

Lab 2 – Xamarin Framework

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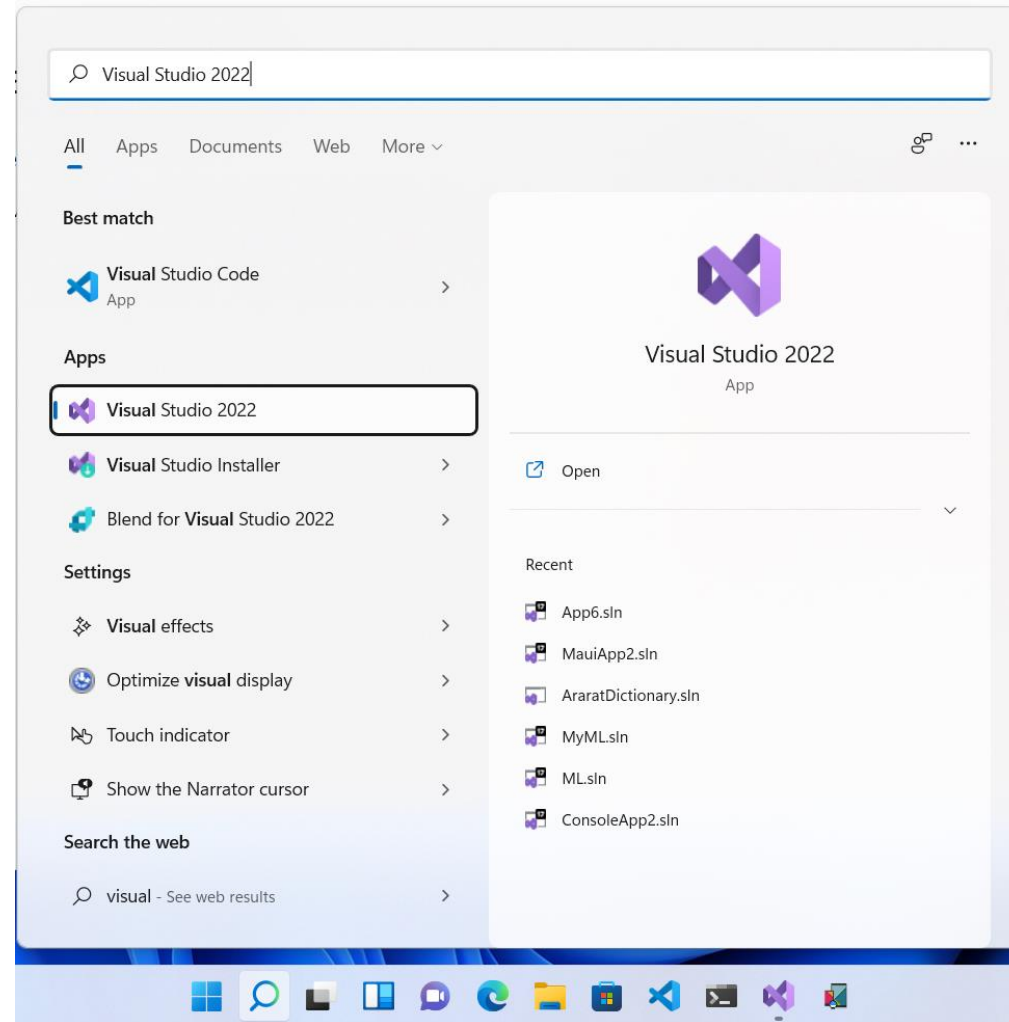
Outlines

- Create a new application using Xamarin Framework
- Syntax of C# if Statement
- Syntax of C# Nested If-Else Statement
- C# For & Foreach Loop
- Array
- Any Questions?

