Introduction

INTRODUCTION

VISUAL BASIC

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1. By the end of this lecture you will
2. Why learn this? It is not ”mechanical”!
3. All the LEGACY PROGRAMMING LANUGAGES
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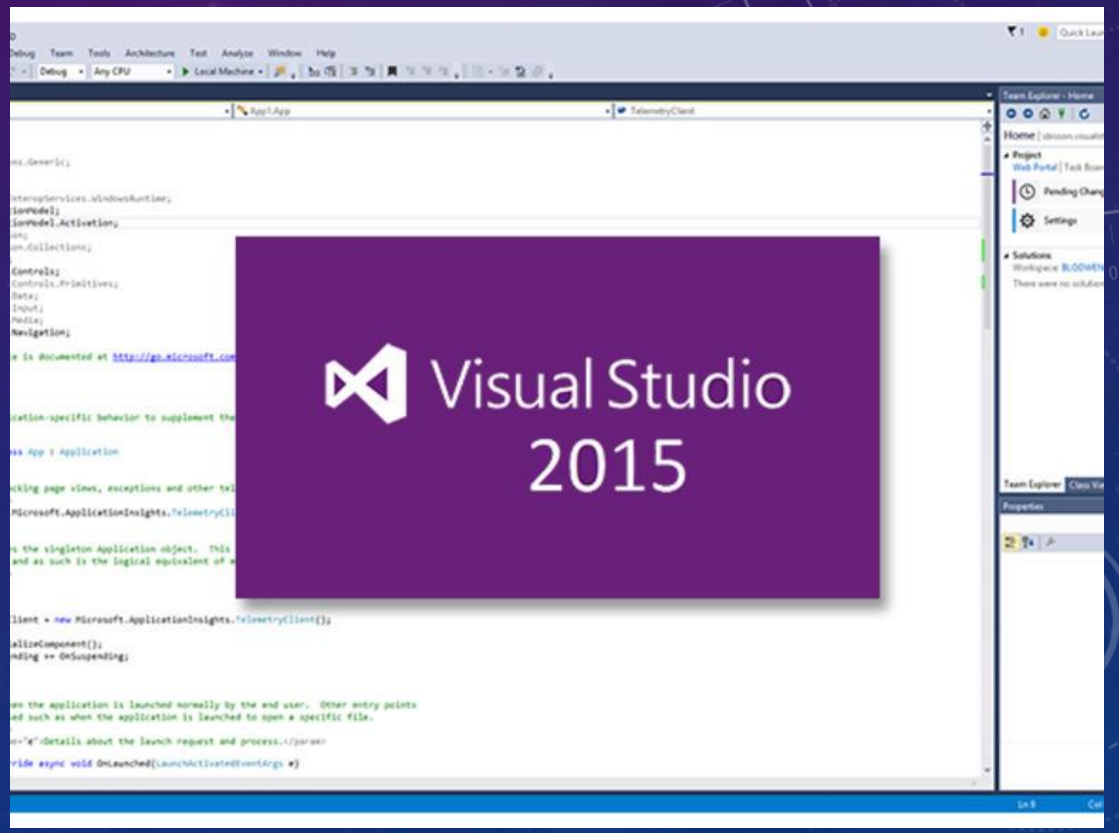
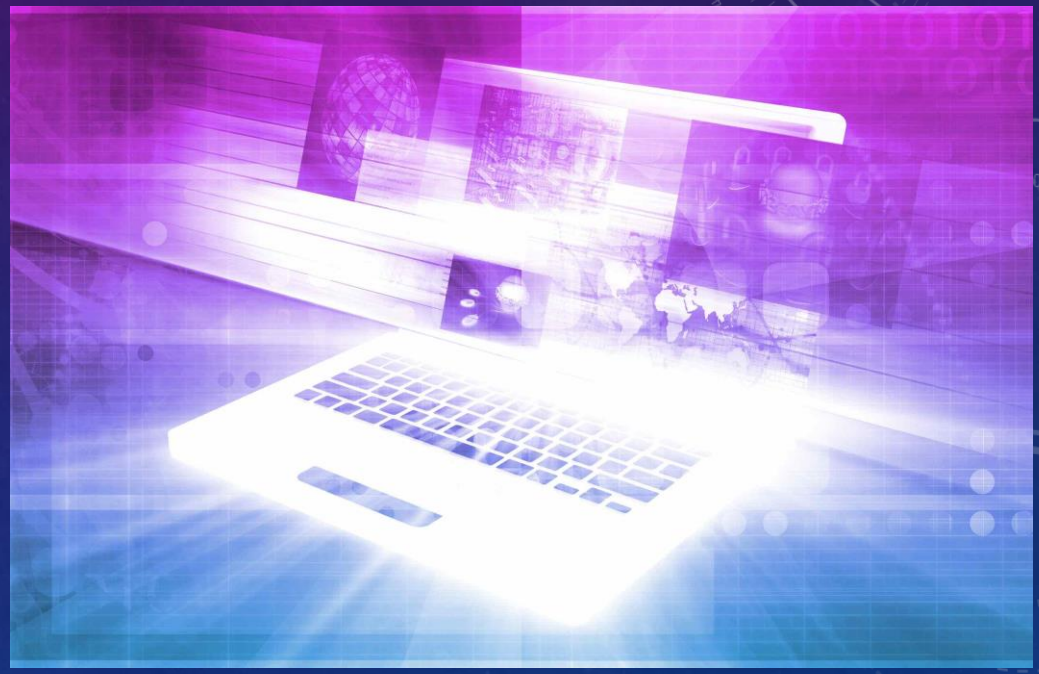
BY THE END OF THIS LECTURE YOU WILL:

- Be familiar with the learning, teaching and assessment methods for this module
- Be aware of the comprehensive Learn Server resources and tutorials
- Be familiar with the **VB2015 IDE(s)** and how to write your first program
- Begin to understand how computers and computer programming works

