



#Flutter Notes

Introduction

What is Flutter?

- Flutter is an app SDK for building high-performance, high-fidelity apps for iOS, Android, and web (tech preview) from a single codebase.
- The goal is to enable developers to deliver high-performance apps that feel natural on different platforms. We embrace differences in scrolling behaviours, typography, icons, and more.



Why use Flutter?

- Be highly productive
 - Develop for iOS and Android from a single codebase
 - Do more with less code, even on a single OS, with a modern, expressive language and a declarative approach
 - Prototype and iterate easily
 - Experiment by changing code and reloading as your app runs (with hot reload)
 - Fix crashes and continue debugging from where the app left off

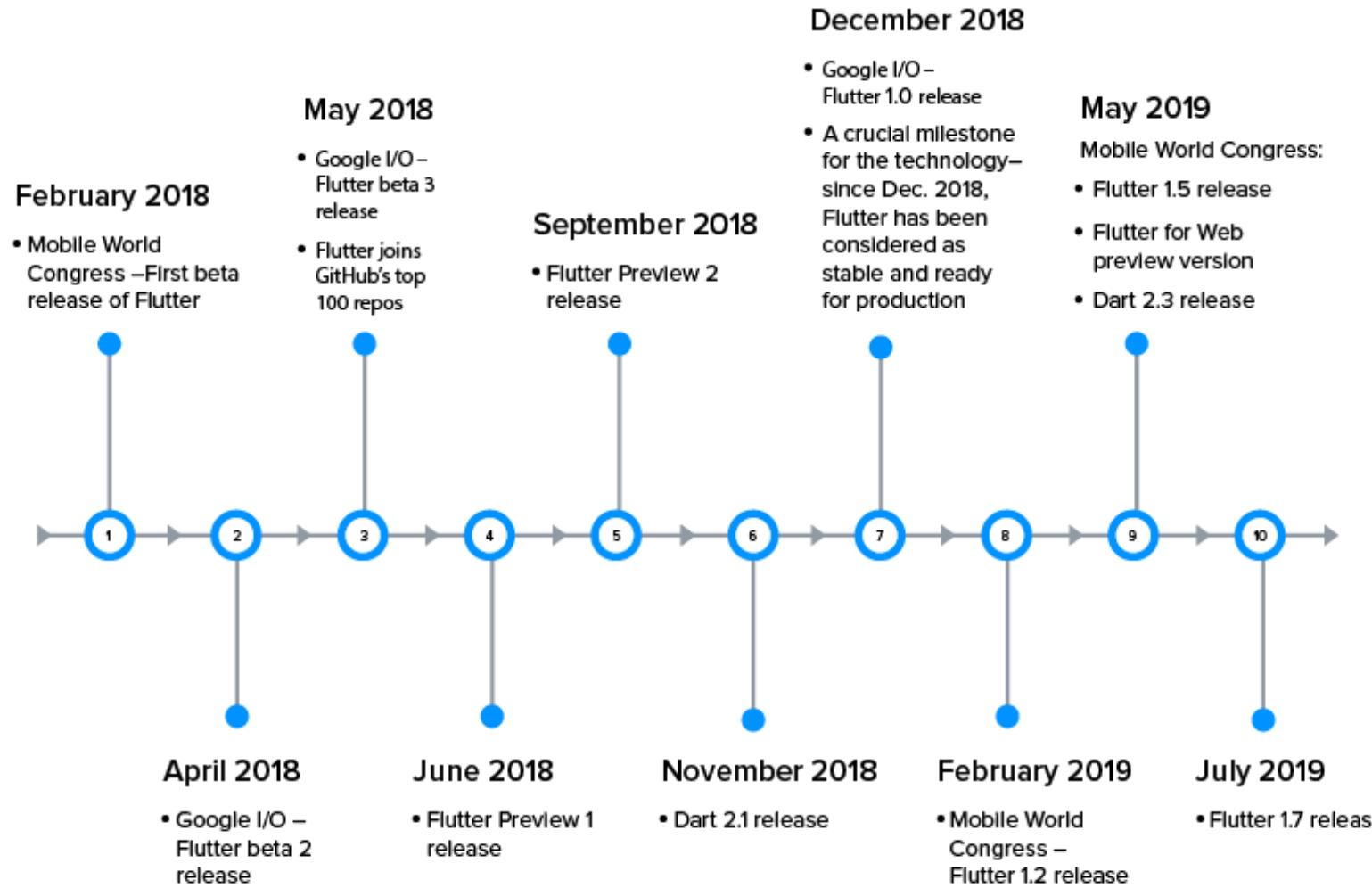


Cont...

- Create beautiful, highly-customized user experiences
 - Benefit from a rich set of Material Design and Cupertino (iOS-flavor) widgets built using Flutter's own framework
 - Realize custom, beautiful, brand-driven designs, without the limitations of OEM widget sets



A brief history of Flutter



Advantages

- **Faster User interface Coding**
- **Hot Reload**
- **One codebase for 2 platforms**
- **Requires less testing**
- **Best-suited for MVP:** MVP means Minimum Viable Product
- **High performance**
- **Quick to learn**



Limitations

- **No TV support**
- **Large size app file**
- **Limited Library support**



Installation

- **To Install Flutter to Your PC or Computer Follow Steps as written below:**

1. Go to Following URL :

<https://flutter.dev/docs/get-started/install>

2. As Per your PC Os Platform Select Option From Windows ,MacOs or Linux and Continue by Clicking On the Any Of the Platforms

(We are going to install and set up flutter for the Windows OS) this will redirect you toward the next page where we can download set up zip by clicking blue button given for download



Cont...

3. After Download is Completed Go to Downloads and Copy that Zip File and Extract that zip to your desired location but remember do not extract it in the elevated access privileges location like C:\Program Files\
4. After Extraction Process Completes Open flutter folder and then open flutter_console it will open up the cmd like console where you can run flutter commands.



Cont...

5. Now In the flutter_console write command as follows:

```
C:\src\flutter\flutter doctor
```

This command checks your environment and displays a report of the status of your Flutter installation. Check the output carefully for other software you might need to install or further tasks to perform (shown in bold text).

Thats it you have successfully set up flutter sdk to your PC or Computer



Cont...

- You'll see the updated string and color in the running app almost immediately.
- That's it you have successfully completed test drive of a flutter project



Installation 😊

System Requirements

The screenshot shows a web browser displaying the Flutter documentation at flutter.dev/docs/get-started/install/windows. The page title is "Windows install". The navigation bar includes links for "Docs" (which is underlined in blue), "Showcase", "Community", and a search icon. On the left, a sidebar titled "Get started" has a dropdown menu with the following items:

- 1. [Install](#) (which is also underlined in blue)
- 2. Set up an editor
- 3. Test drive
- 4. Write your first app
- 5. Learn more

Below this, there is a section titled "From another platform?" with links to "Flutter for Android devs", "Flutter for iOS devs", "Flutter for React Native devs", "Flutter for web devs", "Flutter for Xamarin.Forms devs", and "Introduction to declarative UI". The main content area starts with the heading "System requirements". Below it, a paragraph states: "To install and run Flutter, your development environment must meet these minimum requirements:". A bulleted list follows:

- **Operating Systems:** Windows 7 SP1 or later (64-bit)
- **Disk Space:** 400 MB (does not include disk space for IDE/tools).
- **Tools:** Flutter depends on these tools being available in your environment.
 - [Windows PowerShell 5.0](#) or newer (this is pre-installed with Windows 10)
 - [Git for Windows](#) 2.x, with the **Use Git from the Windows Command Prompt** option.

If Git for Windows is already installed, make sure you can run `git` commands from the command prompt or PowerShell.



Download Flutter SDK

<https://flutter.dev/docs/get-started/install/windows>

The screenshot shows a web browser window displaying the Flutter documentation for Windows installation. The URL in the address bar is flutter.dev/docs/get-started/install/windows. The page title is "Windows install - Flutter". The main content area is titled "Get the Flutter SDK". It provides instructions for downloading the latest stable release of the Flutter SDK as a zip file (`flutter_windows_v1.12.13+hotfix.9-stable.zip`). It also mentions that for other release channels and older builds, users can refer to the [SDK archive](#). The page includes a code block showing the command to clone the Flutter repository from GitHub: `C:\src>git clone https://github.com/flutter/flutter.git -b stable`. A note at the bottom states, "You are now ready to run Flutter commands in the Flutter Console!".

If Git for Windows is already installed, make sure you can run `git` commands from the command prompt or PowerShell.

Get the Flutter SDK

1. Download the following installation bundle to get the latest stable release of the Flutter SDK:

`flutter_windows_v1.12.13+hotfix.9-stable.zip`

For other release channels, and older builds, see the [SDK archive](#) page.

2. Extract the zip file and place the contained `flutter` in the desired installation location for the Flutter SDK (for example, `C:\src\flutter`; do not install Flutter in a directory like `C:\Program Files` that requires elevated privileges).

If you don't want to install a fixed version of the installation bundle, you can skip steps 1 and 2. Instead, get the source code from the [Flutter repo](#) on GitHub, and change branches or tags as needed. For example:

```
C:\src>git clone https://github.com/flutter/flutter.git -b stable
```

You are now ready to run Flutter commands in the Flutter Console!



Environment variables

The screenshot shows a web browser displaying the Flutter documentation at flutter.dev/docs/get-started/install/windows. The page title is "Windows install - Flutter". The main content area shows a terminal window with the command `C:\src>git clone https://github.com/flutter/flutter.git -b stable`. Below the terminal, a message says "You are now ready to run Flutter commands in the Flutter Console!". To the left, a sidebar titled "Get started" lists steps 1 through 5: "1. Install", "2. Set up an editor", "3. Test drive", "4. Write your first app", and "5. Learn more". A collapsed section "From another platform?" contains links for "Flutter for Android devs", "Flutter for iOS devs", "Flutter for React Native devs", and "Flutter for web devs".

Update your path

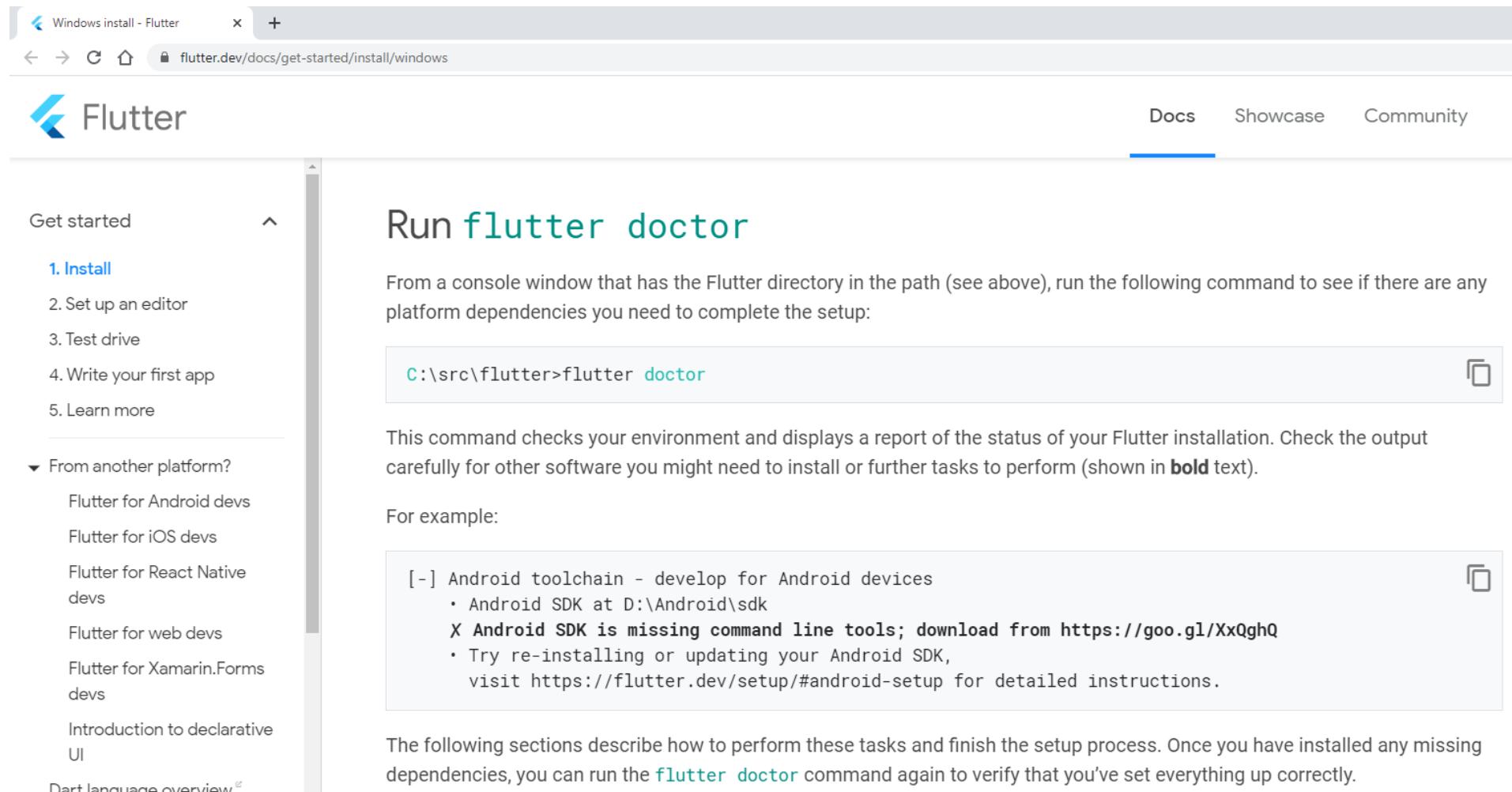
If you wish to run Flutter commands in the regular Windows console, take these steps to add Flutter to the `PATH` environment variable:

- From the Start search bar, enter 'env' and select **Edit environment variables for your account**.
- Under **User variables** check if there is an entry called **Path**:
 - If the entry exists, append the full path to `flutter\bin` using ; as a separator from existing values.
 - If the entry doesn't exist, create a new user variable named **Path** with the full path to `flutter\bin` as its value.

Note that you have to close and reopen any existing console windows for these changes to take effect.



Check Flutter environment



The screenshot shows a web browser displaying the Flutter documentation at flutter.dev/docs/get-started/install/windows. The page title is "Windows install - Flutter". The navigation bar includes links for "Docs" (which is underlined in blue), "Showcase", and "Community". On the left, there's a sidebar titled "Get started" with numbered steps: 1. Install, 2. Set up an editor, 3. Test drive, 4. Write your first app, and 5. Learn more. Below this is a section for "From another platform?" with links for Flutter for Android devs, iOS devs, React Native devs, web devs, Xamarin.Forms devs, and an introduction to declarative UI. At the bottom of the sidebar is a link for "Dart language overview". The main content area has a heading "Run flutter doctor". It instructs users to run the command `C:\src\flutter>flutter doctor` from a console window. It explains that this command checks the environment and displays a report of the status of the Flutter installation, warning users to check the output carefully for missing dependencies. An example output is shown in a code block:

```
[ -] Android toolchain - develop for Android devices
    • Android SDK at D:\Android\sdk
    X Android SDK is missing command line tools; download from https://goo.gl/XxQghQ
    • Try re-installing or updating your Android SDK,
      visit https://flutter.dev/setup/#android-setup for detailed instructions.
```

The text concludes by stating that following sections will help perform tasks and finish the setup process, and that users can run the `flutter doctor` command again to verify their setup.



