

## 1 Installation

When you want to develop an application with flutter framework, you need to download and install this item below:

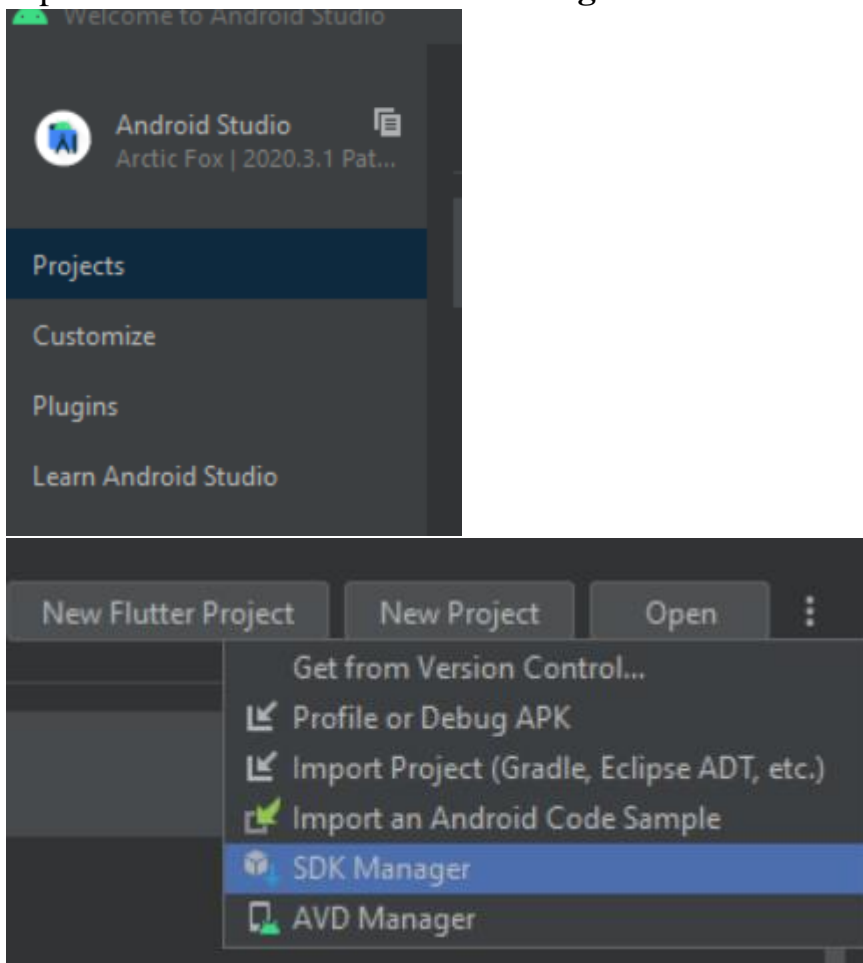
1. Android Studio <https://developer.android.com/studio>
2. Visual Studio Code <https://code.visualstudio.com/download>
3. Xcode (recommended for Mac Os user)  
<https://developer.apple.com/xcode/>
4. Flutter SDK (Windows) <https://docs.flutter.dev/get-started/install/windows>
5. Flutter SDK (Mac Os) <https://docs.flutter.dev/get-started/install/macos>

When you already have done the installation, you have two options to run the application either using emulator or your device. However, if you are using windows, you can't run the app with any iPhone device or emulator but if you are using mac os you can use both OS which is Android and IOS same for the emulator

