

Introduction & Environment Setup

- How Computer Works
- Introduction toProgramming Languages
- How Computer ProgramsWorks
- Different Types of Applications
- ProgrammingMethodologies
- Algorithm, Pseudocode,Programs, and Flowcharts
- Introduction to .NET Framework
- .NET FrameworkArchitecture andComponents
- ✓ Introduction to C#
 Programming Language
- How to Download and Install Visual Studio on Windows
- Creating First Console
 Application using Visual
 Studio

C#.NET Basics

- Basic Structure of C#
 Program
- Methods and Properties of Console Class in C#
- Data Types in C#
- Literals in C#
- ▼ Type Casting in C#
- ✓ Variables in C#
- Operators in C#
- Control Flow Statements in C#
- If-Else Statements in C#
- Switch Statements in C#
- Loops in C#
- While Loop in C#
- Do While Loop in C#
- For Loop in C#
- Break Statement in C#
- Continue Statement in C#
- Goto Statement in C#

C#.NET Tutorials

C#.NET Tutorials For Beginners and Professionals

C#.NET Tutorials For Beginners and Professionals

In this C#.NET tutorial For Beginners and Professionals article series, we covered all the basic and advanced concepts of C#.NET. This C# Tutorials For Beginners and Professionals course is going to explain using different types of applications which include the Console, Windows, ASP.NET Webform, <u>ASP.NET Web API</u> by taking some real-time scenarios.

It is very important to understand C#.NET as it is the base for all types of applications. The C#.NET is the most powerful programming language among all programming languages available in the .NET framework.

For whom?

These **C#.NET tutorials** are designed for beginners as well as professional developers who want to learn C# step by step from the very basic to the advanced concept using real-time examples. These tutorials provide a hands-on approach to the subject with step-by-step program examples that will assist you to learn and put the acquired knowledge into practice.

What is C#.NET?

C#.NET is one of the Microsoft programming languages. It is the most powerful programming language among all programming languages available in the .NET Framework. The C#.NET contains all the features of C++, VB.NET, and JAVA, and also some additional features. The C#.NET programming language is designed to be a simple, modern, general-purpose, and completely object-oriented programming language.

C# is just a simple, secure, robust, portable, platform-independent, architectural neutral, multithreaded, object-oriented programming language with a strong type exception handling mechanism for developing different kinds of applications such as Web, Windows Form, Console, Web Services, Mobile Apps, etc.

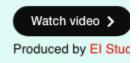
C# is pronounced as "C-Sharp". It is an object-oriented programming language provided by Microsoft that runs on the .Net Framework. C# is a modern, general-purpose, object-oriented programming language developed by Microsoft and approved by European Computer Manufacturers Association (ECMA) and International Standards Organization (ISO).

C# is approved as a standard by ECMA and ISO. C# is designed for CLI (Common Language Infrastructure). CLI is a specification that describes executable code and runtime environment. The C# programming language is influenced by C++, Java, Eiffel, Modula-3, Pascal, etc. Languages.

Types of Applications Developed using C#:

With the help of the C# programming language, we can develop different types of secured and robust applications:

Getting more out of data with hybrid and edge technology



1

- Call by Value and Call by Reference in C#
- Recursion in C#
- User Input and Output in C#
- Command LineArguments in C#
- String in C#
- Static Keyword in C#
- Static vs Non-Static
 Members in C#
- Const and Read-Only in C#
- Properties in C#
- Why we Should Override
 ToString Method in C#
- Override Equals Method in C#
- Onvert.ToString and
 ToString Method in c#
- Checked and Unchecked
 Keywords in C#
- Stack and Heap Memory in C#
- Boxing and Unboxing in C#

OOPs in C#

- Object Oriented

 Programming (OOPs) in

 C#
- Class and Objects in C#
- Constructors in C#
- Types of Constructors in C#
- Static vs Non-Static
 Constructors in C#
- Private Constructors inC#
- Destructors in C#
- Garbage Collection in C#.NET
- Access Specifiers in C#
- Encapsulation in C#
- Abstraction in C#
- ✓ Inheritance in C#
- Types of Inheritance in C#
- How to use Inheritance in Application Development

IsA and HasA

- 3. Distributed Applications
- 4. Web Service Applications
- 5. Database Applications
- 6. Mobile Applications, Etc.

