ZUMA ENGINEERING SDN BHD
(52994-K)

Flutter Installation Documentation

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Date : 29 March 2023

1.0 Introduction

For the entire documentation, the machine and specifications that is used are

- Desktop Machine (Microsoft Windows 10 in 64-bit, Intel chipset)
- Xiaomi Redmi 6 (Android 9 Pie).
- USB cable

1.1 What is Flutter?

Flutter is a mobile app development framework created by Google. It allows developers to build high-quality, visually attractive apps for both iOS and Android using a single codebase. Flutter uses a reactive programming model that enables developers to create responsive and fast apps with ease.

One of the most significant advantages of using Flutter is the hot reload feature, which allows developers to see the results of code changes in real-time, making the development process faster and more efficient.

Flutter also comes with a wide range of pre-built widgets and tools, making it easy for developers to create beautiful and interactive user interfaces. Additionally, it offers excellent support for third-party packages, making it easier for developers to add additional functionality to their apps.

Overall, Flutter is an excellent choice for developers who want to create cross-platform apps quickly and efficiently, while still maintaining high-quality and visually appealing design.

2.0 Download Git

Step 1 : Go to https://git-scm.com/downloads and click 

.

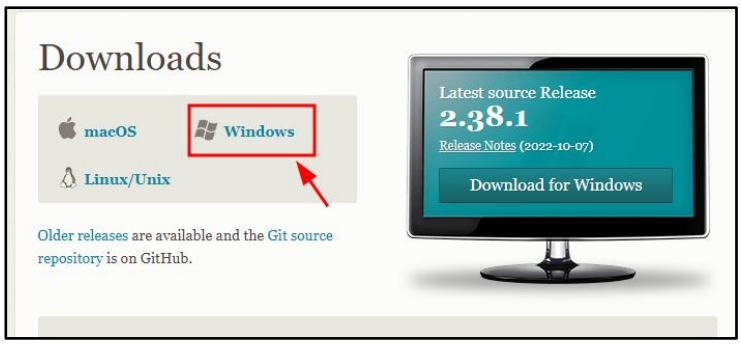


Figure 2.1 : "Windows" button

Step 2 : Click 64-bit Git for Windows Setup.

Figure 2.2 : "64-bit Git for Windows Setup" button

Step 3 : Save Git Installer in desired location

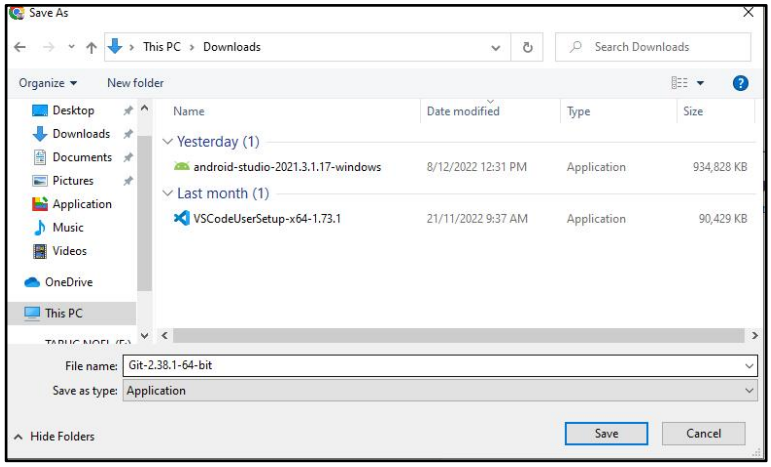


Figure 2.3 : Windows to choose download location of Git installer

Step 4 : Once downloaded, double click on Git installer.

Figure 2.4 : Git Installer

Step 5 : Just press next from start until the end, as we only need the default installation option for Git.

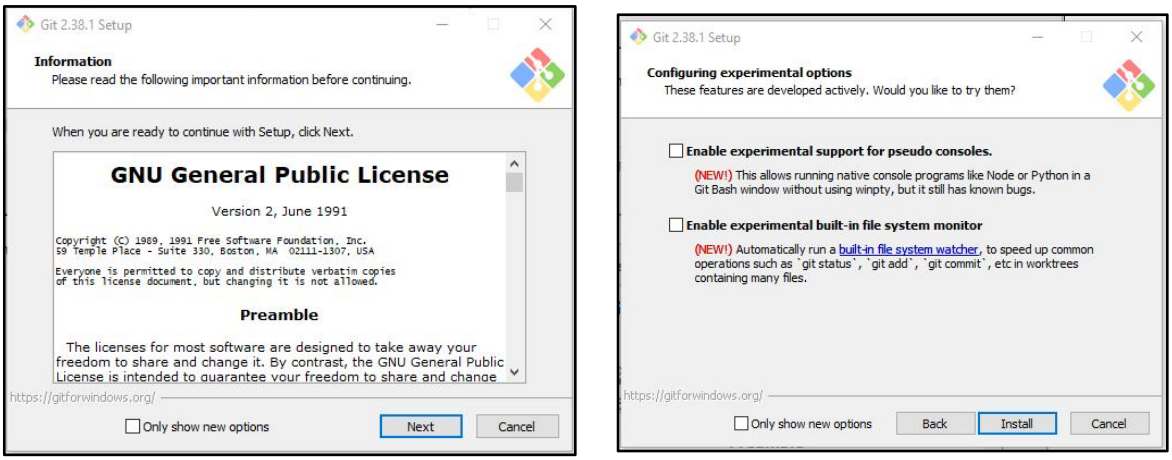


Figure 2.5 : Git Installer Windows

Step 6 : Wait for the Git installer to finish installing.

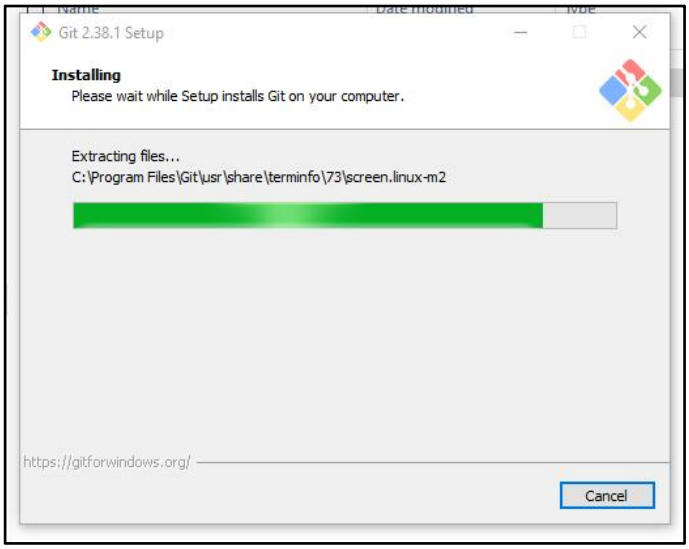


Figure 2.6 : Wait for Git to install

Step 7 : When Git is finished installed, untick both of the checkboxes and click finish.

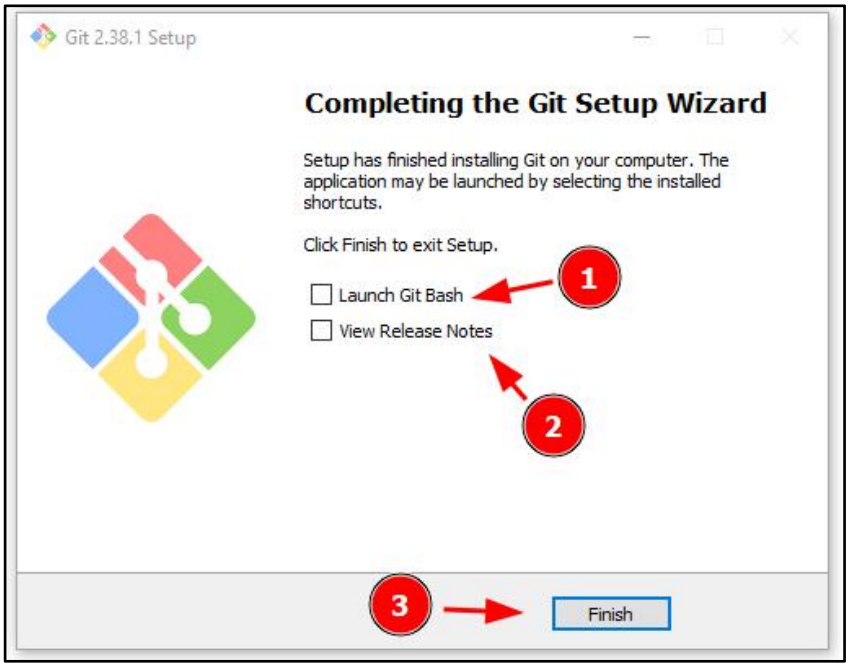


Figure 2.7 : Completing the Git Setup Wizard.

Step 8 : To ensure Git is installed, go to the command prompt and type in **git --version**. If you see a Git version displayed in the terminal, it means that Git is already installed.

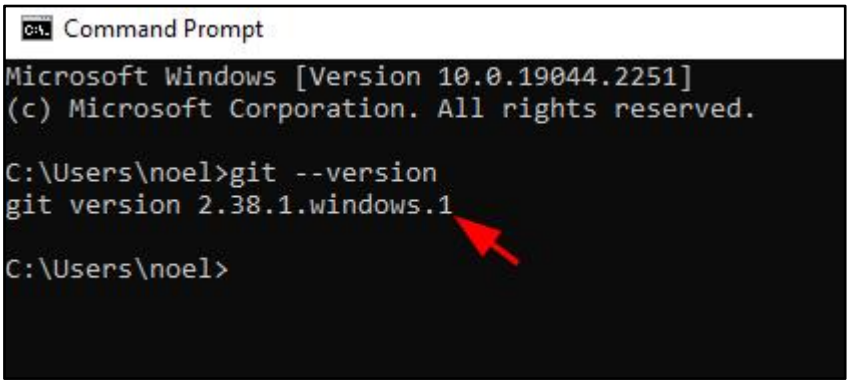


Figure 2.8 : Check if Git is installed

3.0 Download Flutter SDK

Step 1 : To install Flutter, first we must go to the desired location to install Flutter. In this case, we choose “C:\” as our location to install Flutter.

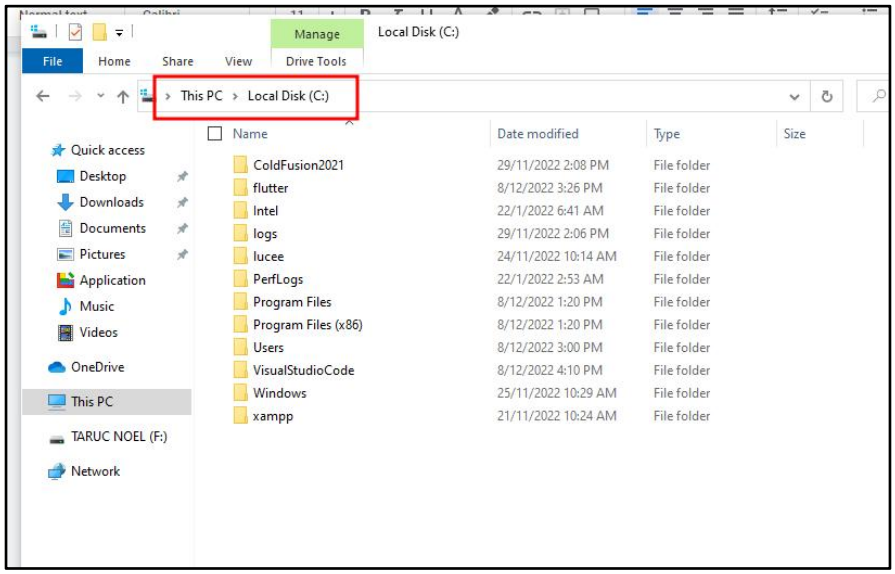


Figure 3.1 : Go to desired location to download Flutter SDK

Step 2 : Click on the address bar.

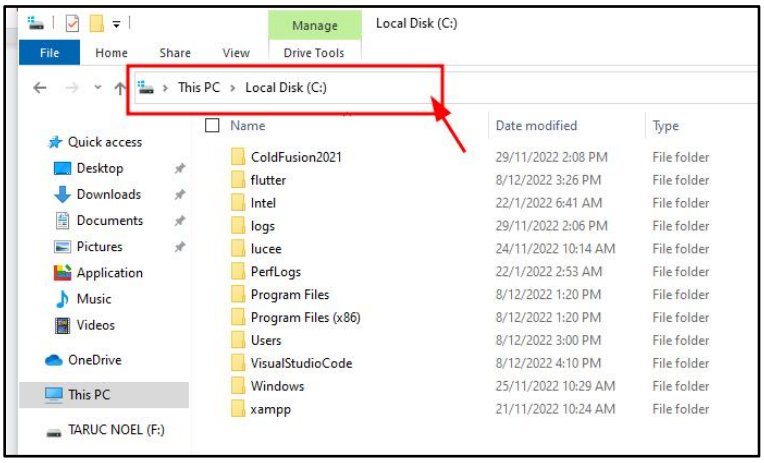


Figure 3.2 : Address bar

Step 3 : Type in cmd and press enter in the address bar to open a command prompt in the current directory.

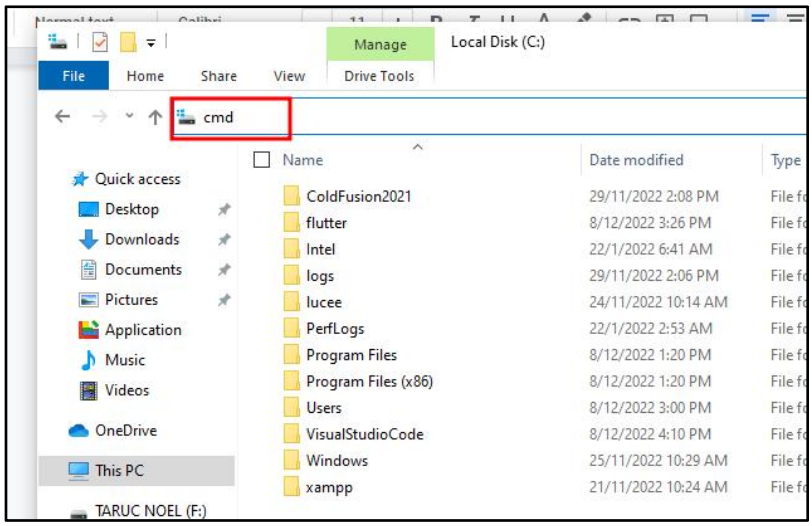


Figure 3.3 : Opening command prompt in current directory

Step 4 : In the command prompt, type in

git clone https://github.com/flutter/flutter.git -b stable and press enter to install Flutter in the current directory.

Figure 3.4 : Command to download Flutter SDK

Step 5 : Wait for Flutter to finish installing.

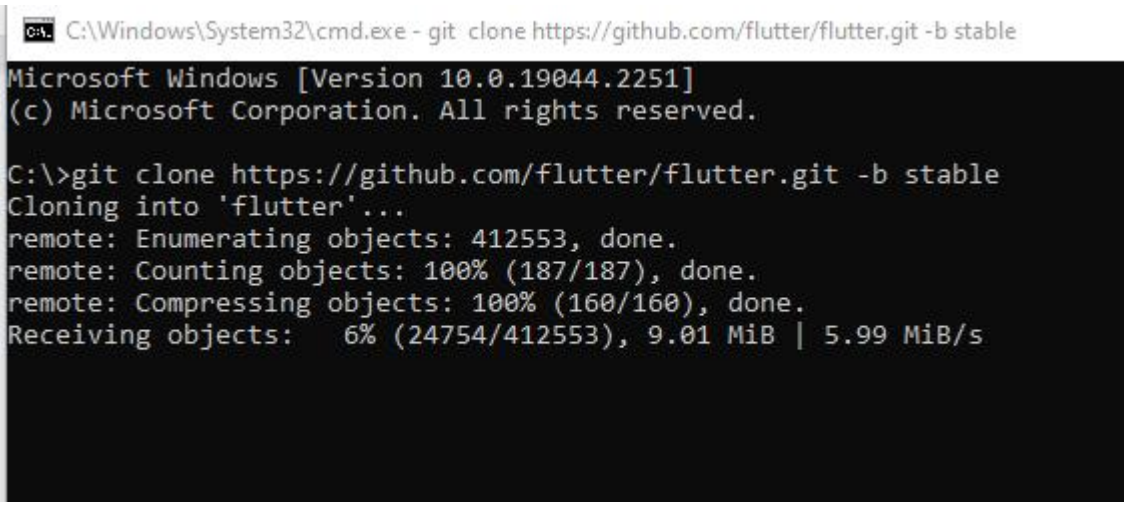


Figure 3.5 : Wait for Flutter to finish download

Step 6 : This is what it looks like when Flutter is finished installing.