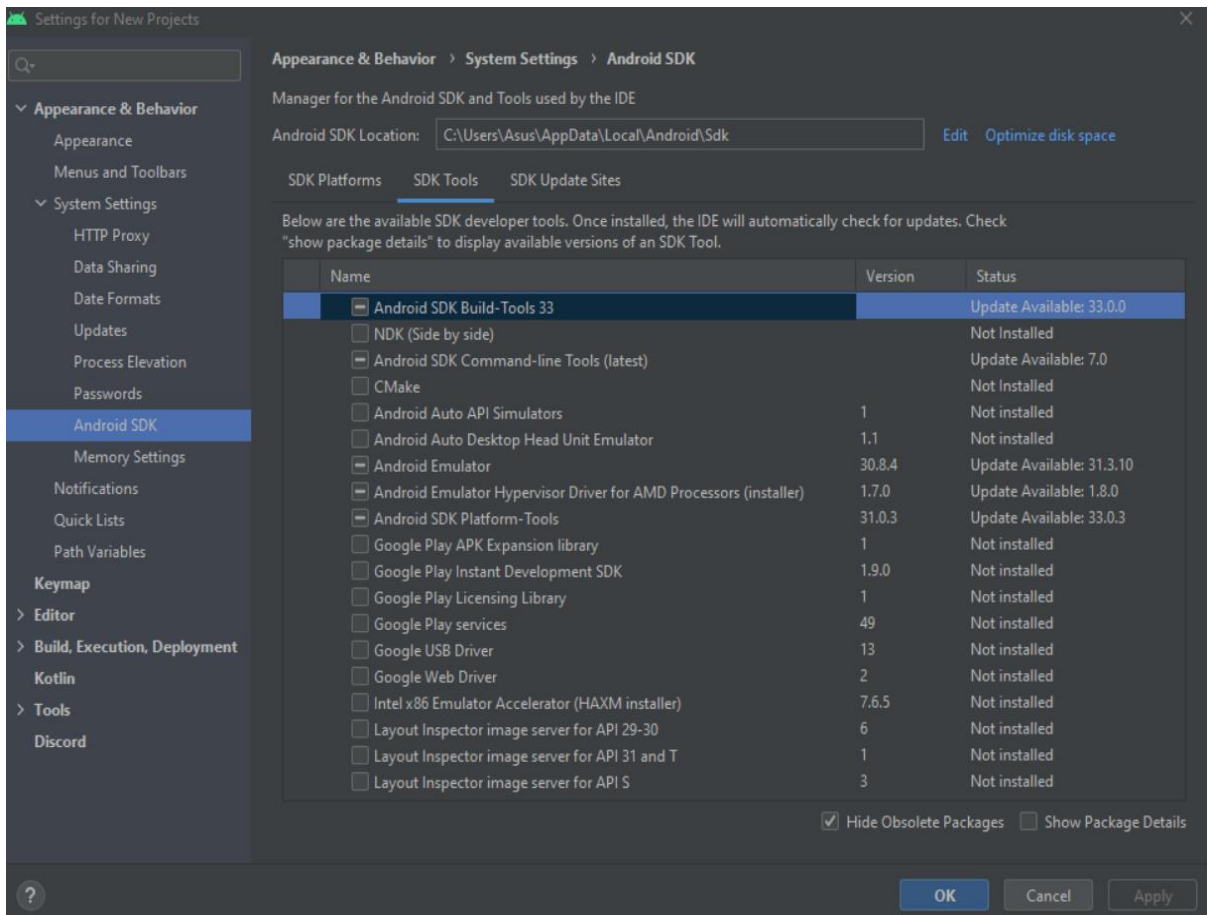
If you want to use your own device for the debugging or testing, you can skip the emulator setup tutorial. However if you want to use emulator for the debugging and testing, your pc must have at least 8gb RAM

## 2 Android emulator and android studio

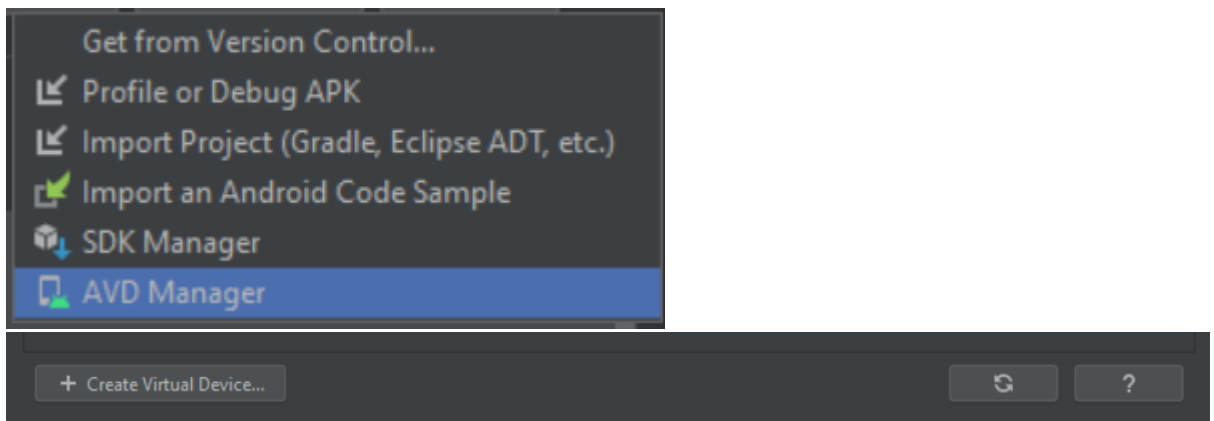
1. Open your android studio, go to **projects**. Then at the top right, click the triple dot then click at the **SDK Manager**



