SOFTWARE & TECH

What Is The Visual Basic

PUBLISHED
November 25, 2026

REFERENCE
#1795584381522926

What Is The Visual Basic? A Comprehensive Overview

To answer the question **What Is The Visual Basic** programming language, you need to look back at a pivotal era in software development. Visual Basic, often abbreviated as VB, is a third-generation event-driven programming language and integrated development environment (IDE) from Microsoft. First released in 1991, it was designed to make Windows programming accessible to a much broader audience. Before Visual Basic, creating a graphical user interface (GUI) application required writing hundreds of lines of complex C or C++ code. Visual Basic changed this by allowing developers to visually design forms, drag and drop controls like buttons and text boxes, and then write simple code to handle events such as button clicks. This revolutionary approach opened the doors of professional software development to thousands of hobbyists, business analysts, and non-traditional programmers. Even today, the phrase "What Is The Visual Basic" remains relevant because of its immense legacy and the vast number of systems still running VB6 applications.

In its classic form—Visual Basic 6.0, released in 1998—the language became one of the most popular programming tools in the world. It powered countless business applications, internal tools, and even games. The language itself is based on the BASIC (Beginner's All-purpose Symbolic Instruction Code) tradition, emphasizing simplicity and readability. Visual Basic extended this with object-oriented features, though not as fully as later languages like C# or Java. The key advantage was speed of development: a skilled VB developer could build a fully functional database front-end or utility in a fraction of the time required with lower-level languages.

However, the answer to "What Is The Visual Basic" is not simply historical. Microsoft later released VB.NET (Visual Basic .NET) as part of the .NET framework, which is a fully object-oriented, modern language. While VB.NET shares a name and some syntax with classic VB, it is essentially a different language. The classic version (VB6) is no longer officially supported by Microsoft, but many legacy systems depend on it. Understanding both variants is important for anyone maintaining older applications or deciding which environment to learn.

The Historical Evolution of Visual Basic

Visual Basic’s journey began with version 1.0 in 1991. It was a radical departure from the text-based development environments of the time. The IDE allowed developers to draw windows and controls with a mouse, and then attach code to those objects. This visual approach was so effective that it inspired the birth of other rapid application development (RAD) tools.

- Visual Basic 1.0 (1991): Created for Windows 3.0. It introduced the core concept of forms and controls, with an event-driven programming model.
- Visual Basic 2.0 (1992): Added more controls and performance improvements. It also supported OLE (Object Linking and Embedding).
- Visual Basic 3.0 (1993): Introduced the Jet database engine, making it easier to build database

applications with Access-compatible databases.

- Visual Basic 4.0 (1995): Moved to a 32-bit environment and introduced support for creating ActiveX controls. This version also supported both 16-bit and 32-bit development.
- Visual Basic 5.0 (1997): Support for creating ActiveX controls and compiling native code (instead of p-code). It also introduced a more robust IDE.
- Visual Basic 6.0 (1998): The final version of classic VB. It added many new features including web classes, improved data access (ADO), and the ability to create Internet Information Server (IIS) applications. VB6 remains the most iconic version of Visual Basic.

After VB6, Microsoft shifted its focus to the .NET platform. In 2002, Visual Basic .NET (VB.NET) was released as part of Visual Studio .NET. While it retained the “Visual Basic” name, the underlying architecture was completely different. VB.NET uses the Common Language Runtime (CLR) and is fully object-oriented, with inheritance, exception handling, and multithreading built-in. Many developers felt that VB.NET was a new language, not simply an upgrade. This caused a significant divide in the Visual Basic community.

Key Features of Classic Visual Basic

When exploring **What Is The Visual Basic** language in its classic form, several defining features stand out:

In classic VB, code is executed in response to events. For example, clicking a command button triggers its Click event. The developer places code inside that event handler. This approach is intuitive and maps well to user interface interactions. You don’t need to write a continuous main loop; the operating system and the VB runtime handle message dispatching.

The IDE provides a toolbox of common controls (buttons, text boxes, labels, list boxes, timers, etc.). You simply drag them onto a form, set properties (like caption, size, color) in the property window, and double-click the control to write its default event handler. This speed made VB ideal for prototyping and developing internal business tools.

VB’s IDE included a form designer, code editor, debugger, and project manager all in one. It allowed you to run your application directly from the development environment, set breakpoints, and inspect variables. The simplicity of the VB6 IDE is often cited as a reason for its popularity among beginners.