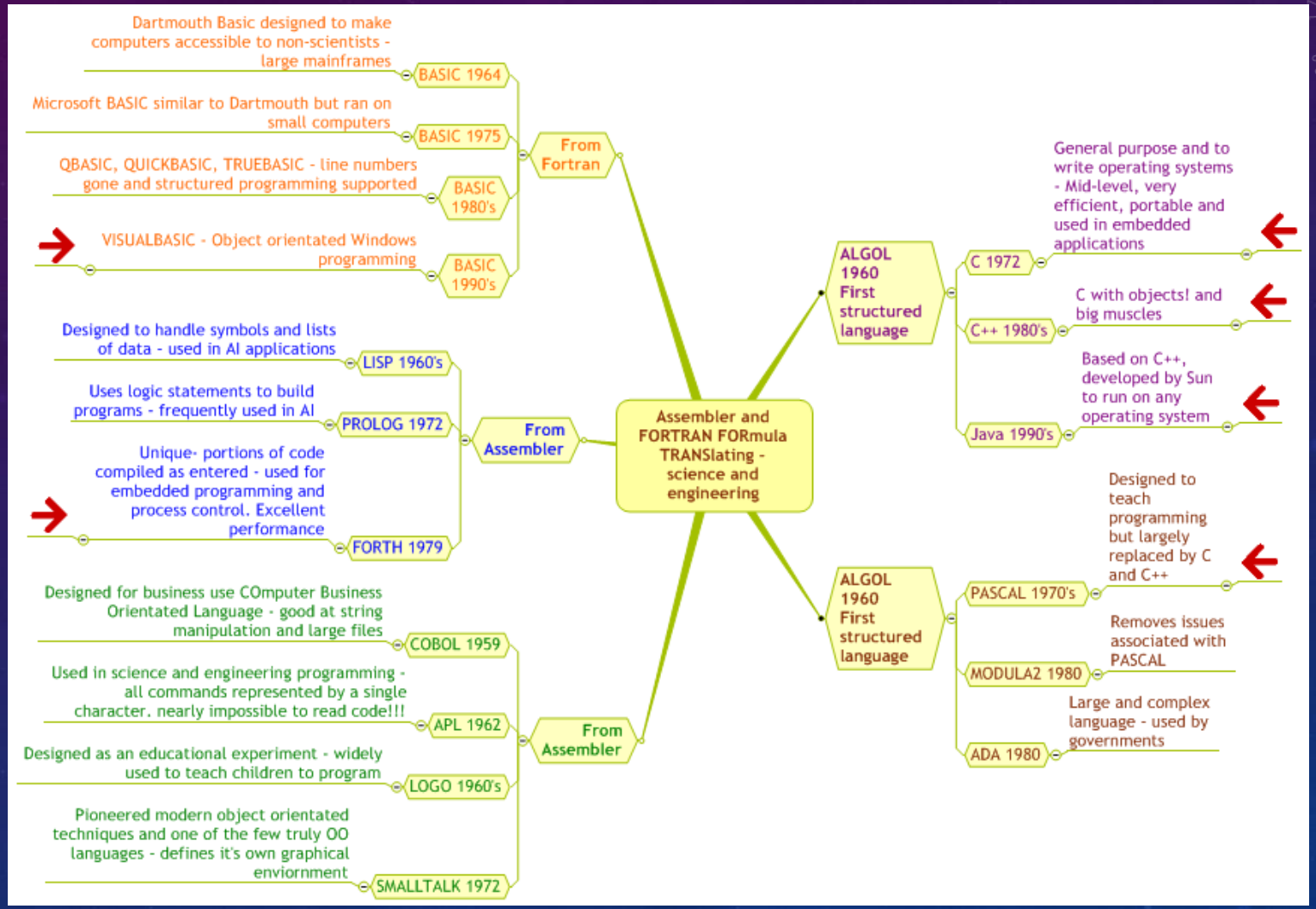


WHY LEARN THIS? IT IS NOT ”MECHANICAL”!

- Instrumentation and measurement (metrology) extremely important in ALL engineering disciplines
- Modern **mechanical systems** typically integrates computing (inexpensive) for control/measurement
- Commonly, control, monitoring, measurement and ‘virtual’ instrumentation applications
- You will be introduced to Windows programming biased towards instrumentation applications for mechanical phenomenon
- I will present a foundation in the field of current instrumentation and measurement practices



ALL THE LEGACY PROGRAMMING LANUGAGES



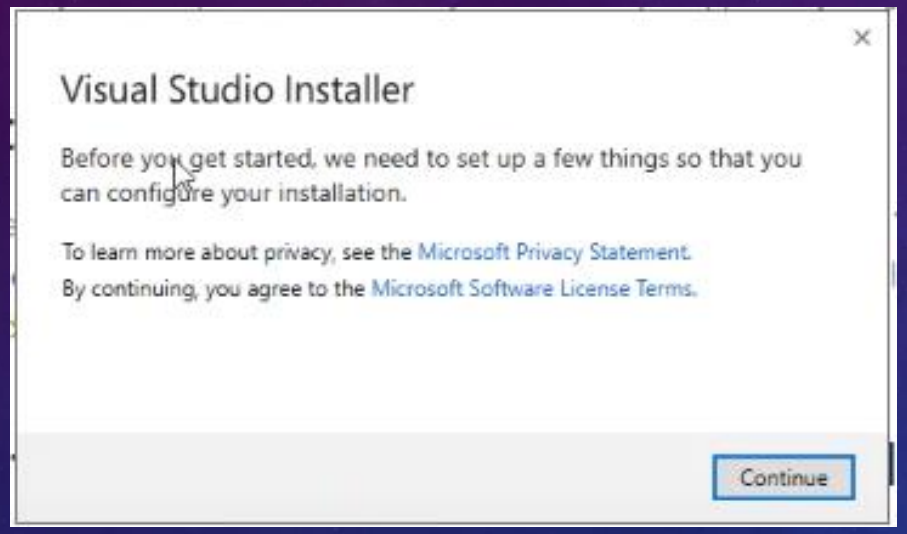
THE VISUAL BASIC LANGUAGE

- The most used language – beginners language, but used by professionals
- Early versions limited in power & flexibility
- Modern Basics have removed limitations but
- retained ease of use and added power
- Familiar, understandable syntax
- Not very standardised - machine specific (VB2022 = Windows only)

