

# ASP.NET WITH C#

## INDEX: -

### Introduction

- [What is .net framework?](#)
- [What is ASP.NET?](#)
- [Create project](#)
- [What is C#?](#)
- [Why c#?](#)

### Controls and C#

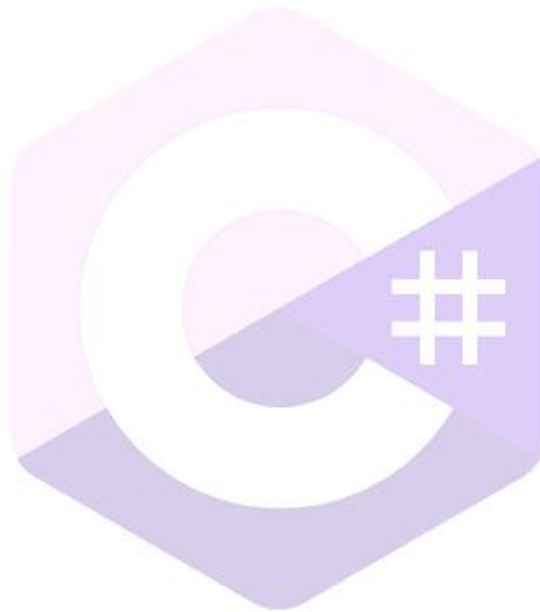
[Textbox](#)

[Button](#)

[Label](#)

[Checkbox](#)

[Radiobutton](#)



Microsoft  
**ASP.net**

# INTRODUCTION

.NET is framework to develop software applications. Microsoft launched its first version on 13 February 2002 as **.NET Framework 1.0**

## WHAT IS .NET Framework:-

It is a virtual machine that provides a common platform to run an application that was built using the different languages. It is also used to create a form based, console-based, mobile and web-based application or services that are available in Microsoft environment. The .NET framework is a pure object oriented, that similar to the Java language. But it is not a platform independent as the Java. So, its application runs only to the windows platform. The main objective of this framework is to develop an application that can run on the windows platform. The current version of the .Net framework is 4.8.

This framework contains a large number of class libraries known as Framework Class Library (FCL). The software programs written in .NET are executed in the execution environment, which is called CLR (Common Language Runtime). These are the core and essential parts of the .NET framework. This framework provides various services like memory management, networking, security, memory management, and type-safety.

### Framework class library (FCL):-

It provide the various system functionality in the .NET Framework, which includes classes, interfaces and data types, etc. to create multiple functions and different types of application such as desktop, web, mobile application, etc. In other words, it can be defined as, it provides a base on which various applications, controls and components are built in .NET Framework.

### Common language runtime (CLR):-

It is an important part of a .NET framework that works like a virtual component of the .NET Framework to execute the different languages program like c#, Visual Basic, etc. A CLR also helps to convert a source code into the byte code, and this byte code is known as CIL (Common Intermediate Language) or MSIL (Microsoft Intermediate Language). After converting into a byte code, a CLR uses a JIT (just in time) compiler at run time that helps to convert a CIL or MSIL code into the machine or native code.

### Microsoft .NET assemblies:-

A .NET assembly is the main building block of the .NET Framework. It is a small unit of code that contains a logical compiled code in the Common Language infrastructure (CLI), which is used for deployment, security and versioning. It defines in two parts (process) DLL and library (exe) assemblies. When the .NET program is compiled, it generates a metadata with Microsoft Intermediate Language, which is stored in a file called Assembly.

### Applications:-

- **Console:** - .NET framework can used to build console applications that run on command line program with CUI known as character user interface.
- **Windows:** - Windows Forms is a smart client technology for the .NET Framework, a set of managed libraries that simplify common application tasks.

- **Web:** - ASP.NET is a web framework designed and developed by Microsoft. It is used to develop websites, web applications, and web services. It provides integration of HTML, CSS, and JavaScript.

## WHAT IS ASP.NET:-

- It is a server side technology for web development, provided by Microsoft.
- It was first released in the year 2002; it is subset of .NET framework.
- The ASP stands for Active Server Pages, and .NET is Network Enabled Technologies.
- This framework is used for developing a powerful dynamic websites, web application.
- It can be program in any language compatible with the common language runtime. **Ex: - C#**

## CREAT PROJECT:-

- Open visual studio, then click on new project on start page or in menu go to file > new > project. It will open new project window.
- Choose visual c# > web > ASP.NET Empty web application. Then set name, location of project and click on "ok" button. It will set solution name auto as project name or it can be change.
- After it project will be created. There will some windows as toolbox, solution explorer properties and in bottom error, output window. If there is any window missing it can be add from view menu.
- In solution explorer there will be solution and in solution project folder will appear with project name, in that folder some other files will be include.
- Right click on project folder, and then click on add > New Item it will open window for add new items, click on visual c# > Web > Web Form set name for web form it extension will be .aspx, and then click on "add" button. It will add web form page in project.
- Default file will have following content of code.

