Stack, Queue, Use Define Collection, Map Based Collection Use of Key & Value pair (Entry), Hash Table, Sorted List, Searching elements in List, Hash and Tree based collections, Role of equals and hashCode() methods, Role of Comparable interfaces, Type safety and Generics, Generic Collection, List ,Stack ,Queue , Dictionary, Linked List ,Sorted List.