VB DOWNLOAD

https://visualstudio.microsoft.com/

VB DOWNLOAD


Visual Studio Installer
Before you get started, we need to set up a few things so that you can configure your installation.
To learn more about privacy, see the Microsoft Privacy Statement.
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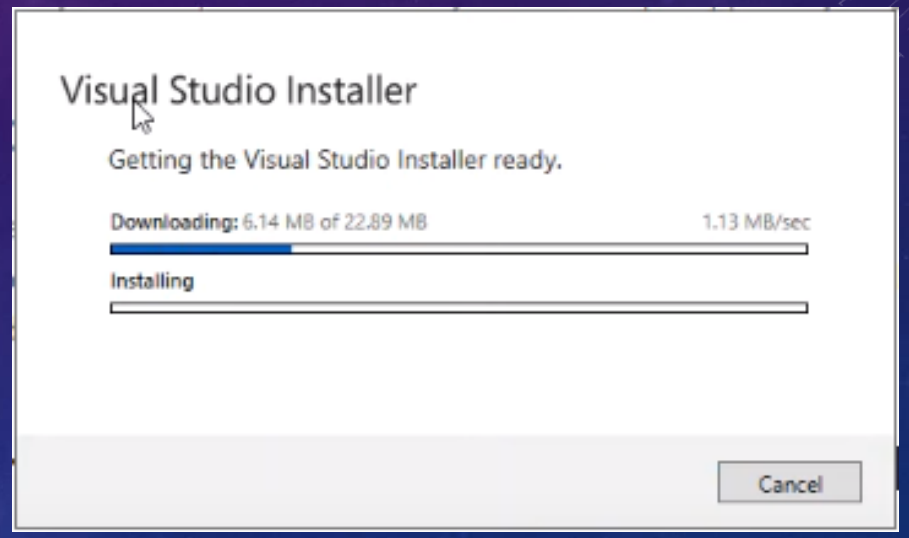
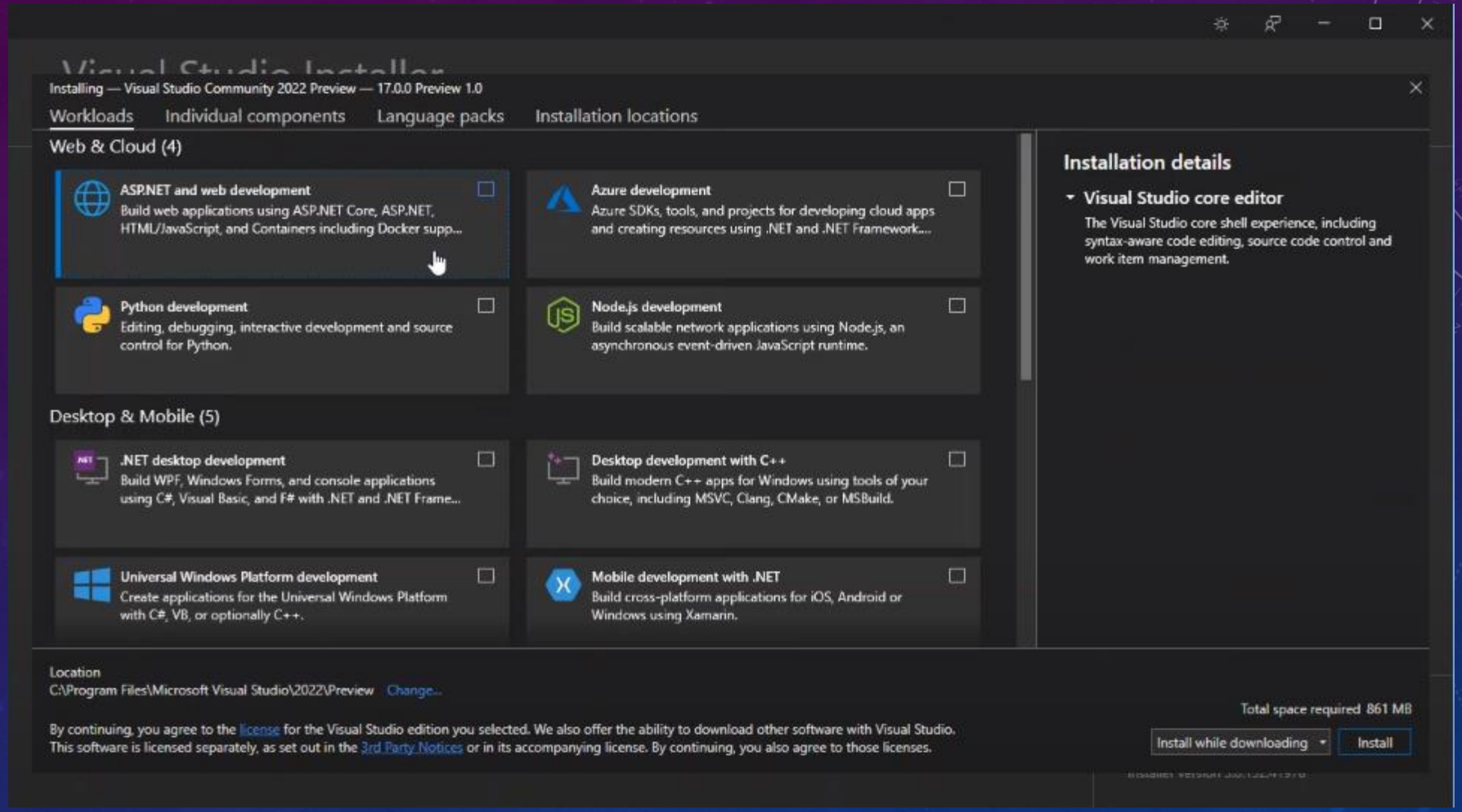

Visual Studio Installer
Getting the Visual Studio Installer ready.
Downloading: 6.14 MB of 22.89 MB
1.13 MB/sec
Installing
Cancel


Visual Studio Installer
Installing — Visual Studio Community 2022 Preview — 17.0.0 Preview 1.0
Workloads
Individual components
Language packs
Installation locations
Web & Cloud (4)
ASP.NET and web development
Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker supp...
Azure development
Azure SDKs, tools, and projects for developing cloud apps and creating resources using .NET and .NET Framework...
Python development
Editing, debugging, interactive development and source control for Python.
Node.js development
Build scalable network applications using Node.js, an asynchronous event-driven JavaScript runtime.
Desktop & Mobile (5)
.NET desktop development
Build WPF, Windows Forms, and console applications using C#, Visual Basic, and F# with .NET and .NET Frame...
Desktop development with C++
Build modern C++ apps for Windows using tools of your choice, including MSVC, Clang, CMake, or MSBuild.
Universal Windows Platform development
Create applications for the Universal Windows Platform with C#, VB, or optionally C++.
Mobile development with .NET
Build cross-platform applications for iOS, Android or Windows using Xamarin.
Installation details
Visual Studio core editor
The Visual Studio core shell experience, including syntax-aware code editing, source code control and work item management.
Location
C:\Program Files\Microsoft Visual Studio\2022\Preview
Change...
Total space required 861 MB
By continuing, you agree to the license for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio.
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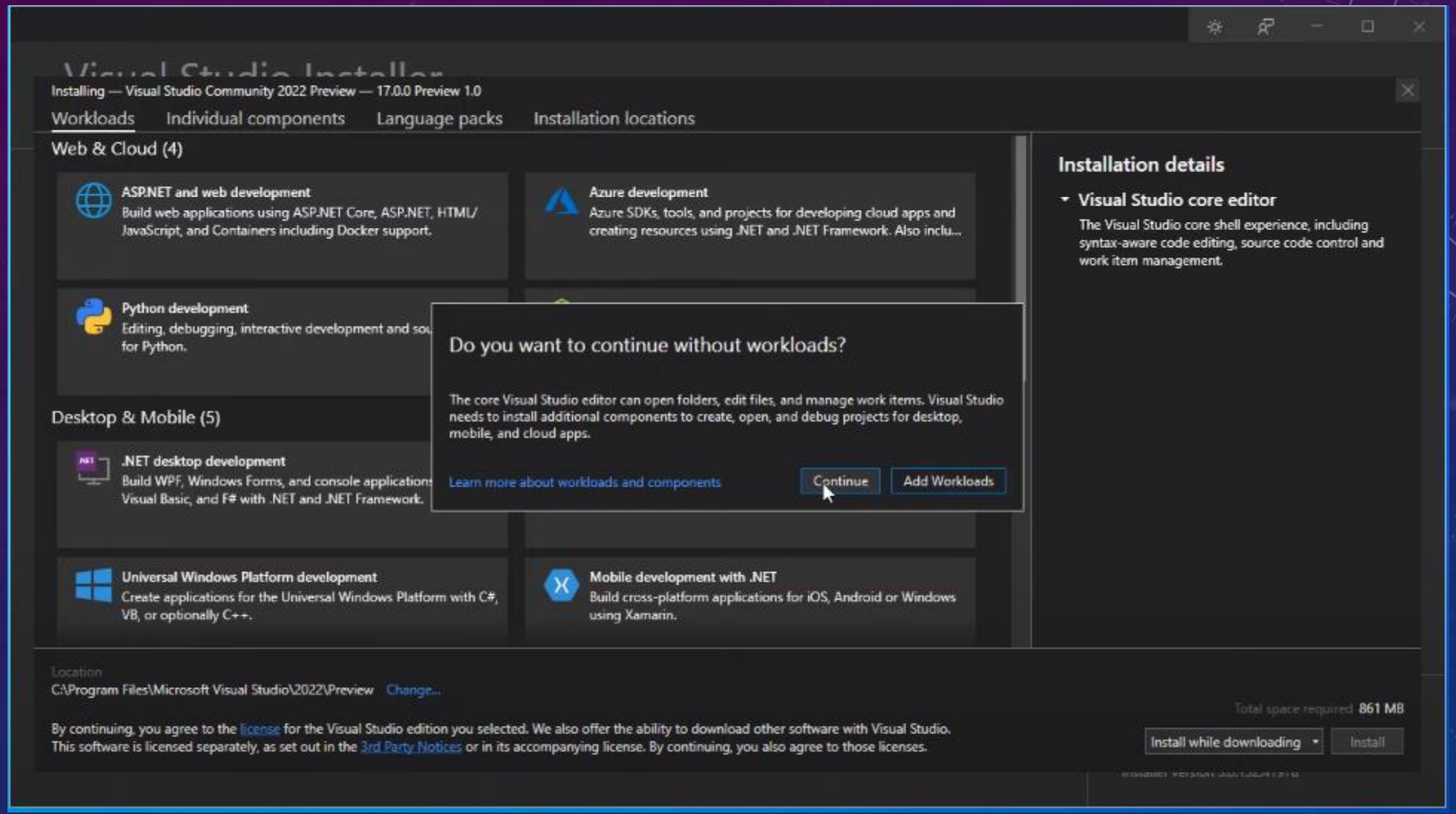
Install while downloading
Install


