

## Theory

### visual studio

Visual Studio (VS) is a powerful integrated development environment (IDE) developed by Microsoft. It supports a wide range of programming languages and frameworks, including .NET, C#, C++, Python, and JavaScript, among others. Visual Studio provides a comprehensive suite of tools for developing, debugging, and deploying applications across various platforms, including desktop, web, mobile, and cloud. Key features include IntelliSense for smart code completion, an advanced debugger, integrated Git and GitHub support, and a vast marketplace of extensions to customize and extend the IDE's capabilities. Its robust functionality and versatility make it a popular choice for developers in creating high-quality software efficiently.

### .net framework

The .NET Framework is a software development platform developed by Microsoft. It provides a comprehensive and consistent programming model for building a wide range of applications, from desktop to web to mobile. The framework includes a large class library called the Framework Class Library (FCL) and a runtime environment known as the Common Language Runtime (CLR). The CLR manages the execution of programs written in different supported languages, ensuring cross-language interoperability. The .NET Framework supports various programming languages, including C#, VB.NET, and F#, and offers features such as memory management, type safety, and exception handling, making it easier to develop secure and robust applications.

Procedure:

Steps to install Visual Studio IDE:

#### 1. Download the Installer:

- Go to the Visual Studio Downloads page(<https://visualstudio.microsoft.com/downloads/>).
- Choose the edition you want (Community, Professional, or Enterprise) and click on the "Free download" button for the Community edition or "Download" for the other editions.

#### 2. Run the Installer:

- Once the installer is downloaded, run it to start the installation process.

- You may be prompted by User Account Control (UAC) to allow the installer to make changes to your device. Click "Yes" to continue.

### **3. Choose Workloads:**

- The installer will open the Visual Studio Installer window. Here, you can select the workloads you need. Workloads are collections of tools and features for specific types of development, such as .NET desktop development, ASP.NET and web development, Python development, etc.
- Check the boxes for the workloads you want to install.

### **4. Choose Installation Location:**

- At the bottom of the installer window, you can change the installation locations for Visual Studio and its components if necessary.

### **5. Start Installation:**

- Click the "Install" button to begin the installation process. The installer will download and install the necessary files,

### **6. Launch Visual Studio:**

- Once installation is complete, click the "Launch" button to start Visual Studio.