2. After that, go to **Android SDK** under the System Settings and go to the **SDK Tools** tab
3. After that, you will see a list of sdk tools in a table that need to apply
4. Tick at the items below:
  - Android SDK Build-Tools 33
  - Android SDK Command-line Tools (latest)
  - Android Emulator
  - Android Emulator Hypervisor Driver for AMD Processor (installer) **(for AMD processor only)**
  - Android SDK Platform-Tools
5. Then click **Apply** button at the bottom right of the window



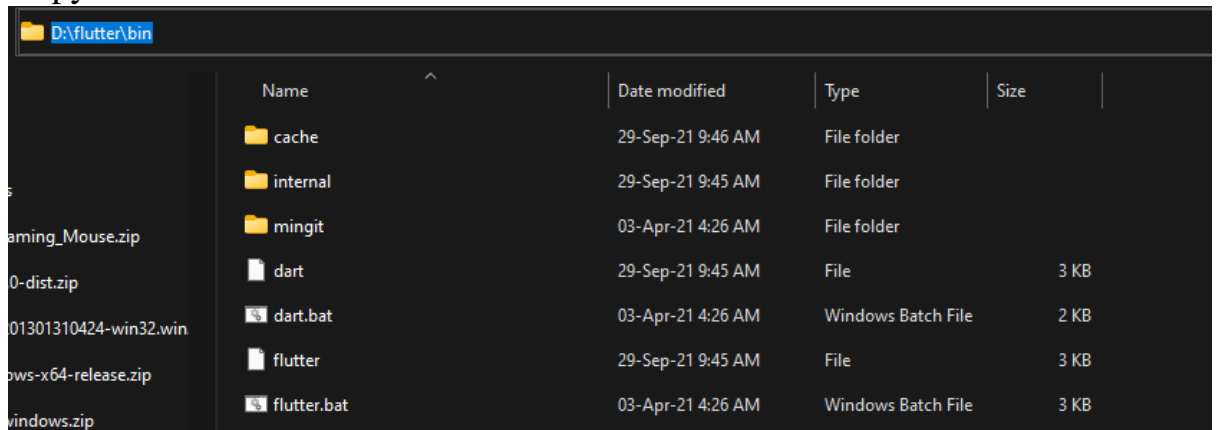
6. If you are using AMD Processor, you need to go to the BIOS settings of your PC and enable the SVM Mode to run the emulator without any problem
7. After install the needed SDK tools, go to AVD manager and click the **Create Virtual Device** button at the bottom left