Download and Setup Android

The screenshot shows a web browser displaying the Flutter documentation at flutter.dev/docs/get-started/install/windows. The page title is "Set up your Android device". The left sidebar has sections for "Get started" (with "1. Install" selected), "From another platform?", "Samples & tutorials", and "Development". The main content area contains two sections: "Set up your Android device" and "Set up the Android emulator". Both sections provide step-by-step instructions with links to external documentation.

Set up your Android device

To prepare to run and test your Flutter app on an Android device, you'll need an Android device running Android 4.1 (API level 16) or higher.

1. Enable **Developer options** and **USB debugging** on your device. Detailed instructions are available in the [Android documentation](#).
2. Windows-only: Install the [Google USB Driver](#).
3. Using a USB cable, plug your phone into your computer. If prompted on your device, authorize your computer to access your device.
4. In the terminal, run the `flutter devices` command to verify that Flutter recognizes your connected Android device. By default, Flutter uses the version of the Android SDK where your `adb` tool is based. If you want Flutter to use a different installation of the Android SDK, you must set the `ANDROID_HOME` environment variable to that installation directory.

Set up the Android emulator

To prepare to run and test your Flutter app on the Android emulator, follow these steps:

1. Enable **VM acceleration** on your machine.
2. Launch **Android Studio > Tools > Android > AVD Manager** and select **Create Virtual Device**. (The **Android** submenu is only present when inside an Android project.)
3. Choose a device definition and select **Next**.
4. Select one or more system images for the Android versions you want to emulate, and select **Next**. An `x86` or `x86_64` image is recommended.
5. Under Emulated Performance, select **Hardware - GLES 2.0** to enable **hardware acceleration**.
6. Verify the AVD configuration is correct, and select **Finish**.

For details on the above steps, see [Managing AVDs](#).



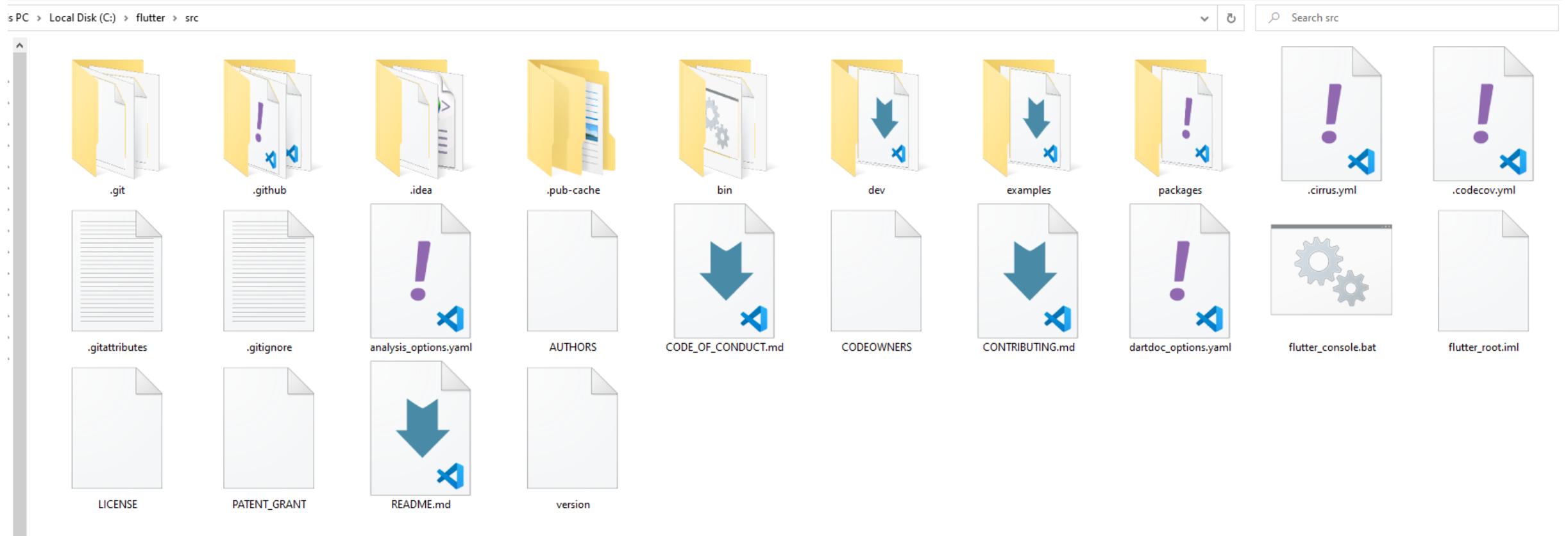
Let's Start Installation ☺

Download and Extract

- Download Flutter
- Go to c: drive create new folder “flutter->src”
 - C:\flutter\src
- Extract Flutter Files



Flutter Folder



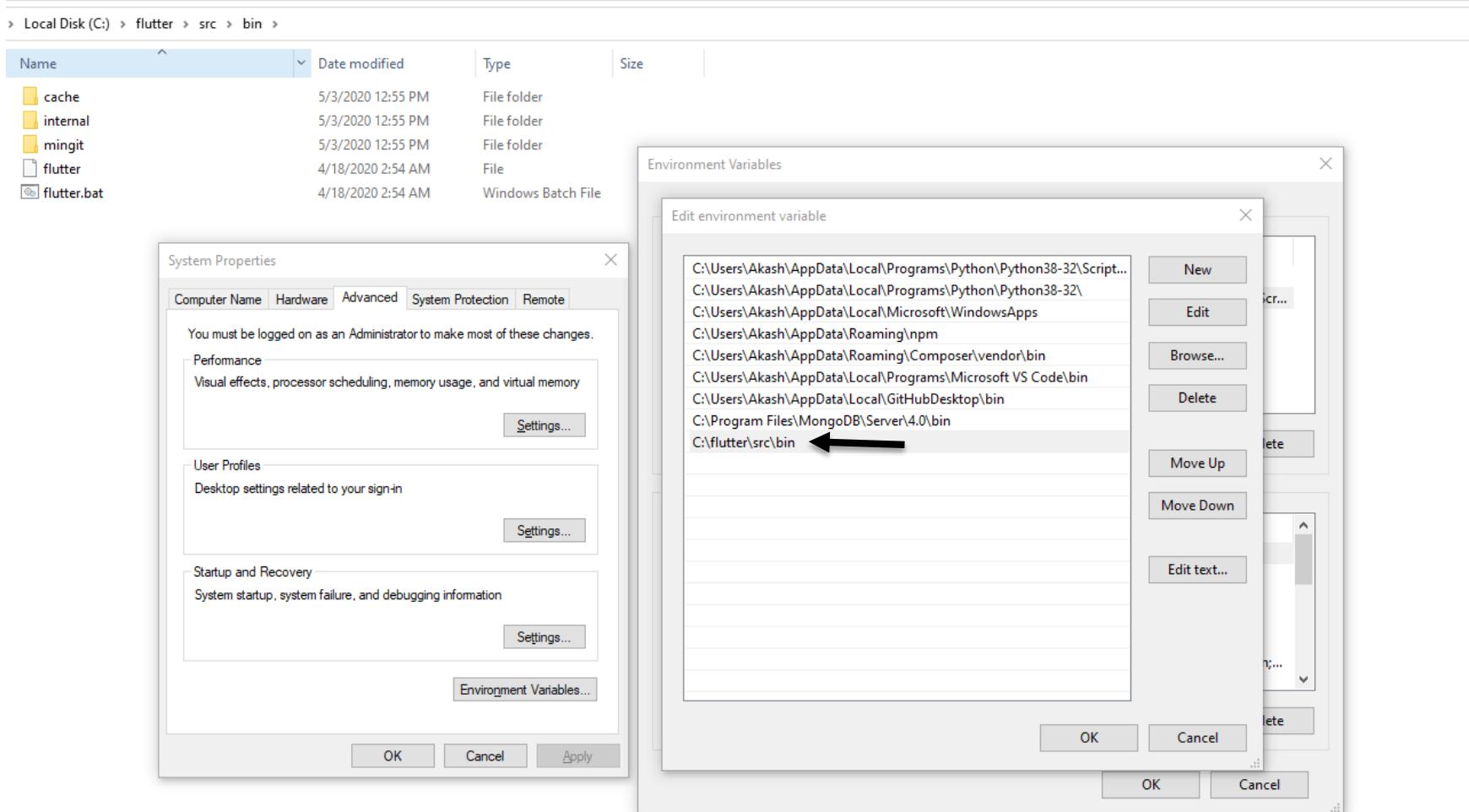
Copy Path

C:\flutter\src\bin

This PC > Local Disk (C:) > flutter > src > bin				
	Name	Date modified	Type	Size
	cache	5/3/2020 12:55 PM	File folder	
	internal	5/3/2020 12:55 PM	File folder	
	mingit	5/3/2020 12:55 PM	File folder	
	flutter	4/18/2020 2:54 AM	File	8 KB
	flutter.bat	4/18/2020 2:54 AM	Windows Batch File	8 KB



Set Environment Variable



Check Flutter Command

C:\Users\Akash>flutter

C:\Users\Akash>flutter



Flutter Default Commands

```
C:\Windows\system32\cmd.exe

Available commands:
analyze           Analyze the project's Dart code.
assemble          Assemble and build flutter resources.
attach            Attach to a running application.
bash-completion   Output command line shell completion setup scripts.
build             Flutter build commands.
channel           List or switch flutter channels.
clean              Delete the build/ and .dart_tool/ directories.
config             Configure Flutter settings.
create             Create a new Flutter project.
devices            List all connected devices.
doctor             Show information about the installed tooling.
drive              Runs Flutter Driver tests for the current project.
emulators          List, launch and create emulators.
format             Format one or more dart files.
generate           run code generators.
help               Display help information for flutter.
install            Install a Flutter app on an attached device.
logs               Show log output for running Flutter apps.
make-host-app-editable Moves host apps from generated directories to non-generated directories so
                        can be edited by developers.
precache           Populates the Flutter tool's cache of binary artifacts.
pub                Commands for managing Flutter packages.
run                Run your Flutter app on an attached device.
screenshot         Take a screenshot from a connected device.
test               Run Flutter unit tests for the current project.
upgrade            Upgrade your copy of Flutter.
version            List or switch flutter versions.

Run "flutter help <command>" for more information about a command.
Run "flutter help -v" for verbose help output, including less commonly used options.

C:\Users\Akash>
```



Flutter Commands

C:\Windows\system32\cmd.exe

```
C:\Users\Akash>flutter  
Manage your Flutter app development.
```

Common commands:

```
flutter create <output directory>  
Create a new Flutter project in the specified directory.
```

```
flutter run [options]  
Run your Flutter application on an attached device or in an emulator.
```

Usage: flutter <command> [arguments]

Global options:

-h, --help	Print this usage information.
-v, --verbose	Noisy logging, including all shell commands executed. If used with --help, shows hidden options.

-d, --device-id	Target device id or name (prefixes allowed).
--version	Reports the version of this tool.
--suppress-analytics	Suppress analytics reporting when this command runs.
--bug-report	Captures a bug report file to submit to the Flutter team. Contains local paths, device identifiers, and log snippets.

--packages	Path to your ".packages" file. (required, since the current directory does not contain a ".packages" file)
------------	---



Flutter Version

flutter --version

```
C:\ C:\Windows\system32\cmd.exe  
C:\Users\Akash>flutter --version  
Flutter 1.12.13+hotfix.9 • channel stable • https://github.com/flutter/flutter.git  
Framework • revision f139b11009 (5 weeks ago) • 2020-03-30 13:57:30 -0700  
Engine • revision af51afceb8  
Tools • Dart 2.7.2  
C:\Users\Akash>
```



Flutter Doctor

This command checks your environment and displays a report of the status of your Flutter installation.

```
C:\Windows\system32\cmd.exe
```

```
c:\Users\Akash>flutter doctor
```



System Requirements

```
C:\Windows\system32\cmd.exe
D:\akash>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, v1.12.13+hotfix.9, on Microsoft Windows [Version 10.0.18363.778], locale en-us)
[✗] 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/setup/#android-setup for detailed instructions).
        If the Android SDK has been installed to a custom location, set ANDROID_HOME to that location.
        You may also want to add it to your PATH environment variable.

[!] Android Studio (version 3.6)
    X Flutter plugin not installed; this adds Flutter specific functionality.
    X Dart plugin not installed; this adds Dart specific functionality.
[!] VS Code (version 1.44.2)
    X Flutter extension not installed; install from
        https://marketplace.visualstudio.com/items?itemName=Dart-Code.flutter
[!] Connected device
    ! No devices available

! Doctor found issues in 4 categories.

D:\akash>
```

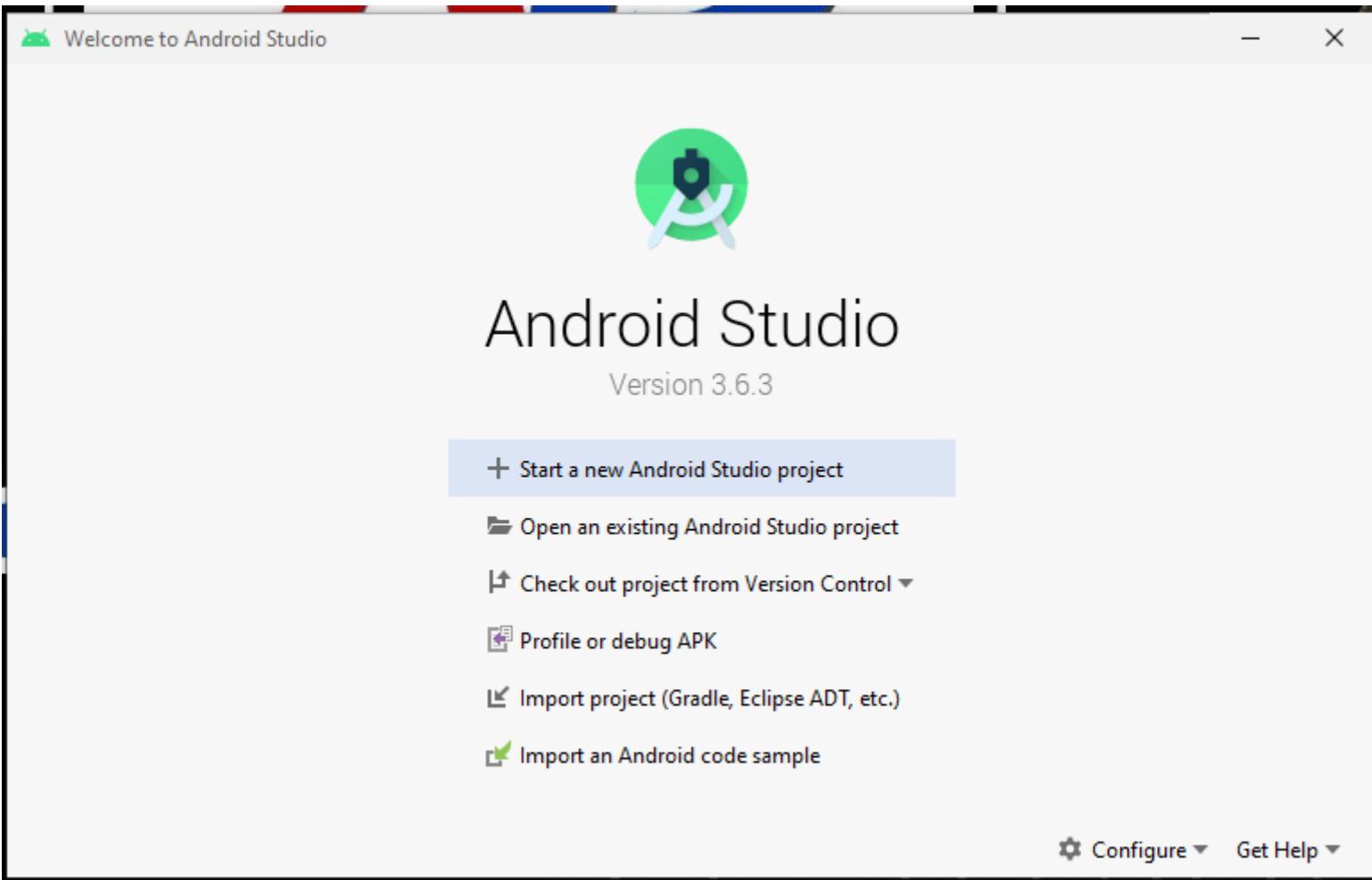


Download

- <https://developer.android.com/studio>
- <https://www.oracle.com/in/java/technologies/javase-downloads.html>