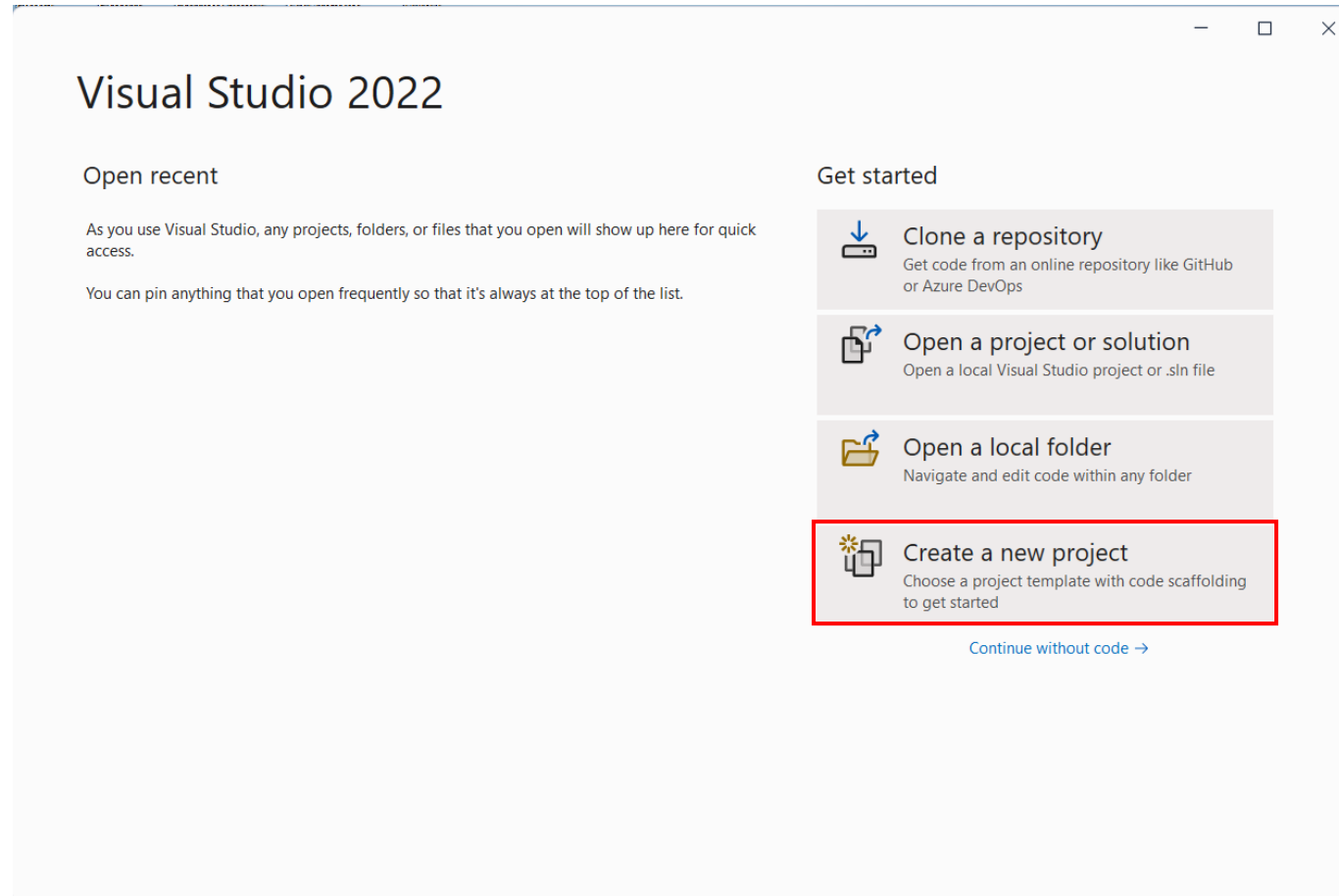


Create a new application using Xamarin Framework

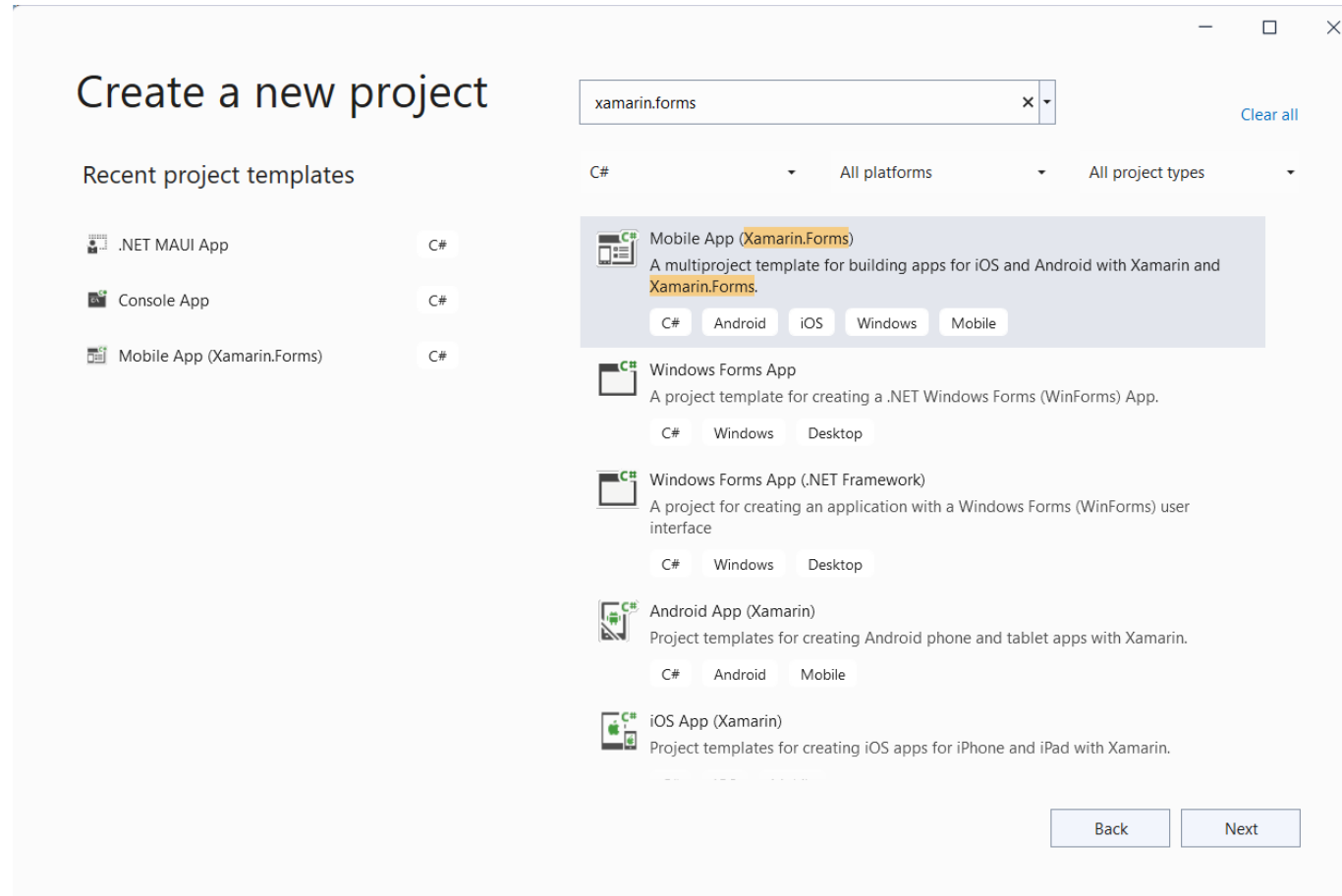
- Step1: Open Visual Studio