Features of C#

Although C# constructs closely follow traditional high-level languages, C and C++ and being an object-oriented programming languages. It has a strong resemblance with Java, it has numerous strong programming features that make it endearing to a number of programmers worldwide. Following is the list of a few important features of C# –

- 1. **Simple**: C# is a simple language in the sense that it provides a structured approach (to break the problem into parts), a rich set of library functions, data types, etc.
- 2. **Modern Programming Language**: C# programming is based upon the current trend and it is very powerful and simple for building scalable, interoperable, and robust applications.
- 3. **Object-Oriented**: C# is an object-oriented programming language. OOPs makes development and maintenance easier whereas in Procedure-oriented programming language it is not easy to manage if code grows as the project size grows.
- 4. **Type-Safe**: C# type safe code can only access the memory location that it has permission to execute. Therefore, it improves the security of the program.
- 5. **Interoperability**: The interoperability process enables the C# programs to do almost anything that a native C++ application can do.
- 6. **Scalable and Updateable:** C# is an automatic scalable and updateable programming language. For updating our application, we delete the old files and update them with new ones.
- 7. **Component Oriented:** C# is a component-oriented programming language. It is the predominant software development methodology used to develop more robust and highly scalable applications.
- 8. **Structured Programming Language:** C# is a structured programming language in the sense that we can break the program into parts using functions. So, it is easy to understand and modify.
- 9. Rich Library: C# provides a lot of inbuilt functions that make development fast.
- 10. Fast Speed: The compilation and execution time of the C# language is fast.

What you will Learn From these C# .NET Tutorials?

In this C#.NET Tutorials, you will learn from basic to advance level concepts of C#. Some of them are as follows:

Chapter-1 Introduction & Environment Setup

Chapter-2 C#.NET Basics

Chapter-3 OOPs in C#

Chapter-4 Exception Handling

Chapter-5 Events, Delegates, and Lambda Expression in C#

Chapter-6 MultiThreading

Chapter-7 Collections in C#

Chapter-8 File Handling

Chapter-9 <u>Asynchronous Programming</u>

Chapter-10 Parallel Programming

Chapter-11 AutoMapper

Chapter-12 Optional Parameter, Indexers, and Enums

Chapter-13 .NET Framework Architecture

Chapter-14 Var, Dynamic and Reflection

Chapter-15 C# 7.X, 8.X, 9.X, 10.X New Features, and Many More

Prerequisites for this C#.NET Tutorials:

There are no prerequisites required to learn **C#.NET** as we are going to start from the very basics. It is good to have .NET Framework and Visual Studio installed on your computer, as it might assist you in executing the examples yourself and getting to know how it works.

Note: If we missed any topics in this C#.NET Course, then please let us know by giving a comment in the Comment Box and we promise as soon as possible we will publish articles on that topic.



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	Abstract	Methods in C#

- Abstract Class and Abstract Methods
 Interview Questions in C#
- How to Use AbstractClasses and Methods inC# Application
- ✓ Interface in C#
- ✓ Interface InterviewQuestions and Answers inC#
- ✓ Interface Realtime
 Examples in C#
- ✓ Multiple Inheritance in C#
- Multiple Inheritance
 Realtime Example in C#
- Polymorphism in C#
- Method Overloading in C#
- Operator Overloading in C#
- ✓ Method Overriding in C#
- ✓ Method Hiding in C#
- Partial Class and Partial Methods in C#
- Sealed Class and Sealed Methods in C#
- Extension Methods in C#
- Static Class in C#
- ✓ Variable Reference and Instance of a Class in C#

Exception Handling

- Exception Handling in C#
- Multiple Catch Blocks in C#
- Finally Block in C#
- How to Create CustomExceptions in C#
- Inner Exception in C#
- Exception HandlingAbuse in C#

Events, Delegates and Lambda Expression in C#

- Course Structure of Events, Delegates and Lambda Expression
- ✓ Roles of Events,Delegates and EventHandler in C#
- Delegates in C#
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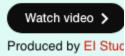
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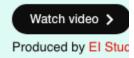
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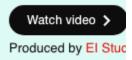
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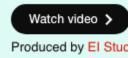