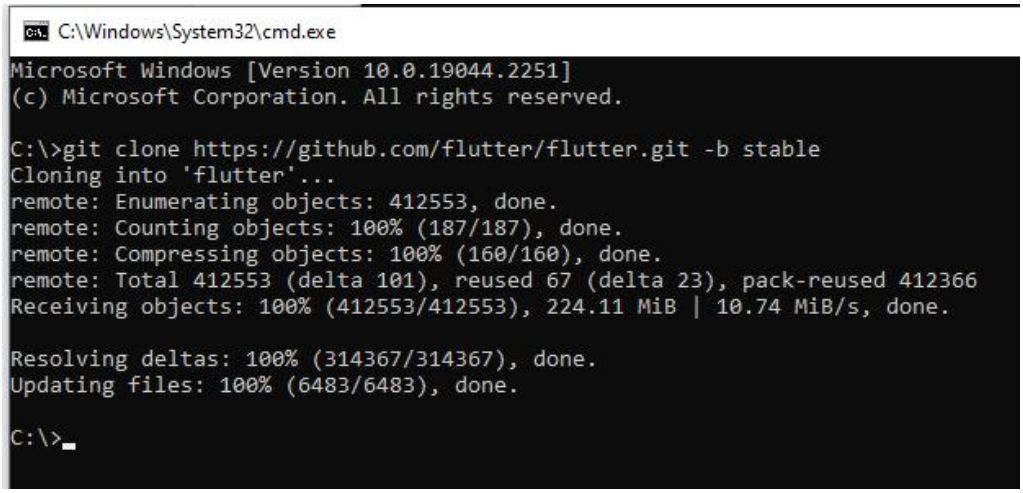


Figure 3.6 : Command prompt output if Flutter is finish downloading

Step 7 : Close the Command Prompt.

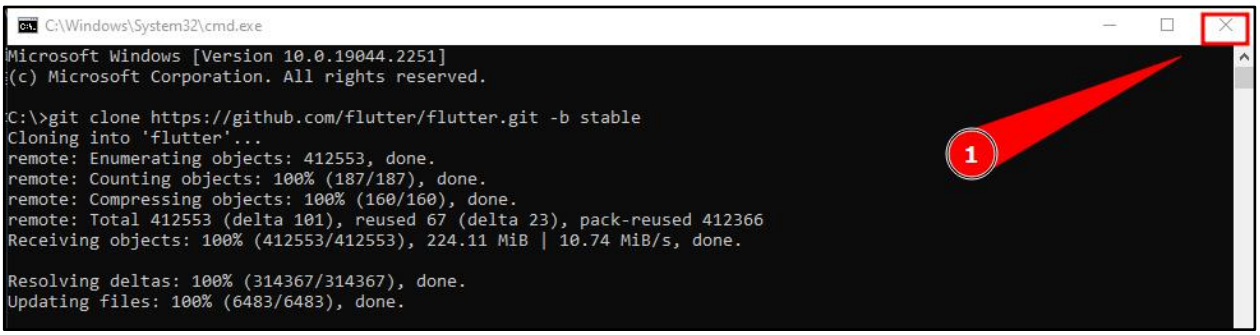
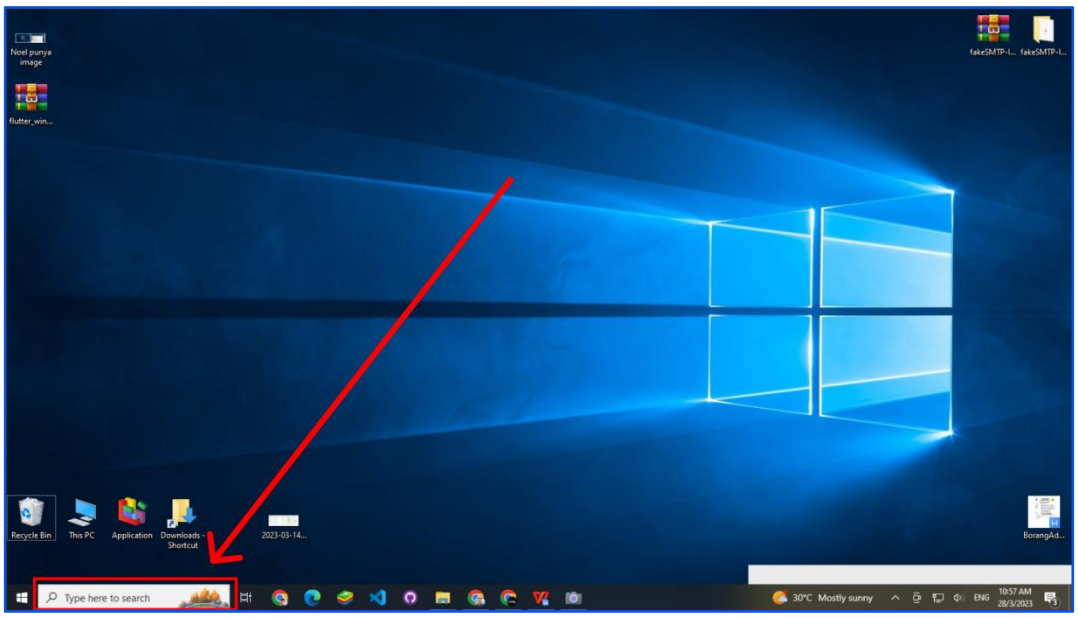


Figure 3.7 : Close command prompt

4.0 System environment variables

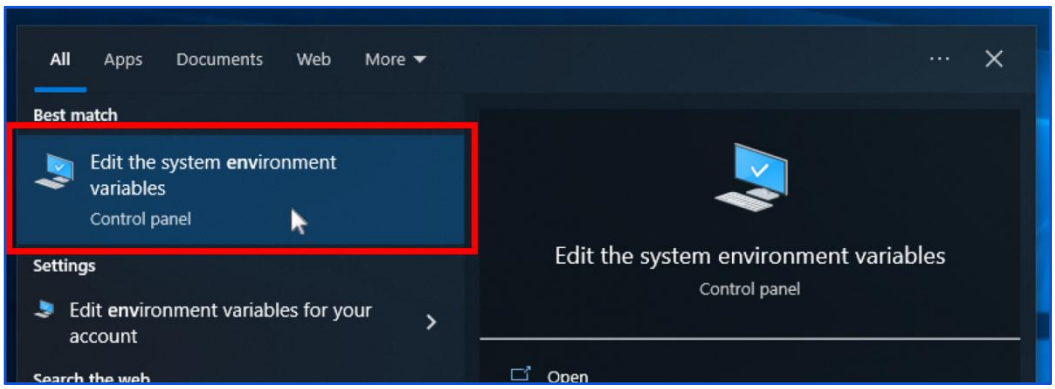
Step 1 : Once the file is downloaded and moved to the correct directory, we must configure the system environment variables so that the Flutter file is usable using command prompt. In the Windows search bar, type in ***env***.



4.1 : Windows search bar location

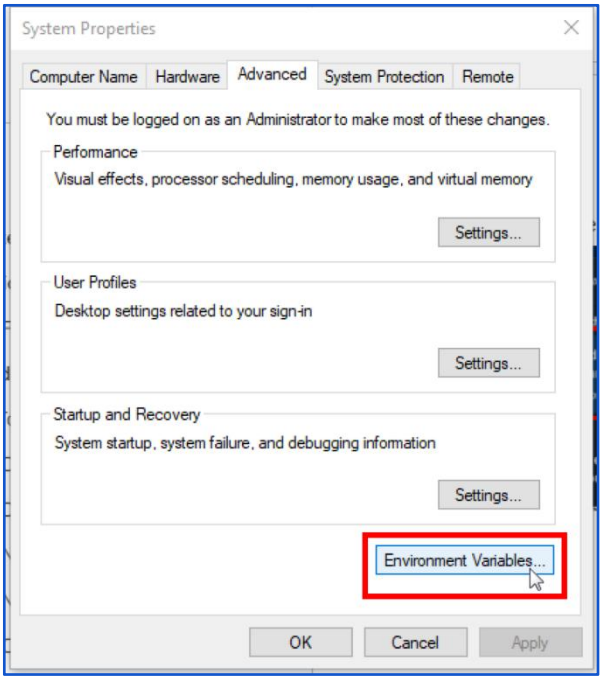
4.2 : Typing "env" in the Windows search bar

Step 2 : Once entered, click “Edit the system environment variables”



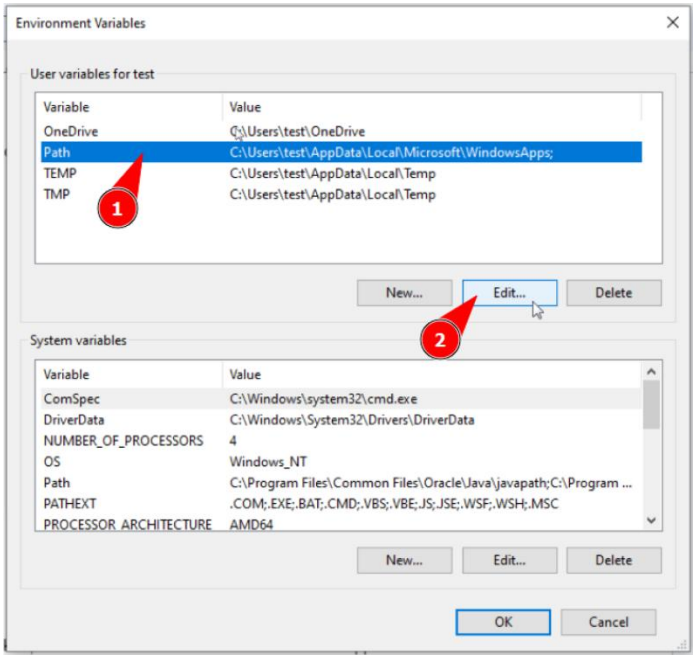
4.3 : “Edit the system environment variables” button

Step 3 : Once clicked, a “System Properties” window will appear. Click Environment Variables...



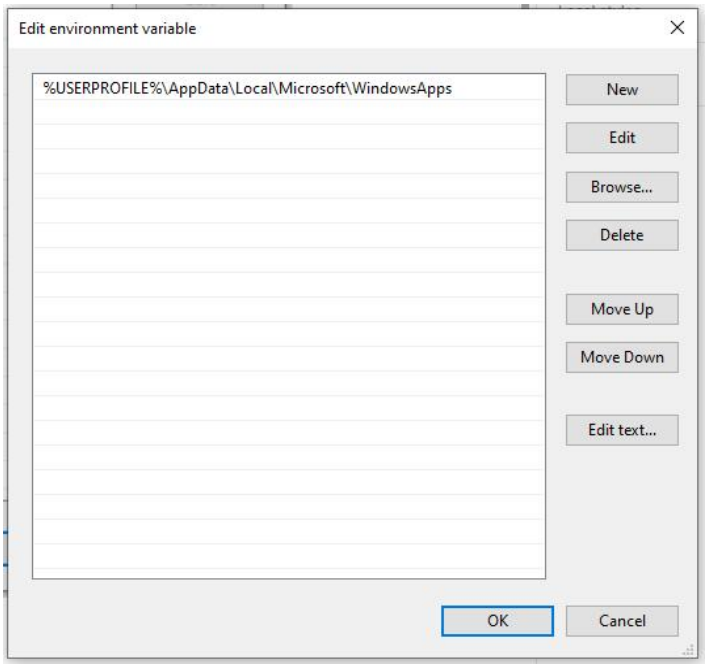
4.4 : “Environment Variables” button

Step 4 : Once clicked, an “Environment Variables” window will appear. Click “Path” and click Edit... .



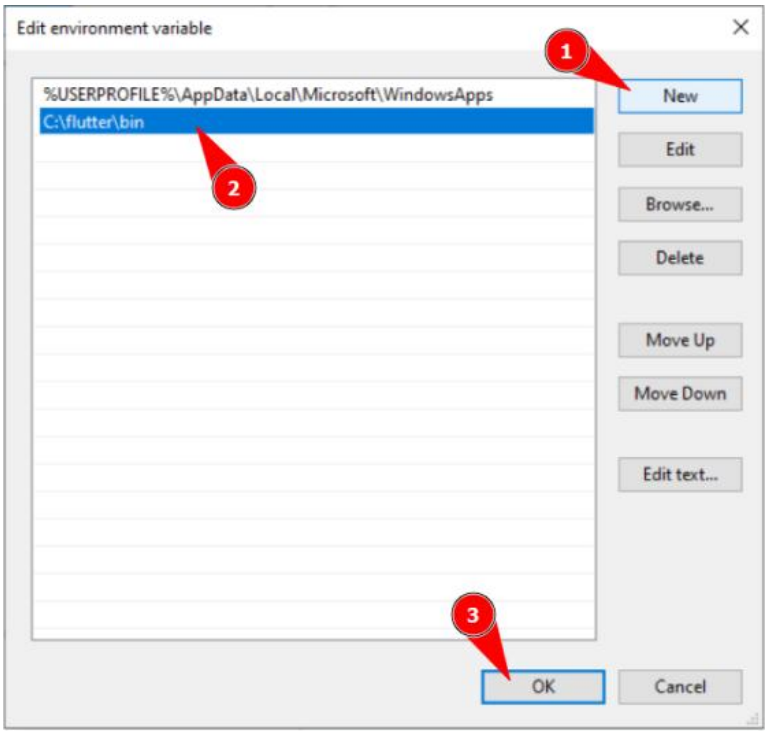
4.5 : “Edit” button

Step 5 : Once clicked, an “Edit environment variable” window will appear.



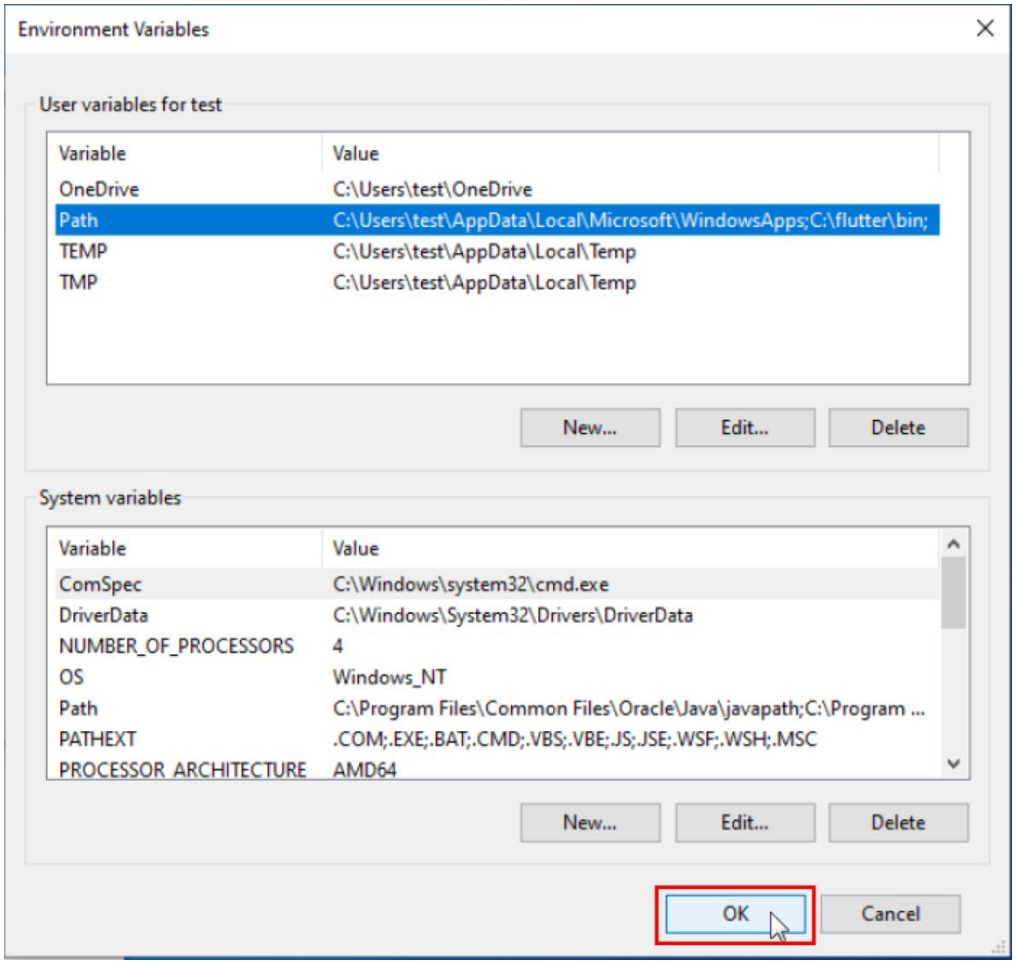
4.6 : “Edit environment variable” window

Step 6 : Click New and type in ***C:\flutter\bin*** . Once entered, click OK.