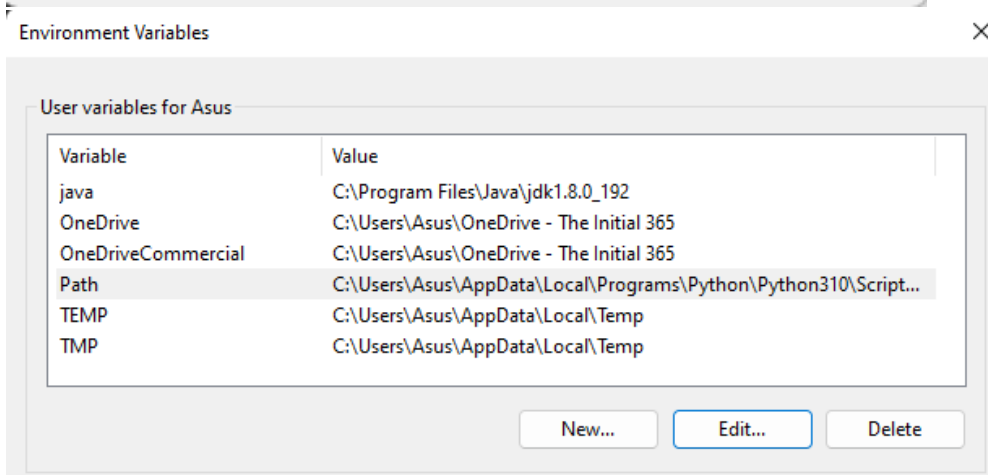
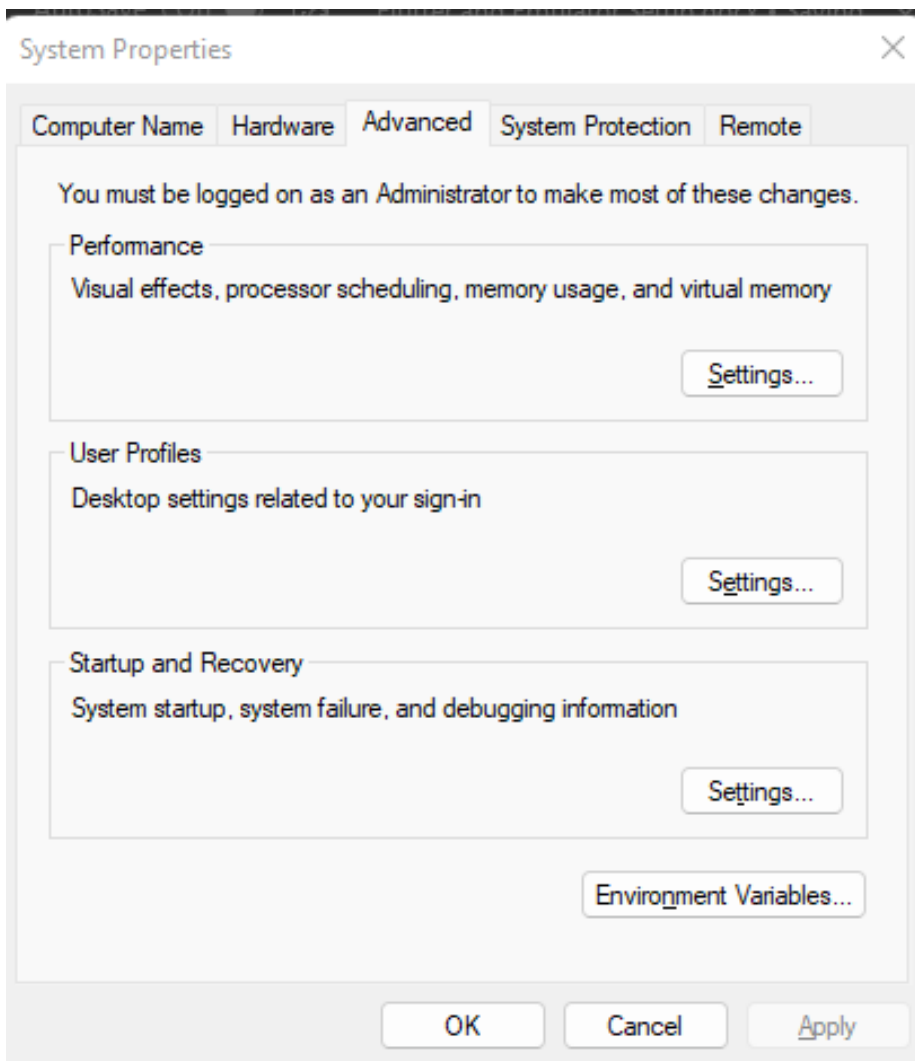
8. For the recommended emulator, use **Pixel 4 with API above 28**
9. Click the green play button to launch the emulator

