

# QuickStart Tool

## Visual Basic .NET

Getting a good start in any new technology or programming language often depends on finding the best available information. The Builder.com QuickStart Tools give you the information you need to quickly grasp the fundamentals of developing in a new IDE, using a new programming language, or working with a new development tool.

Besides explaining the basics, the Builder.com QuickStart Visual Basic .NET Tool shows you common tasks, exposes strengths and weaknesses, demonstrates some of the best uses of the technology, and lists a variety of other online and offline resources that can help you build a solid foundation of practical knowledge in the workings of VB.NET.

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## Fundamentals

Visual Basic .NET 2003 is the most recent version of Microsoft's Visual Basic language. The intended market for VB.NET is the enterprise application developer charged with building tools and applications for use in a Windows environment or on the World Wide Web. Visual Basic .NET is based on what is commonly referred to as the event model of programming, as opposed to the linear model employed by other programming languages such as C++. The common integrated development environment associated with Visual Basic .NET is Visual Studio .NET.

### Hello World program

Using Visual Studio .NET, we will create the standard "Hello World" program.

#### Begin

After starting Visual Studio .NET, create a new project: Go to File | New | Project. Select Windows Application and name the project "Hello World".

You will see a blank window; this is known as the form. You can drag and drop components from the toolbox (look to the left of the form). Once you do that, you will set their properties such as Name, Height, Width, Position, and Text.

#### Creating objects

First, create a new button on the form, drag and drop the button control from the toolbox (or double-click it), and place it on the form. The button's default text should be "Button 1".

#### Modifying properties

Click the button on the form, and then go to the Properties window (bottom right) and change the Text property to "Click Me". The button will now say "Click Me" instead of "Button1," as shown in **Figure A**. Set the name property to *MyButton*.

#### Coding and creating events

Open up code (View | Code or press [F7]). You will notice (at the top) two drop-down menus. The first one is the Object menu, and the one next to it is the Events menu. In the Objects menu, select *MyButton*. In the Events menu, select Click. When you selected *MyButton* and Click, VB.NET generated some code for you:

```
Sub MyButton_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyButton.Click
```

```
End Sub
```

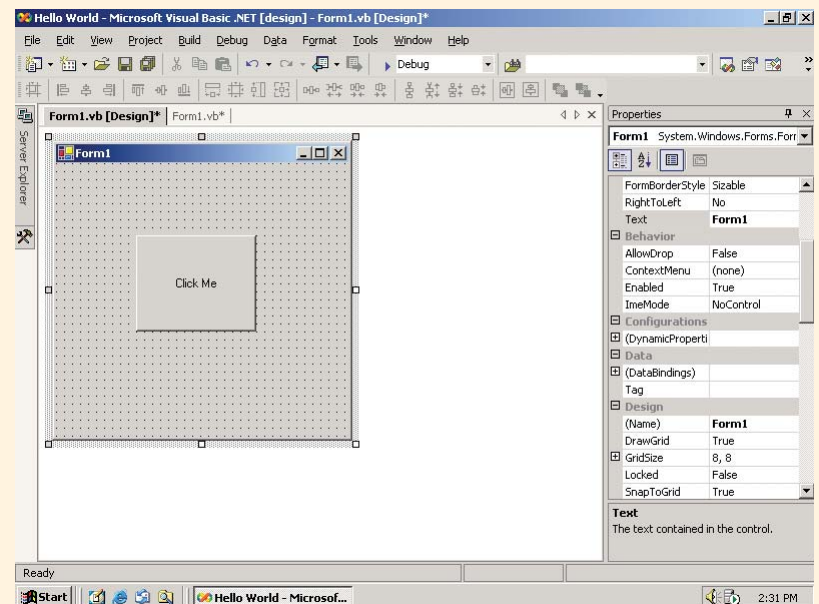
Between Sub and End Sub, type the following:

```
MessageBox.Show("Hello World!")
```

#### Running your program

Press F5 to run your program. When you click *MyButton*, a *MessageBox* appears, saying "Hello World."

Figure A



## Common tasks

### Task

### Steps

Access Active Directory.

1. Create a new **DirectoryEntry**.

```
Dim objDirEnt As DirectoryEntry = New DirectoryEntry(path)
```

2. Read the information from the Active Directory and print it to the screen.

```
Dim tab As String = "    "
Dim key As String
Dim objCollection As Object

For Each Key In objDirEnt.Properties.PropertyNames
    Console.WriteLine(tab & key & " = ")
    For Each objCollection In objDirEnt.Properties(key)
        Console.WriteLine(tab & tab & CStr(objCollection))
    Next
Next
```

Perform a select query to a SQL database.

Create a **SqlConnection** to the database passing the connection string, and then construct a **SqlDataAdapter** object that contains your query statement. To populate a **DataSet** object with the results from the query, you call the command's **Fill** method.

```
Dim myConnection As New SqlConnection("server=(local)\NetSDK;database=pubs;Trusted_Connection=yes")
Dim myCommand As New SqlDataAdapter("select * from Authors", myConnection)

Dim ds As New DataSet()
myCommand.Fill(ds, "Authors")
```

Catch an exception.

A **try...catch** block consists of a statement that you are going to try to do something that you know might cause an exception to occur.

```
` This code shows how to catch an exception
Try
    Console.WriteLine("We're going to divide 10 by 0 and see what happens...")
    Console.WriteLine()

Dim i as Integer = 10
Dim j as Integer = 0
Dim k As Integer k = i/j ` error on this line. Control will jump to the catch block...

Catch e As Exception ` perform code which deals with the exception, or informs the user what occurred...
    Console.WriteLine("The following error occurred:")
    Console.WriteLine(e.ToString()) ` print the error message to the user...
```

```

Finally ` this section will be performed, regardless of the above
processing
    Console.WriteLine()
    Console.WriteLine("This statement is always printed")
End Try
  
```

Declare a variable.

```

Dim x As Integer
Dim s As String
Dim s1, s2 As String
Dim o `Implicitly Object
Dim obj As New Object()
Public name As String
  
```

Make a GET request.