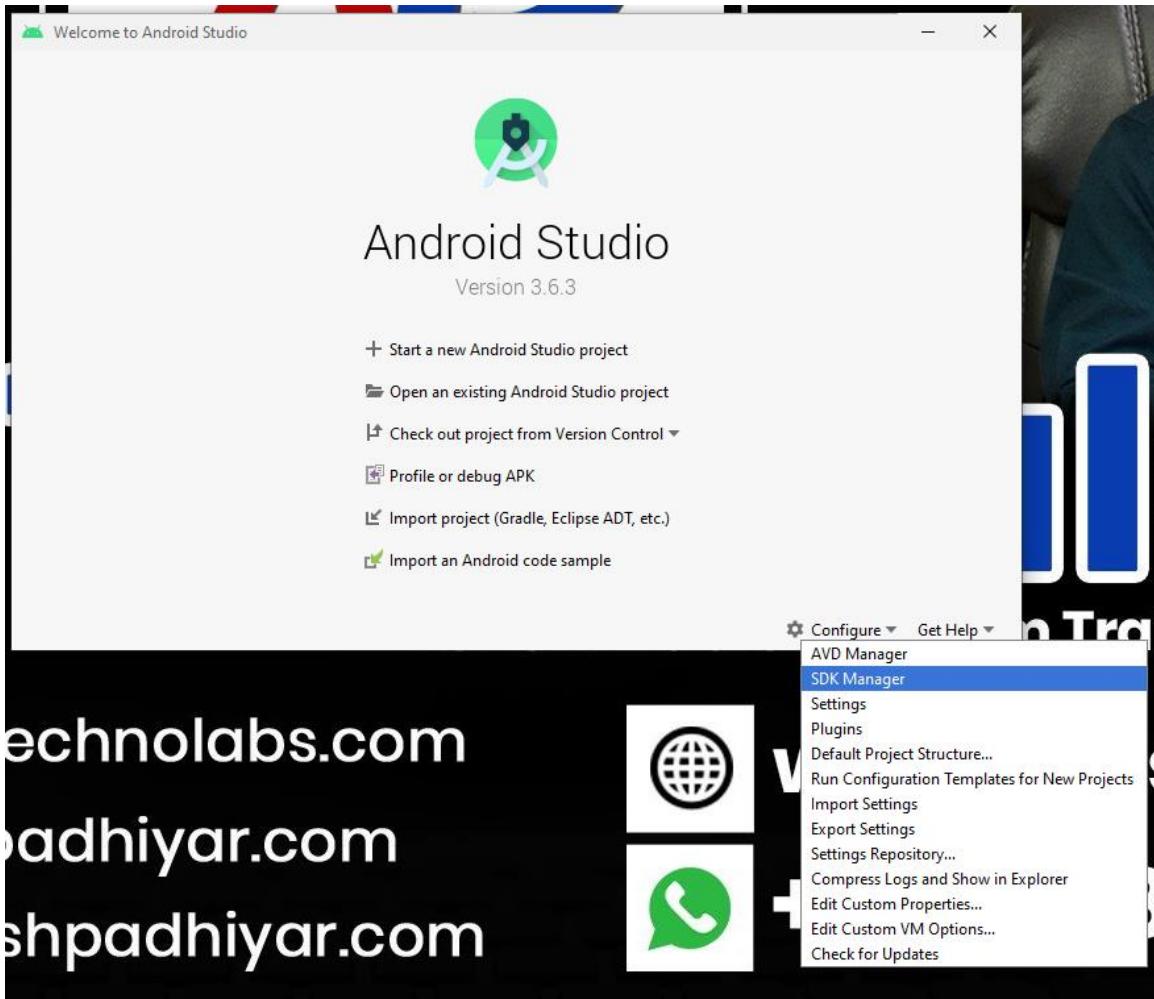
Android Screen



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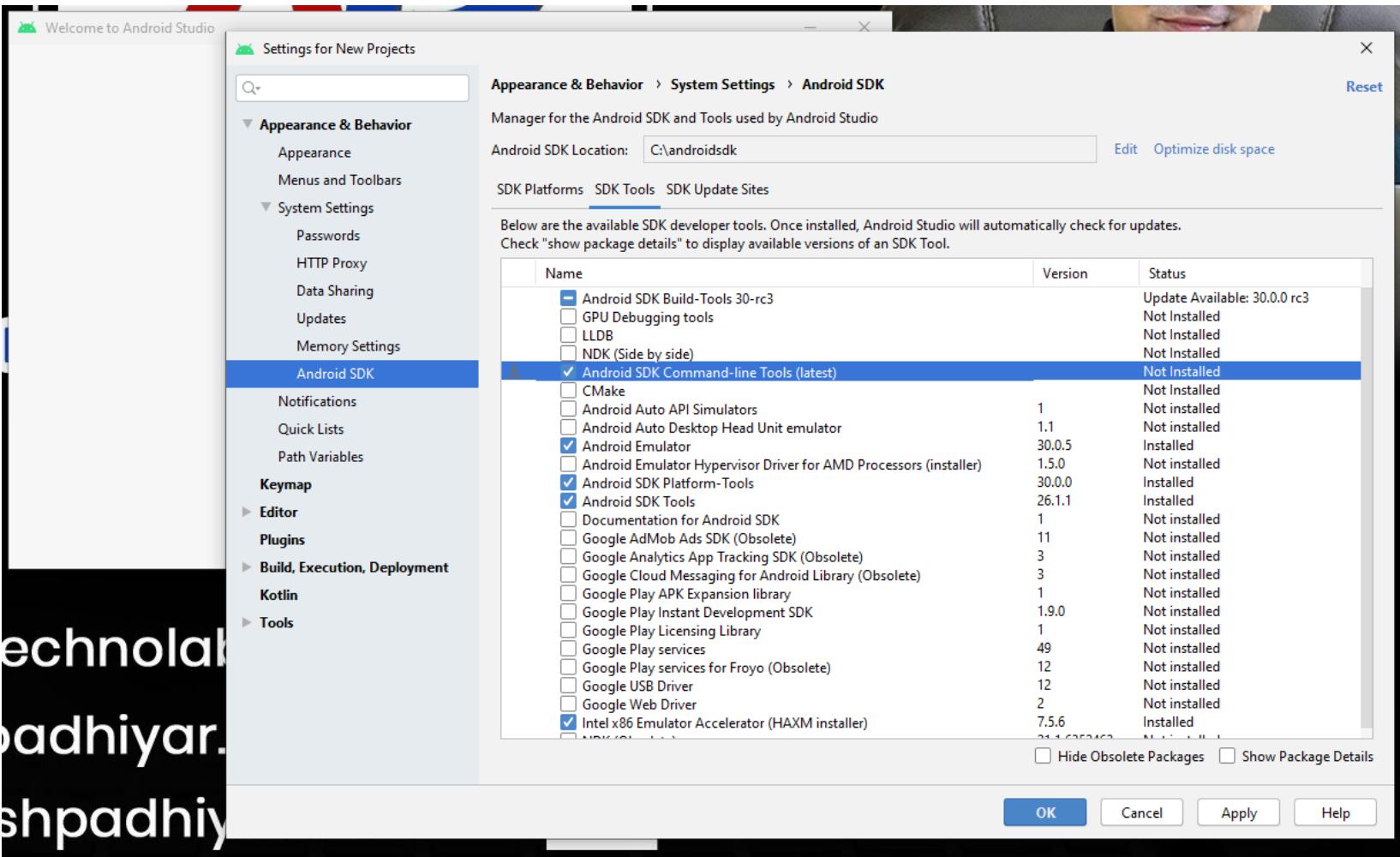
Configure SDK



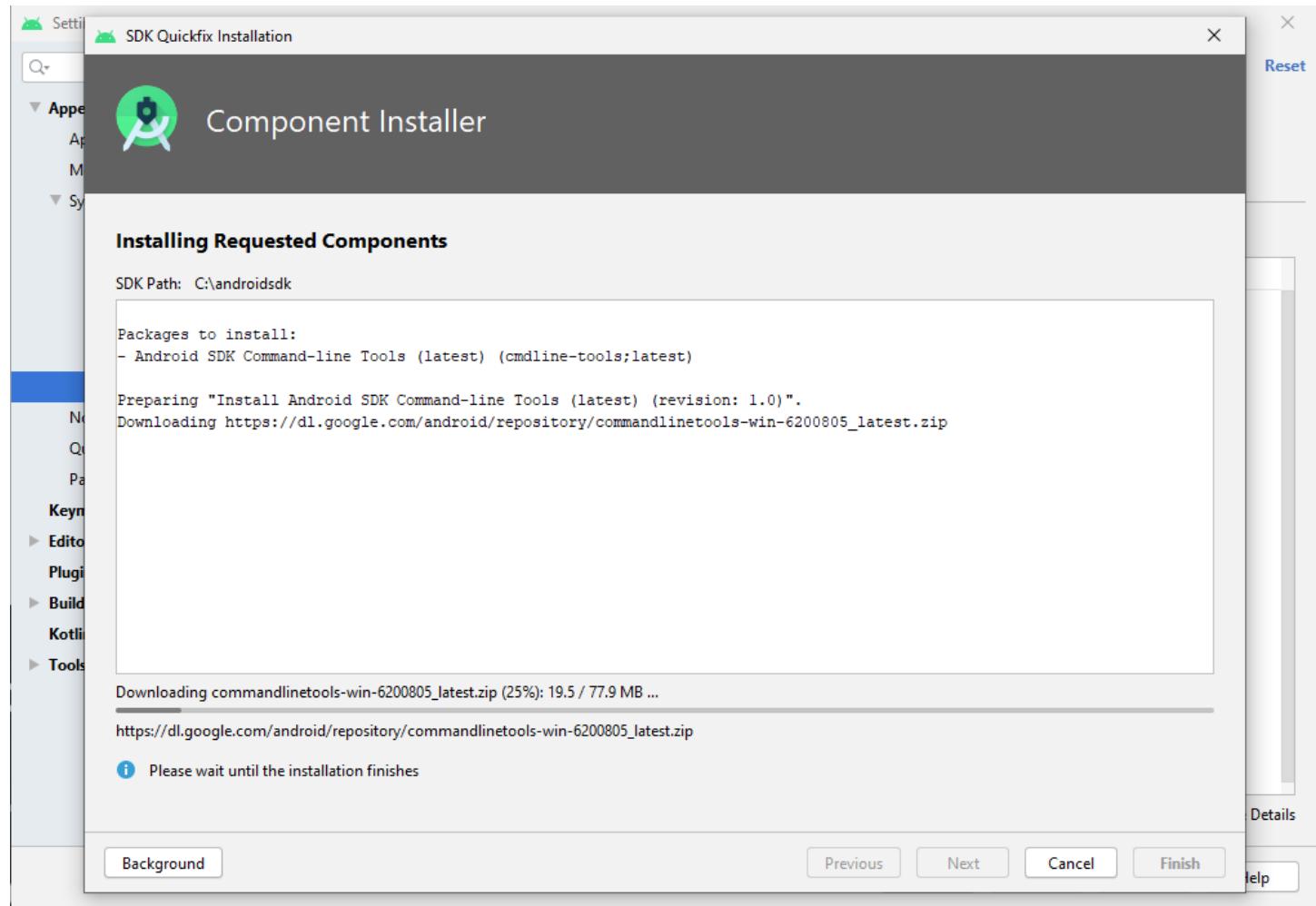
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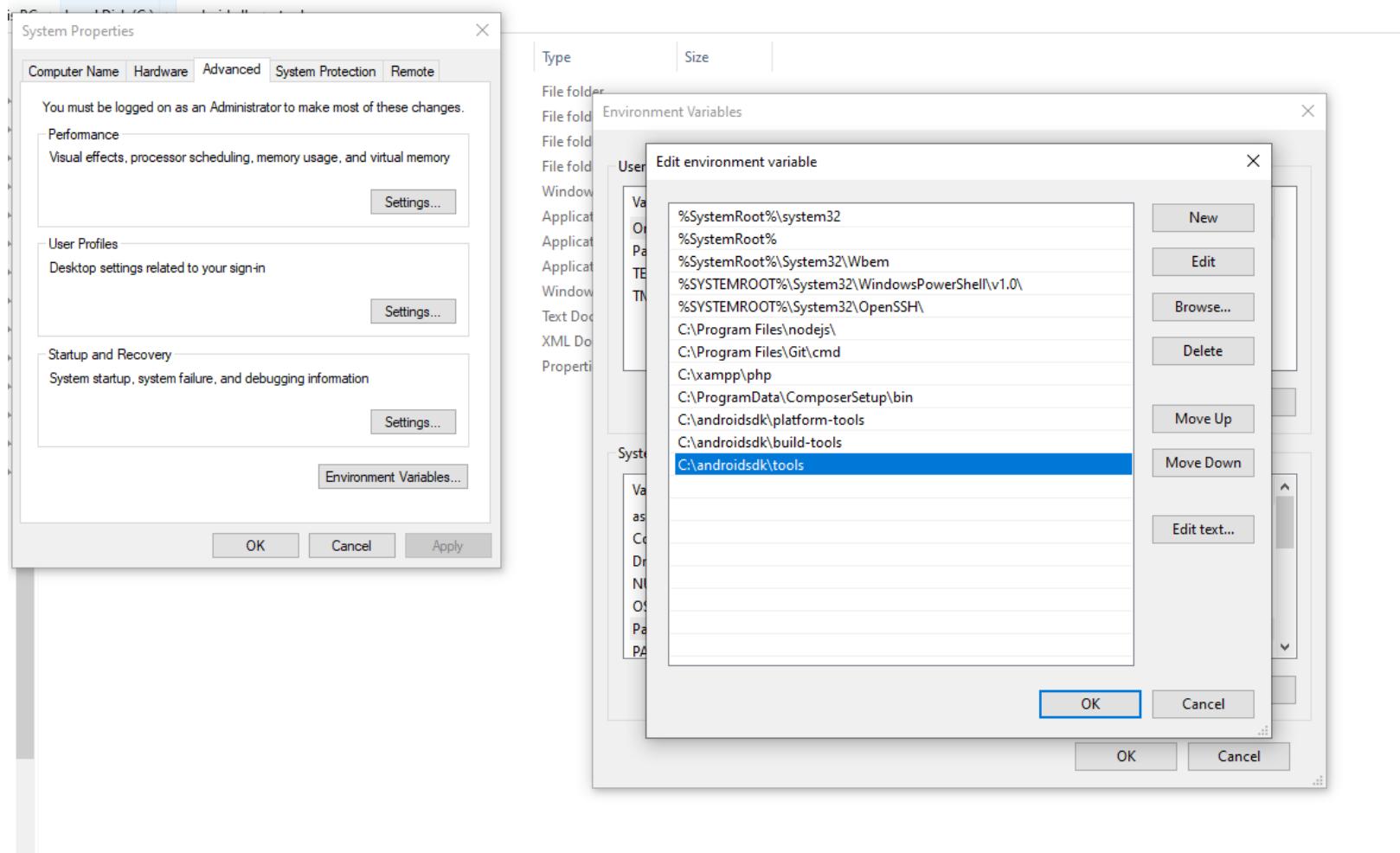
Download SDK Tools