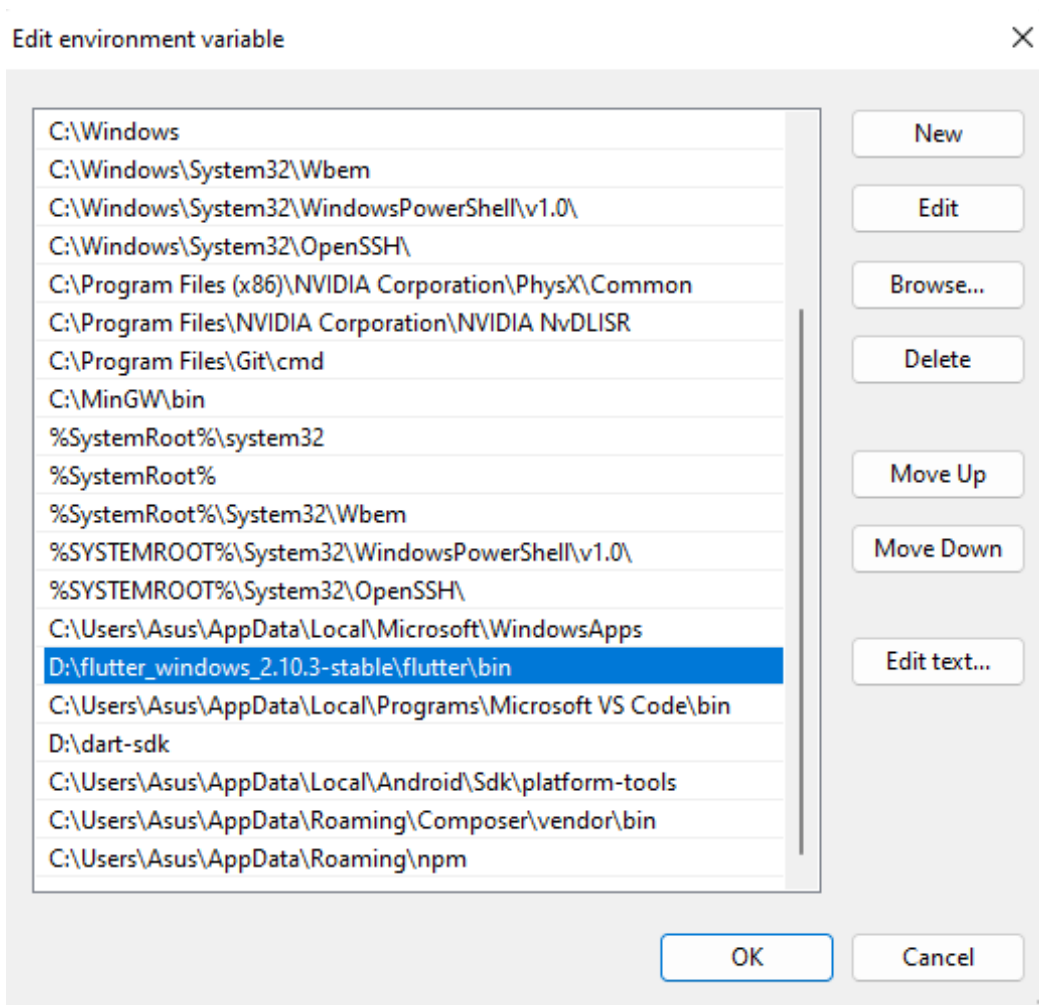
### 3 Flutter Setup

1. After you download the flutter sdk from the website, extract that file into the direction that you easily to find such as extract it into D: direction
2. Go into the flutter folder and go to bin folder
3. Copy that bin directions

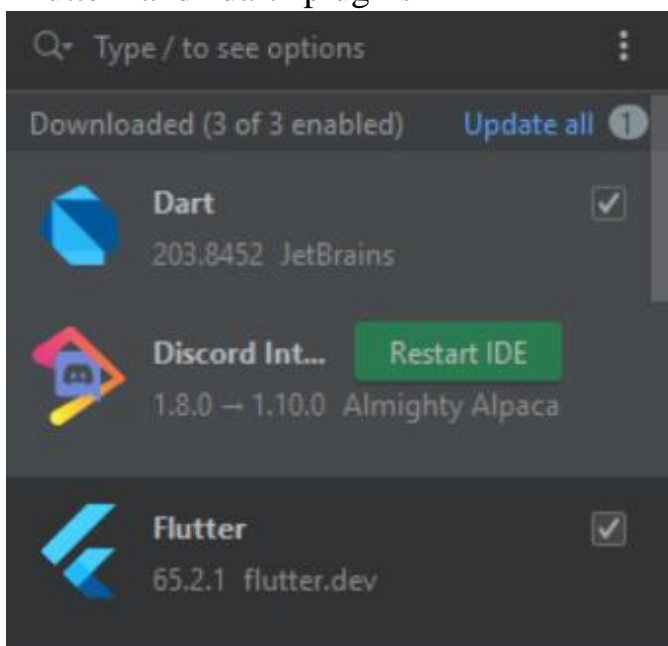


4. Press windows button and type “environment”
5. Click at the “Edit the system environment variables”
6. Click environment variables button
7. At the “user variables” section click path and click “Edit” button
8. After that, click “New” button and paste the bin direction that you copy just now