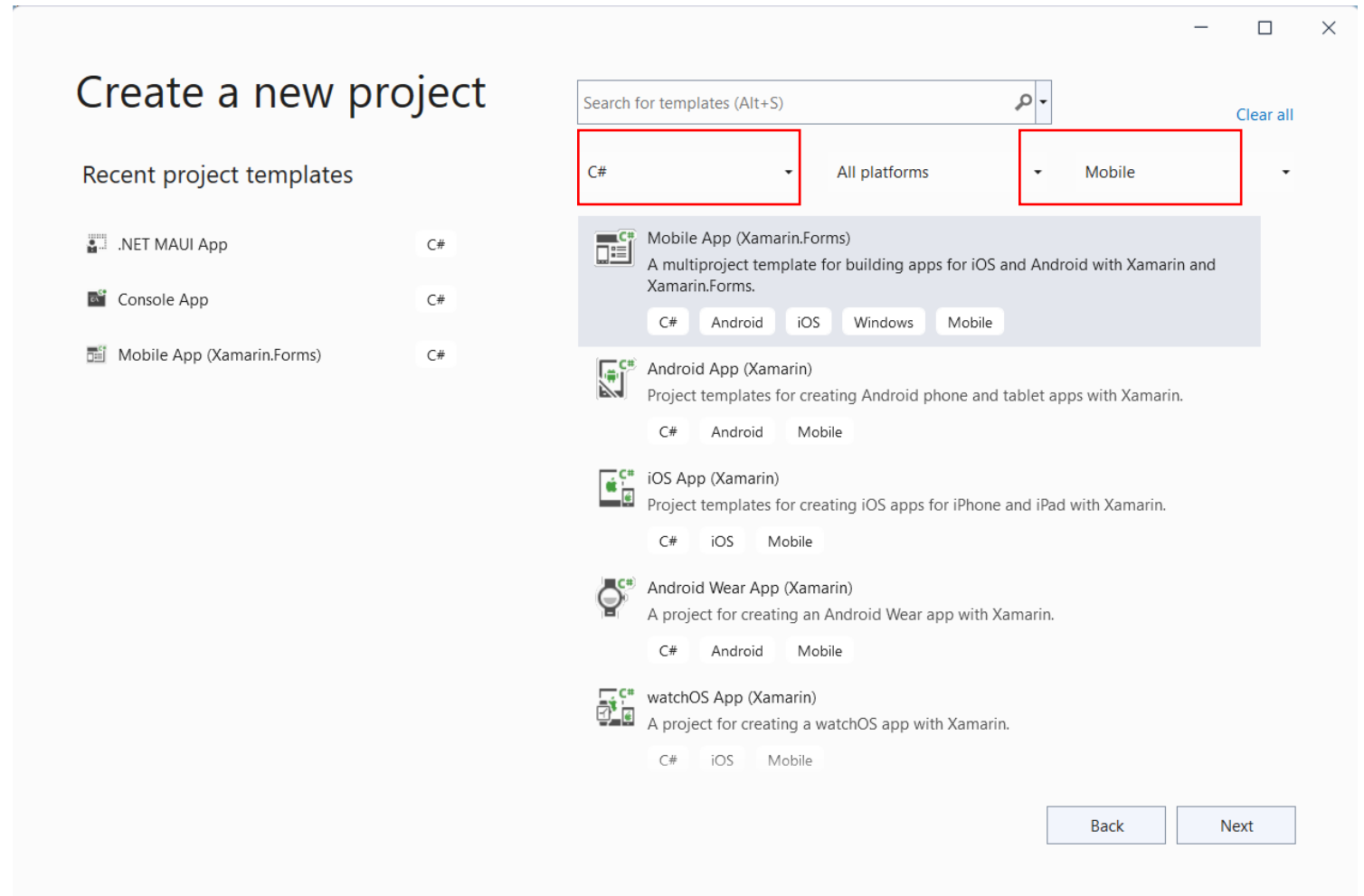
Step 2: Choose Create a new project



Step 3: Search for Xamarin.Forms

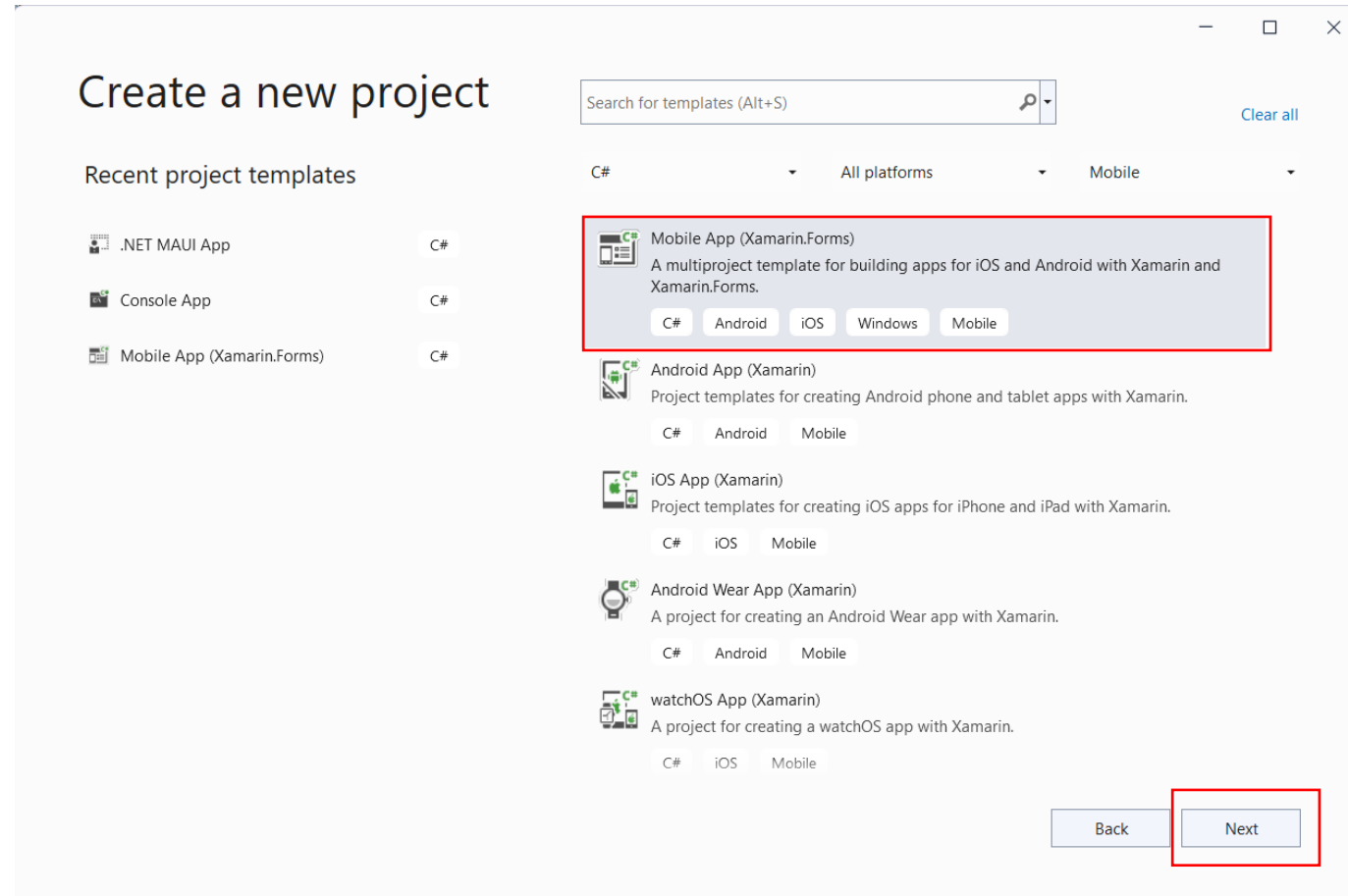


Or you can
change project
type to Mobile
and Language
to C#



Step 4: Choose a template for your project and click on Next

In our case we will choose
Mobile App (Xamarin.Forms)