Use the **WebRequest** and **WebResponse** classes to make a GET request on a URI.

```

WebRequest request = WebRequest.Create("http://builder.com.com");
WebResponse response = request.GetResponse();
  
```

Read XML from a file.

Read XML from a file using the `XmlTextReader` class.

```

Dim reader As XmlTextReader = New XmlTextReader ("books.xml")
  
```

## Strengths

As with any programming language, Visual Basic .NET has both strengths and weaknesses. For many developers, the features included in the VB.NET IDE, many of which are designed to make programming easier by standardization, are a real strength. The dependency on a Windows environment for both development and deployment is a weakness for programmers working in other environments.

### Strength

### Description

Web-based applications

With an extensive supply of templates and forms included in the standard VB.NET IDE, creating simple but useful Web-based applications is relatively easy.

Simplified deployment

The VB.NET IDE tracks different versions of each application and displays them side by side for the sake of comparison. This helps streamline enterprise deployment.

Flexible, simplified data access

Access to data contained in a database is accomplished through built-in protocols associated with ADO.NET. This feature also allows for XML interaction.

Full object-oriented constructs

VB.NET allows developers to create reusable code using object-oriented principles, which include the typical object-oriented concepts of inheritance, encapsulation, and polymorphism.

Mobile applications

There is built-in support for mobile applications and devices within the Visual Basic .NET 2003 IDE.

## Weaknesses

Weakness	Description
Costs to get started	In order to truly take advantage of the power of Visual Basic .NET, you have to invest in Microsoft's official development environment (IDE), which usually costs around \$100. Once you have the software, there are lots of free tools you can download from Microsoft and other sources, but you have to purchase the VB.NET development software in order to get started.
Limited to Windows operating systems	If you want to create software solutions that can be run across multiple operating systems and platforms such as Windows, UNIX, Linux, and Mac OS X, then VB.NET is not the best programming platform to use. It is mostly limited to creating Windows applications and Web-based tools that usually require Internet Explorer.
Background code compilation	A significant problem with using VB for large projects is that the IDE insists on checking your code for any errors as you type. This is great for checking for errors before compile time, but presents problems when your projects reach a significant size and the background compilation gradually slows down your productivity.

## Best uses

Visual Basic .NET is best used for developers and programmers operating in an environment where:

- Rapid application development is a priority.
- Current developers are already familiar with Visual Basic.
- The main operating environment is within the Windows operating system and/or where Microsoft Office is the primary office suite.
- Web and Windows forms are the primary modes of interaction with back office systems.

## Online resources

### **Visual Basic .NET Resource Kit**

The Visual Basic .NET Resource Kit CD is an essential aid for new or experienced Visual Basic .NET programmers. Programmers who are interested in creating applications for Microsoft Windows, Microsoft Office, the Web, and mobile devices will benefit from this comprehensive collection of technical information. Download the Visual Basic .NET Resource Kit to start building a range of applications.

### **Visual Basic.NET Language Specification**

This document describes the Visual Basic .NET language. It is designed to be a complete language description, not a conceptual overview or a user's reference manual.

### **Visual J# .NET for Visual Studio .NET**

Microsoft Visual J# .NET is a development tool for Java-language developers who want to build applications and services on the .NET Framework. Microsoft Visual J# .NET is not a tool for developing applications intended to run on a Java Virtual Machine. Applications and services built with Visual J# .NET will run only in the .NET Framework and will not run on any Java Virtual Machine. Visual J# .NET has been independently developed by Microsoft. It supports Windows 2000, Windows NT, and Windows XP.

### **Total .NET SourceBook**

Packed with hundreds of ready-to-use code snippets, classes, how-to's and articles, Total .NET SourceBook provides the knowledge you need to get up to speed quickly. The sophisticated Code Explorer makes finding and organizing code a snap, plus you can easily add code and notes from your projects, other developers, or automatically use the new CodeBase Web service.

### **Microsoft Visual Basic Developer Center**

Microsoft calls this resource "the most productive tool for building .NET-connected applications."

### **VB.NET Heaven**

The purpose of this site is to provide VB.NET developers a common place to share their code, articles, tutorials, and tips and find VB.NET jobs, the latest industry news, and other related information.

## Other resources

### **Programming Visual Basic .NET**

By Dave Grundgeiger, December 2001, ISBN: 0596000936

### **Beginning VB.NET**

By Richard Blair, Jonathan Crossland, Matthew Reynolds, and Thearon Willis, August 22, 2002, ISBN: 0764543849

### **Professional VB.NET, Second Edition**

By Fred Barwell, Richard Case, Bill Forgey, Billy Hollis, et al., April 30, 2002, ISBN: 0764544004

### **Sams Teach Yourself Microsoft Visual Basic .NET 2003 (VB .NET) in 24 Hours Complete Starter Kit**

By James Foxall, June 6, 2003, ISBN: 0672325373

## Code samples

### **VB Sample Code: DirListBox**

### **VB Sample Code: FindReplace**

### **VB Sample Code: FolderBrowser**

### **VB Sample Code: LineControls**

### **VB Sample Code: .NETToggle**

### **DB Build Net**

### **101 Visual Basic and C# Code Samples**

### **VB Sample Code: OO Features in VB.NET**

### **VB Sample Code: Using the COM port in VB.NET**

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