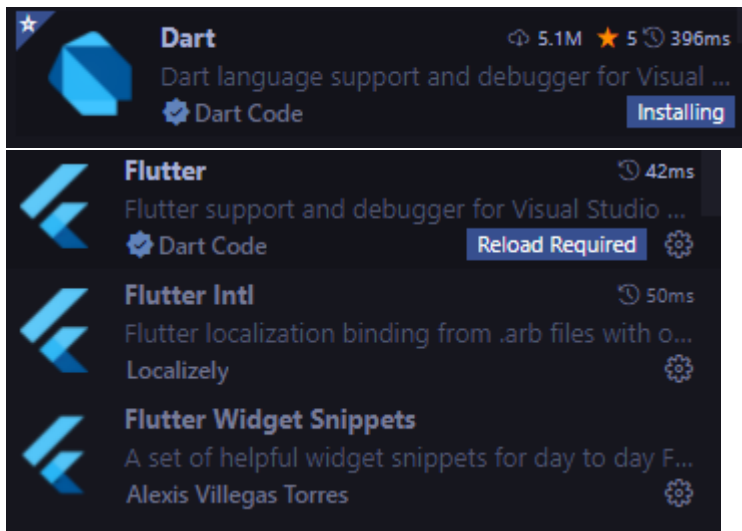




9. After that, open your android studio and go to plugins and install the “flutter” and “dart” plugins



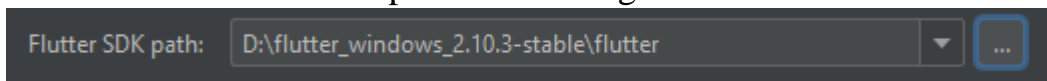
10. Same goes for the Visual Studio Code, install “dart” and “flutter” extensions and other related extensions (options)



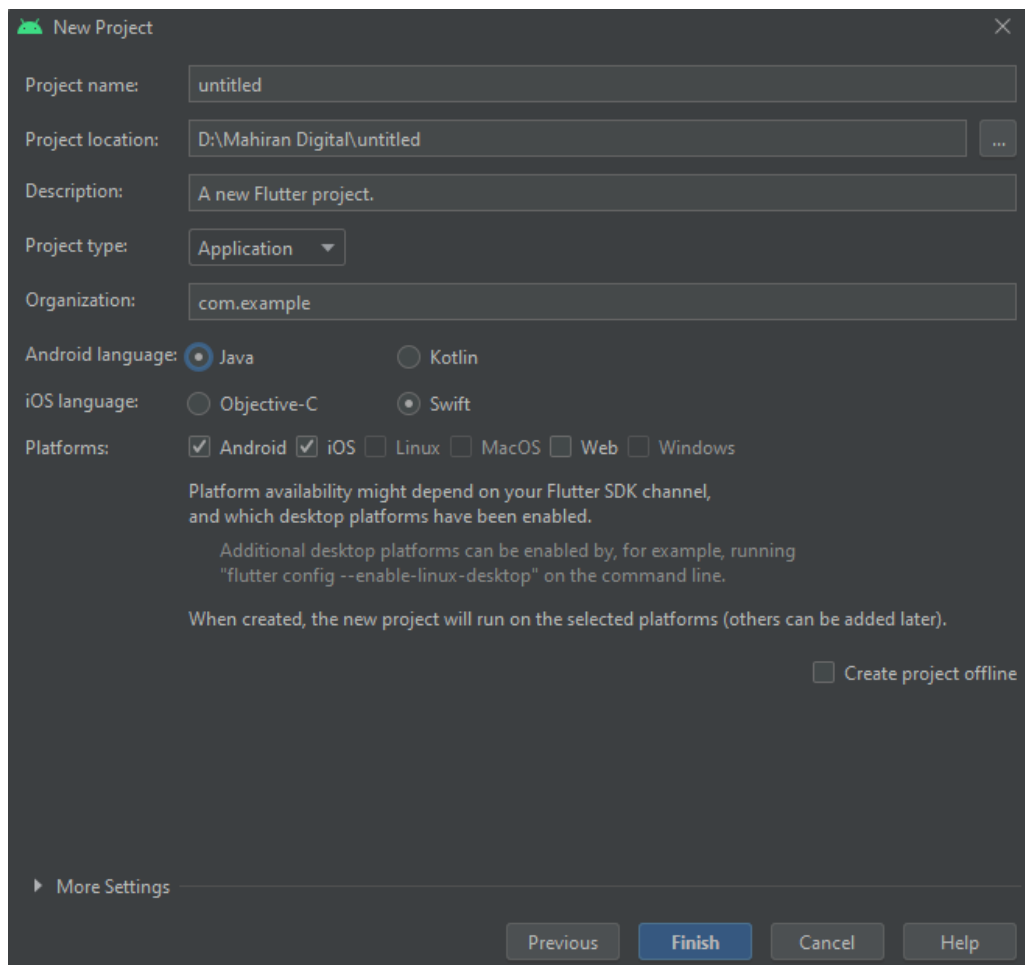
11. Now you can test to run flutter project