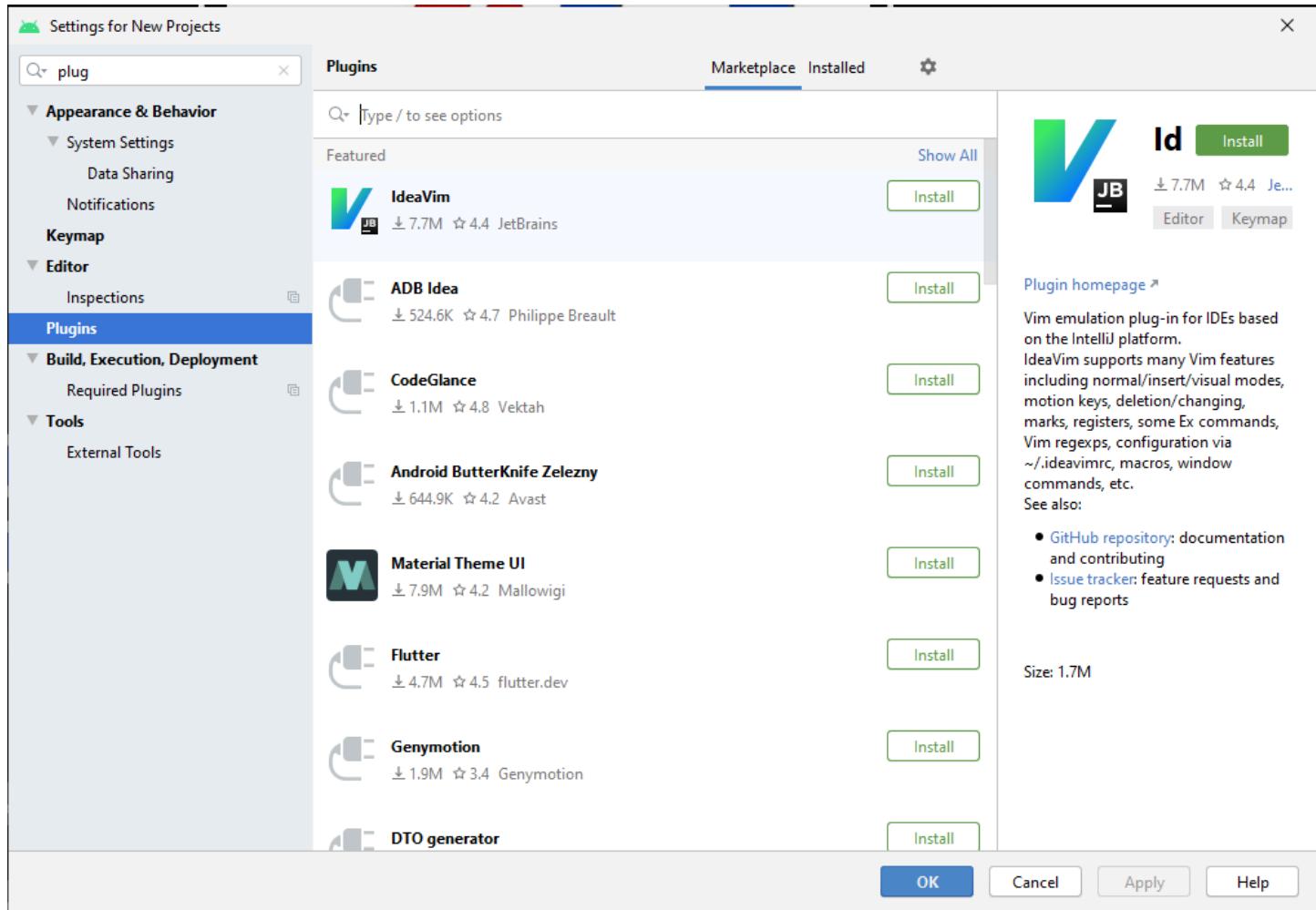
Downloading SDK Tools



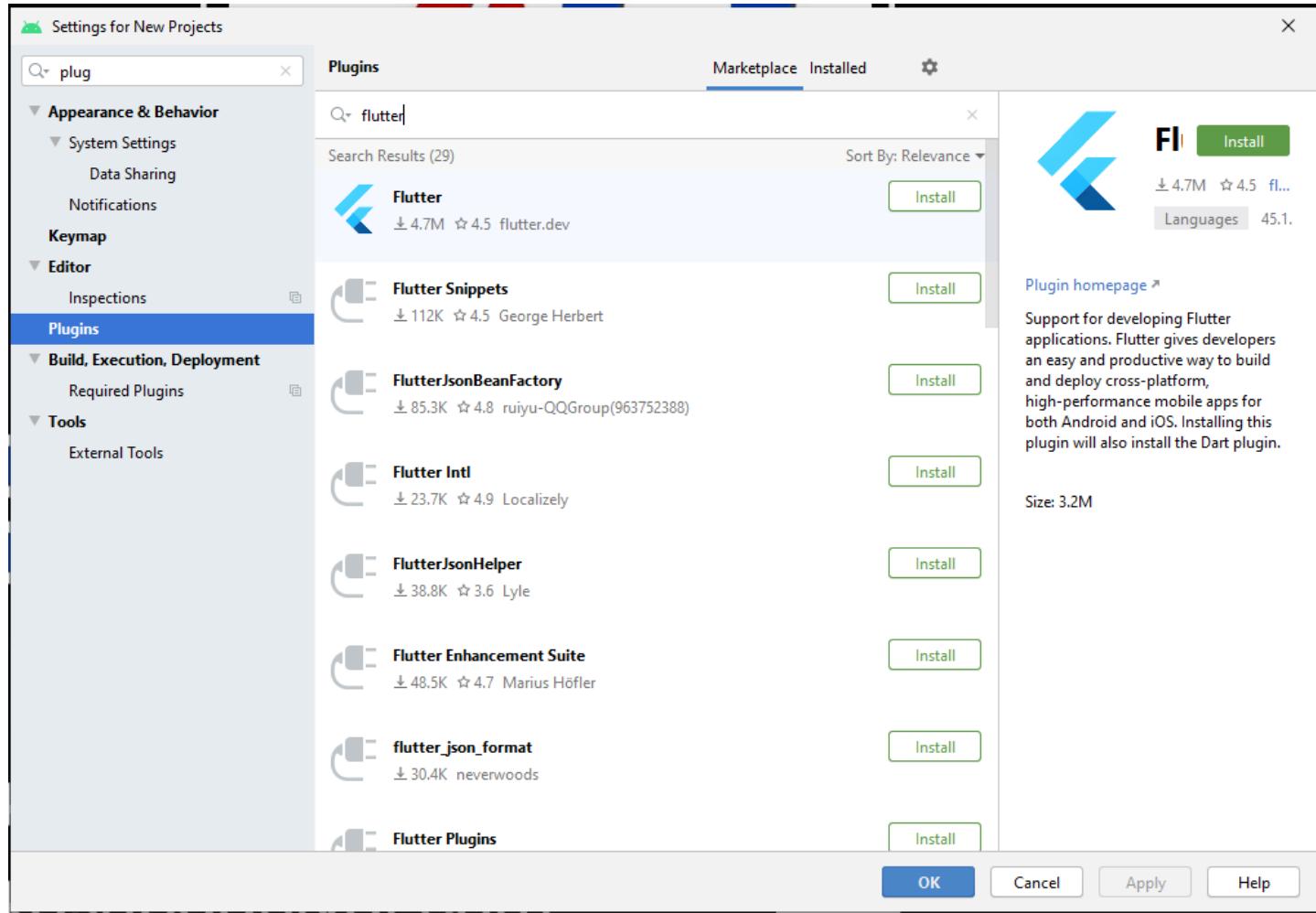
Android Environment Variables



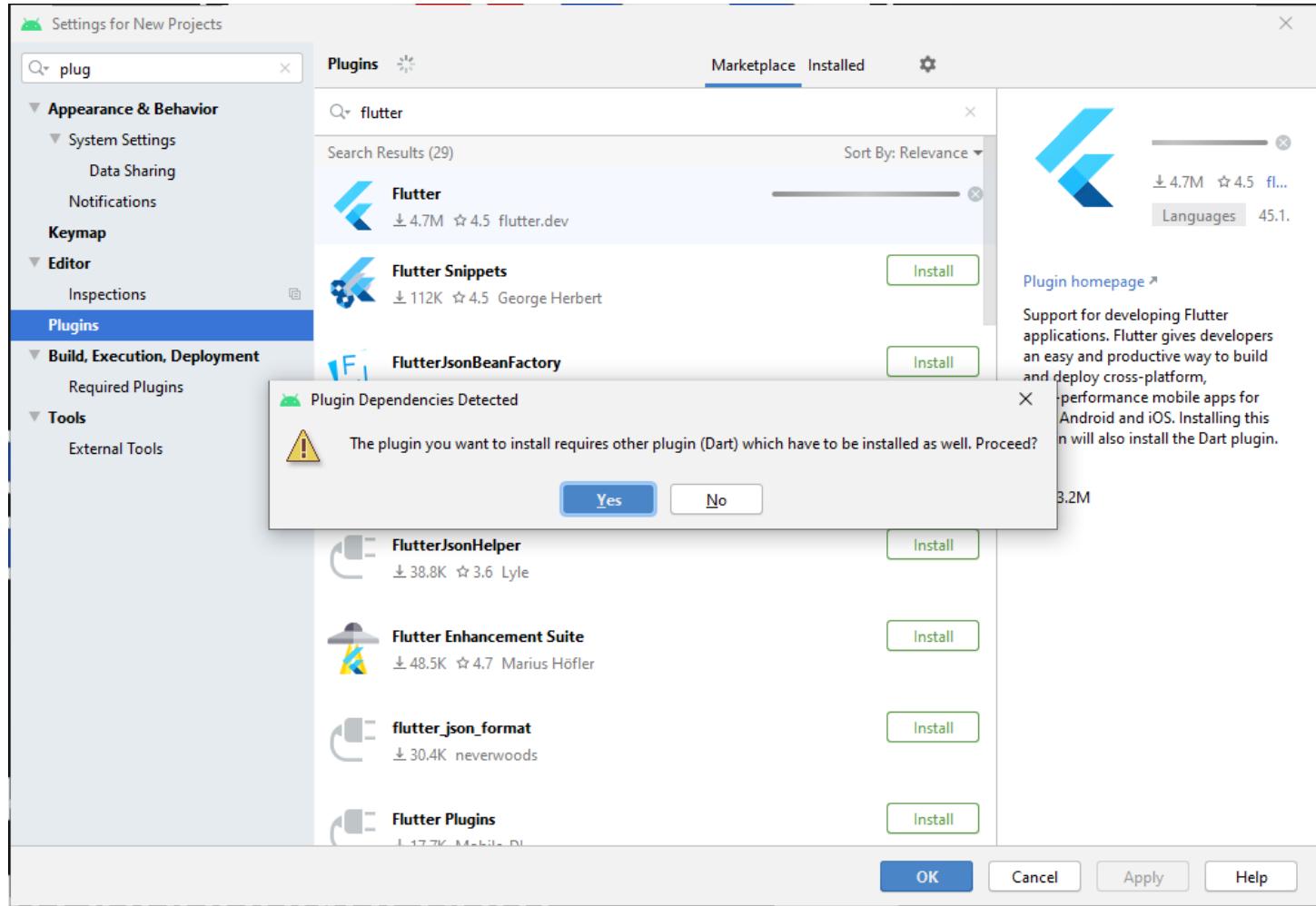
Download Plugin



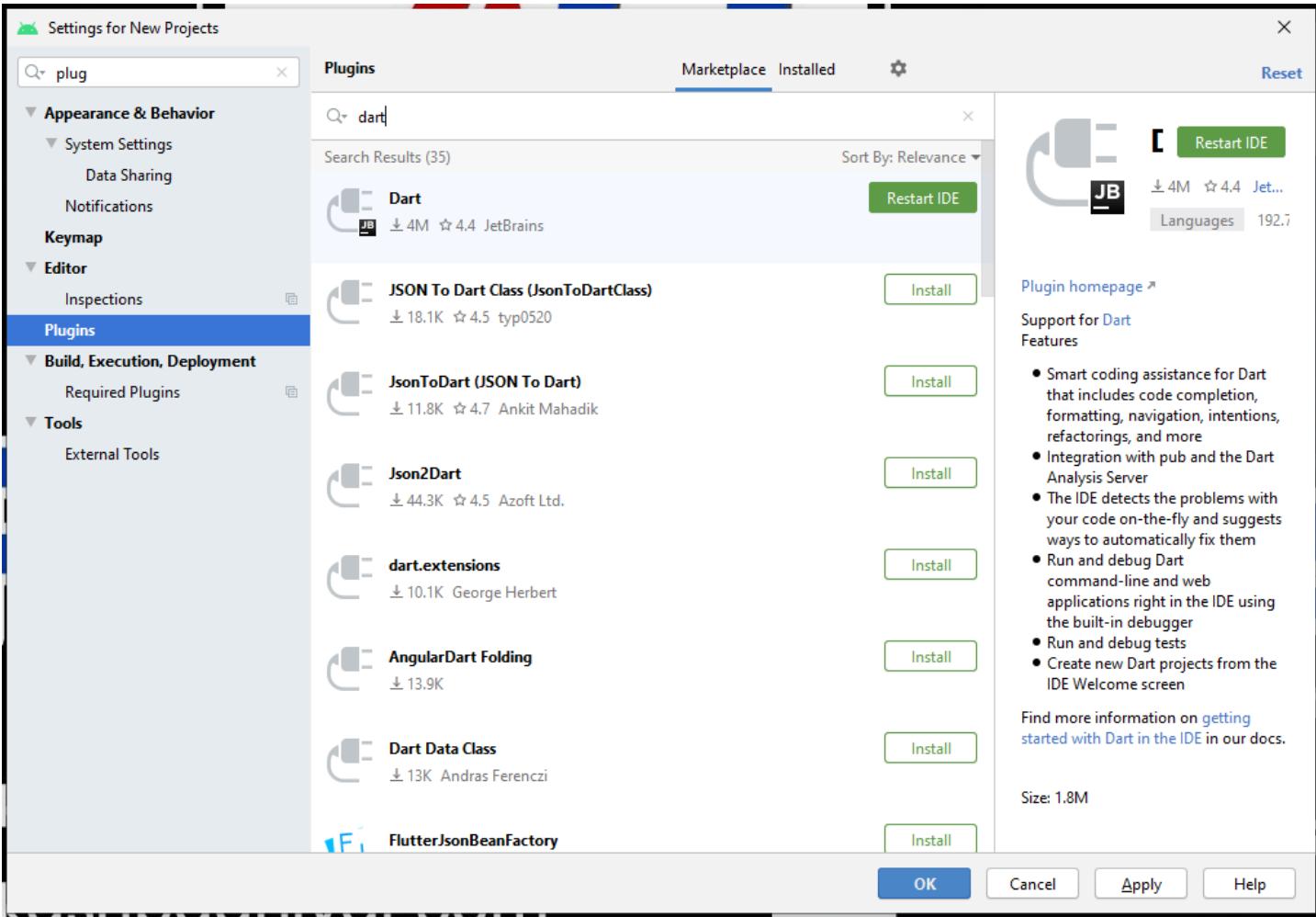
Download Flutter Plugin



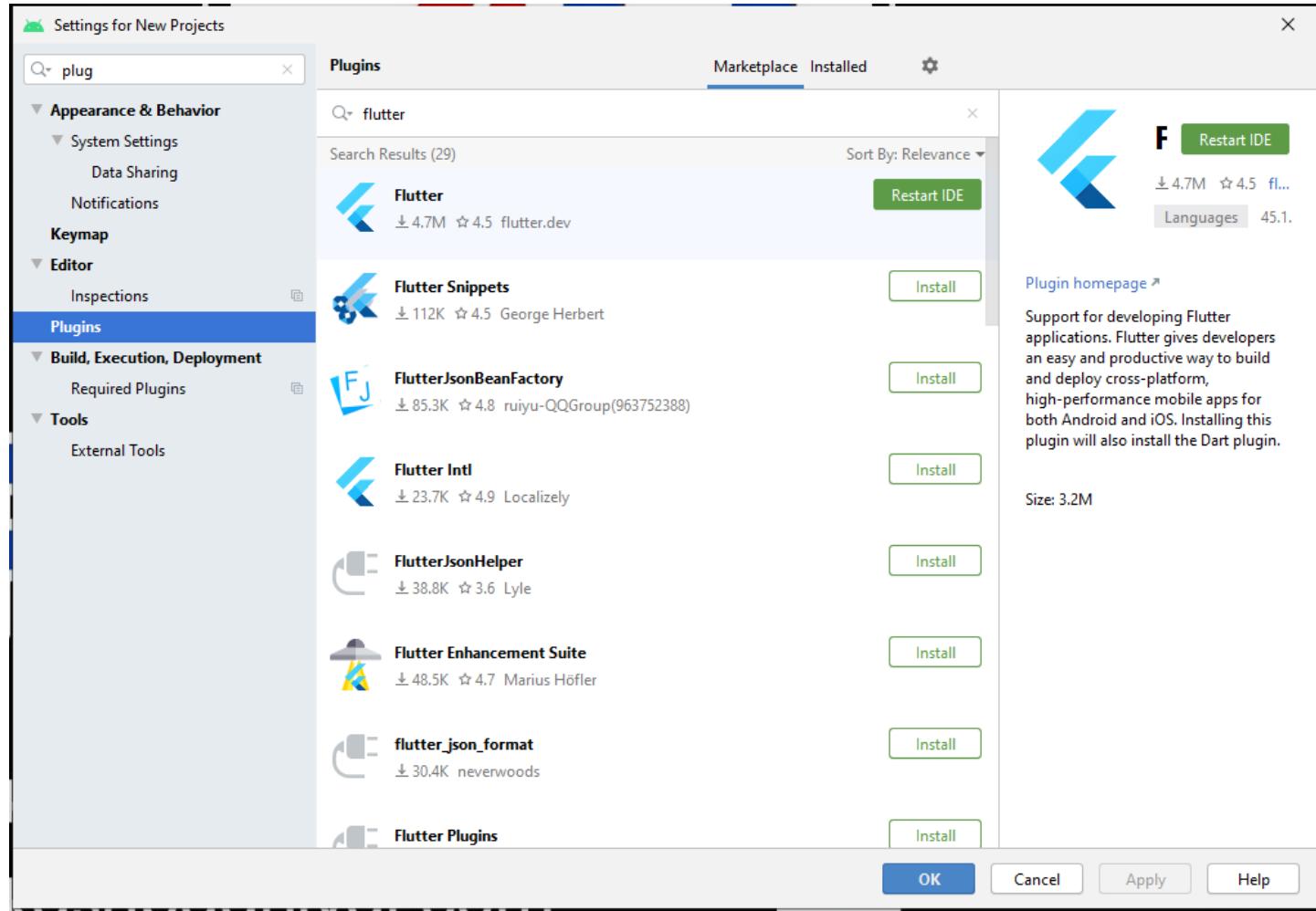
Download Dart Plugin



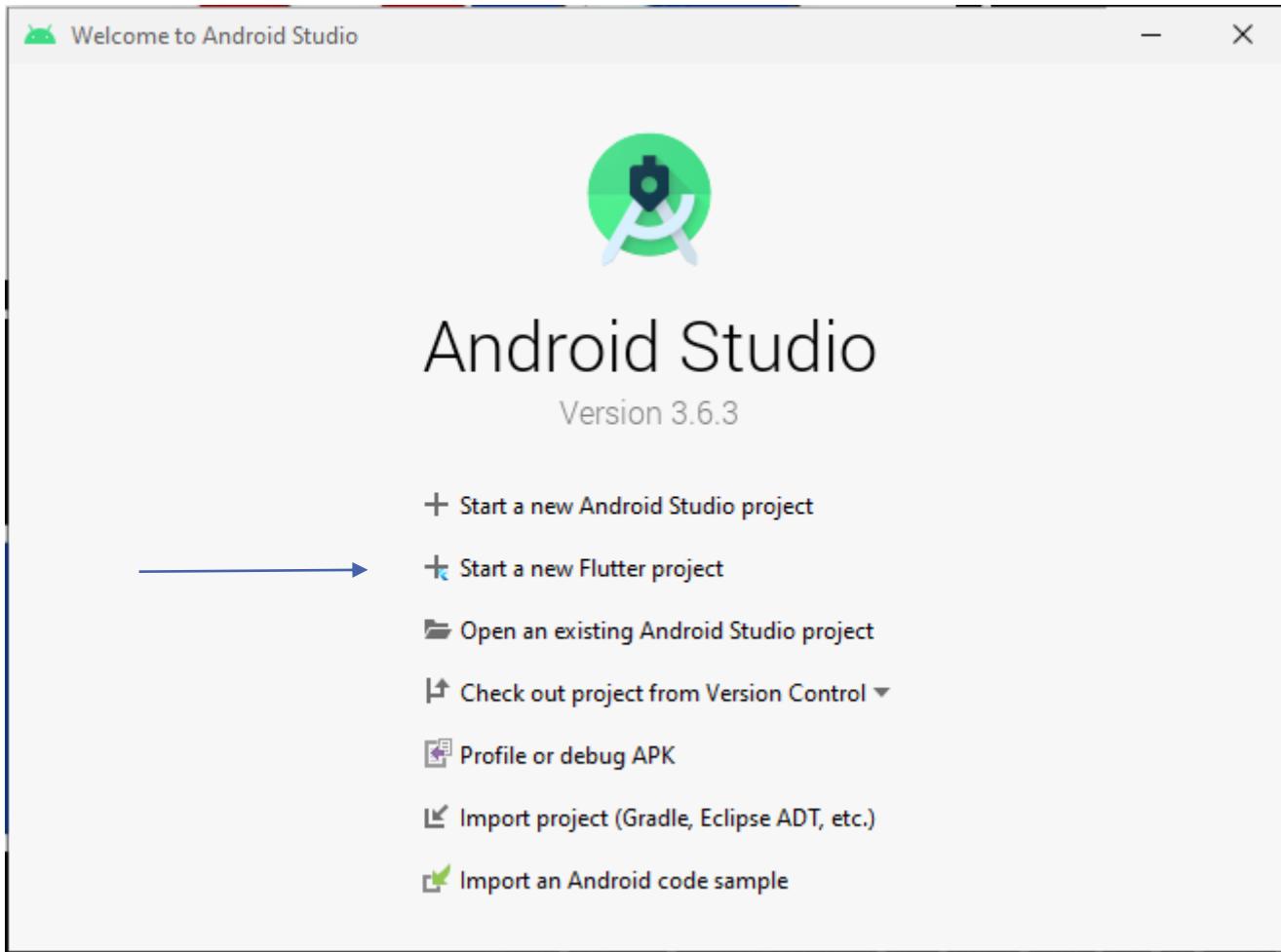
Download Dart Plugin



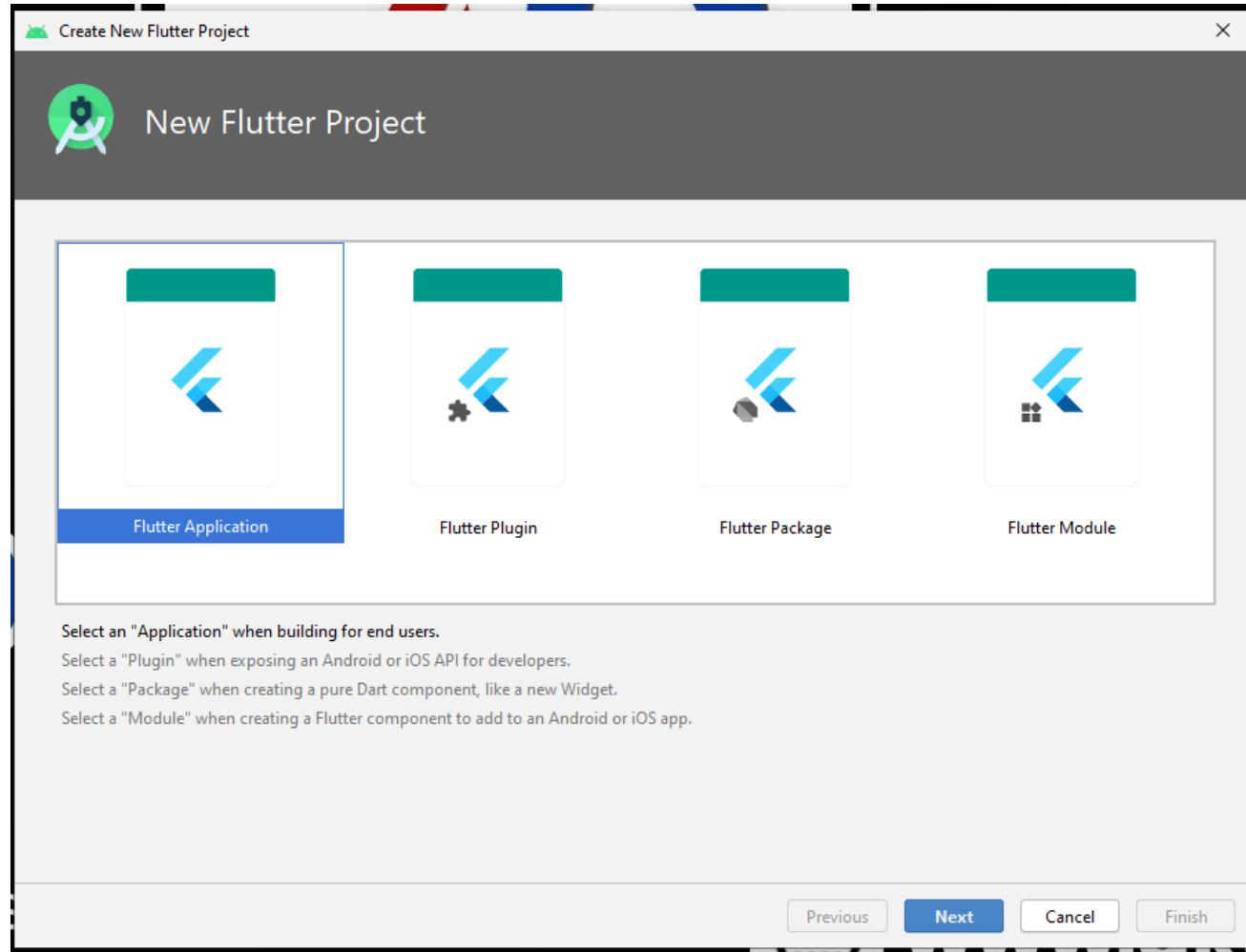
Restart Android Studio



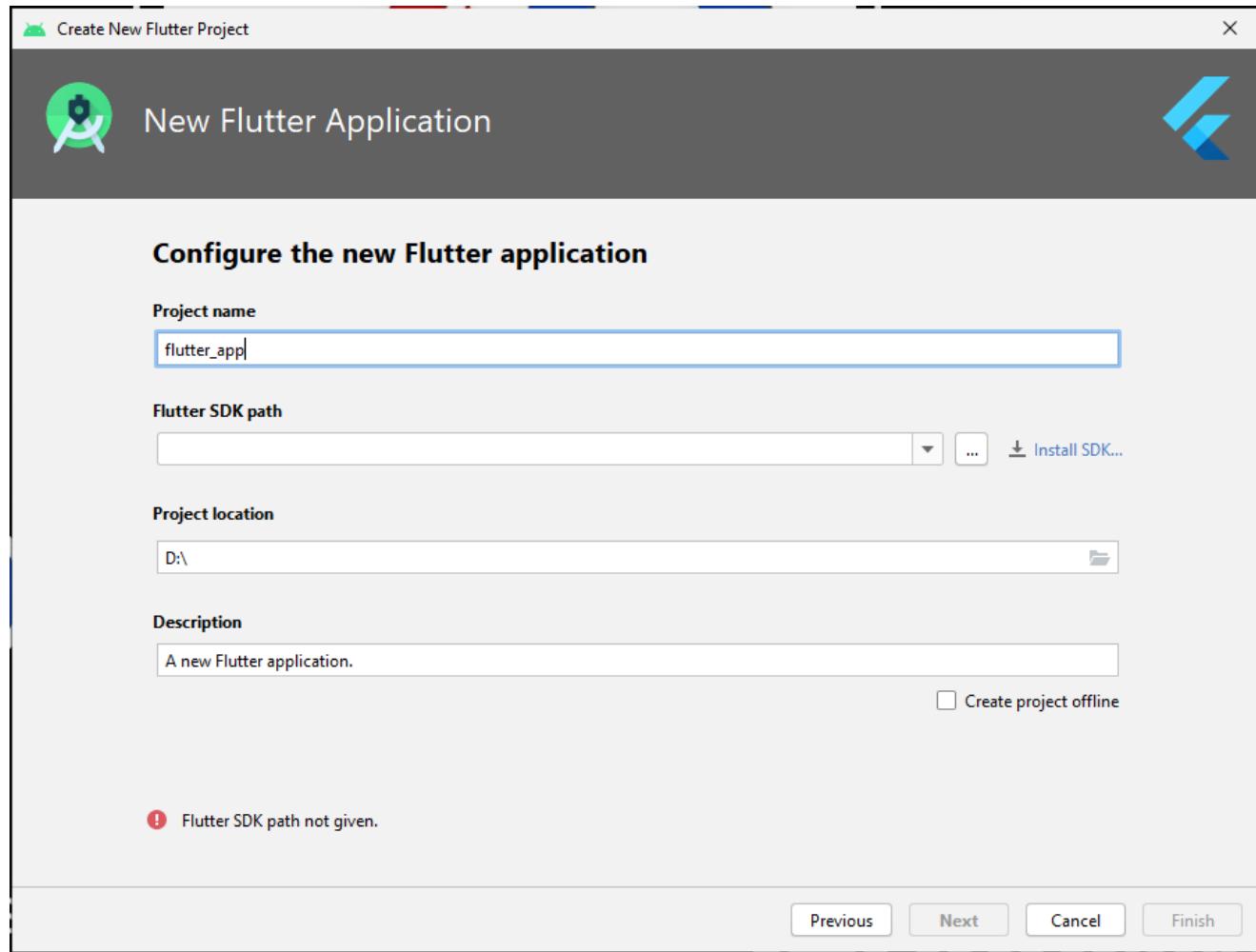
Flutter is Ready in Android Studio



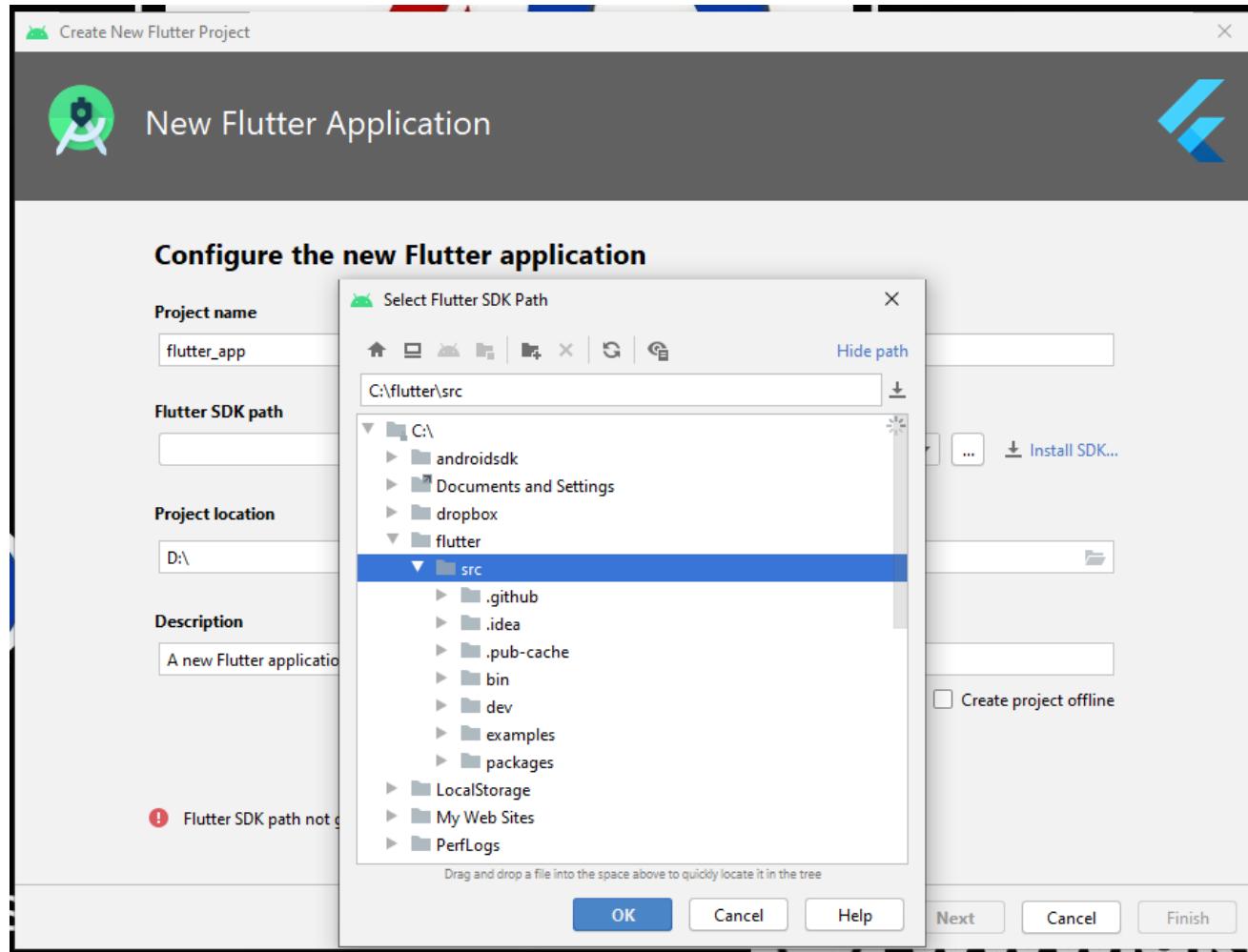
Flutter Application



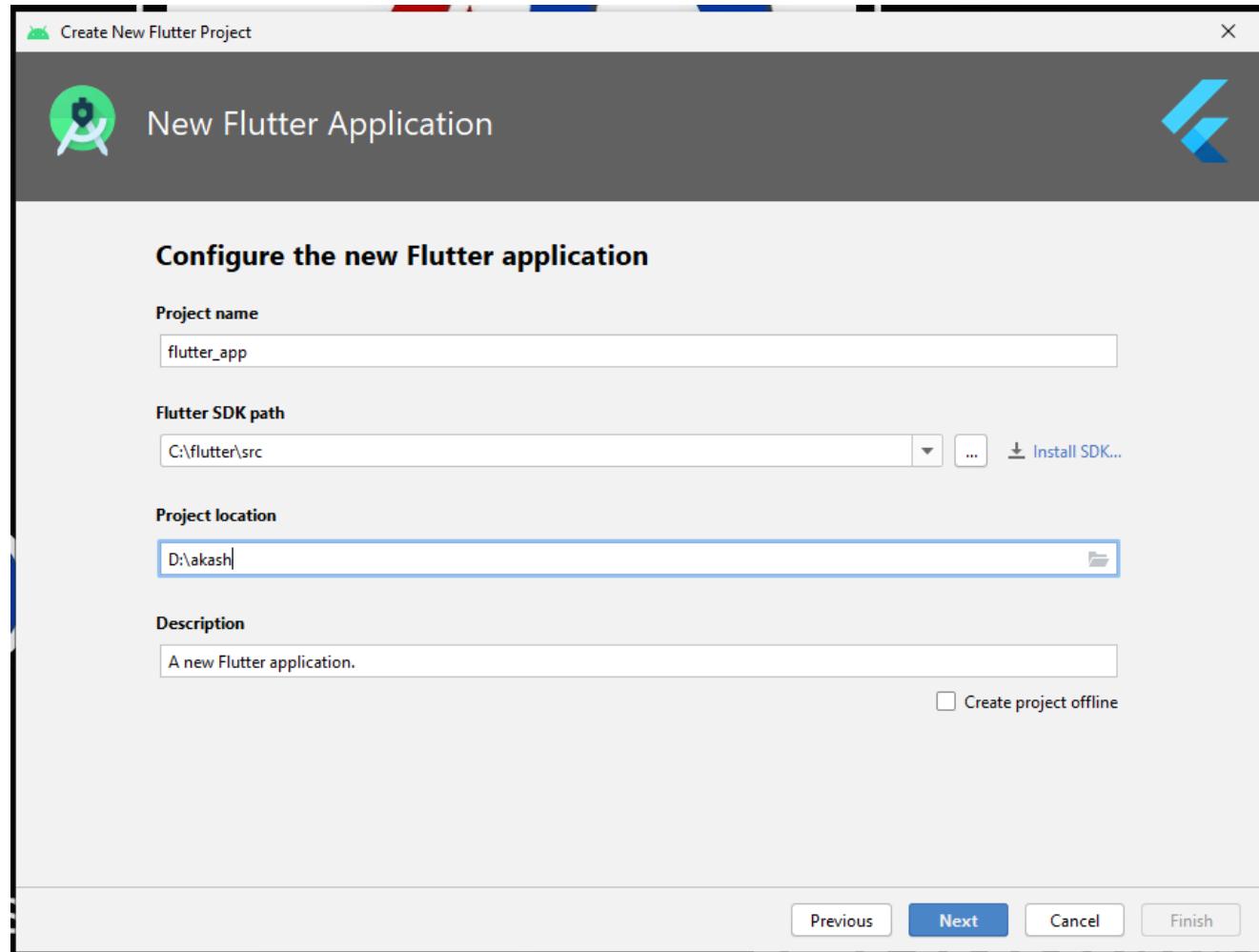
Configure Flutter Application



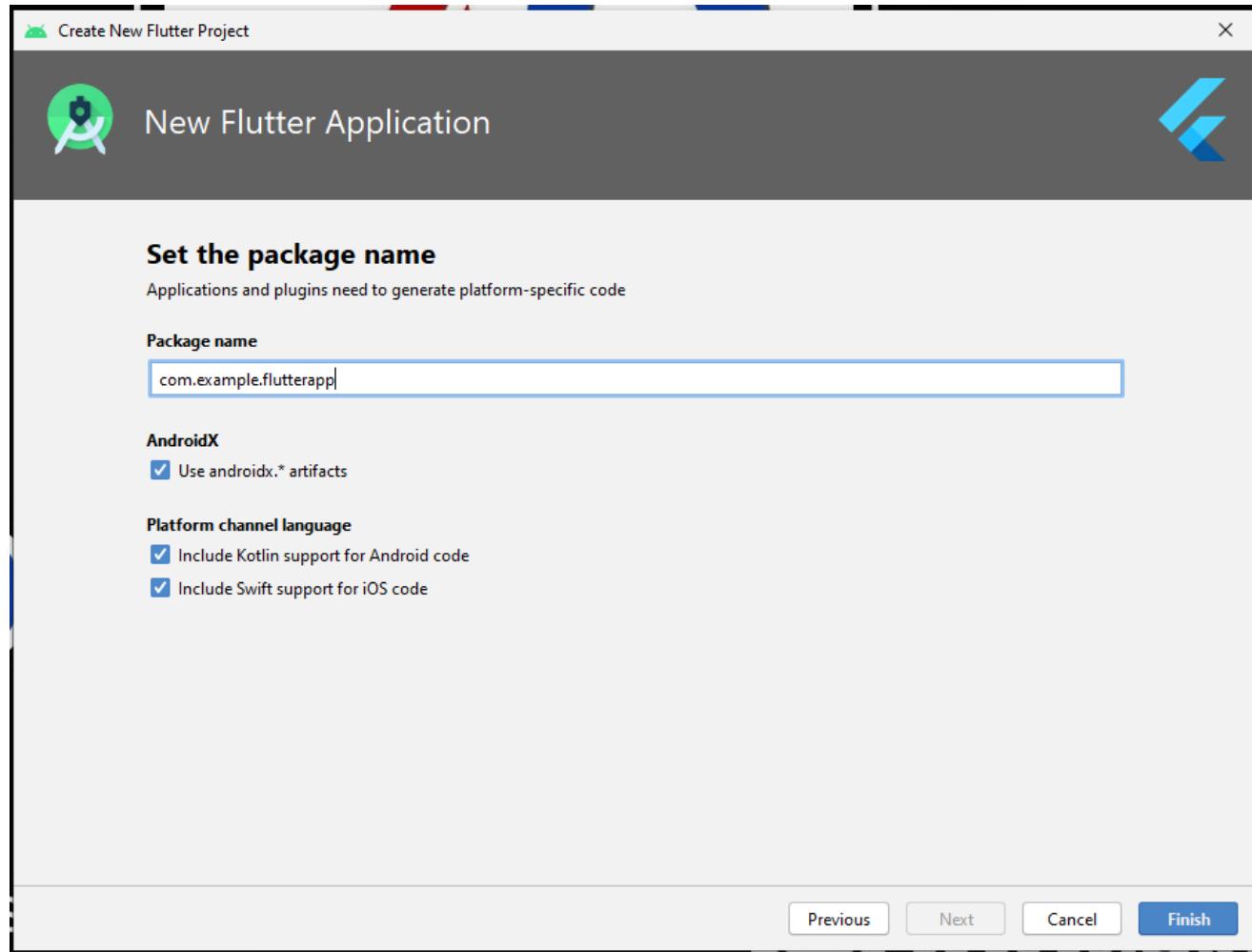
Select Flutter SDK Path



Select Project Location



Specify Package Name



