<http://msdn.microsoft.com/en-us/library/aa288436(VS.71).aspx>

C# Programmer's Reference

**C# Tutorials**

The C# tutorials provide an overview of the basics of the language and identify important language features. Each tutorial includes one or more sample programs. The tutorials discuss the sample code plus provide additional background information. They also link to the corresponding sample abstract topics, where you can download and run the sample programs.

**Note**   The C# tutorials do not teach how to create a graphical user interface for your program like a Windows Form or a Web Forms page. To get started in that area, see the [Visual C# Walkthroughs](http://msdn.microsoft.com/en-us/library/aa301562(VS.71).aspx).

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| **Tutorial** | **Description** | **Level** |
| [Hello World](http://msdn.microsoft.com/en-us/library/aa288463(VS.71).aspx) | Shows a Hello World application. | Simple |
| [Command Line Parameters](http://msdn.microsoft.com/en-us/library/aa288457(VS.71).aspx) | Shows simple command-line processing; also shows array indexing. | Simple |
| [Arrays](http://msdn.microsoft.com/en-us/library/aa288453(VS.71).aspx) | Shows how to use arrays. | Simple |
| [Properties](http://msdn.microsoft.com/en-us/library/aa288470(VS.71).aspx) | Shows how properties are declared and used; also demonstrates abstract properties. | Simple |
| [Libraries](http://msdn.microsoft.com/en-us/library/aa288466(VS.71).aspx) | Shows how to use compiler options to create a DLL library from multiple source files; also, how to use them in other programs. | Simple |
| [Versioning](http://msdn.microsoft.com/en-us/library/aa288479(VS.71).aspx) | Shows the use of **override**and **new**to support versioning. | Simple |
| [Collection Classes](http://msdn.microsoft.com/en-us/library/aa288462(VS.71).aspx) | Shows how to make collection classes that can be used with **foreach**. | Intermediate |
| [Structs](http://msdn.microsoft.com/en-us/library/aa288471(VS.71).aspx) | Shows how to use structs in C#. | Intermediate |
| [Indexers](http://msdn.microsoft.com/en-us/library/aa288465(VS.71).aspx) | Shows how to use array notation to access an object. | Intermediate |
| [Indexed Properties](http://msdn.microsoft.com/en-us/library/aa288464(VS.71).aspx) | Shows how to implement a class that uses indexed properties. Indexed properties allow you to use a class that represents an array-like collection of several different kinds of things. | Intermediate |
| [User-Defined Conversions](http://msdn.microsoft.com/en-us/library/aa288476(VS.71).aspx) | Shows how to define conversions to and from user-defined types. | Intermediate |
| [Operator Overloading](http://msdn.microsoft.com/en-us/library/aa288467(VS.71).aspx) | Shows how user-defined classes can overload operators. | Intermediate |
| [Delegates](http://msdn.microsoft.com/en-us/library/aa288459(VS.71).aspx) | Shows how delegates are declared, mapped, and combined. | Intermediate |
| [Events](http://msdn.microsoft.com/en-us/library/aa645739(VS.71).aspx) | Shows how to use events in C#. | Intermediate |
| [Explicit Interface Implementation](http://msdn.microsoft.com/en-us/library/aa288461(VS.71).aspx) | Demonstrates how to explicitly implement interface members. | Intermediate |
| [Conditional Methods](http://msdn.microsoft.com/en-us/library/aa288458(VS.71).aspx) | Demonstrates conditional methods, which provide a powerful mechanism by which calls to methods can be included or omitted depending on whether a symbol is defined. | Intermediate |
| [XML Documentation](http://msdn.microsoft.com/en-us/library/aa288481(VS.71).aspx) | Shows how to document code by using XML. | Intermediate |
| [Platform Invoke](http://msdn.microsoft.com/en-us/library/aa288468(VS.71).aspx) | Shows how to call platform invokes (exported DLL functions) from C#. | Advanced |
| [COM Interop Part 1](http://msdn.microsoft.com/en-us/library/aa645736(VS.71).aspx) | Shows how to use C# to interoperate with COM objects. Covers a C# client. | Advanced |
| [COM Interop Part 2](http://msdn.microsoft.com/en-us/library/aa645738(VS.71).aspx) | Shows how to use C# to interoperate with COM objects. Covers a C# server. | Advanced |
| [Attributes](http://msdn.microsoft.com/en-us/library/aa288454(VS.71).aspx) | Shows how to create custom attribute classes, use them in code, and query them through reflection. | Advanced |
| [Security](http://msdn.microsoft.com/en-us/library/aa288469(VS.71).aspx) | Discusses .NET Framework security and shows two ways to modify security permissions in C#: permission classes and permission attributes. | Advanced |
| [Threading](http://msdn.microsoft.com/en-us/library/aa645740(VS.71).aspx) | Demonstrates various thread activities such as creating and executing a thread, synchronizing threads, interacting between threads, using a thread pool, and using a mutex object. | Advanced |
| [Unsafe Code](http://msdn.microsoft.com/en-us/library/aa288474(VS.71).aspx) | Shows how to use pointers. | Advanced |
| [OLE DB](http://msdn.microsoft.com/en-us/library/aa288452(VS.71).aspx) | Shows how to use OLE DB in C# by connecting to a Microsoft Access database. | Advanced |