12. Open your android studio, create new flutter project, the button should be at the top of the window after you install the flutter plugin

13. Make sure the flutter sdk path is like image below



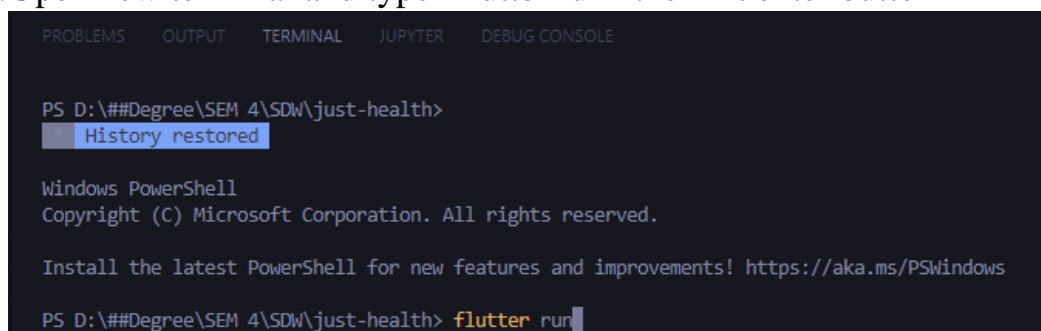
14. After that, you will come to the project details, for the Android language choose “Java” and iOS language choose “Swift” and click the finish button



15. Please remember the project directions. After that, launch the emulator, close the android studio and open the visual studio code.