Visual Studio Installer
Installing — Visual Studio Community 2022 Preview — 17.0.0 Preview 1.0
Workloads
Individual components
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Web & Cloud (4)
ASP.NET and web development
Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker support.
Azure development
Azure SDKs, tools, and projects for developing cloud apps and creating resources using .NET and .NET Framework. Also inclu...
Python development
Editing, debugging, interactive development and sou
for Python.
Desktop & Mobile (5)
.NET desktop development
Build WPF, Windows Forms, and console applications
Visual Basic, and F# with .NET and .NET Framework.
Universal Windows Platform development
Create applications for the Universal Windows Platform with C#, VB, or optionally C++.
Mobile development with .NET
Build cross-platform applications for iOS, Android or Windows using Xamarin.
Do you want to continue without workloads?
The core Visual Studio editor can open folders, edit files, and manage work items. Visual Studio needs to install additional components to create, open, and debug projects for desktop, mobile, and cloud apps.
Learn more about workloads and components
Continue
Add Workloads
Installation details
Visual Studio core editor
The Visual Studio core shell experience, including syntax-aware code editing, source code control and work item management.
Location
C:\Program Files\Microsoft Visual Studio\2022\Preview
Change...
Total space required 861 MB
By continuing, you agree to the license for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio.
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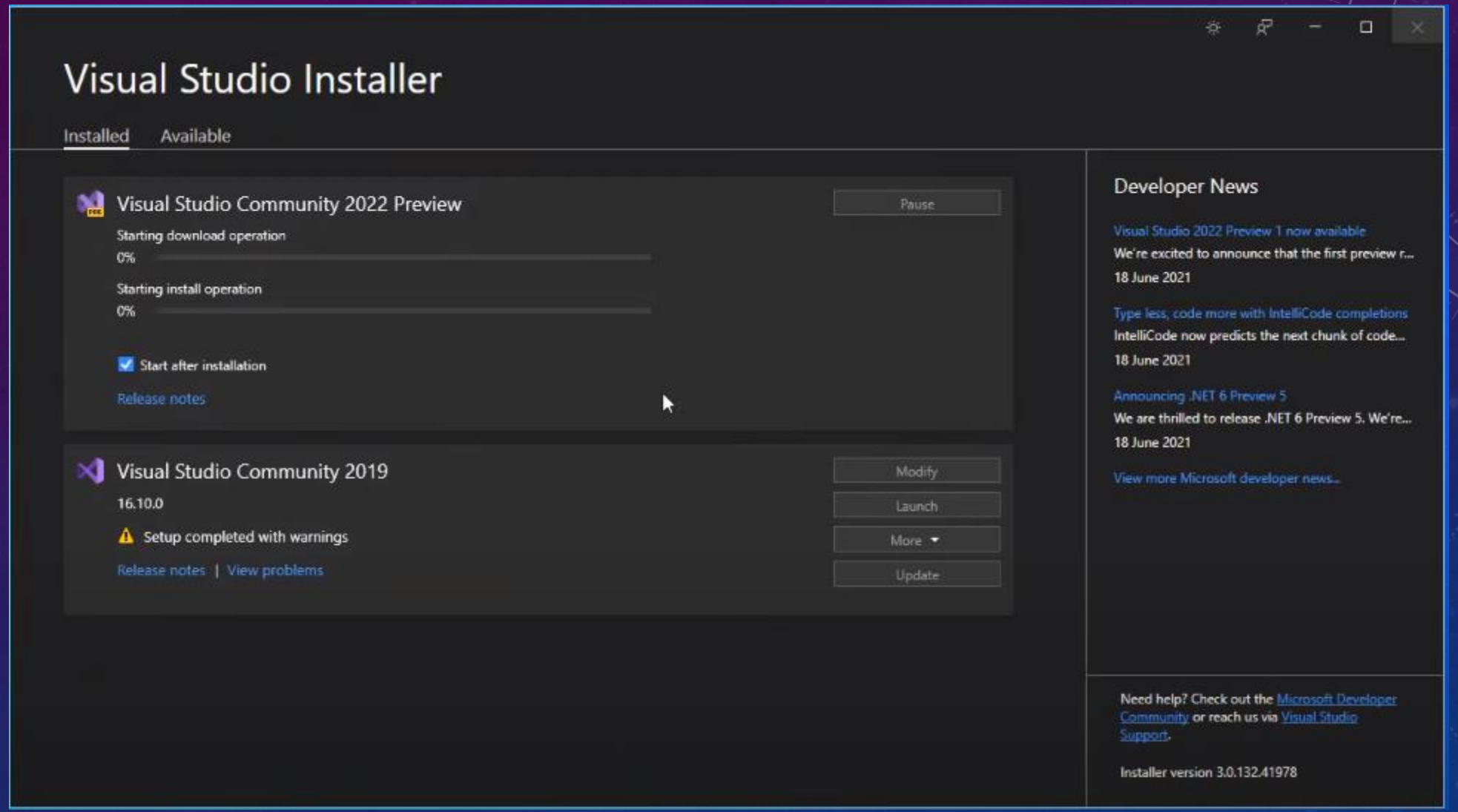
Install while downloading
Install