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="cs4web2.WebForm1" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
```

```
    </div>
  </form>
</body>
</html>
```

- At the bottom of web page there are three view states as Source, split and design. Source is for see webpage in coding format. Design is for see webpage in design format and split show both at same time.

- Expand web form file in solution explorer to see c sharp coding file it will name as file\_name.aspx.cs double click on that file for open it or drag and drop that file near web form file.
- C sharp file will includes namespaces and classes that will used for design and coding web form these are declared with “using” keyword.
- In namespace of project\_name there is public partial class named as webform\_file name inherited from System.Web.UI.Page class. It is unique feature of c#, this class can break the functionality of a single class into many files.
- There is Page\_Load event already declared in that class because of “AutoWireUp” is set as “true”.
- There it controls in toolbox to drag and drop them in web form file and design webpage.

### WebForm1.aspx.cs file: -

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace cs4web4
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }
    }
}
```

### What is C#? :-

C# is pronounced "C-Sharp". It is an object-oriented programming language created by Microsoft that runs on the .NET Framework. C# has roots from the C family, and the language is close to other popular languages like C++ and Java. The first version was released in year 2002. The latest version, C# 12, was released in November 2023. It was designed by Andres Hejlsberg from Microsoft in 2000.

### C# is used for:

- Mobile applications
- Desktop applications
- Web applications
- Web services
- Web sites
- Games
- VR
- Database applications

## Why Use C#? :-

- It is one of the most popular programming languages in the world
- It is easy to learn and simple to use
- It has a huge community support
- C# is an object oriented language which gives a clear structure to programs and allows code to be reused, lowering development costs
- As C# is close to C, C++ and Java, it makes it easy for programmers to switch to C# or vice versa



Microsoft  
**ASP.net**

# CONTROLS AND C#

It is used for user interaction with website. Every control is class in c sharp. It contains properties, methods and events. Properties define or change behavior of object, methods are used for interact and perform operations with properties or on objects. Events are defines behavior of object on user interaction. For example textbox control is class and textbox1 will be object of that class.

**TEXTBOX CONTROL:** - it is a rectangular box which is used to take user input. It is mostly used in every websites.

## Syntax:-

```
<asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
```

**Runat:** - this attribute for display control on website.

## Properties:-

**ID:** - identification name of control.

**Text:** - it is used to display text in control.

**BackColor:** - it is used to set background color of control.

**ForeColor:** - it is used to set text color of the control.

**ToolTip:** - it display text on control when mouse over on it.

**TabIndex:** - it is used manage tab order of control.

**CssClass:** - it is used to apply style on control.

**Enable:** - true/false – used to enable or disable control.

**Visible:** - true/false – It is used to hide or visible control on web page.

**MaxLength:** - it is used to set maximum number of characters that can be input in TextBox.

**TextMod:** - Single, Multiline, Password, color, date, datetimelocal, email, month, numbers, url, time

**ReadOnly:** - true/false – used to enable or disable control readonly.

**AutoPostBack:** - it is property for automatic postback occur on event, it will send request to server when event happens in control. Without pressing “enter” or “tab” button. Default value is “false”.

## Example:-

**TextBox bgcolor:-**

```
TextBox1.BackColor = System.Drawing.Color.Yellow;
```

**TextBox borderstyle:-**

```
Textbox1.BorderStyle = BorderStyle.Solid;
```

**TextBox bordercolor:-**

```
TextBox1.BorderColor = System.Drawing.Color.Red;
```

**TextBox borderwidth:-**

```
TextBox1.BorderWidth = 3;
```

**TextBox forecolor:-**

**TextBox1.ForeColor = System.Drawing.Color.Green;**

**TextBox bold font:-**

**TextBox1.Font.Bold = true;**

**TextBox MaxLength:-**

**TextBox1.MaxLength = 10;**

**TextBox TextMode:-**

**TextBox.TextMode = TextBoxMode.Password;**

**Methods:-**

**Focus:** - To set cursor on textbox.

**Example:** - TextBox1.Focus();

**ToString:** - To convert textbox content to string.

**Example:** - TextBox.Text = 34.ToString();

**Events:-**

**TextChanged:** - This event will be called when content of textbox is change. (AutoPostBack must be true)

Display count of textbox text in label. Drag and drop label in webpage.

**Example:-**

```
protected void TextBox1_TextChanged(object sender, EventArgs e)
{
    Label1.Text = TextBox1.Text.Length.ToString();
}
```

- **Label1.Text:** - text property of label.
- **TextBox1.Text.Length:** - it is string property for count amount of characters in string.
- **ToString():** - it is method that convert value in string.