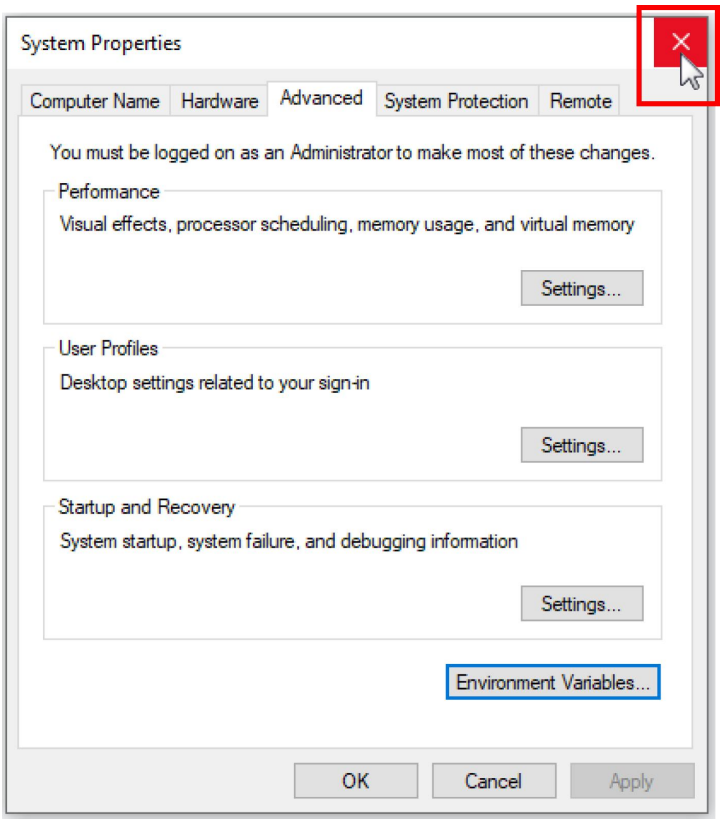
4.7 : "Edit environment variable" window

Step 7 : Once clicked, click OK again in the “Environment Variables” window.



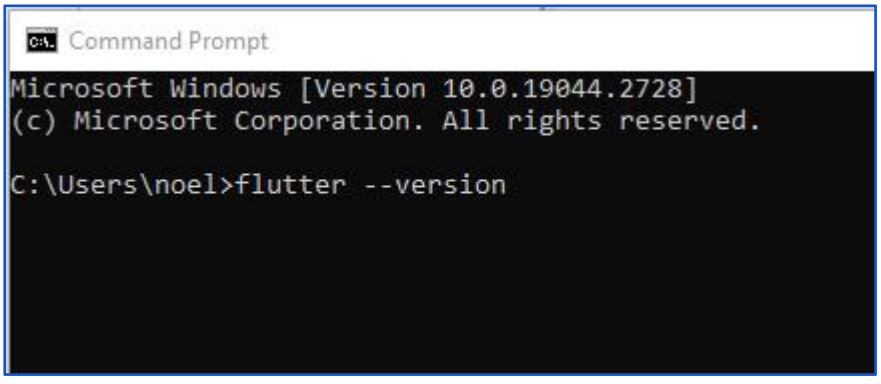
4.8 : “OK” button in “Environment Variables” window

Step 8 : Close the “System Properties” window.



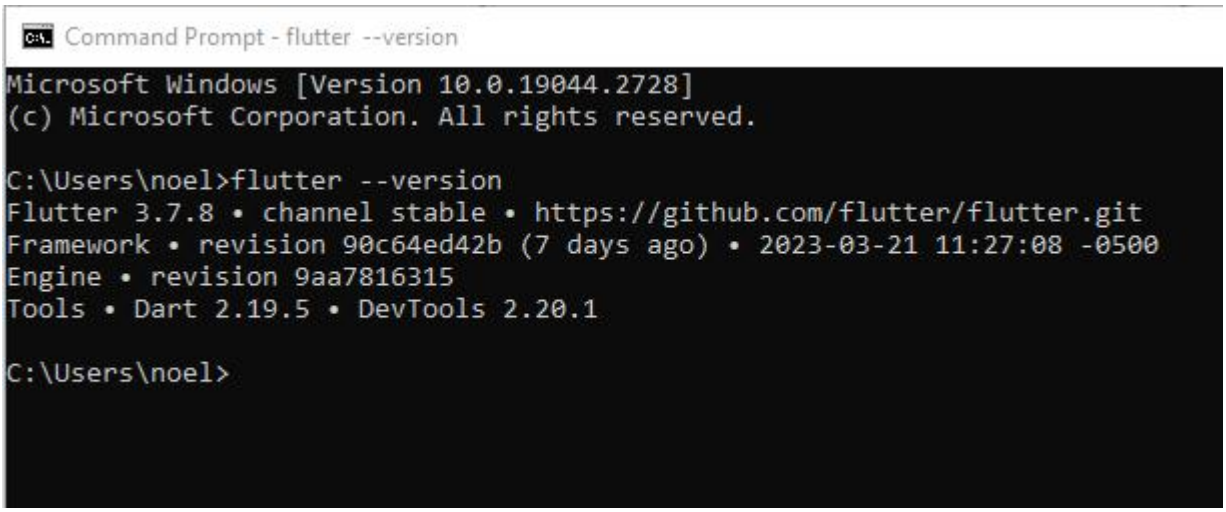
4.9 : “Close” button

Step 9 : To confirm Flutter is properly installed and can be used via command prompt, open a command prompt and enter ***flutter --version*** .



4.10 : Enter “flutter --version” in command prompt

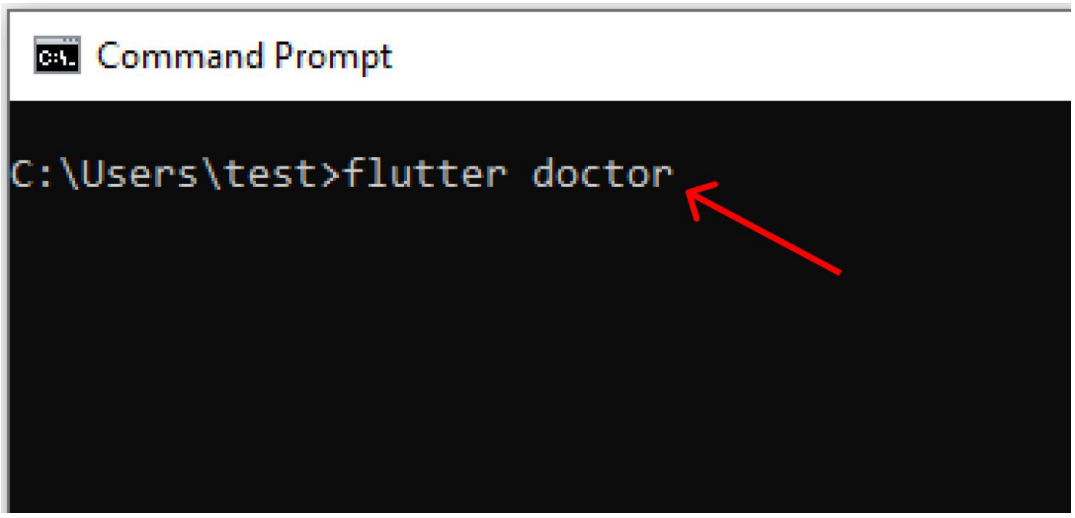
Step 10 : If the command prompt shows an output as shown in Figure 3.11, it means that the Flutter is properly installed and can be used via command prompt.



4.11 : Command prompt output if Flutter is properly installed

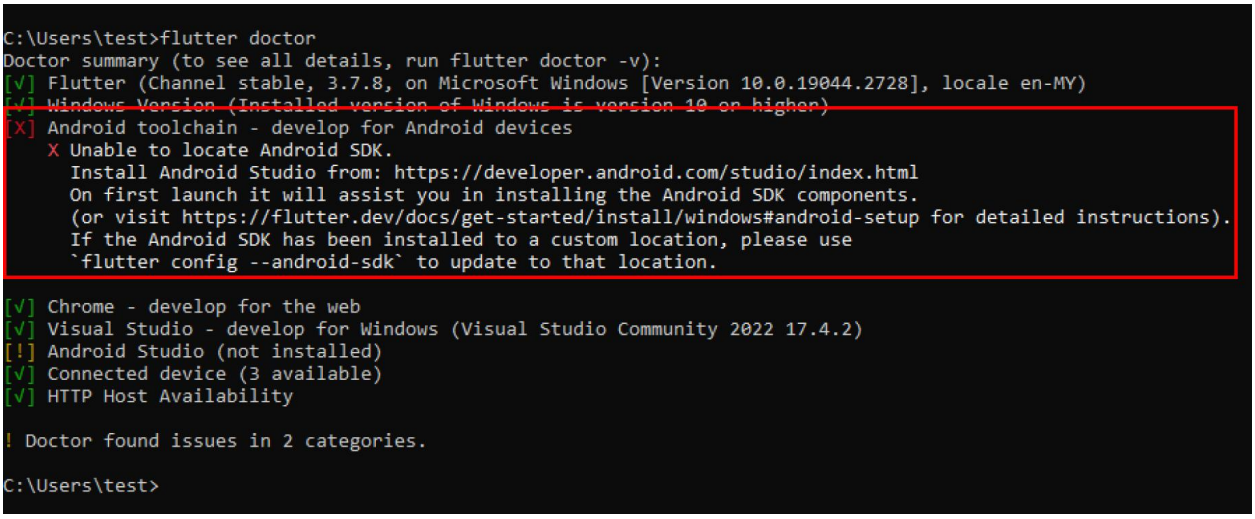
5.0 Flutter doctor

Step 1 : In command prompt, type in ***flutter doctor*** . Flutter Doctor inspects which tools are installed on the local machine and which tools need to be configured. Once the Flutter Doctor command is happy, only then we can carry on creating a new Flutter app.



5.1 : "flutter doctor" command in command prompt

Step 2 : Based on the Flutter doctor output, we can see that it requires Android toolchain, and Visual Studio.



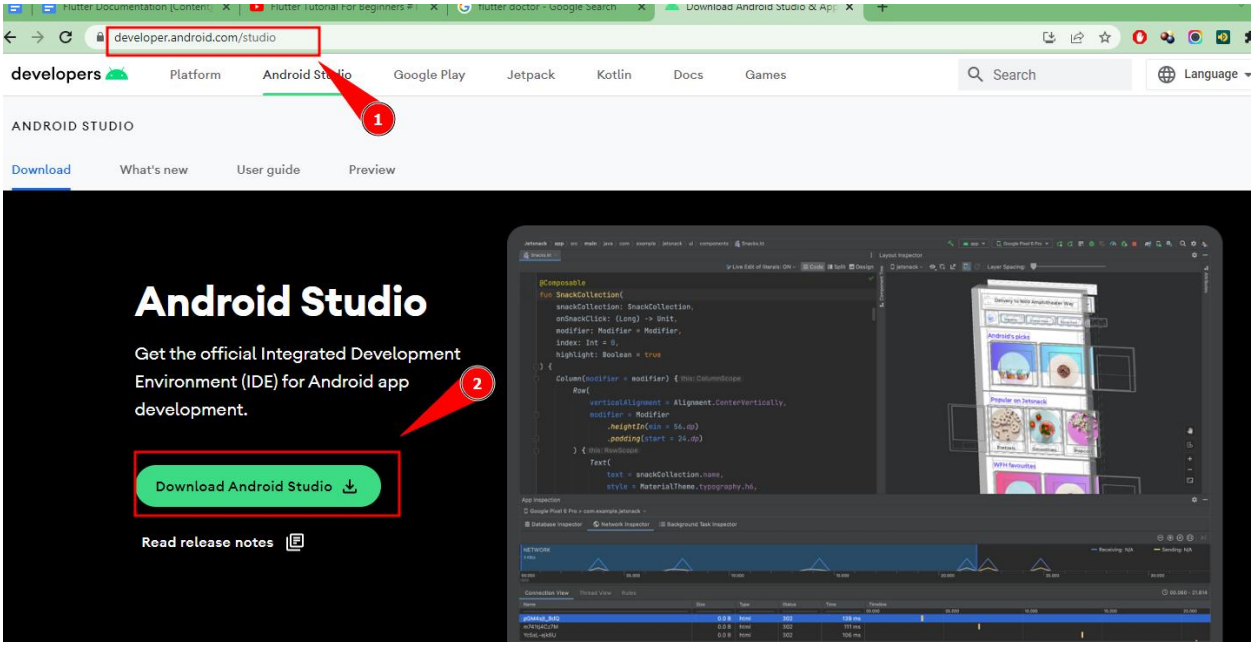
5.2 : "flutter doctor" output

5.1 Installing Android Studio, SDK, and accept Android license

Step 1 : Lets focus on the first problem which is installing Android Studio. Go to https://developer.android.com/studio/index.html and click “Download Android Studio”.

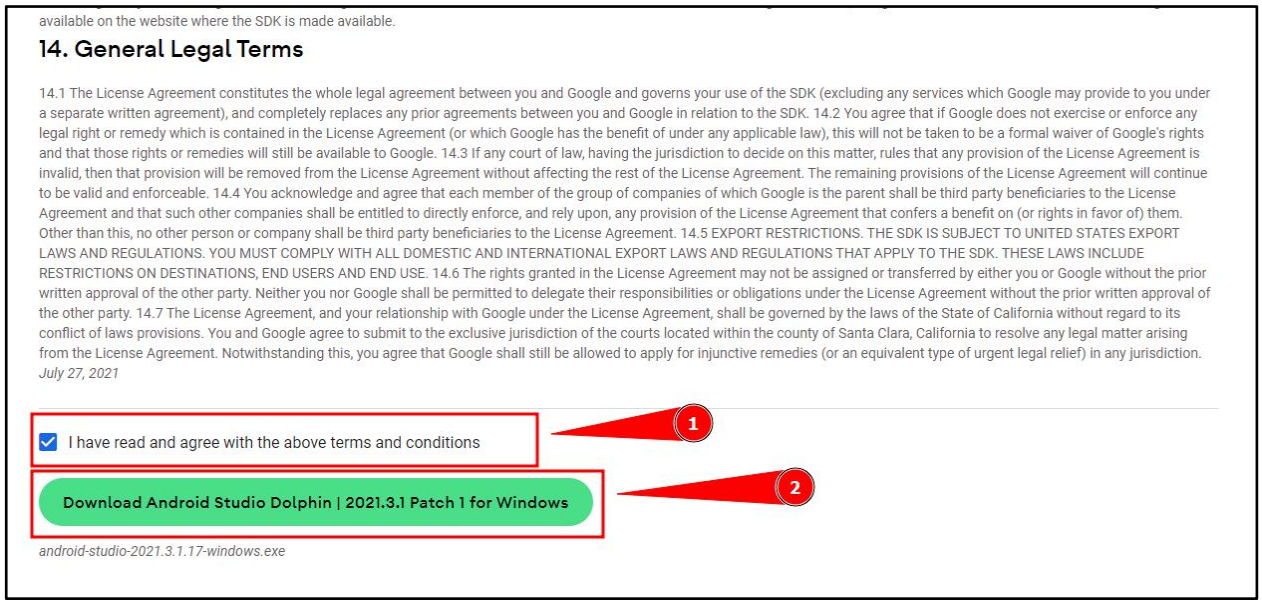
```
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.3.9, on Microsoft Windows [Version 10.0.19044.2251], locale en-MY)
[X] Android toolchain - develop for Android devices
    X Unable to locate Android SDK.
      Install Android Studio from: https://developer.android.com/studio/index.html
      On first launch it will assist you in installing the Android SDK components.
      (or visit https://flutter.dev/docs/get-started/install/windows#android-setup for detailed instructions).
      If the Android SDK has been installed to a custom location, please use
      `flutter config --android-sdk` to update to that location.
```

5.3 : First problem in “flutter doctor”



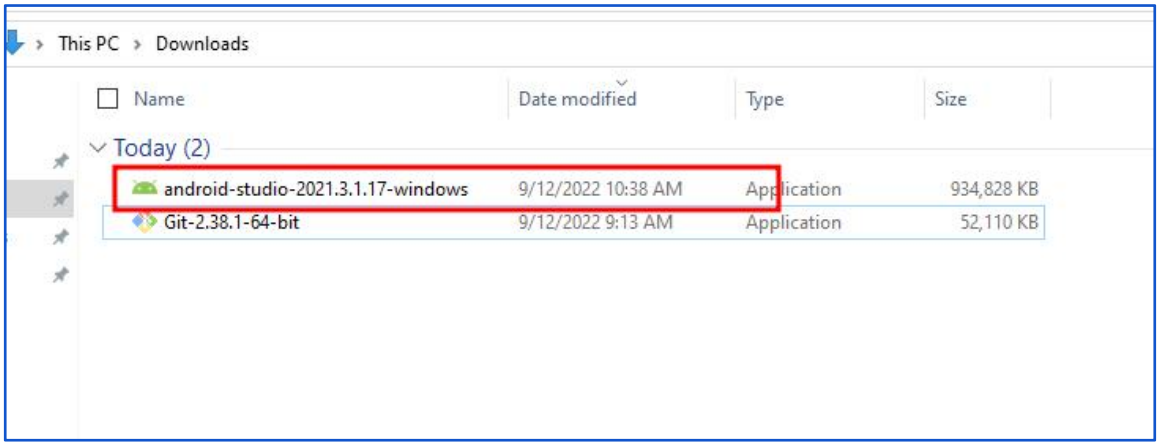
5.4 : Android Studio home page.