Visual Studio Installer
Installed
Available
Visual Studio Community 2022 Preview
Pause
Starting download operation
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Starting install operation
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Start after installation
Release notes
Visual Studio Community 2019
16.10.0
Setup completed with warnings
Release notes | View problems
Modify
Launch
More
Update
Developer News
Visual Studio 2022 Preview 1 now available
We're excited to announce that the first preview r...
18 June 2021
Type less, code more with IntelliCode completions
IntelliCode now predicts the next chunk of code...
18 June 2021
Announcing .NET 6 Preview 5
We are thrilled to release .NET 6 Preview 5. We're...
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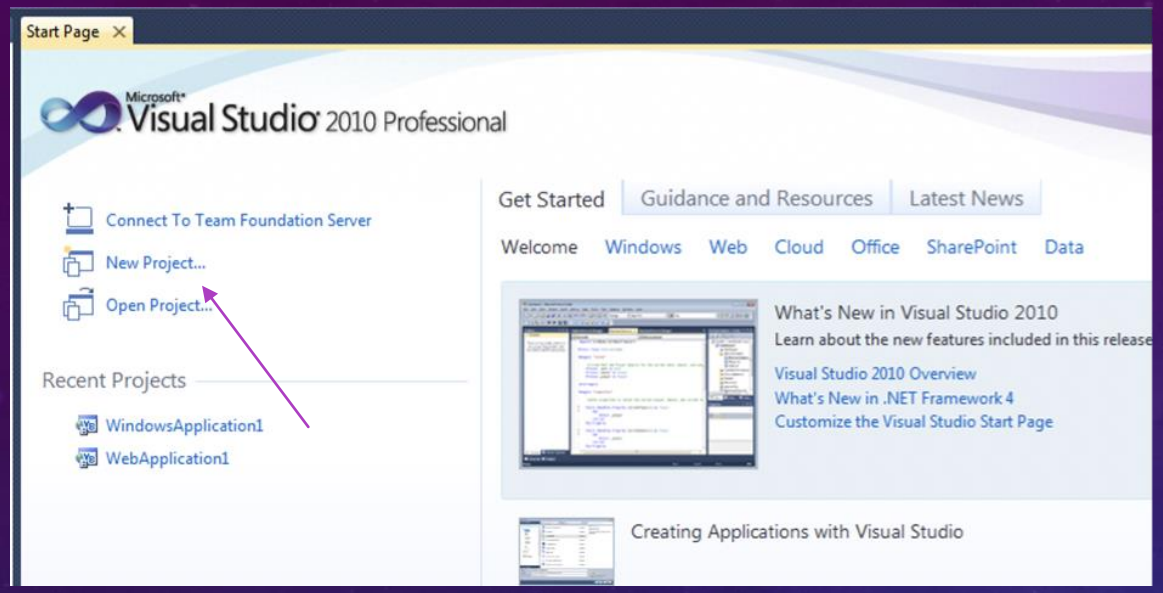
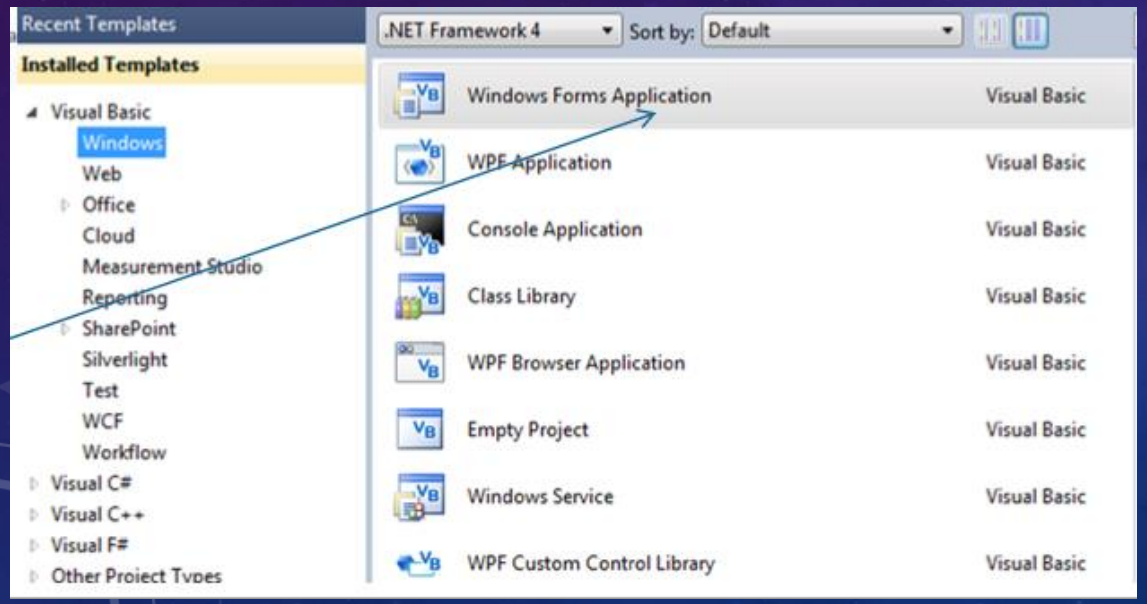
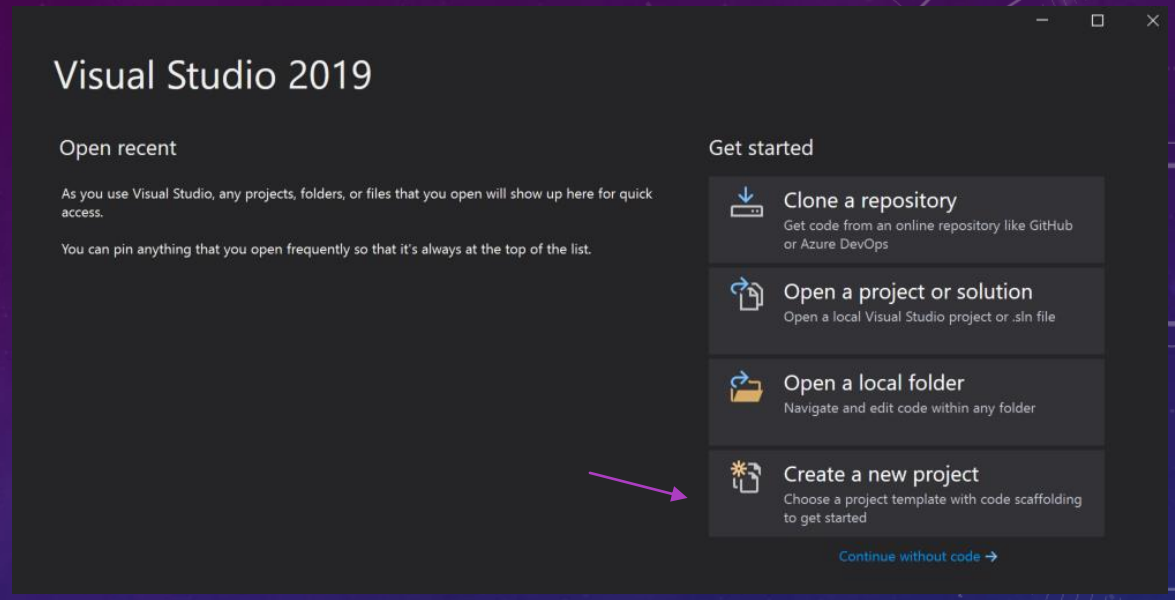
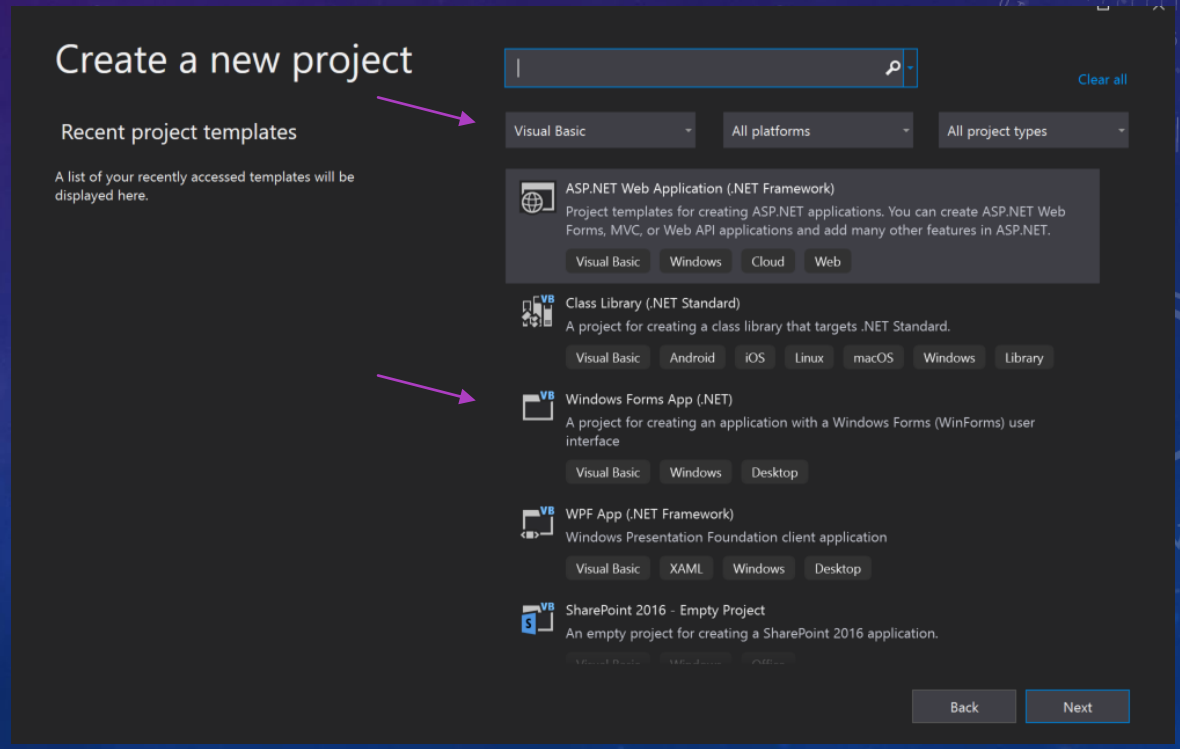
Installer version 3.0.132.41978