VB6 provided multiple ways to connect to databases: Data Access Objects (DAO), Remote Data Objects (RDO), and ActiveX Data Objects (ADO). ADO became the preferred method, allowing access to SQL Server, Oracle, and other databases through OLE DB or ODBC. Many enterprise applications were built using VB6 as the front end and SQL Server as the back end.

Classic VB could create and consume COM components. This enabled code reuse and integration with other languages and applications. You could create ActiveX DLLs, ActiveX EXEs, and ActiveX controls that could be used in other VB projects or even in web pages via Internet Explorer.

Common Uses of Visual Basic (Then and Now)

Understanding **What Is The Visual Basic** also means recognizing where it was (and still is) applied:

- Line of Business Applications: Many companies built custom inventory management, order processing, billing, and HR systems using VB6. These applications often use a Back-end database and a VB6 front-end.
- Automation and Utilities: VB6 was popular for creating small utilities like file renaming tools, data converters, system monitoring apps, and administrative scripts.
- Educational Software: Because of its gentle learning curve, VB6 was used in classrooms to teach programming concepts.
- Legacy Systems Maintenance: Thousands of VB6 applications still run in production today. Many organizations rely on them and require developers who can maintain and update them.

- Excel and Office Automation: VBA (Visual Basic for Applications), a close relative of VB6, is used to write macros in Microsoft Office. While not the same as stand-alone VB, VBA is a direct descendant and still very relevant.
- Rapid Prototyping: Even with modern tools, some developers use VB6 to quickly test ideas or build demo programs because of its fast turnaround.

Visual Basic vs. VB.NET: Clearing the Confusion

One of the most common points of confusion when asking “What Is The Visual Basic” is whether the question refers to classic VB or VB.NET. Let’s clarify the differences:

VB.NET:A .NET language that is fully object-oriented, supporting inheritance, generics, delegates, and all modern language features. It compiles to Common Intermediate Language (CIL) and requires the .NET Framework or .NET Core to run. VB.NET uses Windows Forms (or WPF) rather than classic VB forms. The syntax is similar but not identical. VB.NET is a first-class .NET language alongside C#.

If you are learning today, VB.NET is a modern, supported language that can be used to build Windows, web, mobile, and cloud applications. Classic VB6 is a legacy technology, but it is still useful for specific maintenance tasks. The answer to **What Is The Visual Basic** depends on the context: history or current development.

Advantages and Disadvantages of Visual Basic

- Ease of learning: The syntax is straightforward, and the visual designer removes much of the complexity of GUI programming.
- Rapid development: A working prototype or final application can be built in a short time.
- Strong community and resources: Although aging, the classic VB community still provides forums, code examples, and libraries.
- Great for database front-ends: Built-in data controls and ADO make database connectivity simple.
- Error handling: The On Error statement provides a simple way to handle runtime errors, although it is less structured than modern exception handling.

- Limited object-oriented features: Classic VB lacks inheritance and polymorphism in the true sense. This can lead to code that is difficult to scale.
- No support for multithreading: VB6 has limited threading capabilities. Developers had to use ActiveX EXEs or API calls for multithreading, which was complex.
- 32-bit only: VB6 applications are 32-bit and may have compatibility issues on 64-bit systems without workarounds (such as running in 32-bit mode).
- End of support: Microsoft ended mainstream support for VB6 in 2008 and extended support in 2013. No new updates or security patches are provided.
- Security vulnerabilities: Older VB6 apps may have security issues related to outdated components and lack of modern security practices.
- Legacy dependency: Many VB6 applications rely on older COM components that may not exist on newer operating systems.

Is Visual Basic Still Worth Learning?

This is a natural extension of the question “What Is The Visual Basic?”. The answer depends on your goals:

1. For legacy maintenance: Yes, if you work in an enterprise that still uses VB6 applications, learning classic VB can be a valuable and well-paid skill. Many banks, insurance companies, and government agencies have critical systems written in VB6.
2. For new development: Generally no. For modern Windows applications, C# or VB.NET (with .NET 8 or later) are better choices. For web development, Python, JavaScript, or C# are more suitable.
3. For learning programming concepts: VB6 is an excellent starting point for absolute beginners. Its forgiving nature and visual feedback can help newcomers grasp events, variables, loops, and conditional logic before moving to more complex languages.

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#what • #visual • #basic

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what-is-the-visual-basic

DIGITAL EDITION

what-is-the-visual-basic

DIGITAL EDITION

what-is-the-visual-basic

DIGITAL EDITION

what-is-the-visual-basic