Step 2 : Scroll down, Agree the terms and condition, click “Download Android Studio Dolphin” to start the installer download.



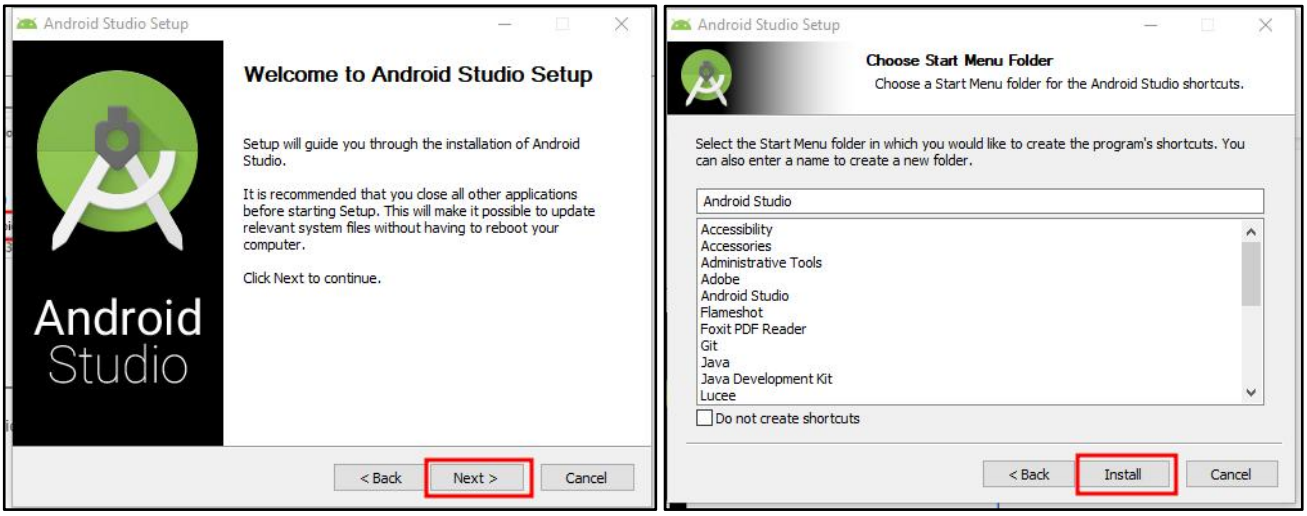
5.5 : “Download Android Studio” button

Step 3 : Once downloaded, double click on the downloaded Android Studio installer.



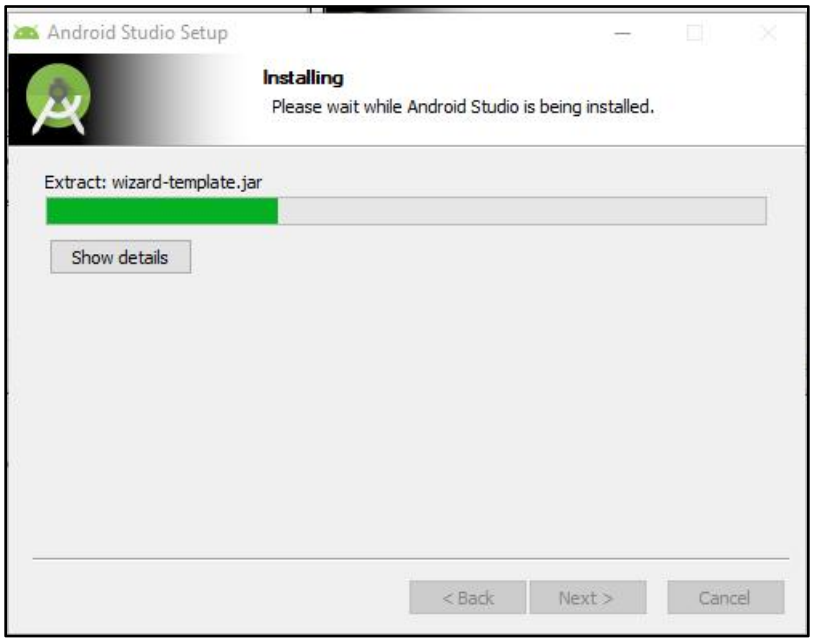
5.6 : Android Installer

Step 4 : Just click Next from start to finish and click Install.



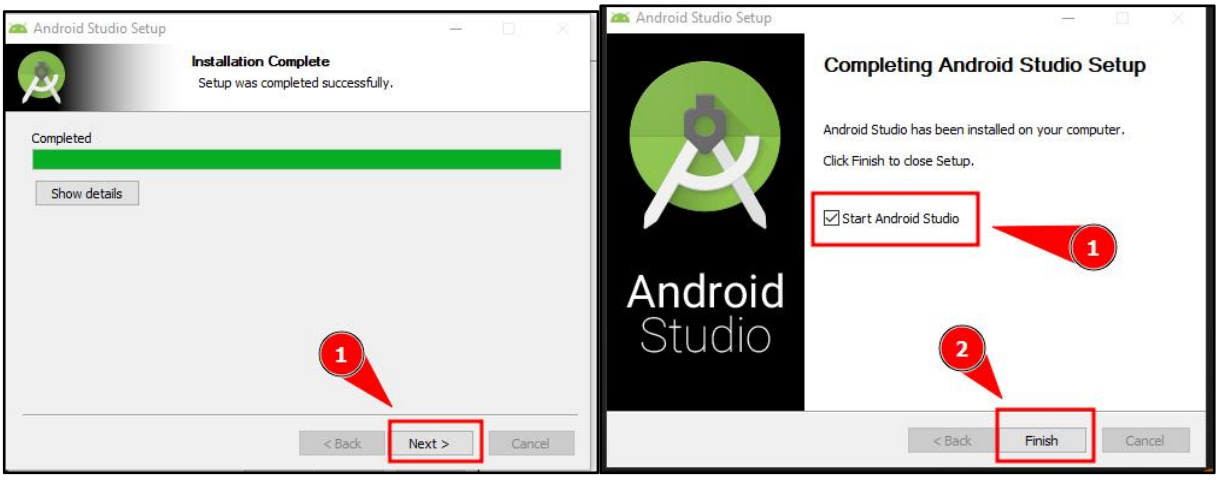
5.7 : "Next" button in Android Studio Setup

Step 5 : Wait for Android Studio to finish installing.



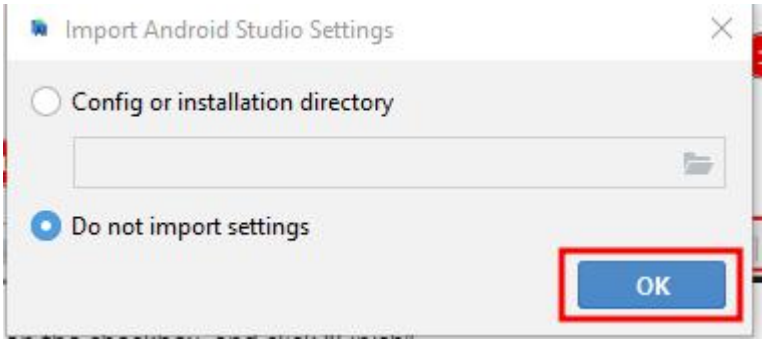
5.8 : Waiting for Installer to finish installing Android Studio

Step 6 : Click Next. Then tick on the checkbox, and click “Finish”.



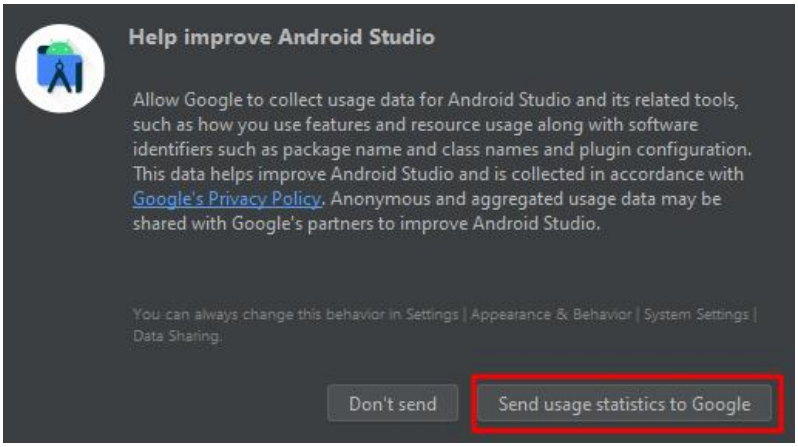
5.9 : Finishing installation process

Step 7 : Click “OK”



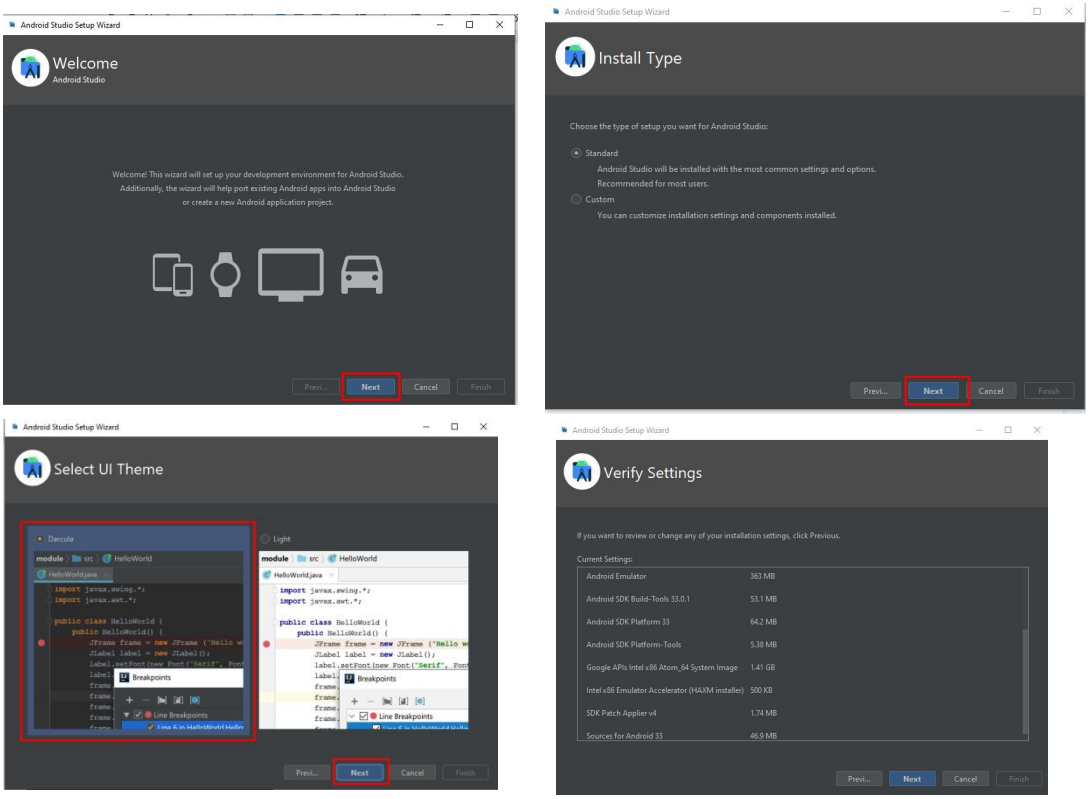
5.10 : “OK” button

Step 8 : Click “Send usage statistics to Google”



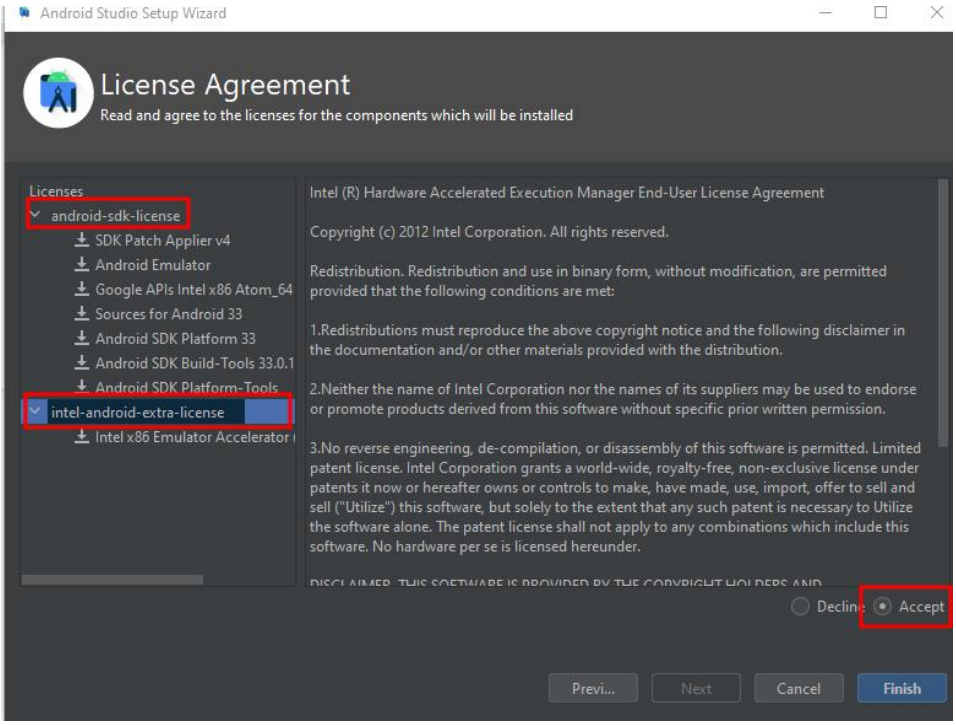
5.11 : Usage Statistic window

Step 9 : Just click “Next”.



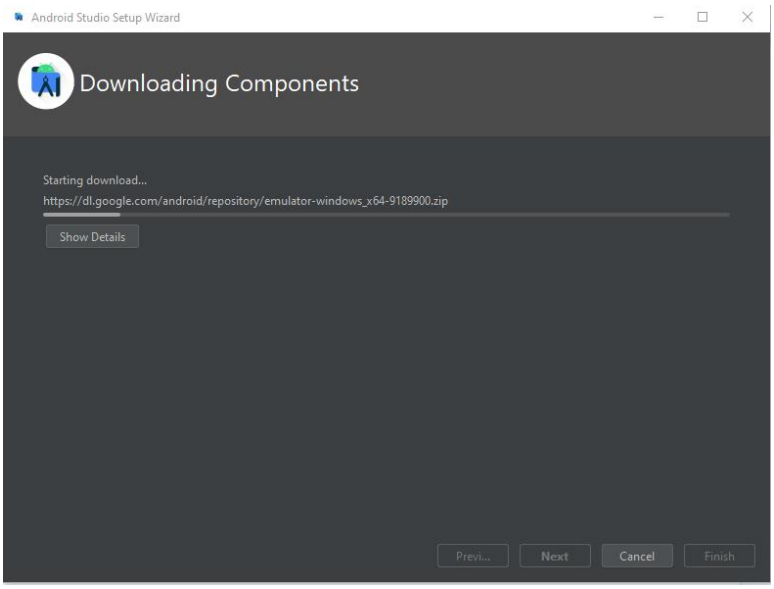
5.12 : Android Studio configuration

Step 10 : Accept the license agreement.