STARTING A PROJECT



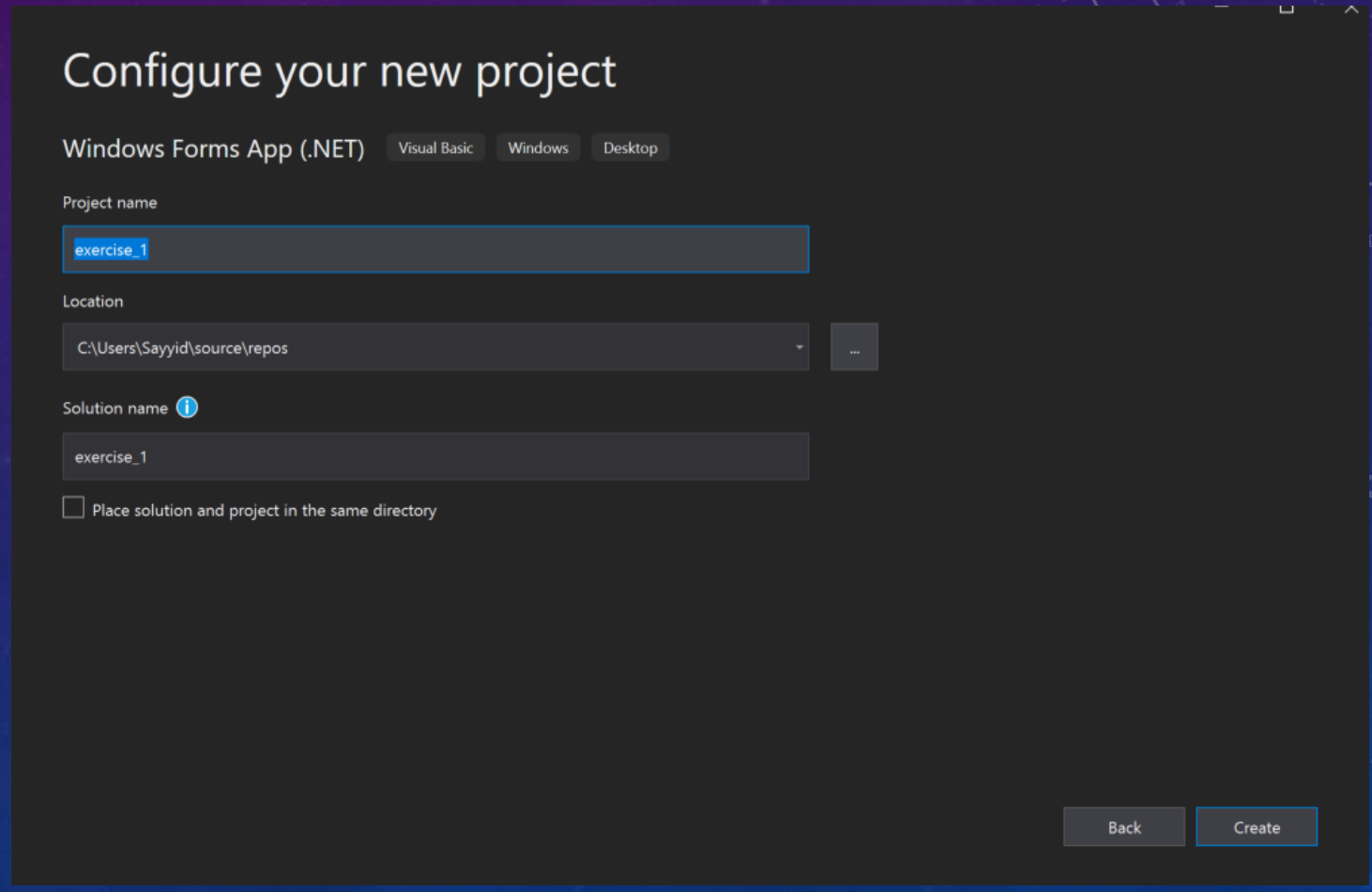






STARTING A PROJECT

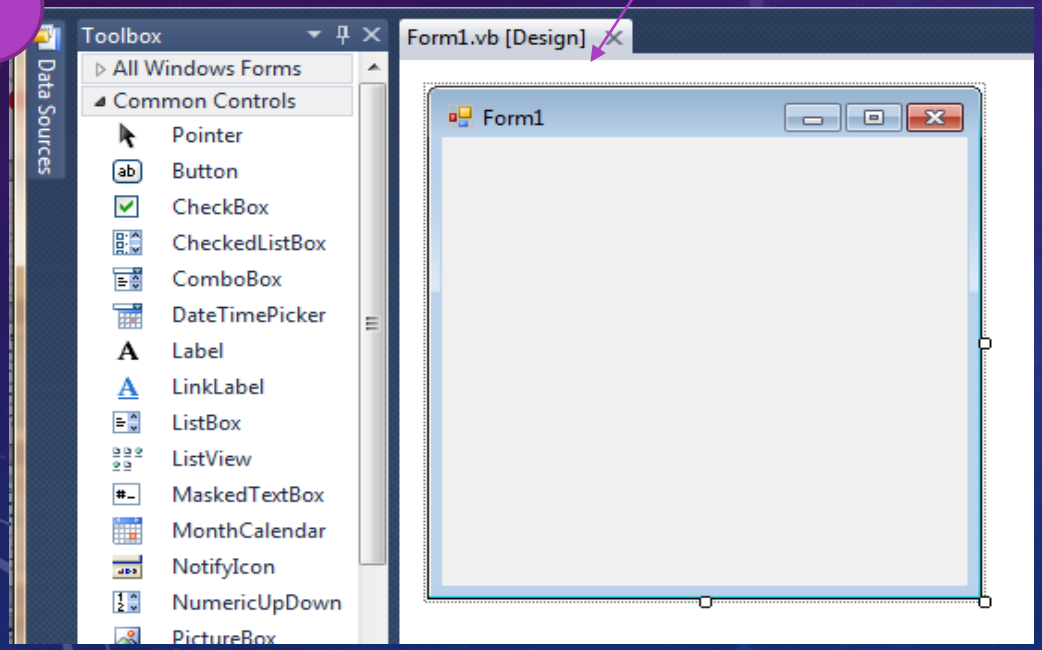
- Write project name
- Hit on the Enter button



