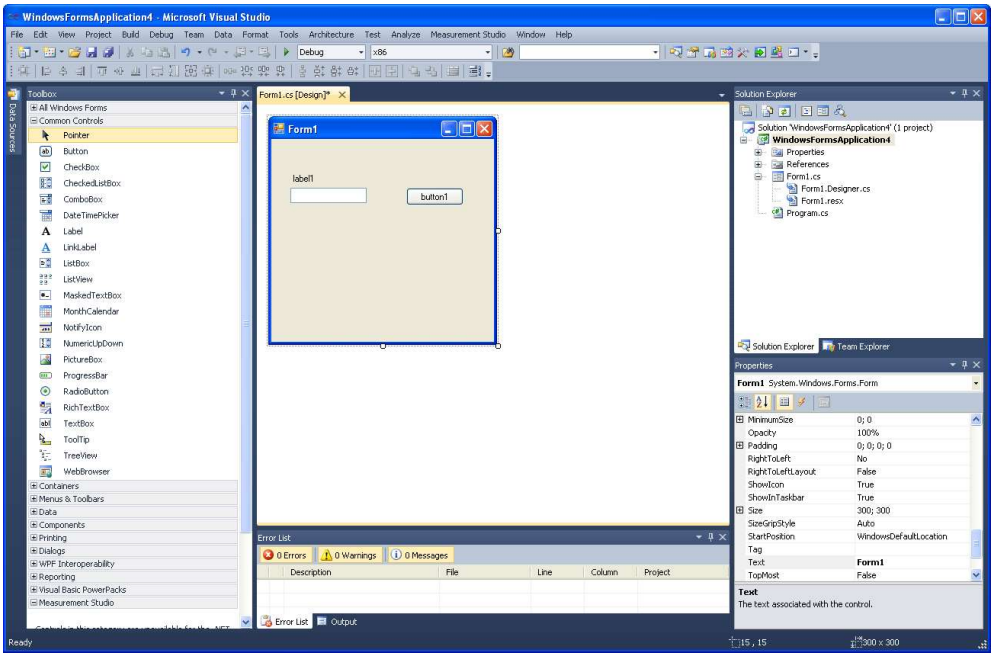
1 Introduction

ASP.NET is a framework for creating web sites, apps and services with HTML, CSS and JavaScript.

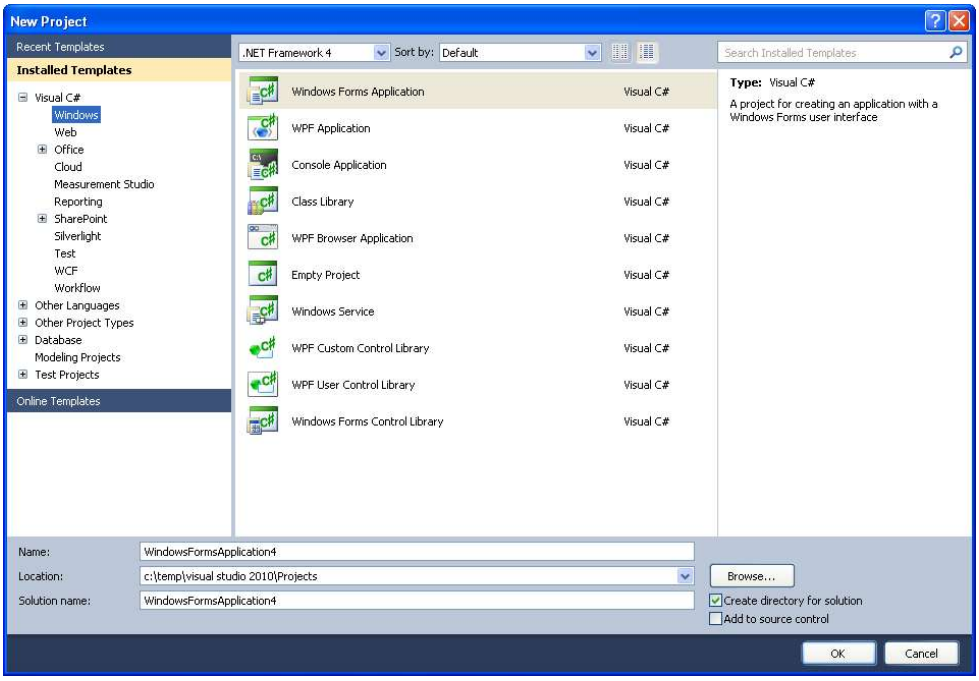
1.1 Visual Studio

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It can be used to develop console and graphical user interface applications along with Windows Forms applications, web sites, web applications, and web services in both native code together with managed code for all platforms supported by Microsoft Windows, Windows Phone, Windows CE, .NET Framework, .NET Compact Framework and Microsoft Silverlight.

Below we see the integrated development environment (IDE) in Visual Studio:



New projects are created from the “New Project” window:



1.2 C#

C# is pronounced “see sharp”. C# is an object-oriented programming language and part of the .NET family from Microsoft. C# is very similar to C++ and Java. C# is developed by Microsoft and works only on the Windows platform.

1.3 .NET Framework

The .NET Framework (pronounced “dot net”) is a software framework that runs primarily on Microsoft Windows. It includes a large library and supports several programming languages which allow language interoperability (each language can use code written in other languages). The .NET library is available to all the programming languages that .NET supports. Programs written for the .NET Framework execute in a software environment, known as the Common Language Runtime (CLR), an application virtual machine that provides important services such as security, memory management, and exception handling. The class library and the CLR together constitute the .NET Framework.

1.4 Object-Oriented Programming (OOP)

Object-oriented programming (OOP) is a programming language model organized around "objects" rather than "actions" and data rather than logic. Historically, a program has been viewed as a logical procedure that takes input data, processes it, and produces output data.

The first step in OOP is to identify all the objects you want to manipulate and how they relate to each other, an exercise often known as data modeling. Once you've identified an object, you generalize it as a class of objects and define the kind of data it contains and any logic sequences that can manipulate it. Each distinct logic sequence is known as a method. A real instance of a class is called an “object” or an “instance of a class”. The object or class instance is what you run in the computer. Its methods provide computer instructions and the class object characteristics provide relevant data. You communicate with objects - and they communicate with each other.

Important features with OOP are:

- Classes and Objects
- Inheritance
- Polymorphism
- Encapsulation

Simula was the first object-oriented programming language. Simula was developed in the 1960s by Kristen Nygaard from Norway.

Java, Python, C++, Visual Basic .NET and C# are popular OOP languages today.

Since Simula-type objects are reimplemented in C++, Java and C# the influence of Simula is often understated. The creator of C++ (1979), Bjarne Stroustrup (from Denmark), has acknowledged that Simula was the greatest influence on him to develop C++.