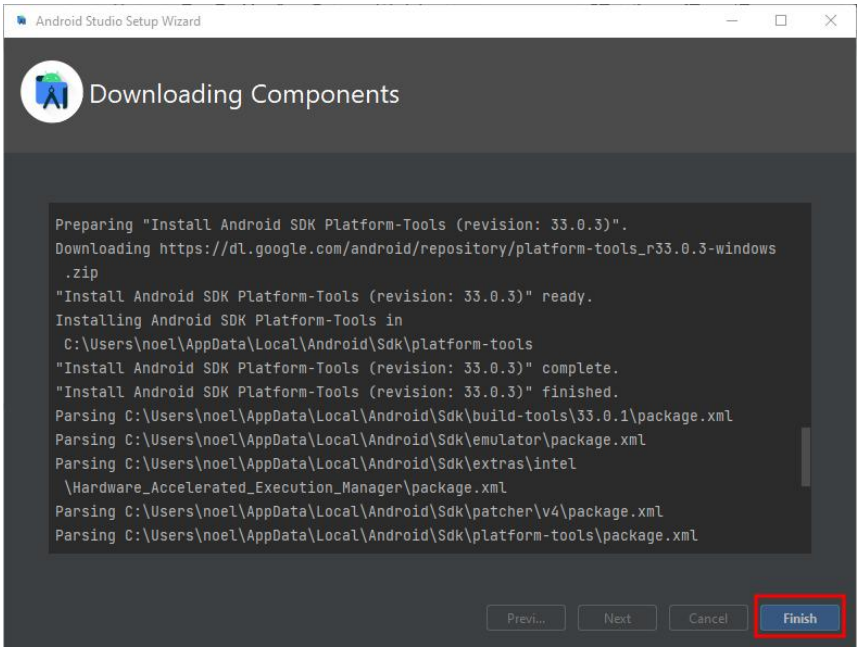
5.13 : Accept the License Agreement

Step 11 : Wait for it to download components.



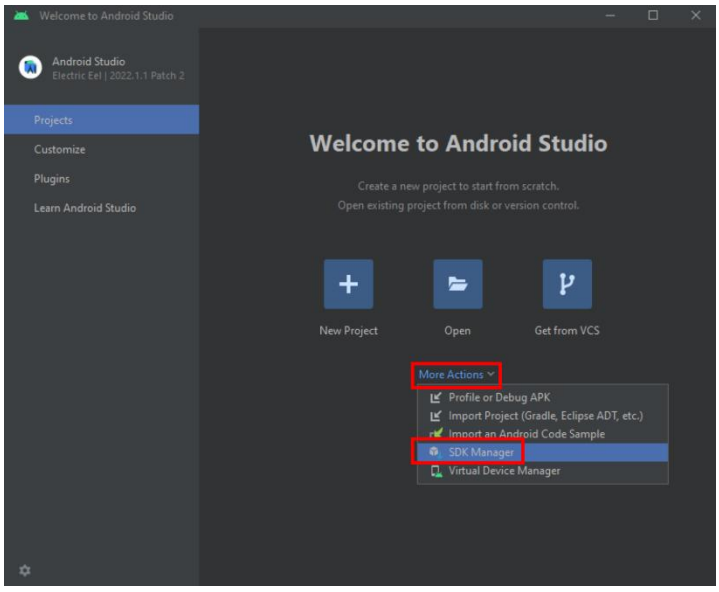
5.14 : Downloading Components

Step 12 : Once component is done downloading, click 



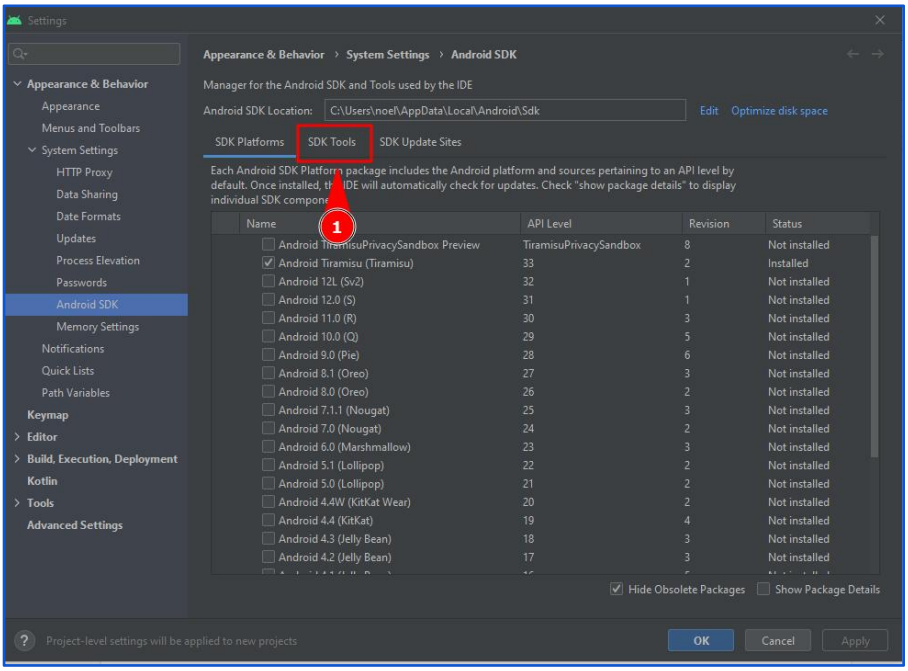
5.15 : "Finish" button

Step 13 : Click "More Actions", and click "SDK Manager".



5.16 : "SDK Manager" button

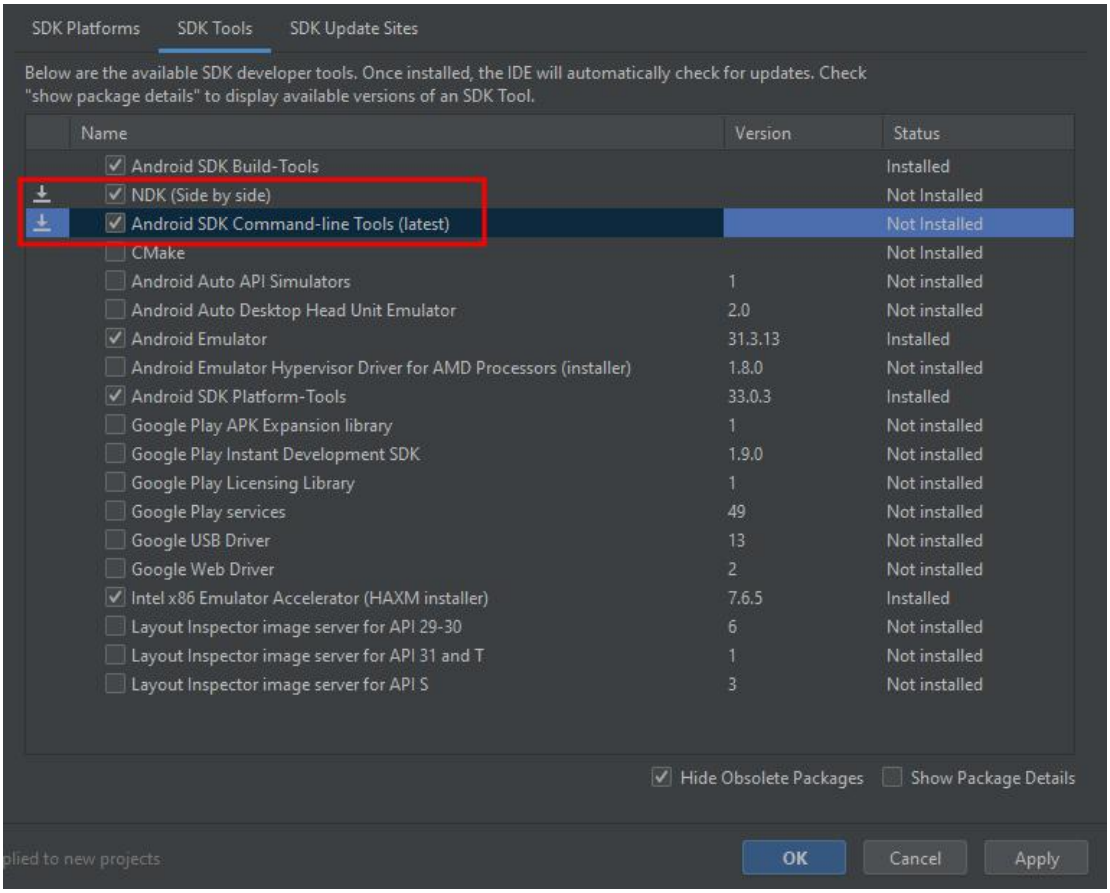
Step 14 : Click the “SDK Tools” tab.



5.17 : “SDK Tools” button

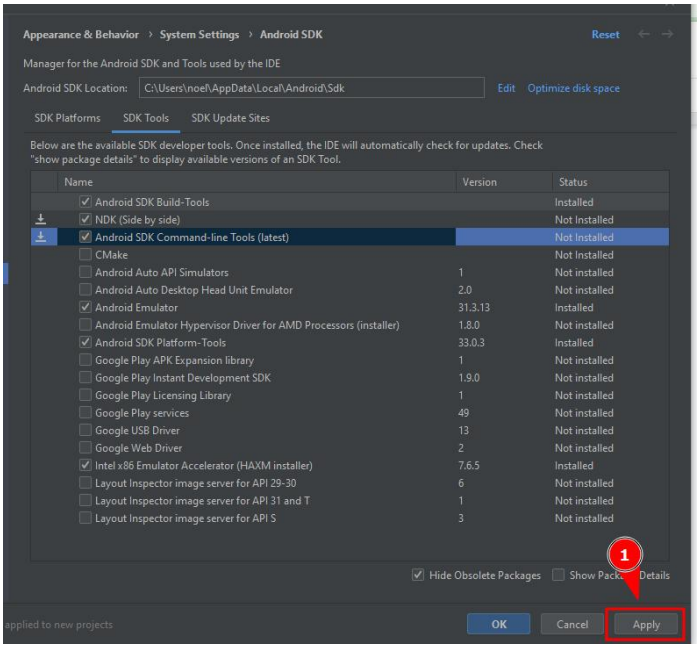
Step 15 : Click on the following checkbox,

- “NDK (Side by side)”
- “Android SDK Command-line Tools (latest)”



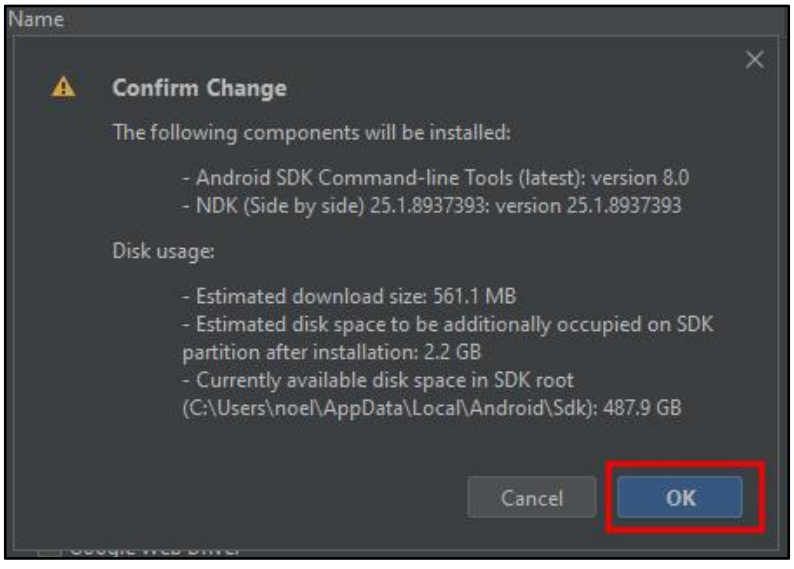
5.18 : SDK that needs to be downloaded

Step 16 : Click Apply.



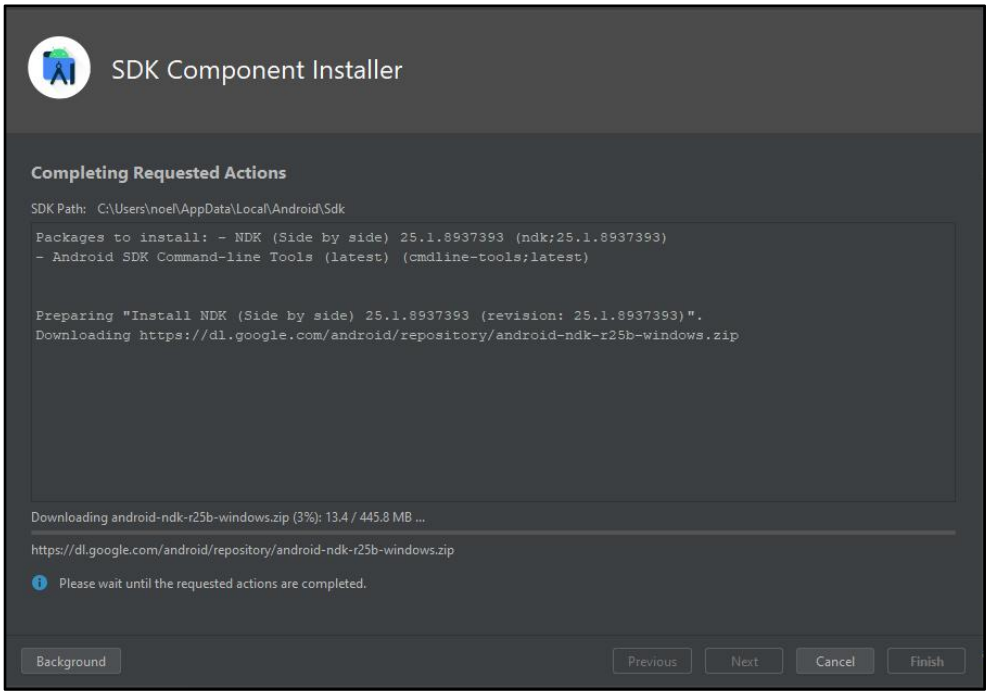
5.19 : "Apply" button

Step 17 : Click "OK"



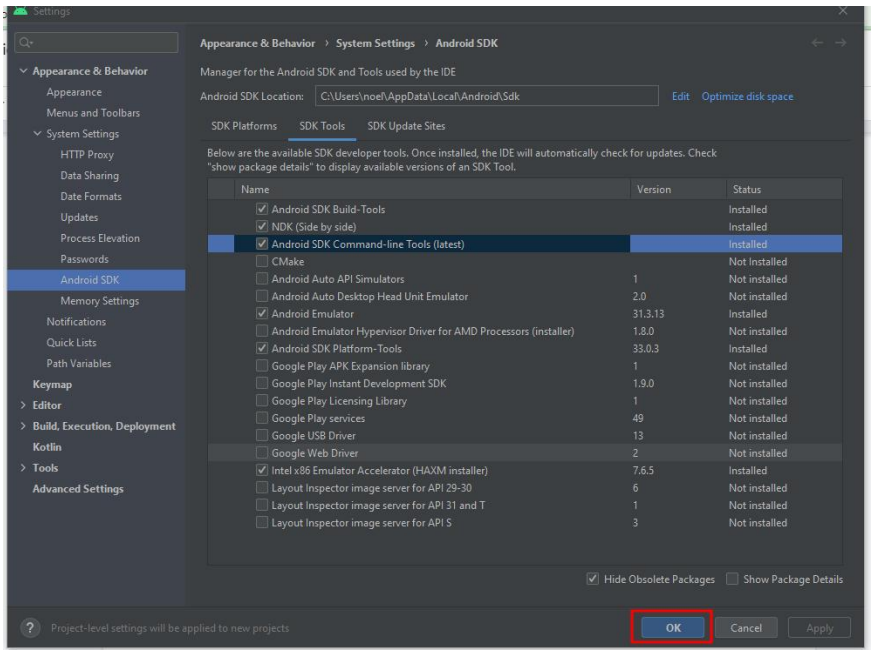
5.20 : "OK" button

Step 18 : Wait for SDK Component to be installed.



5.21 : Wait for SDK to installed

Step 19 : Once finished installing, just click “OK”.



5.22 : “OK” button

Step 20 : Run flutter doctor in command prompt again. As we can see, some Android licenses are not accepted. Simply run ***flutter doctor --android-licenses*** in the command prompt to resolve the issue.

```
C:\Users\test>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.7.8, on Microsoft Windows [Version 10.0.19044.2728], locale en-MY)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 33.0.2)
    ! Some Android licenses not accepted. To resolve this, run: flutter doctor --android-licenses
[√] Chrome - develop for the web
[√] Visual Studio - develop for Windows (Visual Studio Community 2022 17.4.2)
[√] Android Studio (version 2022.1)
[√] Connected device (3 available)
[√] HTTP Host Availability

! Doctor found issues in 1 category.
```

5.23 : Resolve Android licenses

Step 21 : Just enter “y” for every prompt until you see “All SDK package licenses accepted”.

```
C:\Users\noel>flutter doctor --android-licenses
[======================================] 100% Computing updates...
5 of 7 SDK package licenses not accepted.
Review licenses that have not been accepted (y/N)? y
```

```
10.8 Open Source Software. In the event Open Source software is included with Evaluation Software, such Open Source soft
ware is licensed pursuant to the applicable Open Source software license agreement identified in the Open Source softwar
e comments in the applicable source code file(s) and/or file header as indicated in the Evaluation Software. Additional
detail may be available (where applicable) in the accompanying on-line documentation. With respect to the Open Source so
ftware, nothing in this Agreement limits any rights under, or grants rights that supersede, the terms of any applicable
Open Source software license agreement.
---------------------------------------
Accept? (y/N): y
All SDK package licenses accepted
```

5.24 : Accepting Android licenses

Step 22 : If we run **flutter doctor** again, all requirements are fulfilled.