Flutter Coding

The screenshot shows the Android Studio interface with a Flutter project named "flutter_app". The main window displays the "main.dart" file, which contains the application's entry point. The code defines a "MyApp" class that extends "StatelessWidget" and returns a "MaterialApp" widget. The "MaterialApp" widget has a title of "Flutter Demo" and a theme defined by "ThemeData". The "primarySwatch" is set to "Colors.blue". The "home" property points to a "MyHomePage" widget with the title "Flutter Demo Home Page". The "MyHomePage" class extends "StatefulWidget". The code editor highlights the "primarySwatch" line with a yellow background. The bottom of the screen shows the Logcat tab, which currently displays the message "Please configure Android SDK".

```
import 'package:flutter/material.dart';

void main() => runApp(MyApp());

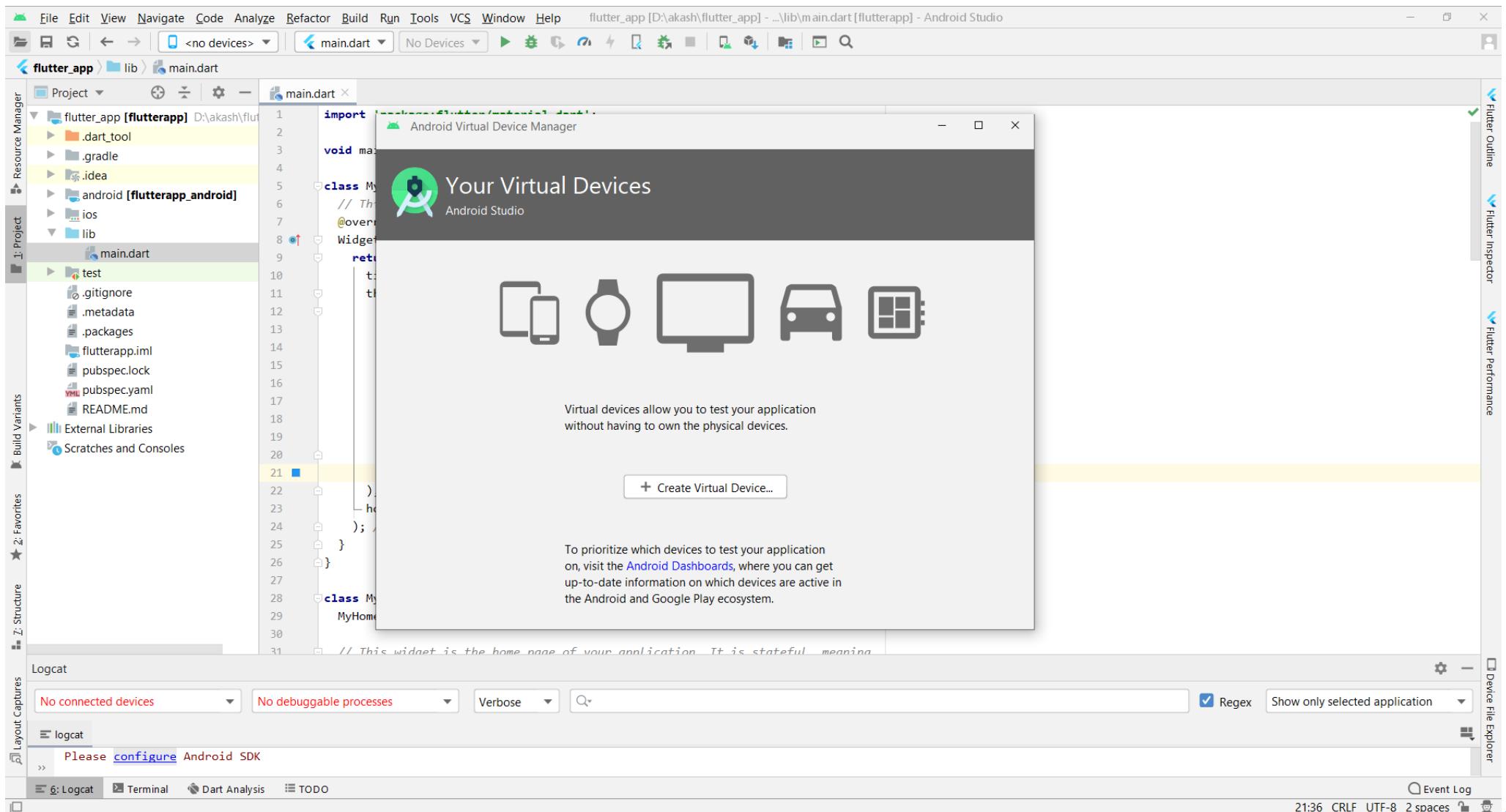
class MyApp extends StatelessWidget {
    // This widget is the root of your application.
    @override
    Widget build(BuildContext context) {
        return MaterialApp(
            title: 'Flutter Demo',
            theme: ThemeData(
                // This is the theme of your application.
                //
                // Try running your application with "flutter run". You'll see the
                // application has a blue toolbar. Then, without quitting the app, try
                // changing the primarySwatch below to Colors.green and then invoke
                // "hot reload" (press "r" in the console where you ran "flutter run",
                // or simply save your changes to "hot reload" in a Flutter IDE).