Step 5: Configure your new project

Give a name to your project

Select location where your project will be saved

Select if you want to put project Solution and Project Files in the same Folder

Configure your new project

Mobile App (Xamarin.Forms) C# Android iOS Windows Mobile

Project name

App7

Location

C:\Users\yousif\source\repos

Solution name ⓘ

App7

☒ Place solution and project in the same directory

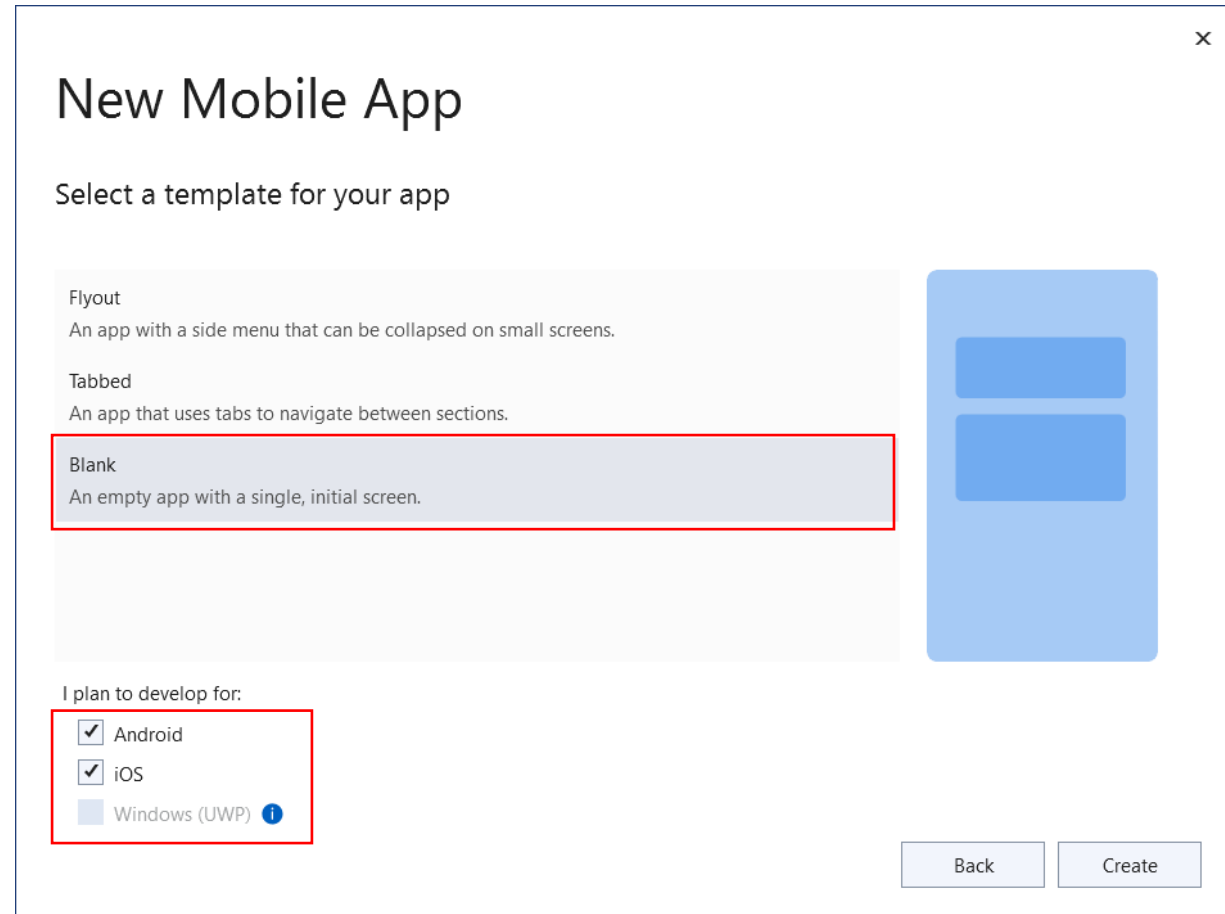
Back Create



Step 6: Select a template for your application

In this application we will select Blank template

Choose android and iOS to have 2 application with single code base. We can't choose Windows (UWP) because I have not installed C++ on my laptop



New Mobile App

Select a template for your app

Flyout
An app with a side menu that can be collapsed on small screens.

Tabbed
An app that uses tabs to navigate between sections.

Blank
An empty app with a single, initial screen.

I plan to develop for:

☒ Android

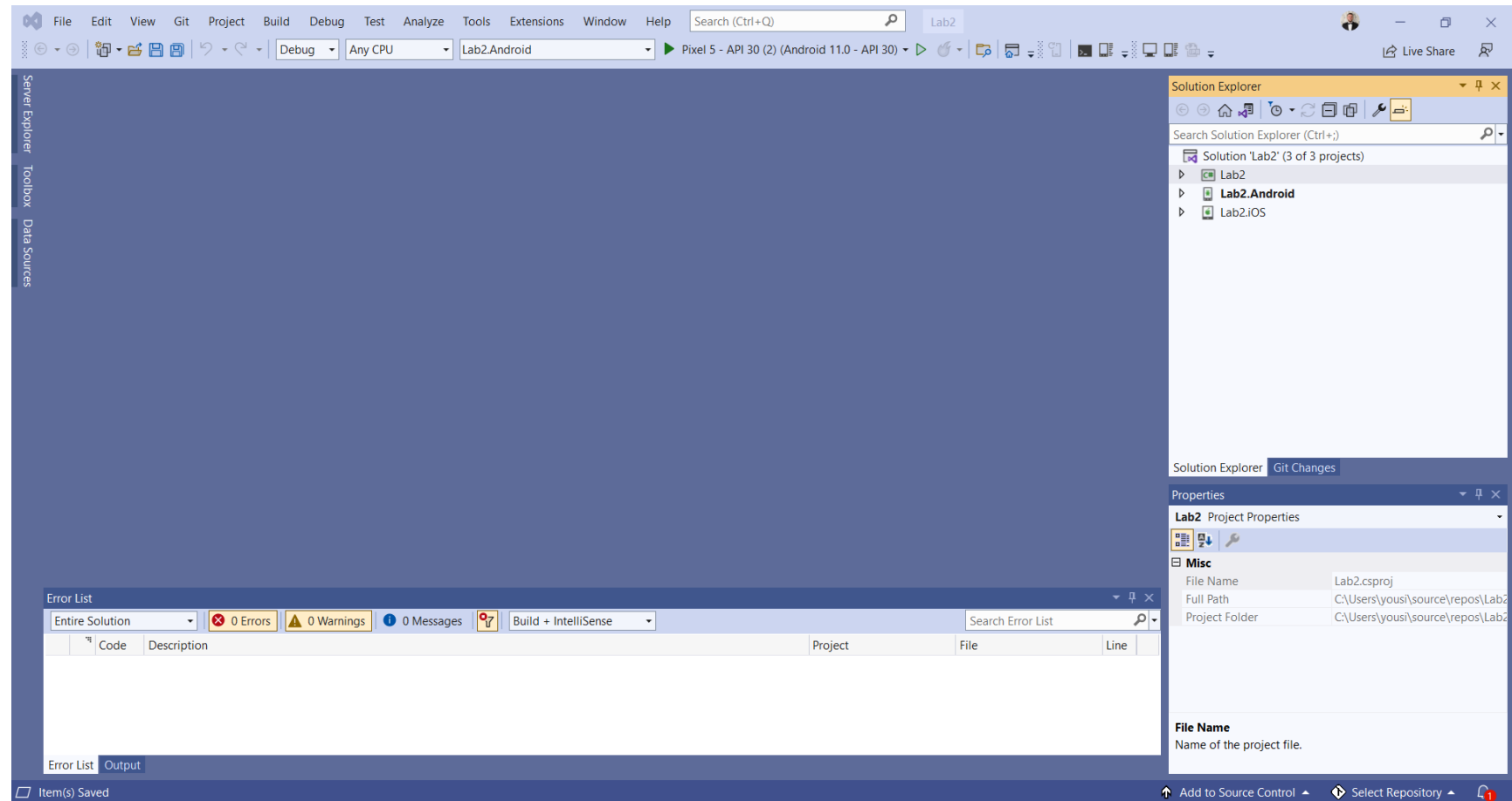
☒ iOS

☐ Windows (UWP) ⓘ

Back Create



Congratulations you created first project with Xamarin.Forms to create Android and iOS Applications



File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) Lab2

Debug Any CPU Lab2.Android Lab2.Android Lab2.iOS

Pixel 5 - API 30 (2) (Android 11.0 - API 30)

Live Share

Server Explorer Toolbox Data Sources

Select Android or iOS to run it in to an emulator

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'Lab2' (3 of 3 projects)

- Lab2
- Lab2.Android**
- Lab2.iOS

Properties

Lab2.Android Project Properties

Misc

Project File	Lab2.Android.csproj
Project Folder	C:\Users\yousif\source\repos\Lab2

Error List

Entire Solution 0 Errors 0 Warnings 0 Messages Build + IntelliSense Search Error List

Description	Project	File	Line
-------------	---------	------	------

Ready Add to Source Control Select Repository



Select the Emulator that you want to run your application on it, You should have at least one Android API or if you are working on Mac OS you can find iOS Emulator listed here to run your iOS application on it, For our case we are working on windows OS that is why we can only see Android Emulator. You can run iOS App from windows Device if you have Physical iOS device with Apple developer account



File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) Lab2

Debug Any CPU Lab2.Android Pixel 5 - API 30 (2) (Android 11.0 - API 30) Pixel 5 - API 30 (2) (Android 11.0 - API 30) Lab2.Android Debug Properties Android Device Manager...

Server Explorer Toolbox Data Sources

**If you can't find the correct emulator
Click on Android Device Manager (ADM)**

Solution Explorer

Search Solution Explorer (Ctrl+;) Solution 'Lab2' (3 of 3 projects) Lab2 Lab2.Android Lab2.iOS

Properties

Lab2.Android Project Properties

Misc

Project File Lab2.Android.csproj

Project Folder C:\Users\yousi\source\repos\Lab2

Error List

Entire Solution 0 Errors 0 Warnings 0 Messages Build + IntelliSense Search Error List

Description	Project	File	Line
-------------	---------	------	------

Error List Output

Ready Add to Source Control Select Repository





Click here to create a new Android Emulator

+ New

Edit

...

Name	OS	Processor	Memory	Resolution	
 Pixel 5 – API 30 (2) + Google Play	--- API 30	x86_64	1 GB	1080 x 2340 440 dpi	 Start

Here you will the list of emulators that are installed on your laptop


Type a name for your Emulator

Select a device Emulator Base

Select a processor to the Emulator

Select API version for the Emulator

New Device *



Name: Pixel 5 - API 30

Base Device: Pixel 5

Processor: x86_64

OS: API 30

☒ Google APIs
☐ Google Play Store

Property	Value
disk.dataPartition.size	2G
fastboot.forceColdBoot	<input type="checkbox"/>
fastboot.forceFastBoot	<input checked="" type="checkbox"/>
hw.accelerometer	<input checked="" type="checkbox"/>
hw.arc	<input type="checkbox"/>
hw.audioInput	<input checked="" type="checkbox"/>
hw.battery	<input checked="" type="checkbox"/>
hw.camera.back	virtuallscene
hw.camera.front	emulated
hw.cpu.ncore	4
hw.dPad	<input type="checkbox"/>
hw.gps	<input checked="" type="checkbox"/>
hw.gpu.mode	auto
hw.keyboard	<input checked="" type="checkbox"/>
hw.lcd.density	440
hw.lcd.height	2340
hw.lcd.width	1080
hw.mainKeys	<input type="checkbox"/>
hw.ramSize	1536
hw.sdCard	<input checked="" type="checkbox"/>
hw.sensors.orientation	<input checked="" type="checkbox"/>

Details

disk.dataPartition.size

Data partition size.