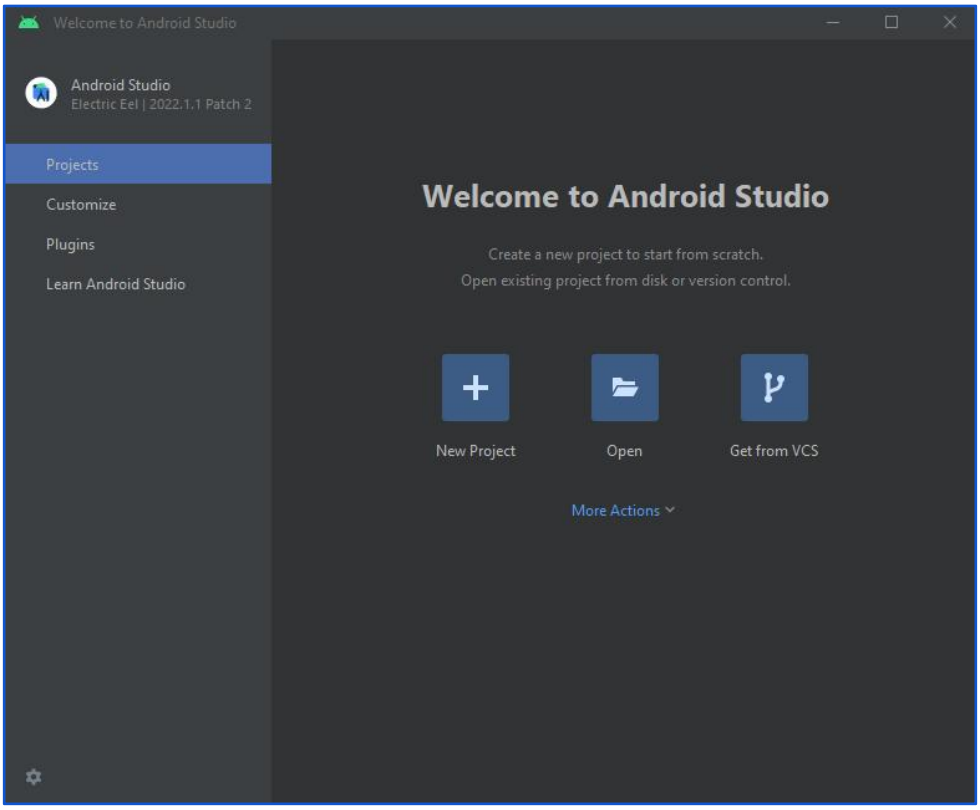
```
C:\Users\test>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.7.8, on Microsoft Windows [Version 10.0.19044.2728], locale en-MY)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[√] Android toolchain - develop for Android devices (Android SDK version 33.0.2)
[√] Chrome - develop for the web
[√] Visual Studio - develop for Windows (Visual Studio Community 2022 17.4.2)
[√] Android Studio (version 2022.1)
[√] Connected device (3 available)
[√] HTTP Host Availability

• No issues found!
```

5.25 : All requirements are met

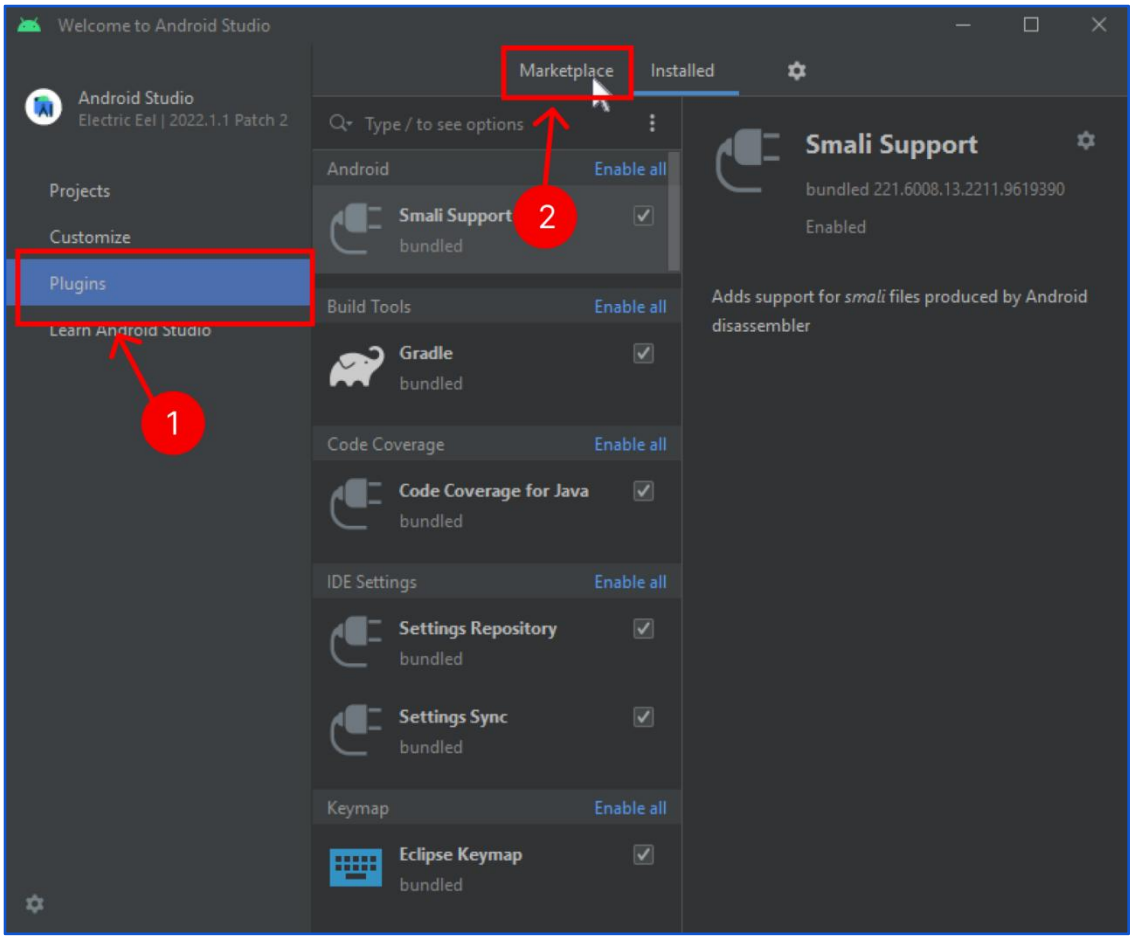
6.0 Android Configuration

Step 1 : Open Android Studio



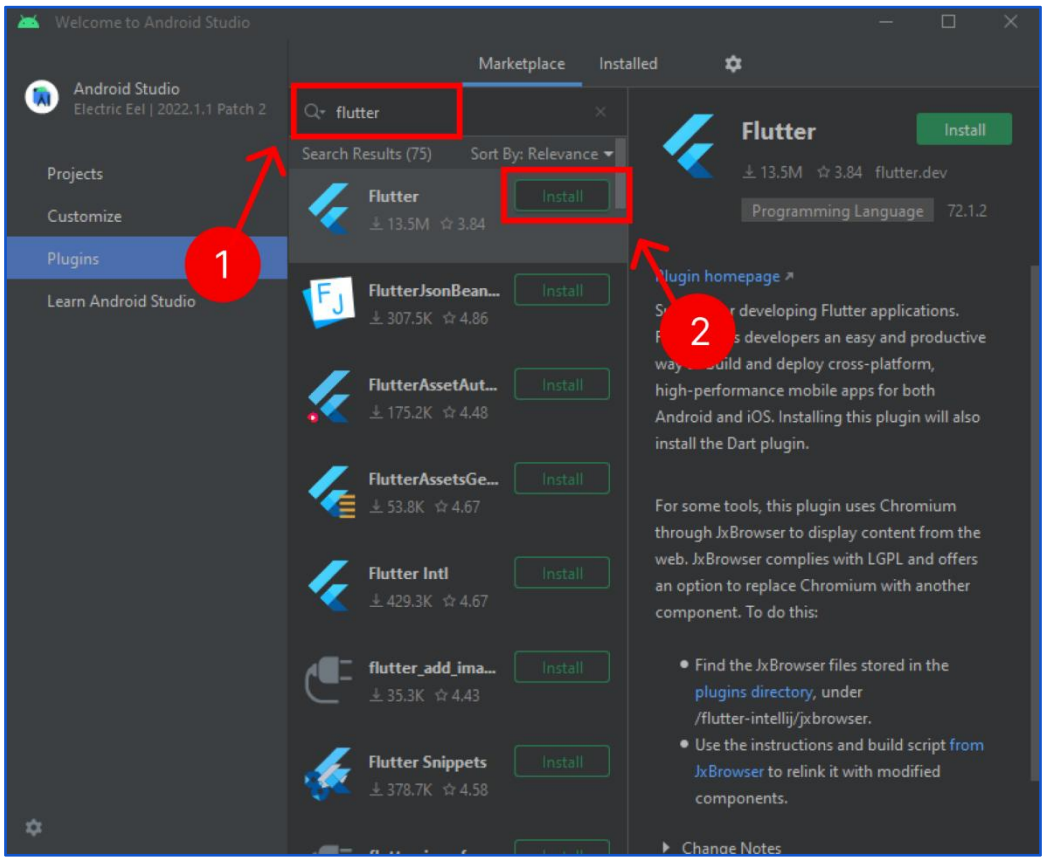
6.1 : Android Studio

Step 2 : Click “Plugin”, then “Marketplace”



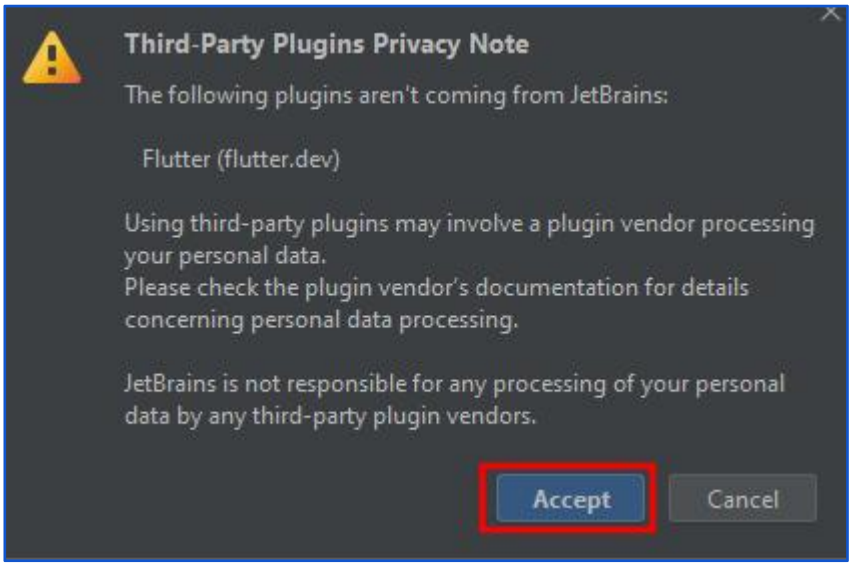
6.2 : “Plugin” button

Step 3 : Type in **flutter** in the search box. Then install the Flutter plugin for Android Studio.



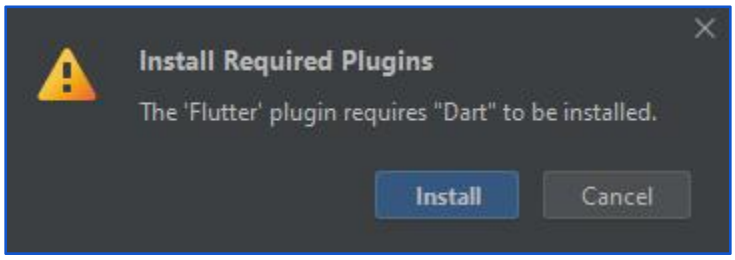
6.3 : Flutter plugin

Step 4 : Click “Accept”



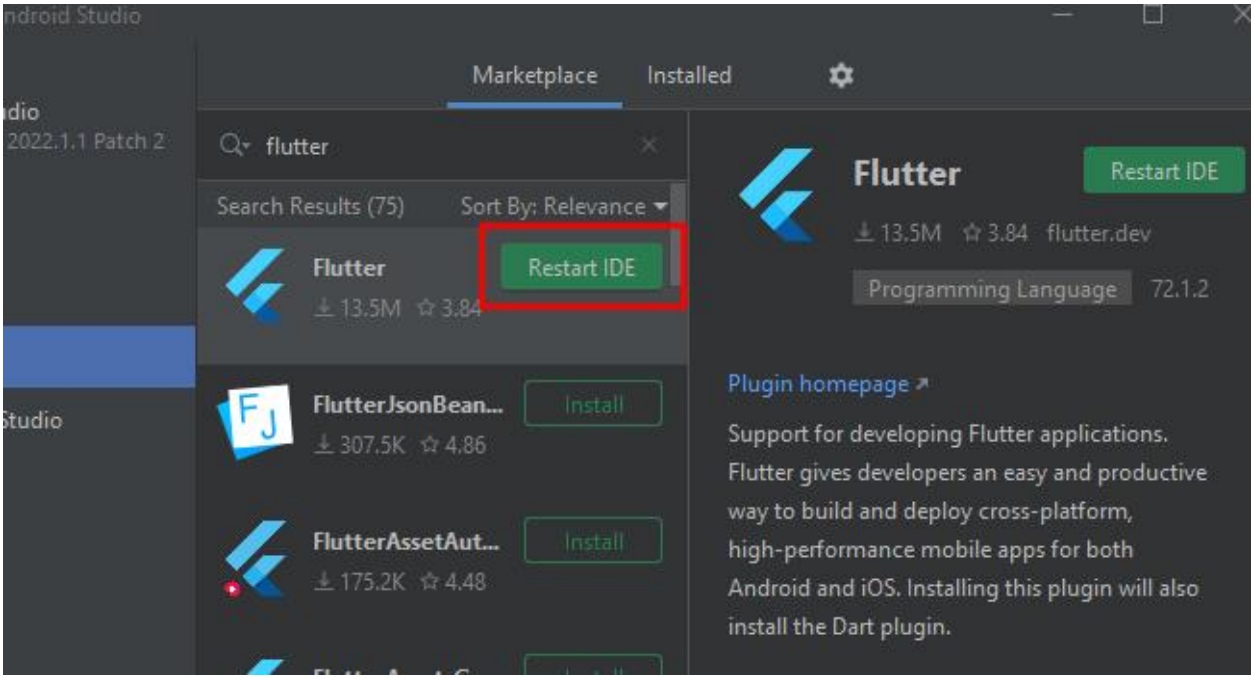
6.4 : “Accept” button

Step 5 : Click “Install”



6.5 : “Install” button

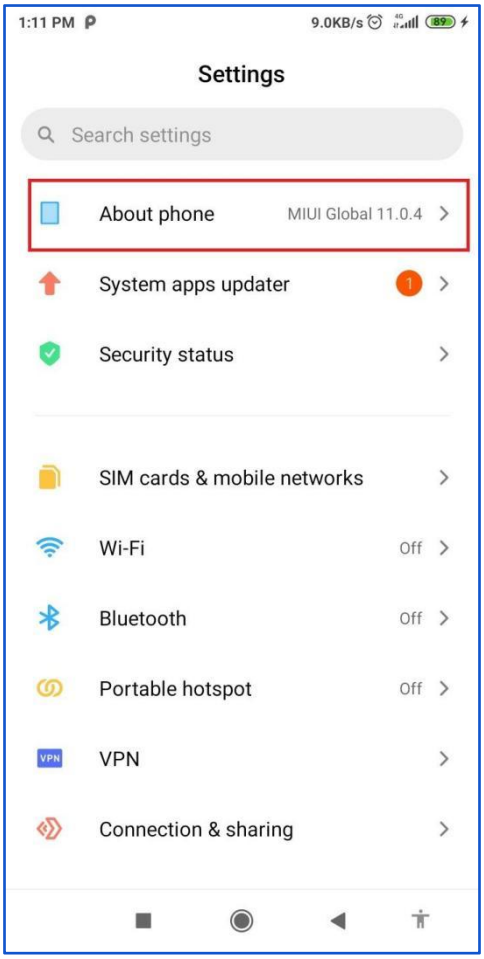
Step 6 : Once installed, restart the IDE.