                // Notice that the counter didn't reset back to zero; the application
                // is not restarted.
                primarySwatch: Colors.blue,
            ), // ThemeData
            home: MyHomePage(title: 'Flutter Demo Home Page'),
        ); // MaterialApp
    }
}

class MyHomePage extends StatefulWidget {
    MyHomePage({Key key, this.title}) : super(key: key);

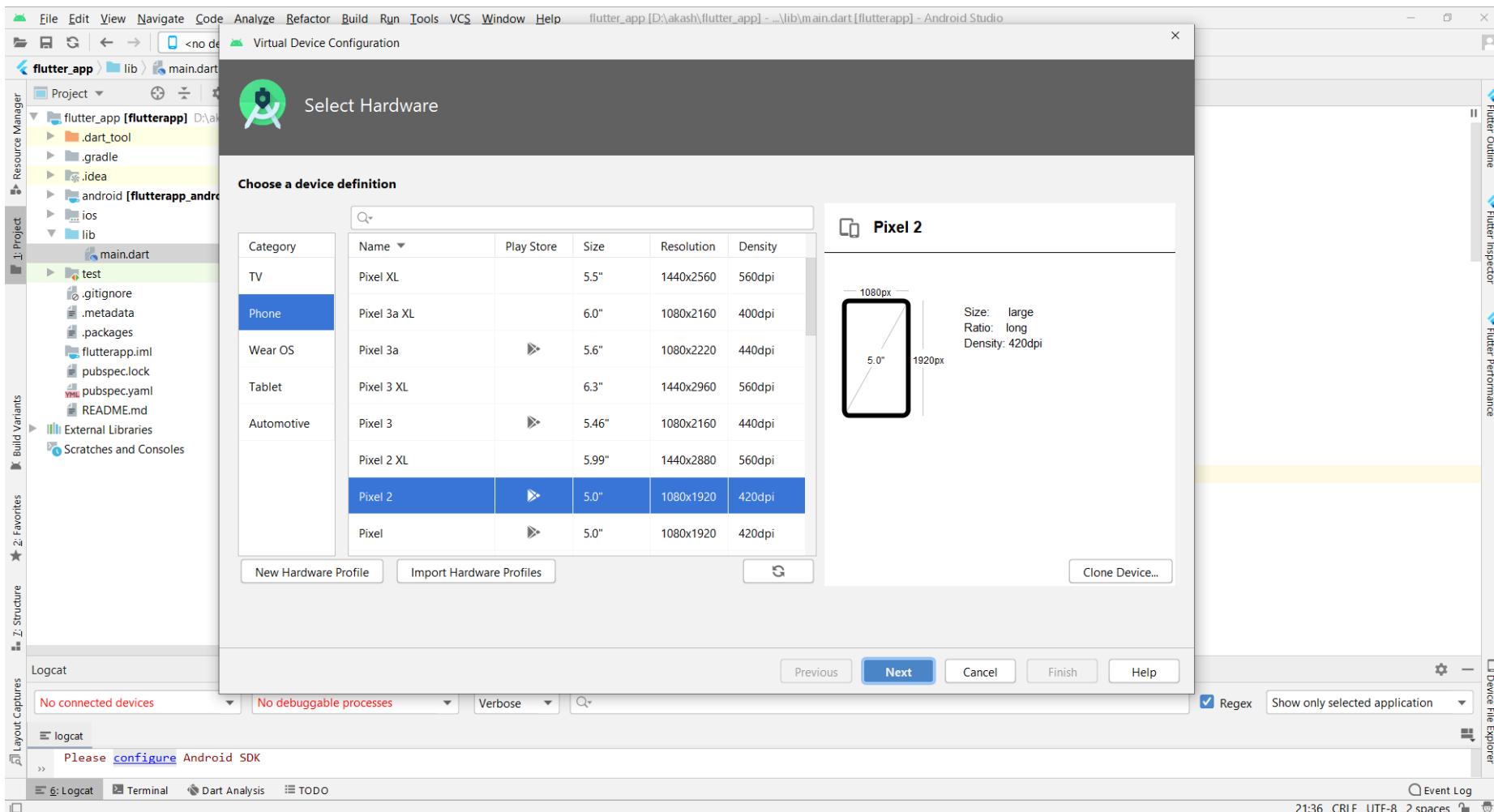
    // This widget is the home page of your application. It is stateful, meaning
}
```



Create Virtual Device



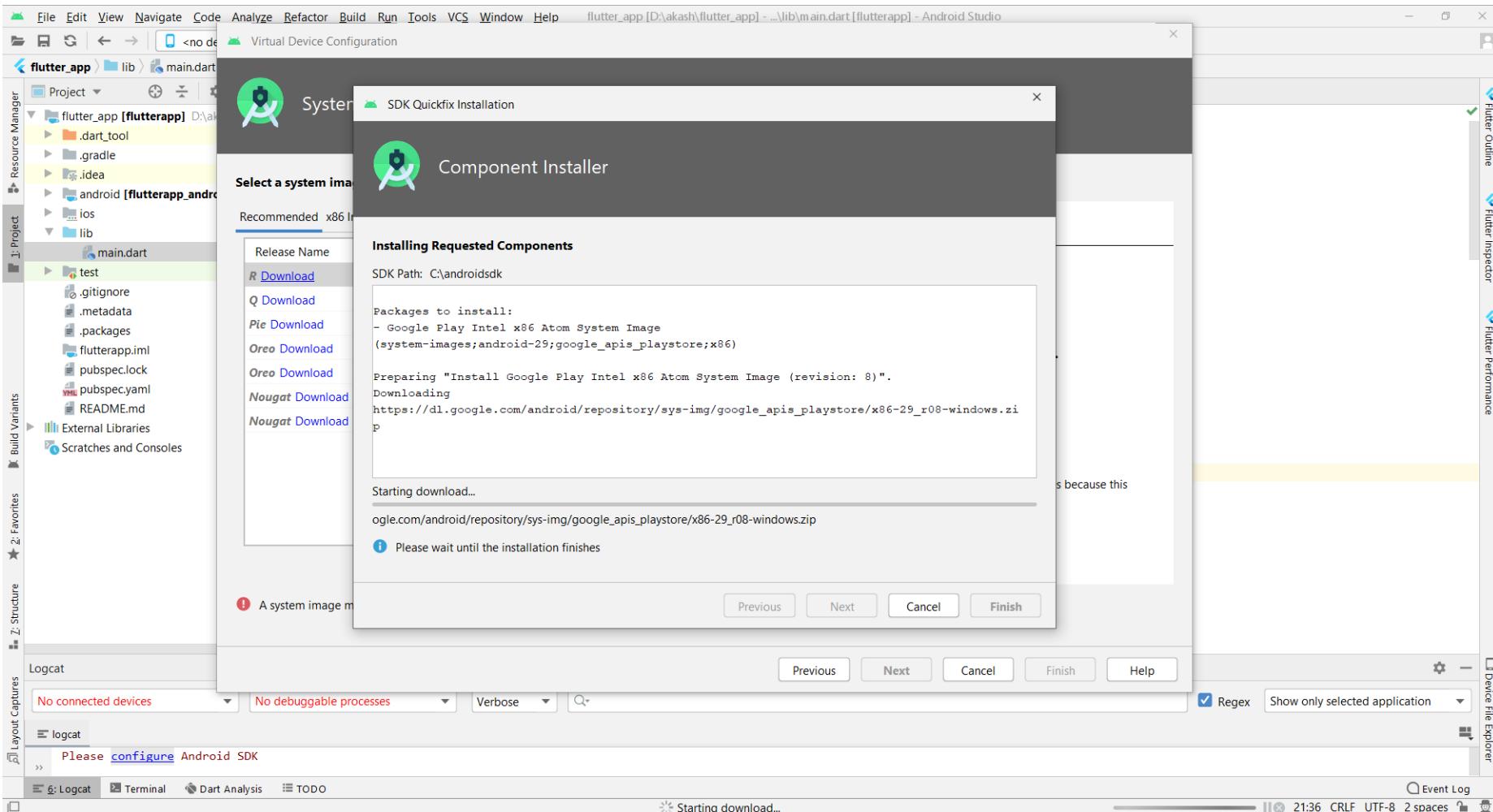
Download AVD



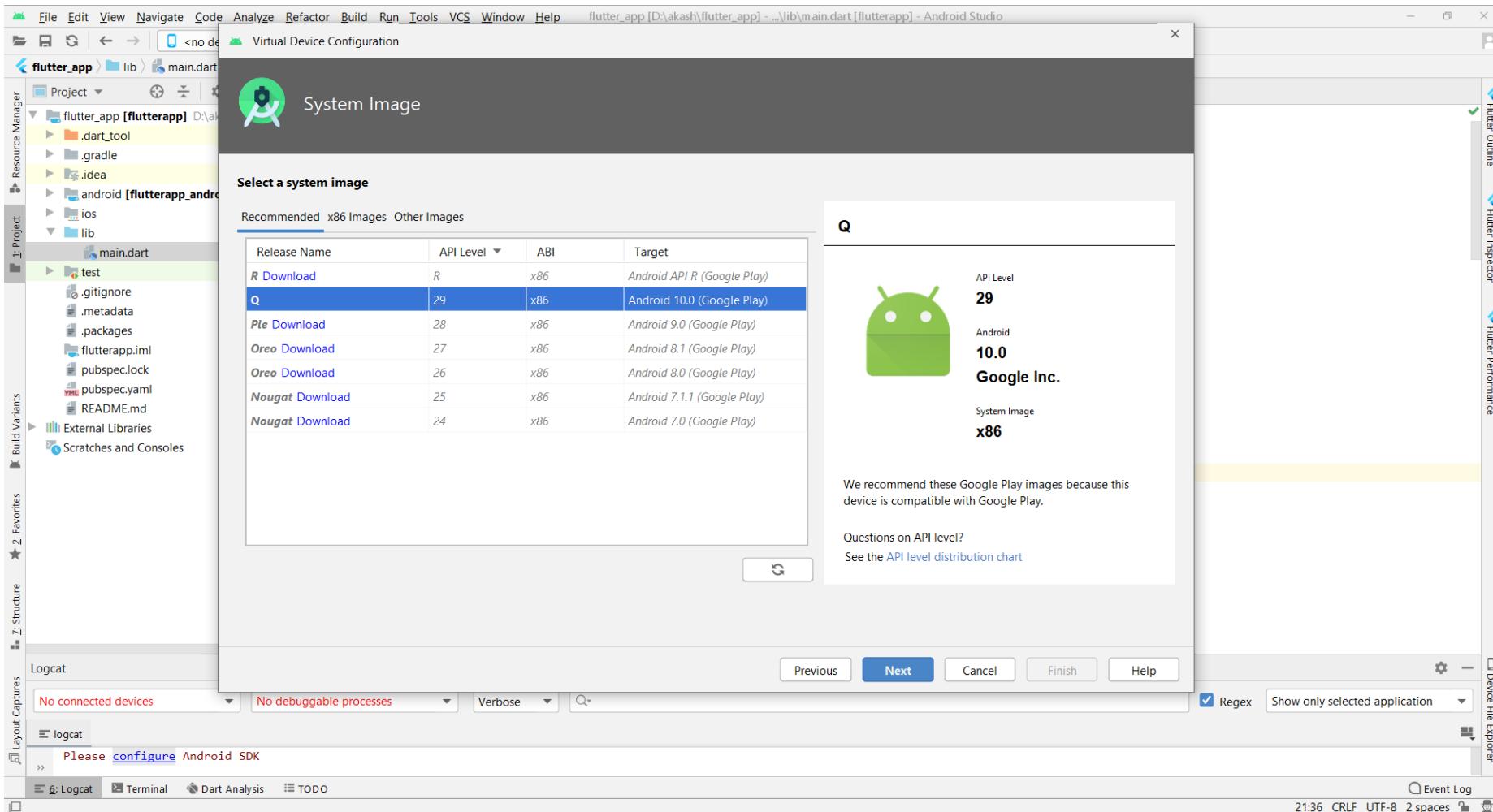
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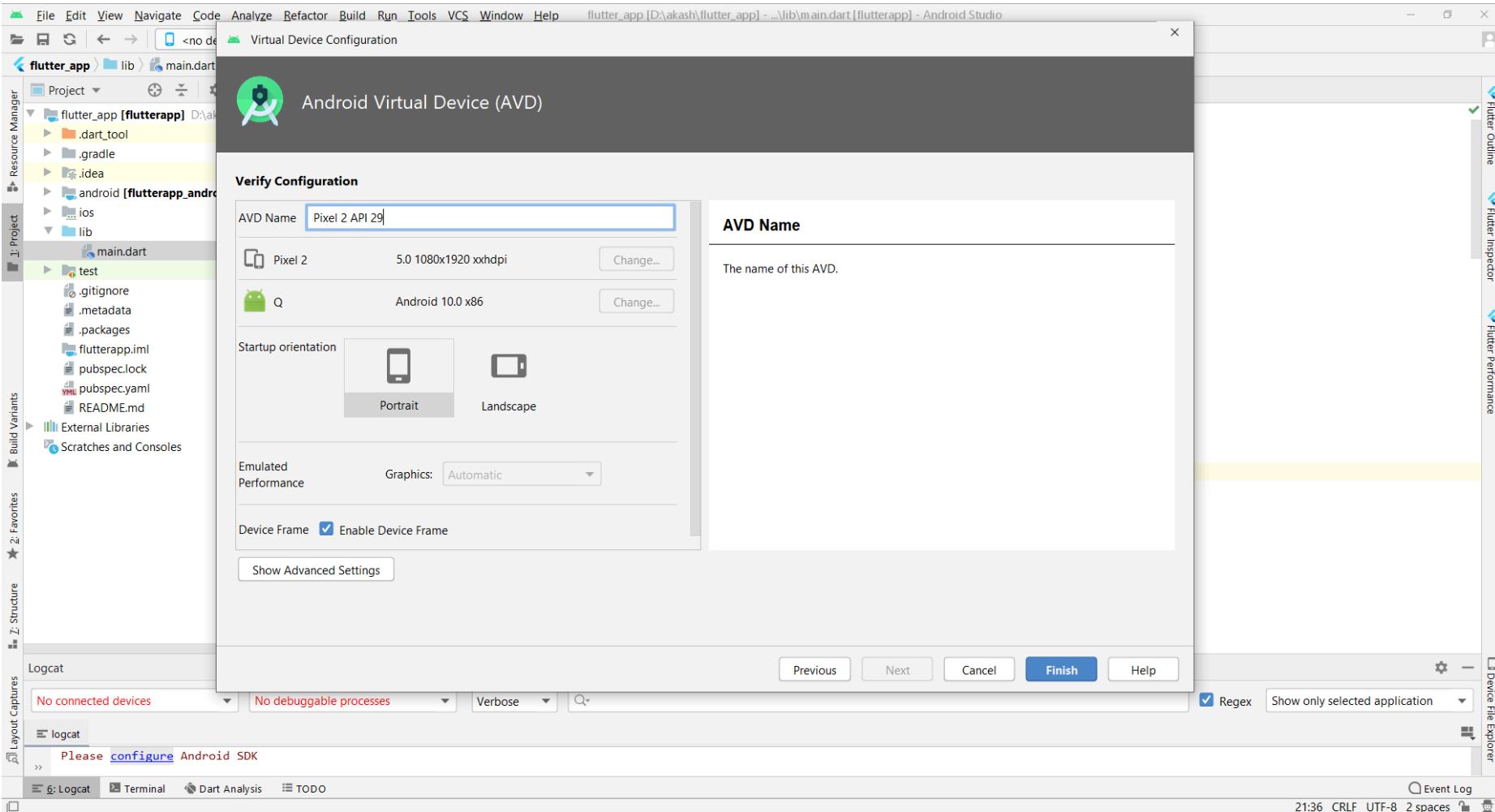
Downloading...