**Button click:-**

**Change text in bold:-**

```
protected void Button1_Click(object sender, EventArgs e)
{
    TextBox1.Font.Bold = true;
}
```

**Change text in italic:-**

```
protected void Button1_Click(object sender, EventArgs e)
{
    TextBox1.Font.Italic = true;
}
```

**Change text color:-**

```
protected void Button1_Click(object sender, EventArgs e)
{
    TextBox1.ForeColor = System.Drawing.Color.Red;
}
```

**Change background color:-**

```
protected void Button1_Click(object sender, EventArgs e)
{
    TextBox1.BackColor = System.Drawing.Color.Red;
}
```

**Change focus:-**

```
protected void Button1_Click(object sender, EventArgs e)
{
    TextBox1.Focus();
}
```

**BUTTON:** - it is used for postback webpage to server. It will work when click on button.

**Syntax: -**

```
<asp:Button ID="Button1" runat="server" Text="Button" />
```

**Properties: -**

**Text:** - set a text that will display on button.

**OnClick:** - it run client side script on button click that executed javascript at client side.

**Ex:** - OnClick = alert("good day")

**Event: -**

**Button click:** - this event occurred on button click.

**Example: -**

```
protected void Button1_Click(object sender, EventArgs e)
{
    Label2.Text = "button clicked";
}
```

**LABEL:** - it is used for display text about particular control.

**Syntax: -**

```
<asp:Label ID="Label10" runat="server" Text="Label"></asp:Label>
```

**Properties: -**

**BorderColor:** - it set border color of control.

**BorderStyle:** - it set border style of control. Solid, dotted, dashed, double, groove

**BorderWidth:** - it set border width of control in pixel.

**Bold:** - it set Boolean value for bold font.

**Italic:** - it set Boolean value for italic font style.

**Name:** - it set font name for render control.



**Names:** - also it set sequence of font name for render control.

**Overline:** - it set Boolean value for overline.

**Size:** - Set size of font.

**Strikeout:** - it set Boolean value for strike through.

**Underline:** - it set Boolean value for underline.

**Height:** - it set height of control.

**Width:** - it set width of control.

**CHECKBOX CONTROL:** - It is used to get multiple inputs from the user. It allows user to select choices from the set of choices. It takes user input in yes or no format. It is useful when we want multiple choices from the user.

### Syntax:-

```
<asp:CheckBox ID="CheckBox1" runat="server" />
```

### Properties:-

**Checked:** - It is used to set check state of the control either true or false

**TextAlign:** - it set text alignment to check box as left or right.

**Text:** - it display text with check box.

### Events:-

**Button click:** - show checkbox is checked or not.

```
protected void Button1_Click(object sender, EventArgs e)
```

```
{  
    if (CheckBox1.Checked == true)  
    {  
        Label1.Text = "CheckBox is Checked";  
    }  
    else  
    {  
        Label1.Text = "CheckBox is Unchecked";  
    }  
}
```

**Checked changed:** - this event occurs when click on check button. (AutoPostBack must be true)

```
protected void CheckBox1_CheckedChanged(object sender, EventArgs e)
```

```
{  
    if (CheckBox1.Checked)  
    {  
        CheckBox1.BackColor = System.Drawing.Color.Wheat;  
    }  
    else  
    {  
        CheckBox1.BackColor = System.Drawing.Color.White;  
    }  
}
```

**RADIOBUTTON CONTROL:** - It is an input control which is used to takes input from the user. It allows user to select a single choice from the group of choices.

**Syntax:-**

```
<asp:RadioButton ID="RadioButton1" runat="server" GroupName="gender" Text="male" />
```

**Properties:-**

**GroupName:** - it set group of radio buttons for take single choice from multiple options.

**Text:** - it display text with radiobutton.

**Checked:** - It is used to set check state of the control either true or false

**Events:-**

**Button click:** - show selected gender on click.

```
protected void Button2_Click(object sender, EventArgs e)
```

```
{
    if (RadioButton1.Checked == true)
    {
        Label2.Text = "Gender:- Male";
    }
    else if (RadioButton2.Checked == true)
    {
        Label2.Text = "Gender:- Female";
    }
    else
    {
        Label2.Text = "Select Gender";
    }
}
```

**Checked changed:** - this event occurs when click on radio button. (AutoPostBack must be true)

```
protected void RadioButton1_CheckedChanged(object sender, EventArgs e)
```

```
{
    if (RadioButton1.Checked)
    {
        Label1.Text = "Gender:- Male";
    }
}
```

```
protected void RadioButton2_CheckedChanged(object sender, EventArgs e)
```

```
{
    if (RadioButton2.Checked)
    {
        Label1.Text = "Gender:- Female";
    }
}
```