Default: 0

Specifies the size of the user data partition in bytes. If size is a simple integer, it specifies the size in bytes. You can also specify the size in kilobytes, megabytes, and gigabytes by appending K, M, or G to size. The minimum size is 9M and the maximum size is 1023G.

Add Property

A new device image will be downloaded.

Cancel Create

Keep these options default



The screenshot shows the Visual Studio IDE with the 'Tools' menu open. The 'Android' option is selected, and the 'Android SDK Manager...' sub-option is highlighted with a red rectangle. A text box with a red border contains the instruction: 'Open Android SDK manager to download the missing Android SDK and System Images for Android Smartphone, Wear OS, Android TV'. The Solution Explorer on the right shows a solution named 'Lab2' with projects 'Lab2', 'Lab2.Android', and 'Lab2.iOS'. The Properties window shows the 'Lab2.Android' project properties, including the project file 'Lab2.Android.csproj' and the project folder 'C:\Users\yousif\source\repos\Lab2'. The Error List at the bottom shows 0 errors, 0 warnings, and 0 messages.

Tools

- Get Tools and Features...
- Manage Preview Features
- Android
 - Android Device Manager...
 - Android SDK Manager...
 - Device Log...
 - Android Adb Command Prompt...
 - Restart Adb Server
- iOS
- Archive Manager...
- Connect to Database...
- Connect to Server...
- SQL Server
- Code Snippets Manager... Ctrl+K, Ctrl+B
- Choose Toolbox Items...
- NuGet Package Manager
- Python
- Create GUID
- External Command 2
- External Tools...
- Theme
- Command Line
- Import and Export Settings...
- Customize...
- Options...

Open Android SDK manager to download the missing Android SDK and System Images for Android Smartphone, Wear OS, Android TV

Solution Explorer

Solution 'Lab2' (3 of 3 projects)

- Lab2
- Lab2.Android
- Lab2.iOS

Properties

Lab2.Android Project Properties

Misc

Project File	Lab2.Android.csproj
Project Folder	C:\Users\yousif\source\repos\Lab2

Error List

Entire Solution 0 Errors 0 Warnings 0 Messages Build + IntelliSense Search Error List

Description	Project	File	Line
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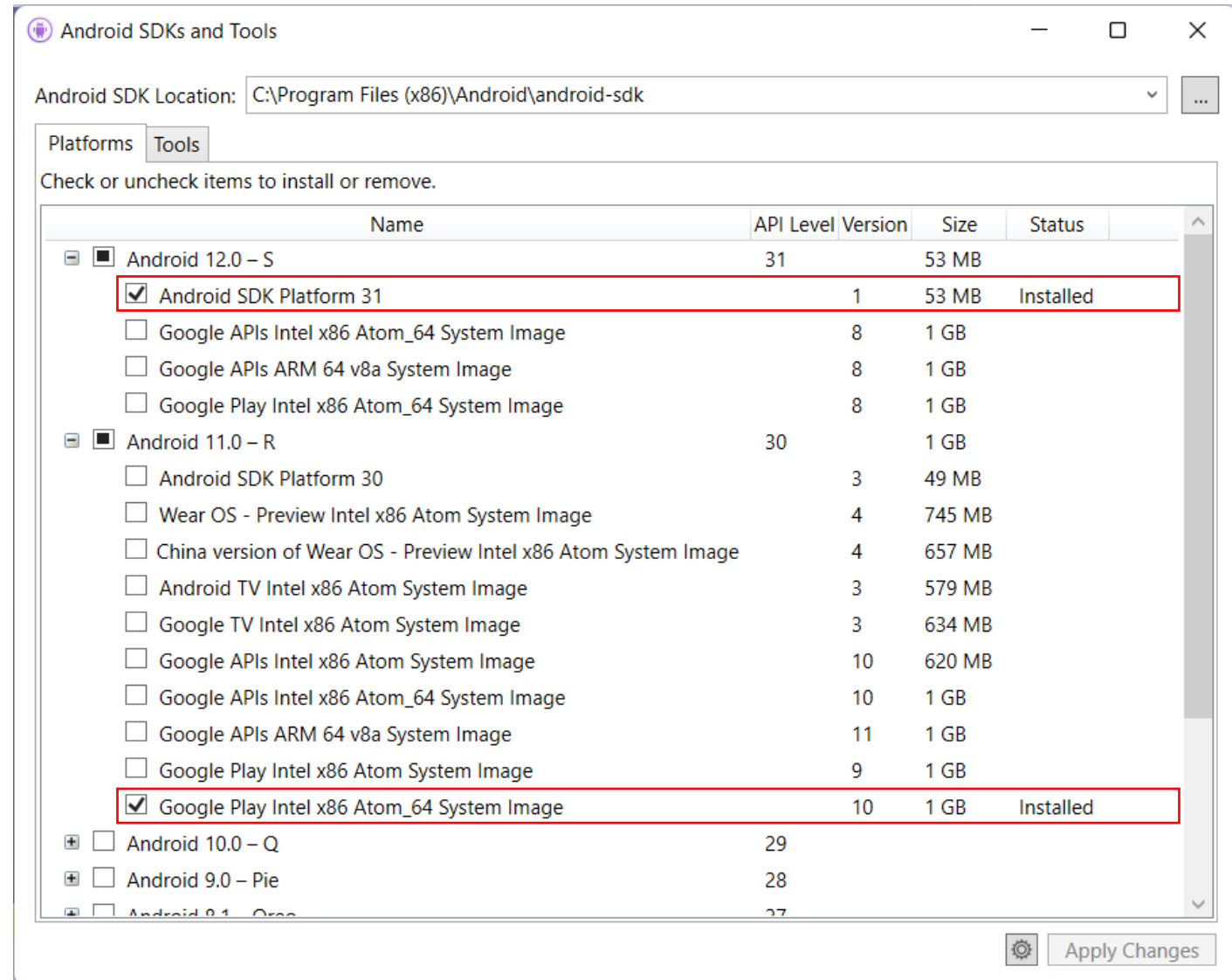