6.6 : "Restart IDE" button

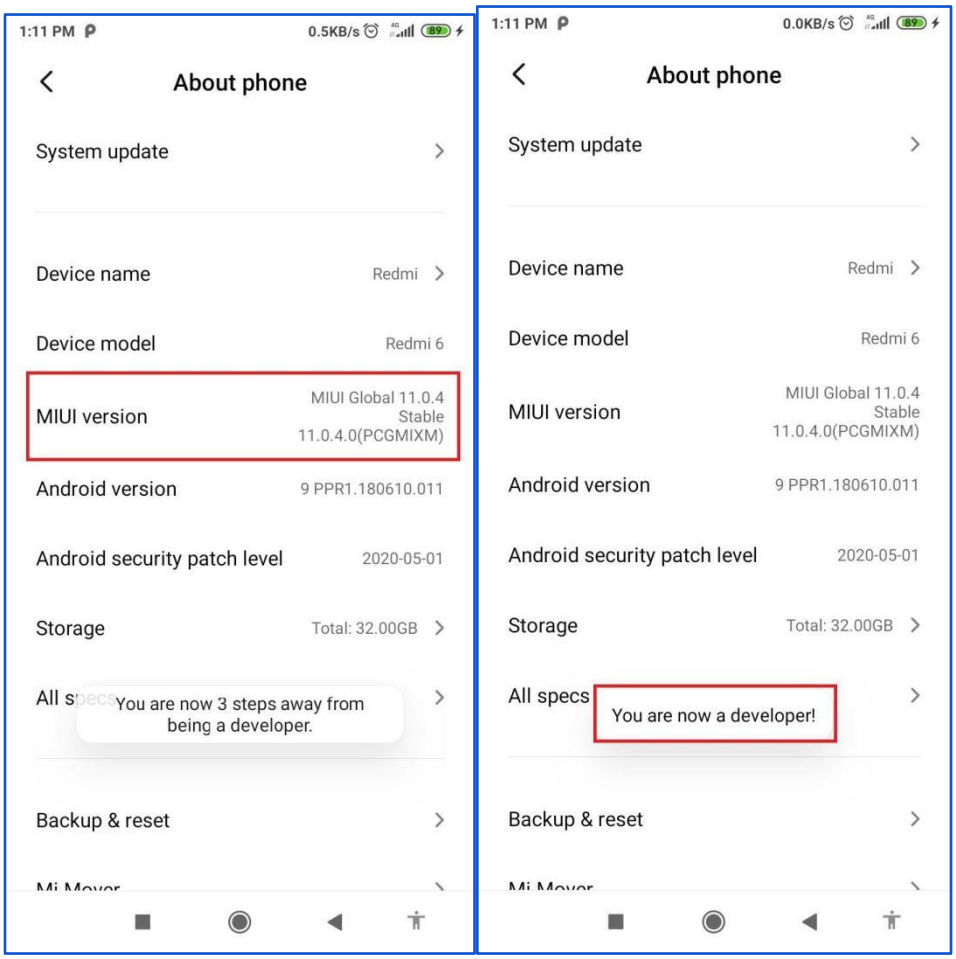
7.0 Enable USB Debugging in Android phone

Step 1 : Enable Developer mode in your Android device according to your Android phone model. This documentation demonstrates how to enable Developer mode in Xiaomi Redmi 6. Go to Settings, and go to “About phone”.



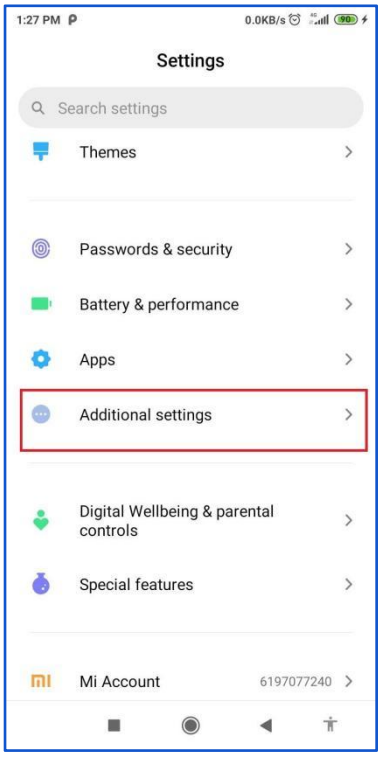
7.1 : “About phone” button

Step 2 : Spam the “**MIUI version**” button until you get a pop-up message “**You are now a developer!**”



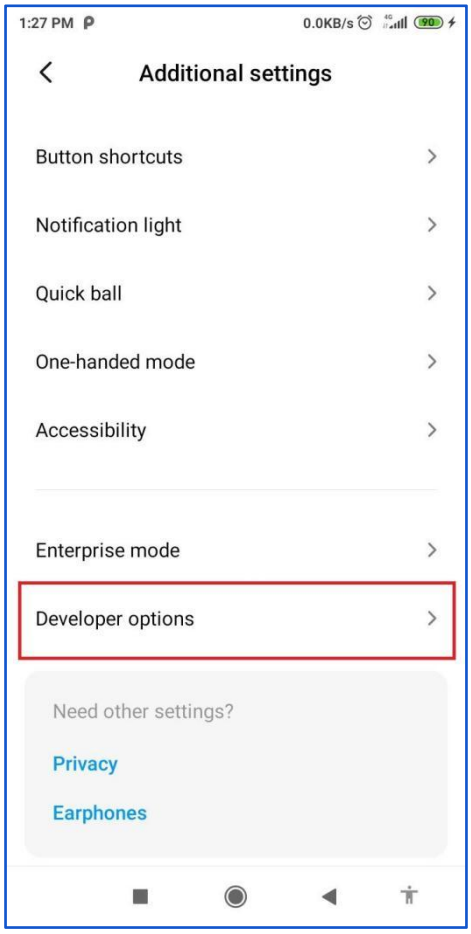
7.2 : “Enabling developer mode” button

Step 3 : Go back one level, and go to “Additional Settings”.



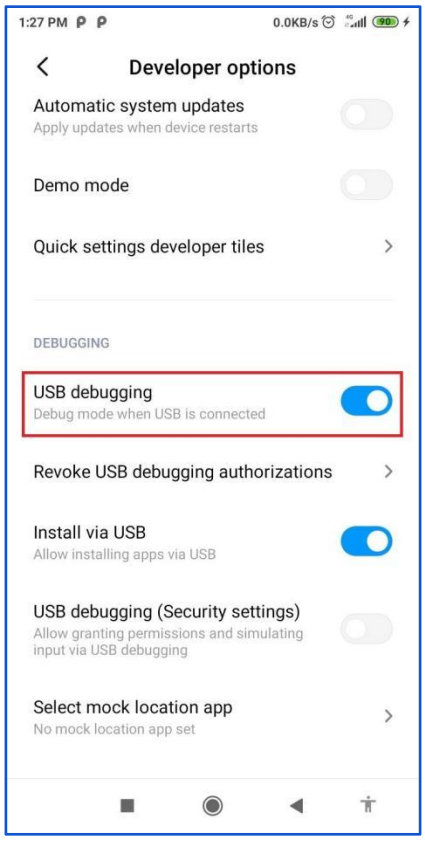
7.3 : “Additional settings” button

Step 4 : Go to “Developer Options”



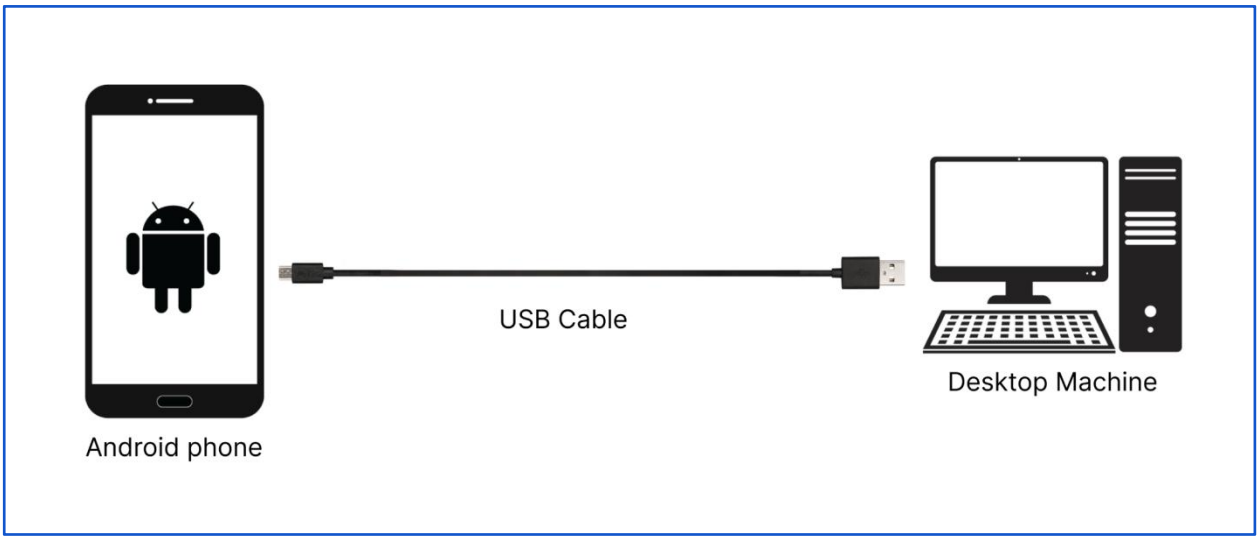
7.4 : “Developer options” button

Step 5 : Enable “USB Debugging”



7.5 : “USB Debugging” button

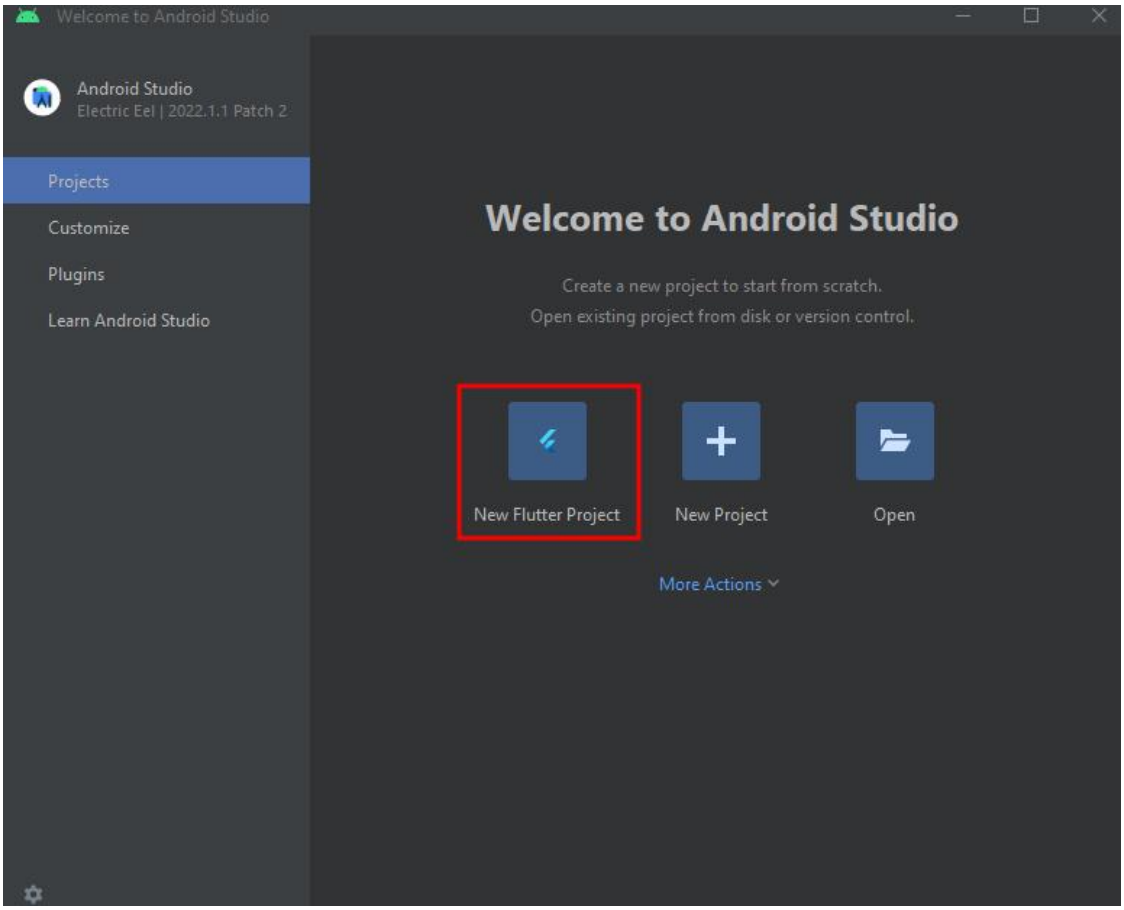
Step 6 : Next, connect the Android phone with the Desktop machine by using a USB cable.



7.6 : Visual representation of connecting Android phone and Desktop machine using USB cable

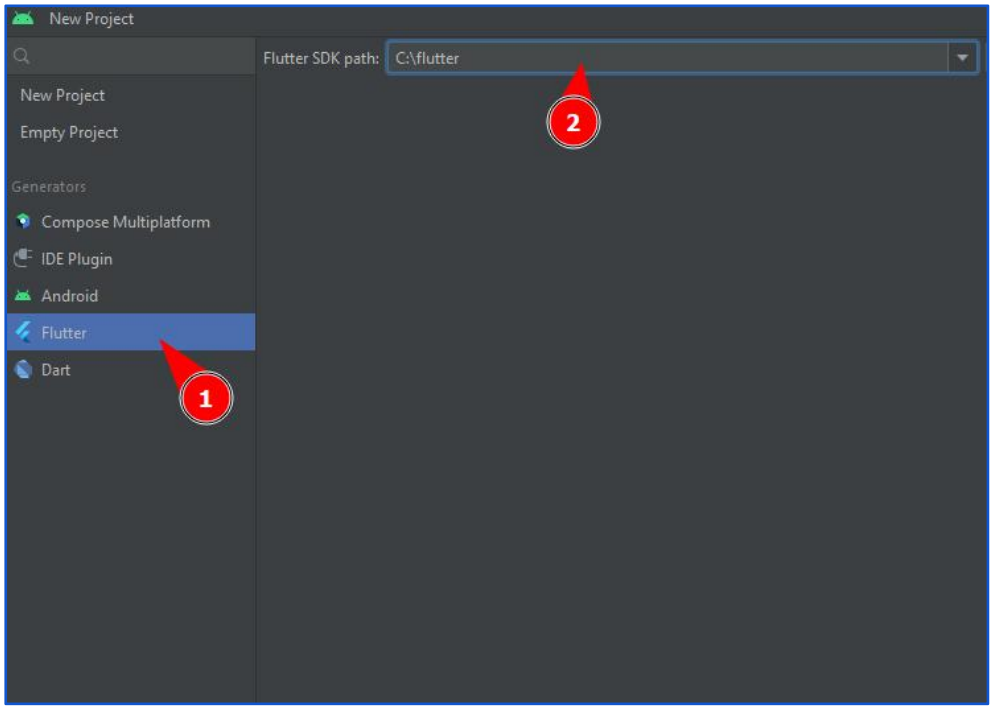
8.0 Run the first Flutter App

Step 1 : Open Android Studio and click “New Flutter Project”.