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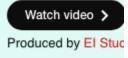


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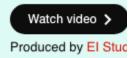




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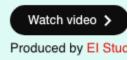
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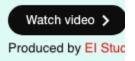
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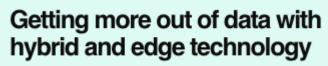


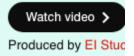
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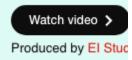
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SMRUTI RANJAN JENA

NOVEMBER 10, 2018 AT 9:37 AM

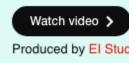
First I would like to thank Dotnet for sharing these materials. These are really good and up-to the point and very understandable. Anyone with basic knowledge can also read these and increase their knowledge.

<u>Reply</u>

DOT NET TUTORIALS

<u>DECEMBER 18, 2018 AT 8:25 PM</u>

Thank you for your feedback



OLAYINKA

JANUARY 3, 2019 AT 10:02 PM

This is great!

<u>Reply</u>

DOT NET TUTORIALS

FEBRUARY 18, 2020 AT 7:14 PM

Thank you so much for your feedback

<u>Reply</u>

VIRAM SHAH

MARCH 31, 2019 AT 11:42 AM

Your Matreial is Fantastic.

<u>Reply</u>

CHANIKYA YG

APRIL 30, 2019 AT 11:10 PM

Wonderful material for DotNet.

<u>Reply</u>

ANIL KUMAR T

AUGUST 6, 2019 AT 12:45 AM

Excellent Stuff ...ALL in ONE

<u>Reply</u>

моніт

SEPTEMBER 13, 2019 AT 11:15 AM

only asp.net Tutorials need not asp.net core

<u>Reply</u>

ANANDHI M

SEPTEMBER 20, 2019 AT 6:08 PM

Can you add asp concepts too like all webform concepts including lambda expression and linq concepts?...It would be more greatful

<u>Reply</u>

DOT NET TUTORIALS

JUNE 12, 2020 AT 9:19 AM

Please have a look at the following link where we discussed lambda expression and all linq concepts in detail.

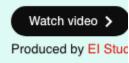
https://dotnettutorials.net/course/linq/

<u>Reply</u>

SERGIO

OCTOBER 9, 2019 AT 12:45 AM

Thank you sir



AJAY SRIRAM

OCTOBER 19, 2019 AT 12:16 PM

Waiting for latest updates..

Reply

SANDEEP K

NOVEMBER 20, 2019 AT 11:15 PM

Very nice explain in this app useful for dotnet developers

<u>Reply</u>

AMIN HUSSAIN

MARCH 2, 2020 AT 9:45 PM

Thank you very much making this useful staff and also the interview question it help me lots

Reply

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:24 PM

Thanks for your feedback. It means a lot to us.

Reply

RUPALI

MARCH 8, 2020 AT 3:13 PM

Content of every topics is so useful .I want to request u to pls share the contents of ADO.net and ASP.net also..

<u>Reply</u>

DOT NET TUTORIALS

MAY 9, 2020 AT 10:20 AM

Hi Rupali,

Here the link for the ado.net tutorials. As asp.net web form is going to be outdated, sorry to say you that I am going to write any articles on ASP.NET. Rather we will try to write articles on new and demand technologies.

https://dotnettutorials.net/course/ado-net-tutorial-for-beginners-and-professionals/

<u>Reply</u>

SUBHAS

MAY 4, 2020 AT 1:43 AM

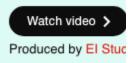
The concepts are useful for performance tuning aspects also. Auto mapper very powerful to design domain driven related stuff

If we are familiar with Lambda, complex collections (how to retrieve from complex type collection) with combination of Automapper, then we can easily implement any kind of logic w.r.t layering systems. Here my question is: Automappers are internally defined from reflection logic(gettype comparison b/w classes and their properties?)...

Please continue your research on Architectural patterns and their evaluations start to till date (please explain successful patterns).

Happy coding

<u>Reply</u>



Sir, you are an amazing teacher! can't describe in words!! Thank you very much for your help and looking forward for the rest of articles.