16. Open the flutter project in the visual studio code

17. Open new terminal and type “flutter run” then hit enter button



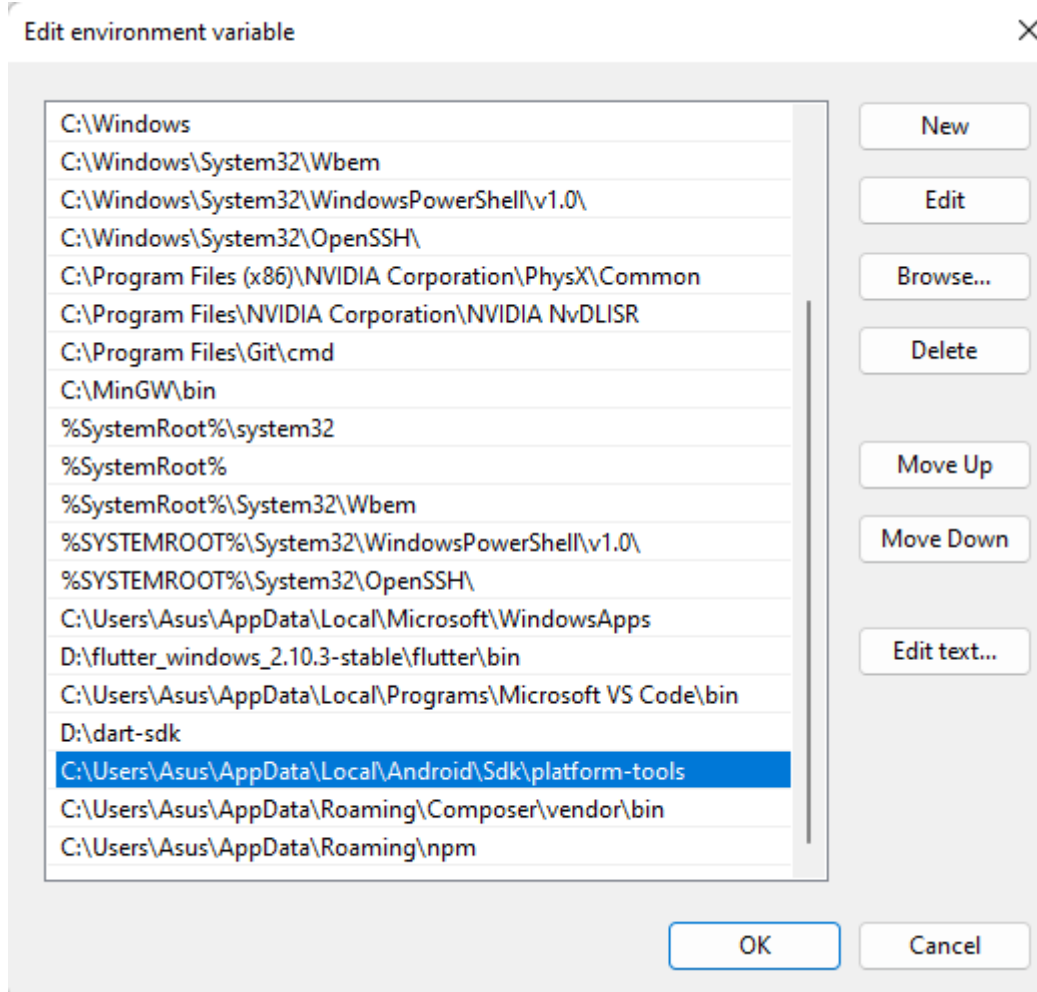
18. The flutter app will be running in the emulator

19. If you want to run the flutter app in your phone, connect your phone with the cable and enable the USB Debugging feature then you can “flutter run”.



#### 4 Connect and Debug wirelessly with your phone

1. Download the Android SDK platform tools from this website <https://developer.android.com/studio/releases/platform-tools>
2. Extract to the direction that you can easily remember
3. Go to the platform-tools folder in the SDK folder and copy the directions
4. Open your system environment > environment variables
5. Click path in the user variables and paste it in the path



6. Open cmd and type “adb” to test the command
7. Your cmd will look like this image below

```

C:\Users\Asus>adb
Android Debug Bridge version 1.0.41
Version 31.0.3-7562133
Installed as C:\Users\Asus\AppData\Local\Android\Sdk\platform-tools\adb.exe

global options:
-a          listen on all network interfaces, not just localhost
-d          use USB device (error if multiple devices connected)
-e          use TCP/IP device (error if multiple TCP/IP devices available)
-s SERIAL  use device with given serial (overrides $ANDROID_SERIAL)
-t ID       use device with given transport id
-H          name of adb server host [default=localhost]
-P          port of adb server [default=5037]
-L SOCKET  listen on given socket for adb server [default=tcp:localhost:5037]

general commands:
devices [-l]      list connected devices (-l for long output)
help              show this help message
version          show version num

networking:
connect HOST[:PORT]  connect to a device via TCP/IP [default port=5555]
disconnect [HOST[:PORT]]
                  disconnect from given TCP/IP device [default port=5555], or all
pair HOST[:PORT] [PAIRING CODE]
                  pair with a device for secure TCP/IP communication
forward --list      list all forward socket connections

```

8. Connect your phone with cable usb and make sure the USB Debugging is enabled
9. Make sure your phone and PC have same Internet connection
10. Type “adb tcpip 5555” in cmd and hit enter
11. Check your device IP address (can be found in about phone in the settings)
12. Type “adb connect IPADDRESS:5555” and hit enter
13. For examples “adb connect 10.53.5.8:5555”
14. Disconnect USB cable and go to the flutter project
15. At the terminal of the flutter project, type “flutter devices” to check the wireless device
16. Then you can “flutter run” wirelessly with your own phone  
 Note: your phone IP address will be change if you change the internet network and if your phone is disconnected with the PC (cannot debugging wirelessly) just start from the step 10

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Date: 9 September 2022