You will need at least to install one Android SDK (installed the latest SDK)

Android SDK 31 is the latest one until the time of making this Lecture

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Android SDK 31 is the latest one until the time of making this Lecture



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Debug Any CPU Lab2.Android Pixel 5 - API 30 (Android 11.0 - API 30)

Server Explorer Toolbox Data Sources

After downloading and installing all the required API, SDK and creating an Emulator now lets click on run our application

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'Lab2' (3 of 3 projects)

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Properties

Lab2.Android Project Properties

Misc

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Project Folder	C:\Users\yousi\source\repos\Lab2

Output

Show output from: Debug

```
[goldfish-address-space] allocate: ioctl allocate returned offset 0x3f7ffe000 size 0x2000  
[HostConnection] HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID_EMU_native_sync_v3 ANDROID_EMU_native_sync_v4 ANDROID_EMU_dma_v1 ANDROID  
Thread started: <Thread Pool> #6  
Thread started: <Thread Pool> #7  
Thread started: <Thread Pool> #8  
Thread started: <Thread Pool> #9
```

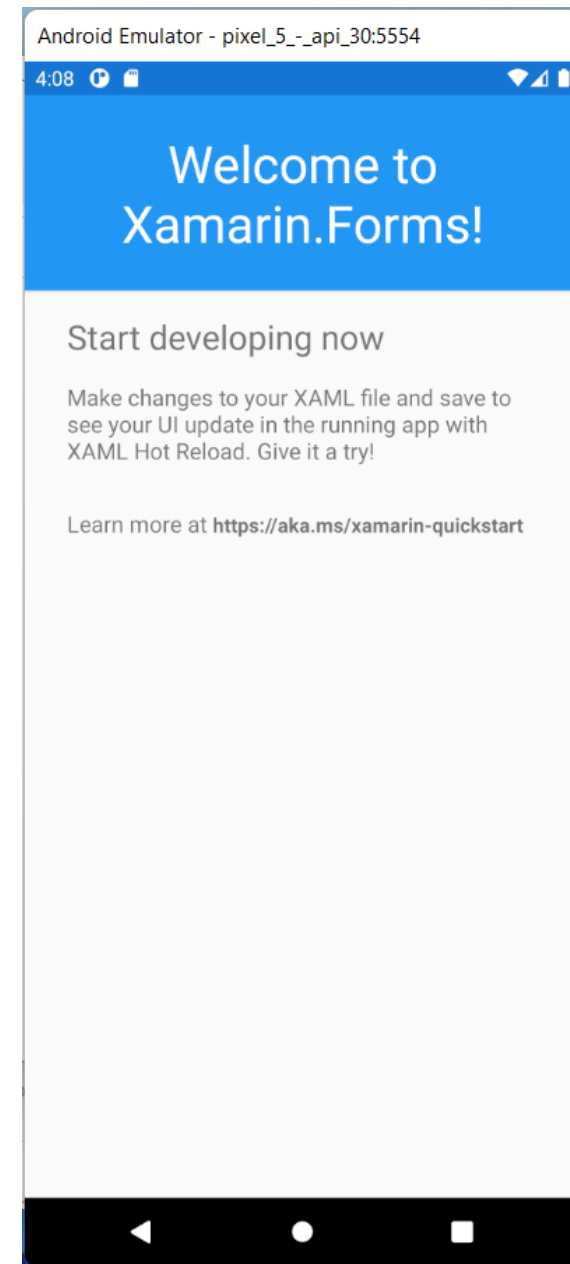
Error List Output

XAML Hot Reload stopped

Add to Source Control Select Repository



Congratulations! you have run
successfully your application on
the Android Emulator



Any Questions?

