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) <u>https://developer.apple.com/xcode/</u>
- 4. Flutter SDK (Windows) <u>https://docs.flutter.dev/get-</u> 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**

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Projects					
Customi	ze				
Plugins					
Learn An	idroid Studio				
-		-		s	5
New FI	utter Projec	t Ne	w Project	Open	:
-		Get from	Version Con	trol	
_	Ľ	Profile or	Debug APK		
	Ľ	Import P	roject (Gradle	, Eclipse ADT,	etc.)
	ď	Import a	Android Co	de Sample	
		SDK Man	ager		
	D.	AVD Mar	lager		
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- 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

🐱 Settings for New Projects			×
Q.	Appearance & Behavior > System Settings > Android SDK		
✓ Appearance & Behavior	Manager for the Android SDK and Tools used by the IDE		
Appearance	Android SDK Location: C:\Users\Asus\AppData\Local\Android\Sdk		
Menus and Toolbars	SDK Platforms SDK Tools SDK Update Sites		
✓ System Settings			
HTTP Proxy	Below are the available SDK developer tools. Once installed, the IDE will automatica "show package details" to display available versions of an SDK Tool.	ally check for up	dates. Check
Data Sharing	Name		Status
Date Formats	Android SDK Build-Tools 33		Update Available: 33.0.0
Updates	NDK (Side by side)		Not Installed
Process Elevation	Android SDK Command-line Tools (latest)		Update Available: 7.0
Passwords	CMake		Not Installed
Android SDK	Android Auto API Simulators		Not installed
	Android Auto Desktop Head Unit Emulator		Not installed
Memory Settings	Android Emulator	30.8.4	Update Available: 31.3.10
Notifications	Android Emulator Hypervisor Driver for AMD Processors (installer)	1.7.0	Update Available: 1.8.0
Quick Lists	Android SDK Platform-Tools	31.0.3	Update Available: 33.0.3
Path Variables	Google Play APK Expansion library		Not installed
Keymap	Google Play Instant Development SDK	1.9.0	Not installed
\ Editare	Google Play Licensing Library		Not installed
	Google Play services		Not installed
> Build, Execution, Deployment	Google USB Driver		Not installed
Kotlin	Google Web Driver		Not installed
> Tools	Intel x86 Emulator Accelerator (HAXM installer)	7.6.5	Not installed
Discord	Layout Inspector image server for API 29-30		Not installed
	Layout Inspector image server for API 31 and T		Not installed
	Layout Inspector image server for API S		Not installed
		🗹 Hide Obsole	ete Packages 📃 Show Package Details
?			OK Cancel Apply

- 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

D:\flutter\bin					
	^ Name	Date modified	Туре	Size	
	ache 🔁	29-Sep-21 9:46 AM	File folder		
5	🧰 internal	29-Sep-21 9:45 AM	File folder		
aming_Mouse.zip	🥅 mingit	03-Apr-21 4:26 AM	File folder		
0-dist.zip	🗋 dart	29-Sep-21 9:45 AM	File	3 KB	
01301310424-win32.win	🕓 dart.bat	03-Apr-21 4:26 AM	Windows Batch File	2 KB	
ows-x64-release.zip	flutter	29-Sep-21 9:45 AM	File	3 KB	
vindows.zip	🐨 flutter.bat	03-Apr-21 4:26 AM	Windows Batch File	3 KB	

- 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

omputer Name Hardv	vare Advanced	System Protection	n Remote	
You must be logged o	n as an Administra	tor to make most of	these changes	s.
Performance Visual effects, proces	ssor scheduling, m	emory usage, and	virtual memory	
			<u>S</u> ettings	
User Profiles				
Desktop settings rela	ted to your sign-in			
			S <u>e</u> ttings	
Startup and Recover	у			
System startup, syste	m failure, and deb	ugging information		
			Settings	
		Environ	nent Variables	
	ОК	Cancel		у
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ironment Variables	ОК	Cancel	Appl	y
ironment Variables Jser variables for Asus	OK	Cancel		y
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ironment Variables Jser variables for Asus Variable java OneDrive	Value C:\Program Files\ C:\Users\Asus\On	Java\jdk1.8.0_192		y
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ironment Variables Jser variables for Asus Variable java OneDrive OneDriveCommercial Path TEMP TMP	Value C:\Program Files\ C:\Users\Asus\On C:\Users\Asus\Ap C:\Users\Asus\Ap C:\Users\Asus\Ap	Java\jdk1.8.0_192 neDrive - The Initial 365 neDrive - The Initial 365 pData\Local\Programs ¹ pData\Local\Temp pData\Local\Temp	Appl	y)\Script

Edit environment variable



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)

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- 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

Flutter SDK path: D:\flutter_windows_2.10.3-stable\flutter 🔽 ...

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

Ă New Project					×
Project name:	untitled				
Project location:	D:\Mahiran Digital\untitled				
Description:	A new Flutter project.				
Project type:	Application 🔻				
Organization:	com.example				
Android language:	💽 Java 🛛 🔘 Kotlin				
iOS language:	Objective-C Objective-C				
Platforms:	🗸 Android 🗹 iOS 🗌 Linux 🗌 Ma	acOS 🗌 Web 🗌			
	Platform availability might depend on and which desktop platforms have bee	your Flutter SDK :n enabled.	channel,		
	Additional desktop platforms can l "flutter configenable-linux-desk	be enabled by, fo top" on the com	or example, runnii Imand line.		
	When created, the new project will run	on the selected	platforms (others	; can be added la	ter).
				🗌 Create p	roject offline
h Mana Cattingan					
• More Settings					
		Previous	Finish	Cancel	Help

- 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 <u>https://developer.android.com/studio/releases/platform-tools</u>
- 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

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- 4. Open your system environment > environment variables
- 5. Click path in the user variables and paste it in the path

Edit environment variable

C:\Windows		New
C:\Windows\System32\Wbem		
C:\Windows\System32\WindowsPowerShell\v1.0\		Edit
C:\Windows\System32\OpenSSH\		
C:\Program Files (x86)\NVIDIA Corporation\PhysX\Comm	on	Browse
C:\Program Files\NVIDIA Corporation\NVIDIA NvDLISR		
C:\Program Files\Git\cmd		Delete
C:\MinGW\bin		
%SystemRoot%\system32		
%SystemRoot%		Move Up
%SystemRoot%\System32\Wbem		
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\		Move Down
%SYSTEMROOT%\System32\OpenSSH\		
C:\Users\Asus\AppData\Local\Microsoft\WindowsApps		
D:\flutter_windows_2.10.3-stable\flutter\bin		Edit text
C:\Users\Asus\AppData\Local\Programs\Microsoft VS Co	de\bin	
D:\dart-sdk		
C:\Users\Asus\AppData\Local\Android\Sdk\platform-too	ls	
$\label{eq:c:UsersAsusAppDataRoamingComposervendorbin} C: \label{eq:UsersAsusAppDataRoamingComposervendorbin}$		
C:\Users\Asus\AppData\Roaming\npm	1	
		1
	ОК	Cancel

- 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:
              listen on all network interfaces, not just localhost use USB device (error if multiple devices connected)
 -d

    -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=feaz]
 - P
              port of adb server [default=5037]
 -L SOCKET listen on given socket for adb server [default=tcp:localhost:5037]
general commands:
 devices [-1]
                               list connected devices (-1 for long output)
 help
                               show this help message
 version
                               show version num
networking:
                               connect to a device via TCP/IP [default port=5555]
 connect HOST[:PORT]
 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
```

- 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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