**# Visual Studio 2022 for Mac - Preferences - Build and Debug - SDK Locations Apple**
**Apple SDK**
Xcode 15.4 found at specified location.
Location: Application/Xcode.app

**# NB**
Xamarin.Mac 9.3.0 does not support a deployment target of 14.0 for macOS (the maximum is 13.3). Please select an older deployment target in your project's Info.plist or upgrade to a newer version of Xamarin.Mac

# Visual Studio 2022 for Mac

- + New

- **Choose a template for your new project**

Mac - App - Cocoa App (Xamarin) C#
**Continue**

• **Configure your Mac project**

App name: CocoaAppCS
Organization ID: [com.org]
[Build ID: com.org.CocoaAppCS]
Target: macOS Mojave 10.14
**Continue**

- **Configure your new Cocoa App**

Project name: CocoaAppCS
Solution name: CocoaAppCS
Location: [/Users/username/Projects]
**Create**

- **Run the project**

[Blank Window]

- **Right click Main.storyboard and select Open With > Xcode Interface Builder**

# Xcode

CocoaAppCS
CocoaAppCS ⟩ My Mac
CocoaAppCS: Ready | Today at 12:41 AM
Main.storyboard
CocoaAppCS ⟩ CocoaAppCS ⟩ Main.storyboard ⟩ Window Controller Scene ⟩ Window Controller ⟩ Window
CocoaAppCS
CocoaAppCS
AppDelegate.h
AppDelegate.m
Assets.xcassets
Entitlements.plist
Info.plist
Main.storyboard
ViewController.h
ViewController.m
Frameworks
Filter
Main Menu
CocoaAppCS File Edit Format View Window Help
Window
View Controller
View Controller
Window
Title Window
Show Title Bar
Hide Title Text
Transparent Title Bar
Subtitle Subtitle
Separator Automatic
Autosave Autosave Name
Appearance Full Size Content View
Shadow Textured
Toolbar Style Automatic
Controls Close
Minimize
Resize
Behavior Restorable
Visible At Launch
Hide On Deactivate
Release When Closed
Always Display Tooltips
Recalculates View Loop
Tabbing Mode Automatic
Identifier Automatic
Spaces Inferred Behavior
Exposé Inferred Behavior
Cycling Inferred Behavior
Full Screen Inferred Behavior
Tiling Inferred Behavior
Animation Inferred Behavior
Appearance Inherited (System, Aqua)
Memory Deferred

- **Xcode Menu - View - Show Library [ Shortcut ( command + shift + L ) ]**

- **Xcode Objects**

• **Select the Objects(s) and drag the Objects(s) to ViewController**

**1. Select Push Button Object and drag it to ViewController [Double Click the Push Button Object and Enter Text viz, "Click for Time"]**

**2. Select Label Object and drag it to ViewController [Double Click the Label and Clear the Text "Label" and Expand the Label in ViewController]**

## • Xcode Side by Side Main.storyboard and ViewController.h

Click Add Editor on Right [Icon Located on Top Right Corner of the Window]

Navigate between Main.storyboard and ViewController.h

**1. control and drag and drop Push Button Object to ViewController.h below:**

```
@interface ViewController : NSViewController {
}
```

- **Push Button Object**

Select Connection: Action
Enter Name: PushButtonClicked
Type: [id]
Connect

**2. control and drag and drop Label Object to ViewController.h below:**

```
@interface ViewController : NSViewController {
}
```

- **Label Object**

Select Connection: [Outlet]
Enter Name: Label
Connect

- Save and Close Xcode

**# Visual Studio 2022 for Mac**

• ViewController.designer.cs

**• Check for the following in ViewController.designer.cs [Do not edit]**

```
// WARNING
//
// This file has been generated automatically by Visual Studio to store outlets and
// actions made in the UI designer. If it is removed, they will be lost.
// Manual changes to this file may not be handled correctly.
//
using Foundation;
using System.CodeDom.Compiler;

namespace CocoaAppCS
{
	[Register ("ViewController")]
	partial class ViewController
	{
		[Outlet]
		AppKit.NSTextField Label { get; set; }

		[Action ("PushButtonClicked:")]
		partial void PushButtonClicked (Foundation.NSObject sender);

		void ReleaseDesignerOutlets ()
		{
			if (Label != null) {
				Label.Dispose ();
				Label = null;
			}
		}
	}
}
```

• **ViewController.designer.cs**

• Add the following event handler to partial class ViewController : NSViewController in namespace CocoaAppCS public

```
partial void PushButtonClicked(NSObject sender)
{
   Label.StringValue = DateTime.Now.ToLongTimeString();
   // throw new NotImplementedException();
}
```

• **Final code in ViewController.cs**

```
using System;

using AppKit;
using Foundation;

namespace CocoaAppCS
{
        public partial class ViewController : NSViewController
        {
                public ViewController (IntPtr handle) : base (handle)
                {
                }

                public override void ViewDidLoad ()
                {
                        base.ViewDidLoad ();

                        // Do any additional setup after loading the view.
                }

                public override NSObject RepresentedObject {
```

```
                get {
                        return base.RepresentedObject;
                }
                set {
                        base.RepresentedObject = value;
                        // Update the view, if already loaded.
                }
        }

    partial void PushButtonClicked(NSObject sender)
    {
      Label.StringValue = DateTime.Now.ToLongTimeString();
      // throw new NotImplementedException();
    }
  }
}
```

- **Run the project**

**[Window]**

Click the button "Click for Time" to see the time in the label