FIRST TIME USE – FIRST PROGRAM

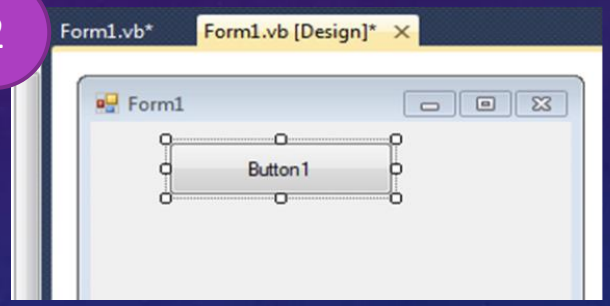
- Your new project screen shows the FORM where the CODE and COMPONENTS will reside
- This is the INTERFACE design area

1



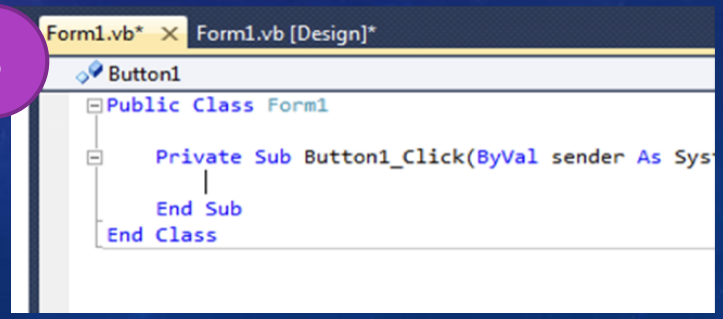
Place a Button on the Form – drag and draw!

2



DoubleclickButton to open CODE window, specifically, code for the Button

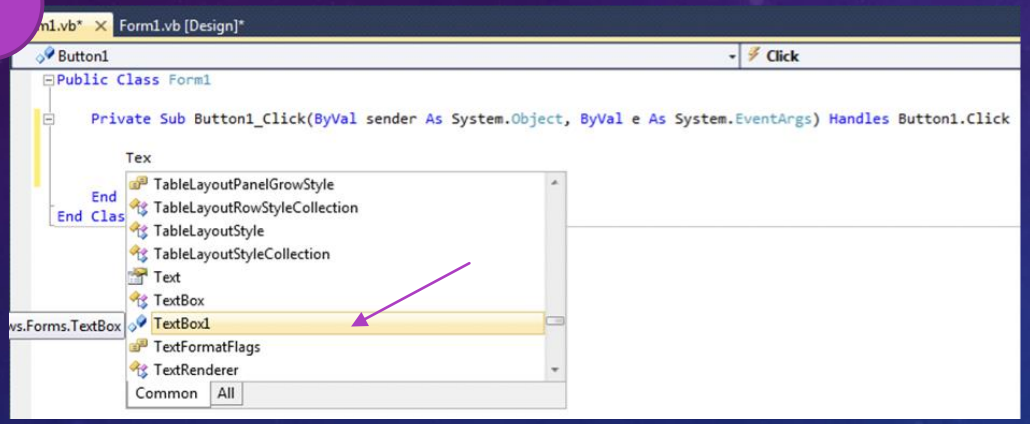
3



FIRST TIME USE – FIRST PROGRAM

- VB will offer autocomplete options for words it recognises; Commands, Object names..
- Scroll down and TAB or Click to avoid typing

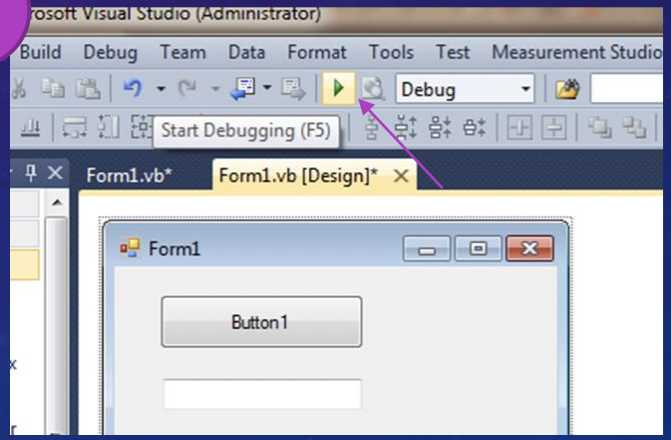
1



*there is no need to write any code at this stage, mainly image on top is for example purposes.

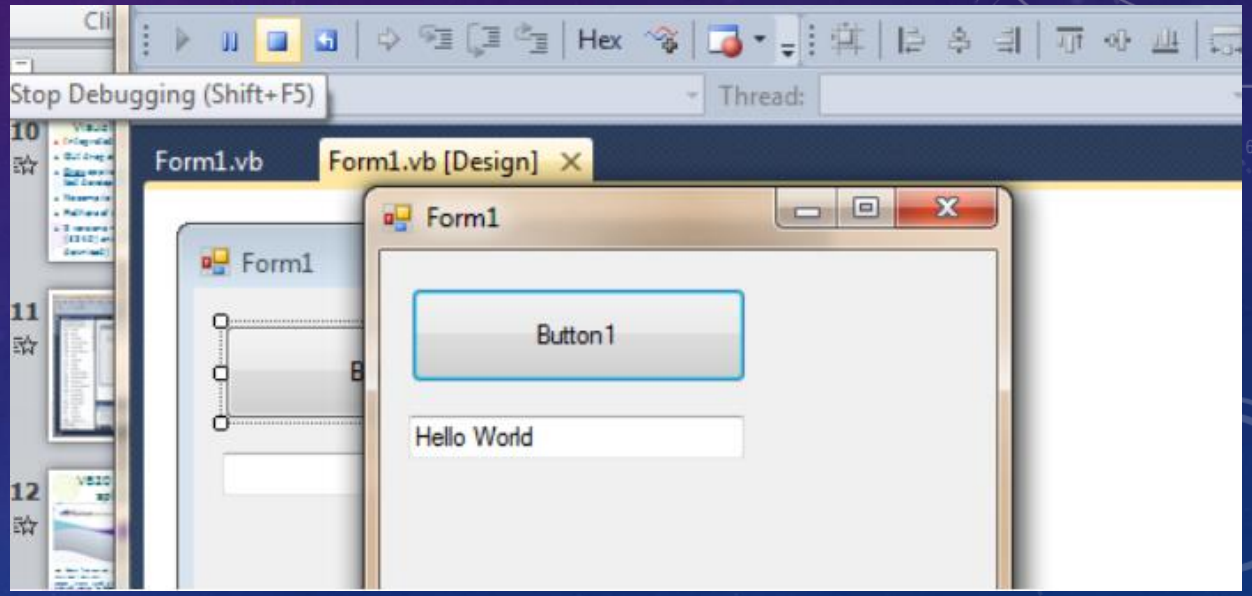
Click triangular RUN (start debugging) button or press F5 to run your program