<u>Reply</u>

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:24 PM

Thanks for your feedback. It means a lot to us.

<u>Reply</u>

RAMESH

AUGUST 27, 2020 AT 10:20 AM

Hi,

My name is ramesh. I would like to buy dotnet material books. Can get same material in books format. Kindly guide me. If possible please provide link.

<u>Reply</u>

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:24 PM

We don't have any books. Whatever we have, we published here.

<u>Reply</u>

VIMA THANGAM

NOVEMBER 19, 2020 AT 6:35 PM

Please do the tutorial for asp.net

<u>Reply</u>

MARY

JANUARY 10, 2021 AT 2:03 PM

could you please help me to get tutorials for events in c#?????

<u>Reply</u>

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:23 PM

Thanks for your feedback. Very soon we will add events and all missing topics.

<u>Reply</u>

MARY

JANUARY 10, 2021 AT 2:04 PM

could you please help me to get tutorials for ASP.NET in c#?????

<u>Reply</u>

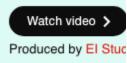
AS

JANUARY 30, 2021 AT 5:57 AM

Sir please provide asp.net tutorial. Your way of explaining is very easy..sir .. please please a big request.

<u>Reply</u>

ΔΜΙΤΥ



<u>Reply</u>

KETAN SHAH

NOVEMBER 10, 2021 AT 7:28 PM

Can u please add a ASP.NET Tutorials in C# it will help a lots of people who using this app

<u>Reply</u>

AYMAN

NOVEMBER 19, 2021 AT 5:21 PM

Please Add These topics "Nullable types, Events, dynamic type, ExpandoObject, File handling, Data Streams, Reflection"

and thanks for this articles

<u>Reply</u>

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:22 PM

Thanks for your feedback. Sure we will add these topics very soon.

<u>Reply</u>

VIMA

DECEMBER 24, 2021 AT 12:38 PM

I cracked many interviews after studying this material, which is easily understandable, very clear. Thank you so much

<u>Reply</u>

DOT NET TUTORIALS

MARCH 24, 2022 AT 7:21 PM

Thanks for your feedback. It means a lot to us.

<u>Reply</u>

VIMA

DECEMBER 24, 2021 AT 12:39 PM

Kindly add the ASP.Net tutorial

<u>Reply</u>

SURESH

DECEMBER 30, 2021 AT 11:19 AM

Nice!!!

<u>Reply</u>

SIVARAMAN

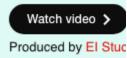
DECEMBER 30, 2021 AT 11:20 AM

Good.

<u>Reply</u>

SIVA

DECEMBER 30, 2021 AT 11:33 AM



VIJAY

JANUARY 6, 2022 AT 6:32 PM

Nice Article!

<u>Reply</u>

SDFUG

JANUARY 11, 2022 AT 6:54 PM

Thank you

<u>Reply</u>

BRTHN

MARCH 2, 2022 AT 3:38 PM

event

Reply

SHAKEEL AHMED

APRIL 21, 2022 AT 11:53 AM

First I would like to thank Dotnet for sharing these materials. These are really good and up-to-the point and very understandable. Anyone with basic knowledge can also read these and increase their knowledge. It would be more convenient if we got a search option

<u>Reply</u>

DOT NET TUTORIALS

MAY 6, 2022 AT 9:48 AM

Thanks for your feedback and suggesstions. Definately we are going to provide a search option.

<u>Reply</u>

SIVA CHINCHALAPU

APRIL 28, 2022 AT 12:02 AM

I am just loving the way you are constantly working to update the content, for the ease of readers. Thank you for that.

Reply

DOT NET TUTORIALS

MAY 6, 2022 AT 9:47 AM

Thaks for your feedback.

<u>Reply</u>

SMITH

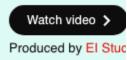
JULY 27, 2022 AT 8:52 PM

One-stop solutions for C#.NET. I learn Everything from here only. No need to go anywhere else. Basic and Advanced concepts are explained in depth.

<u>Reply</u>

DOT NET TUTORIALS

JULY 29, 2022 AT 5:23 PM



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YouTube Channel: https://www.youtube.com/c/DotNetTurorials

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