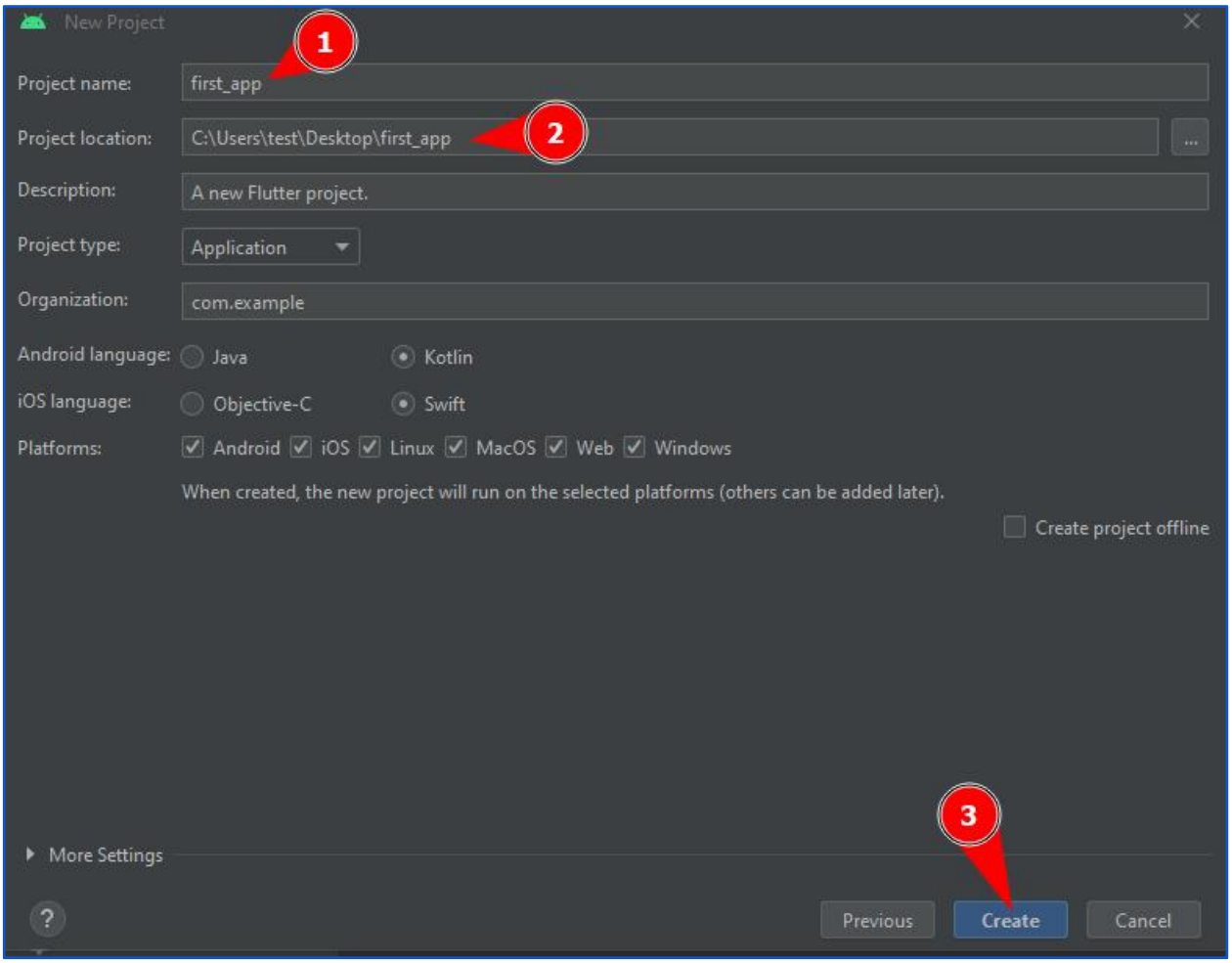
8.1 : “New Flutter Project” button

Step 2 : Click “Flutter” and find the Flutter SDK that was downloaded previously.



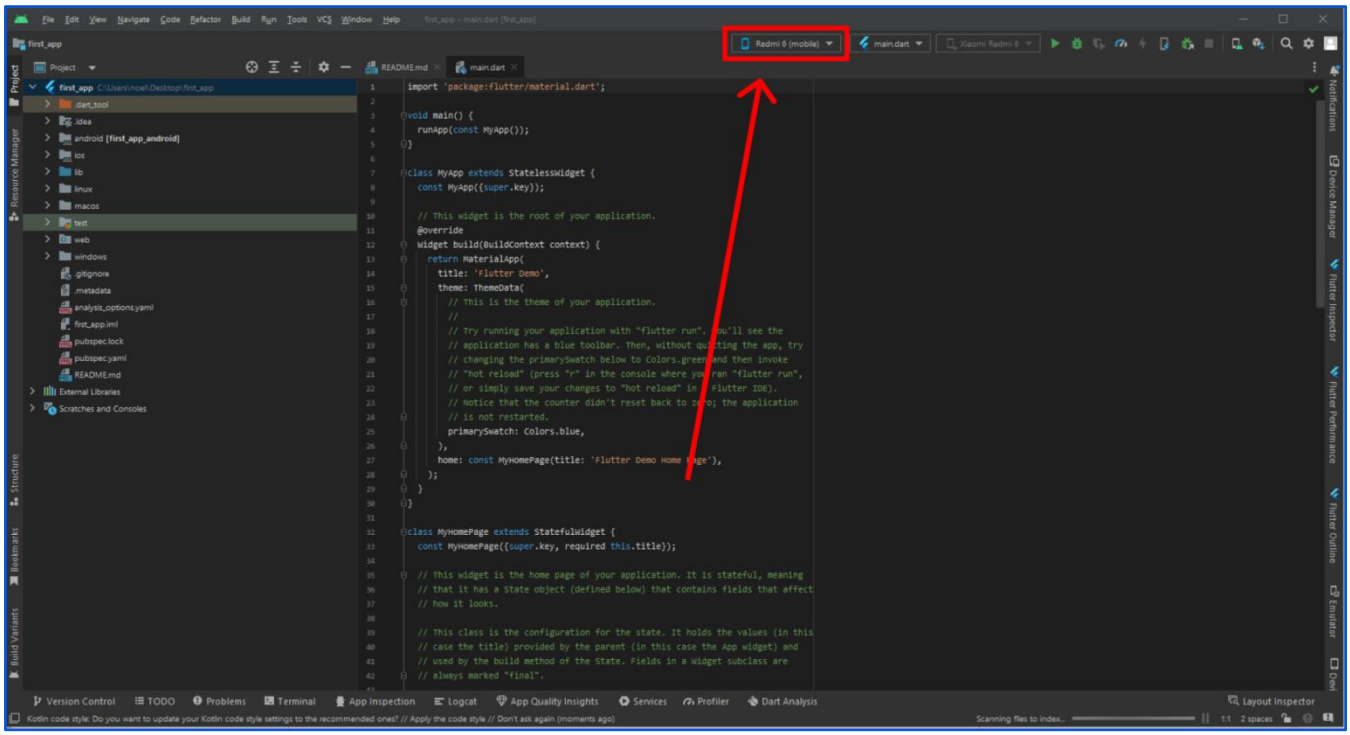
8.2 : Inserting Flutter SDK directory

Step 3 : Enter project name and project location. Once done, click “Create”. Once clicked, wait for Android Studio to set up the project.

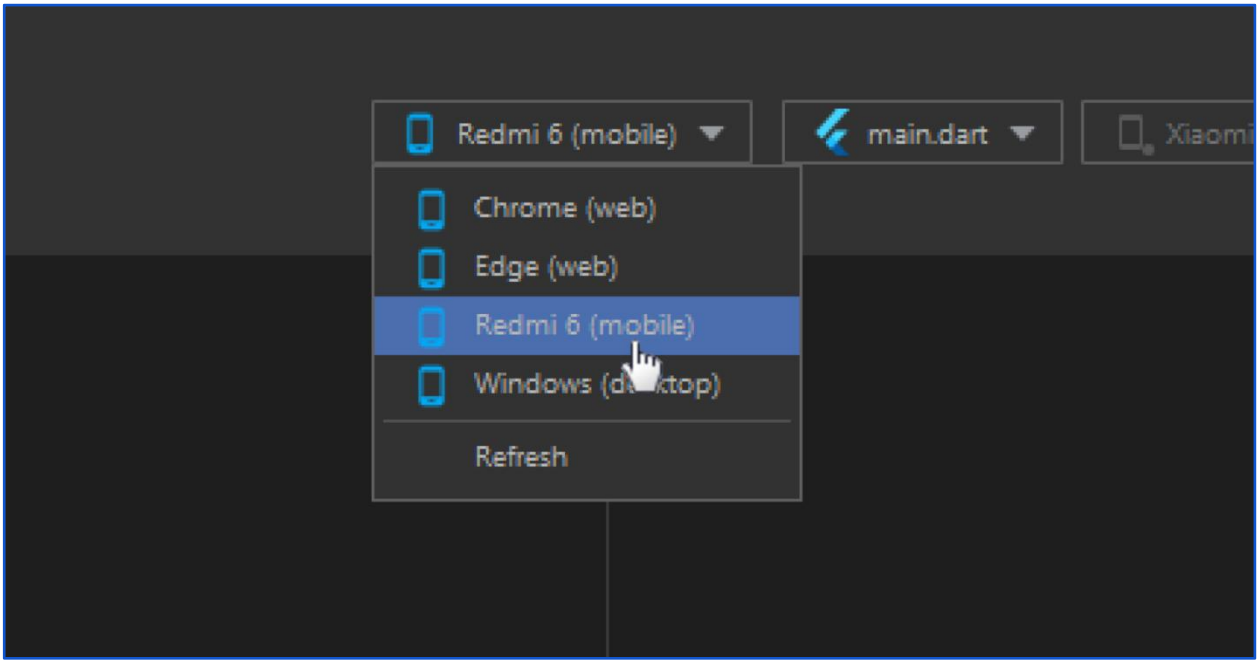


8.3 : Project details page

Step 4 : Once the Android is completely set up, click the dropdown menu as shown in Figure 7.4 and select the Android device that is connected via USB.

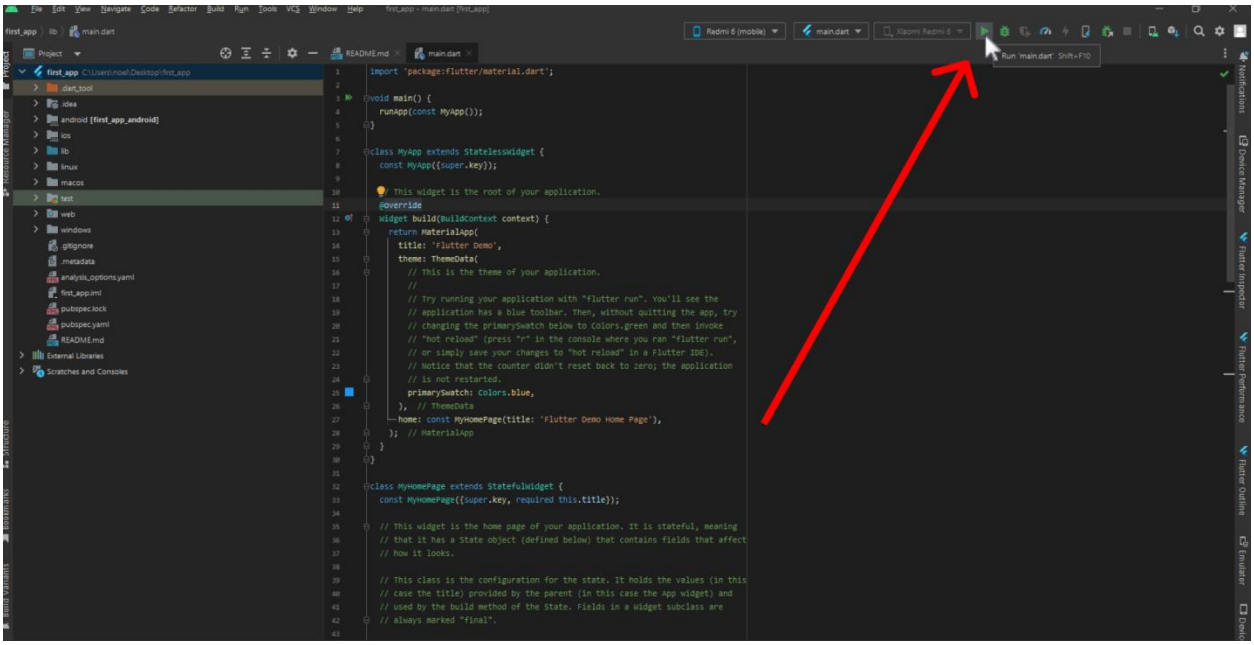


8.4 : Dropdown menu located at the top of Android Studio



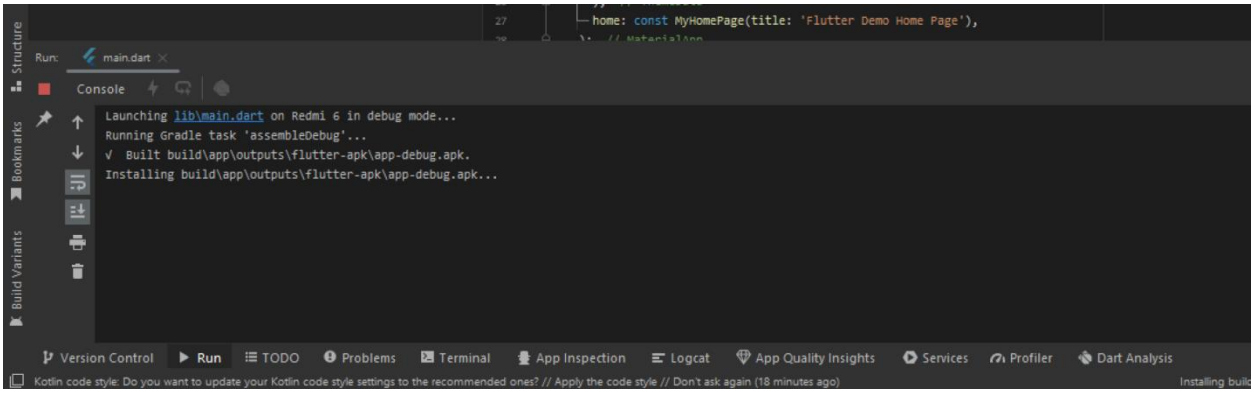
8.5 : Select the Android phone to run the Flutter App

Step 5 : Once selected, click  to run the Flutter app as shown in Figure 7.6.



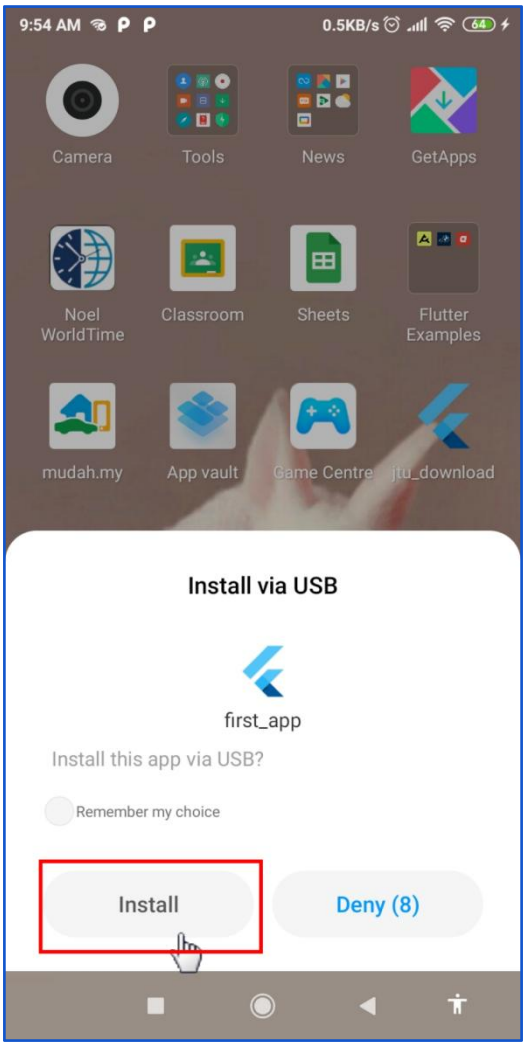
8.6 : "Run" button in Android Studio

Step 6 : Once clicked, wait for Android Studio to build and install the Flutter Apps into the Android phone.



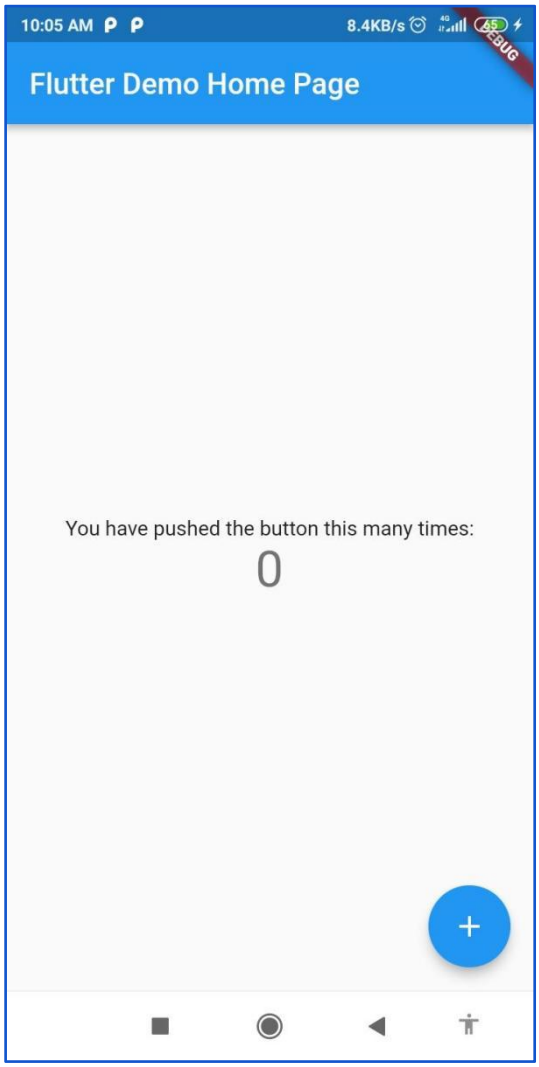
8.7 : Android Studio building and installing the Flutter Apps into Android Phone

Step 7 : Once it is installed, quickly press “Install” in the Android phone to allow the flutter apps to be installed in the Android phone.



8.8 : Tap “Install” in Android phone

Step 8 : Once it is installed, Congratulations!, you can now use the Flutter apps in the Android phone.



8.9 : Flutter Apps in Android phone