2



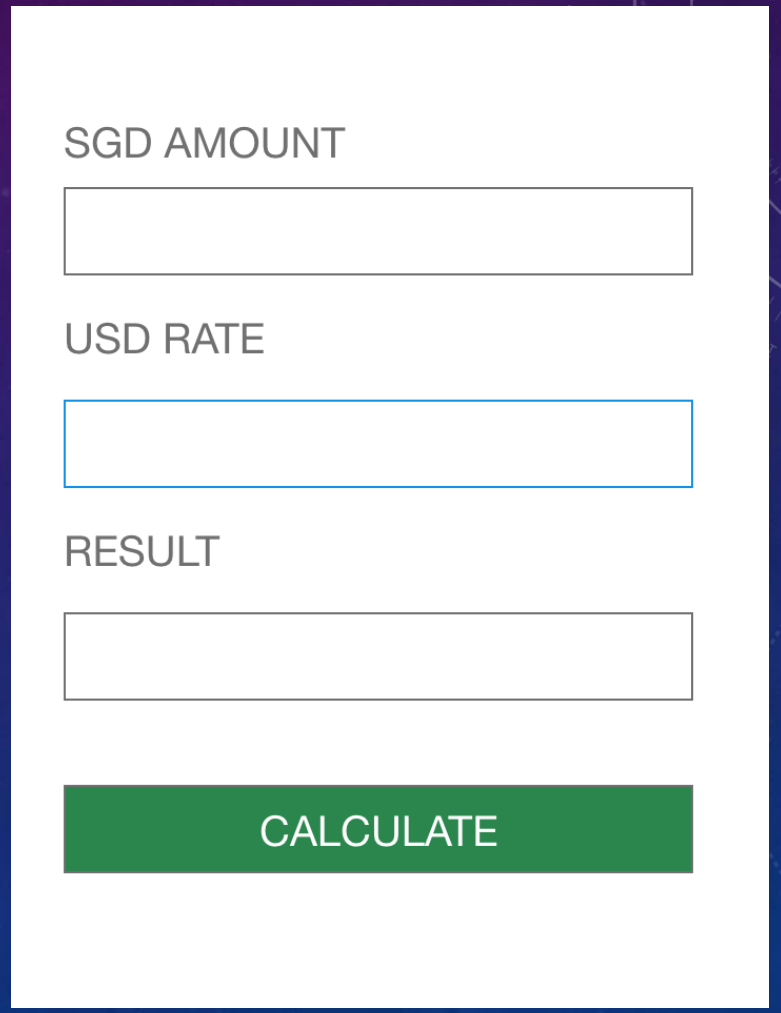
FIRST TIME USE – FIRST PROGRAM, IT WORKS!

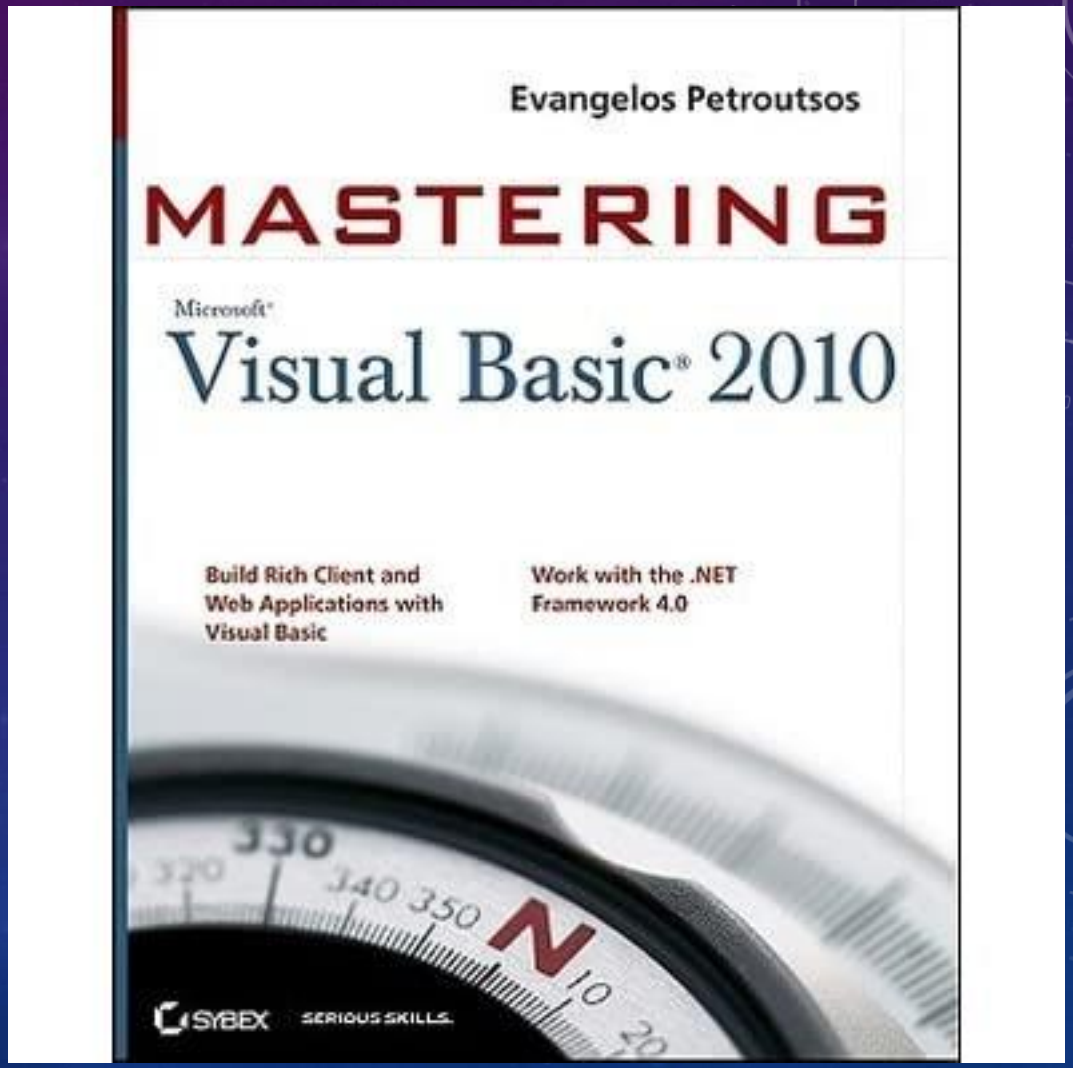
- Stop using the square STOP button, Shift+F5, or the red cross, top right of your FORM
- You can also stop the application by clicking the close button
  *red color button with an [x]



EXERCISE 1 - (10 – 15 MINS)

- We are going to practice how to create a User interface.
- Only UI is needed, we do not need to program the logic yet.
- Get the experience to drag and drop your objects from the toolbox.



BOOKS

- Best VB2010 book I've seen Mastering Visual Basic 2010 by Evangelos Petroutsos.
- 1000+ pages, but don't worry, we won't cover them all! Loads in library: £25.99 from Amazon
- Following this course should be sufficient to provide u the knowledge should you need to use this at work