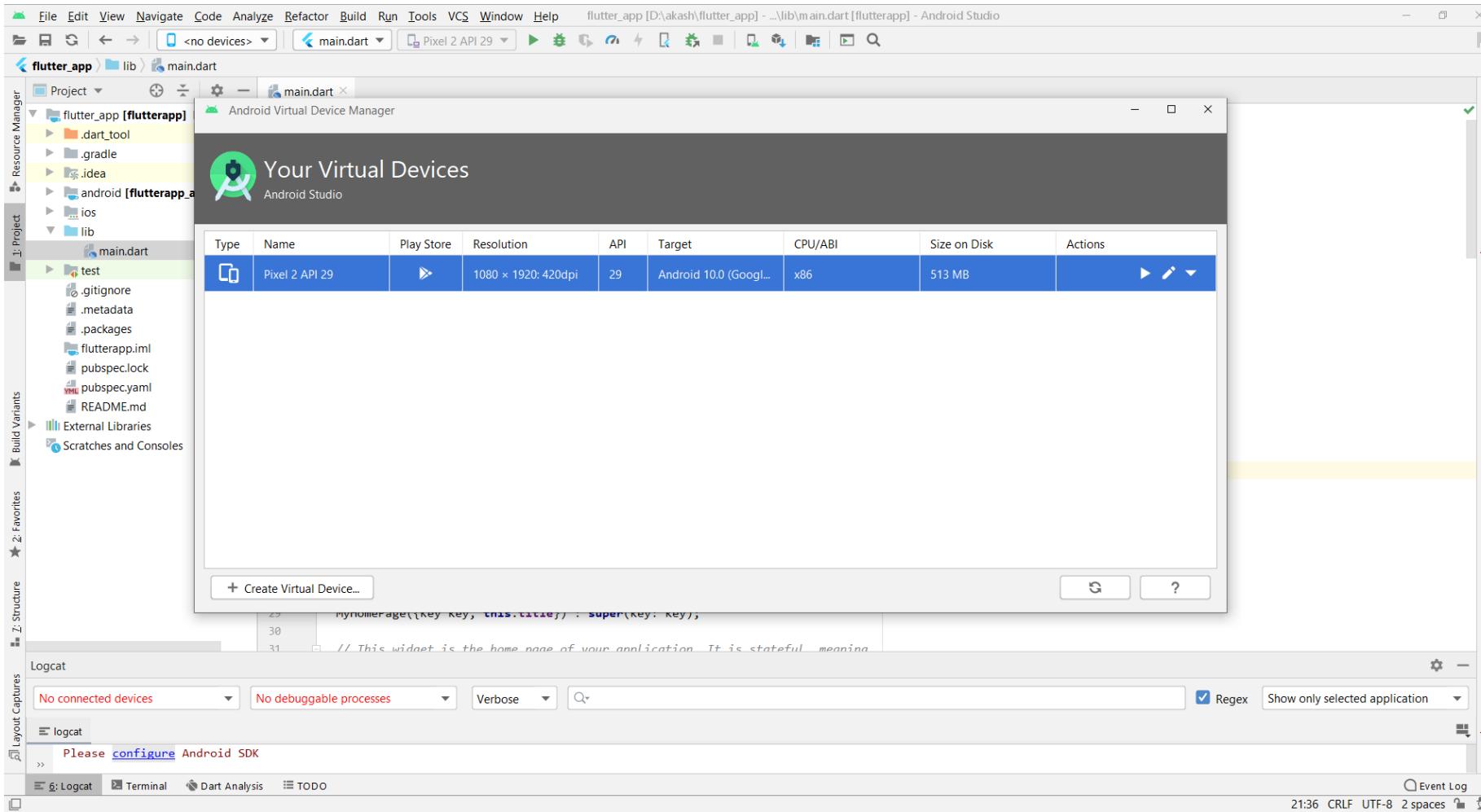
Select Android API



Create AVD



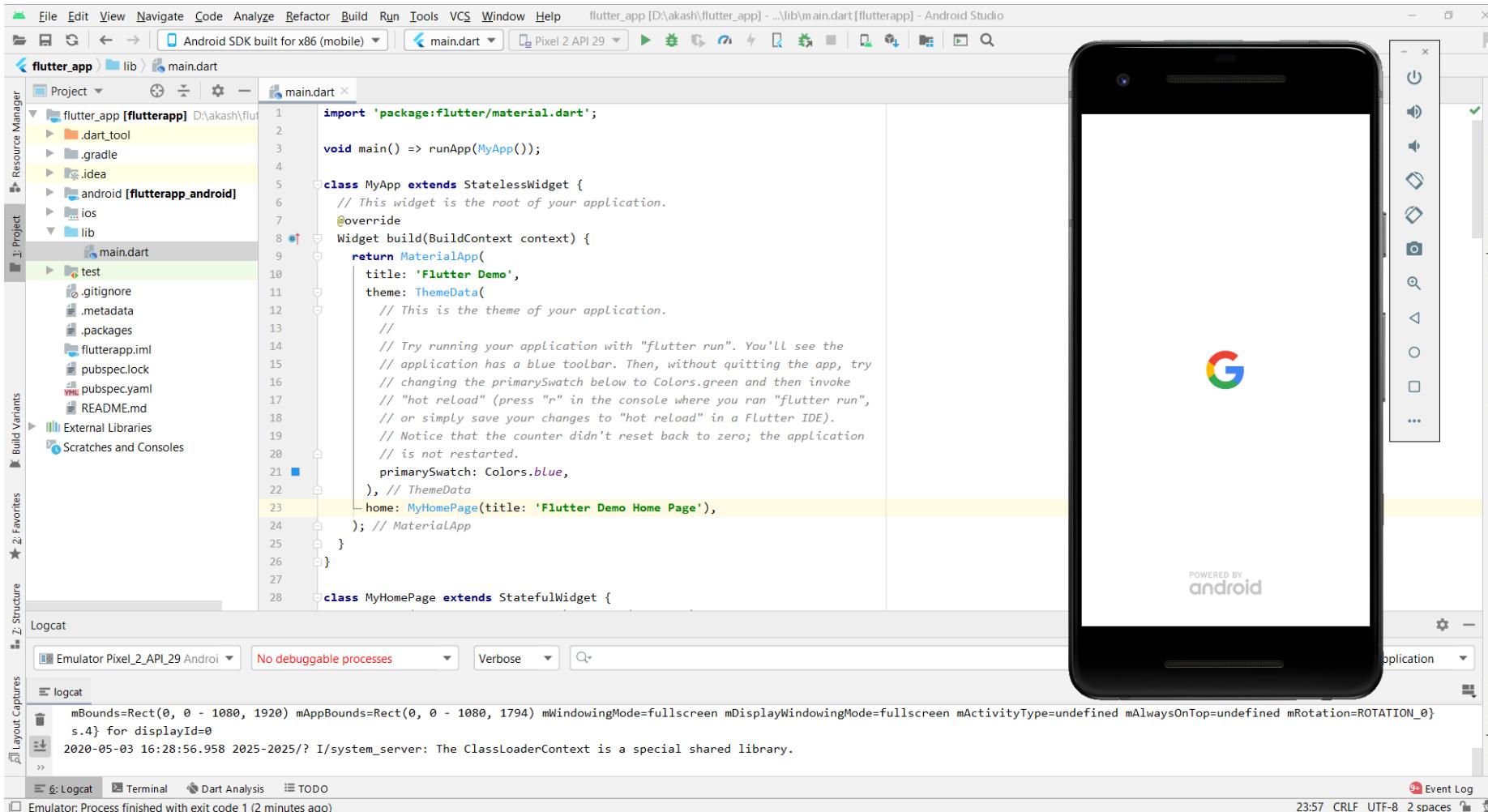
Start Virtual Device



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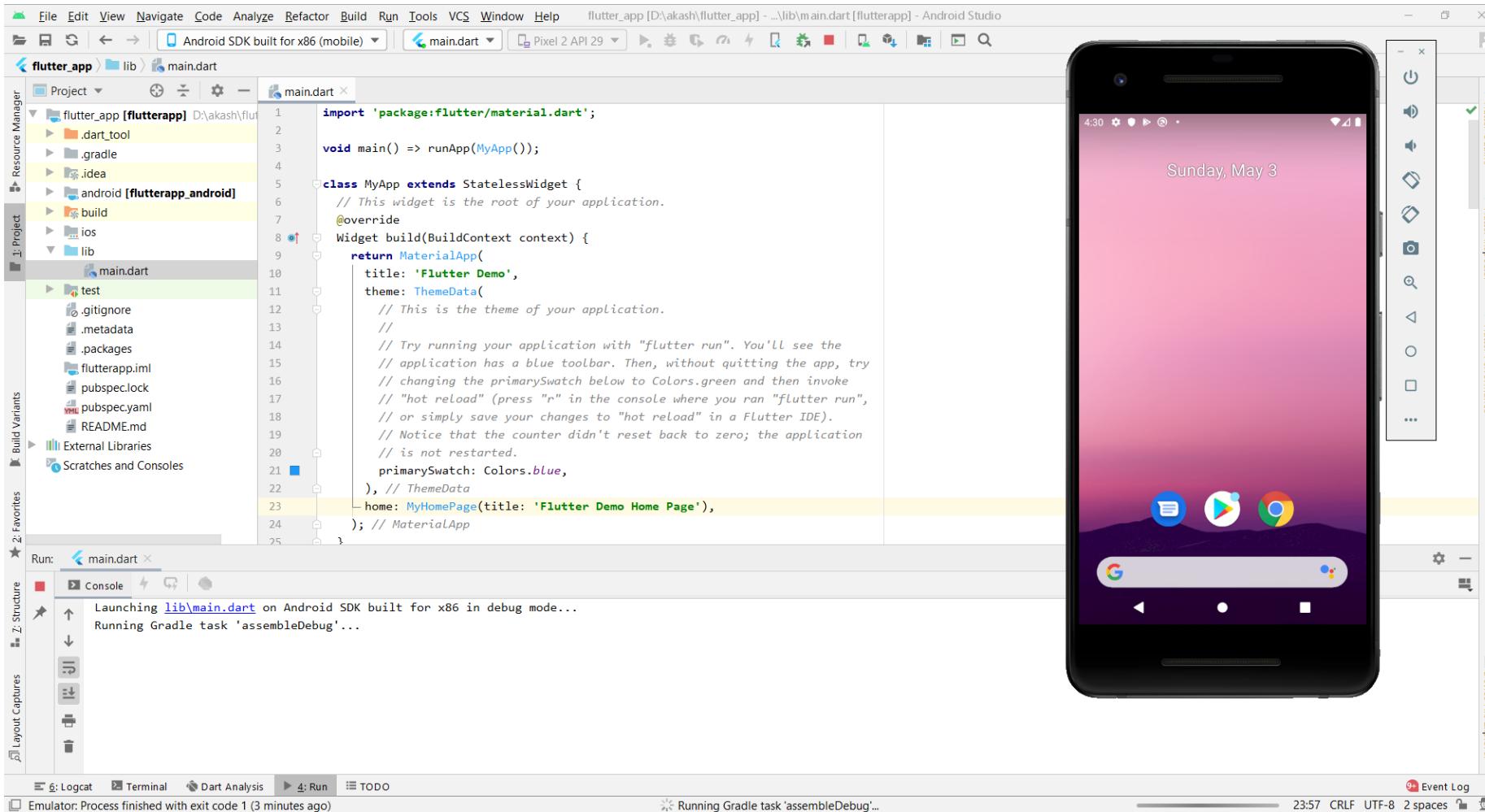
Waiting .. 😊

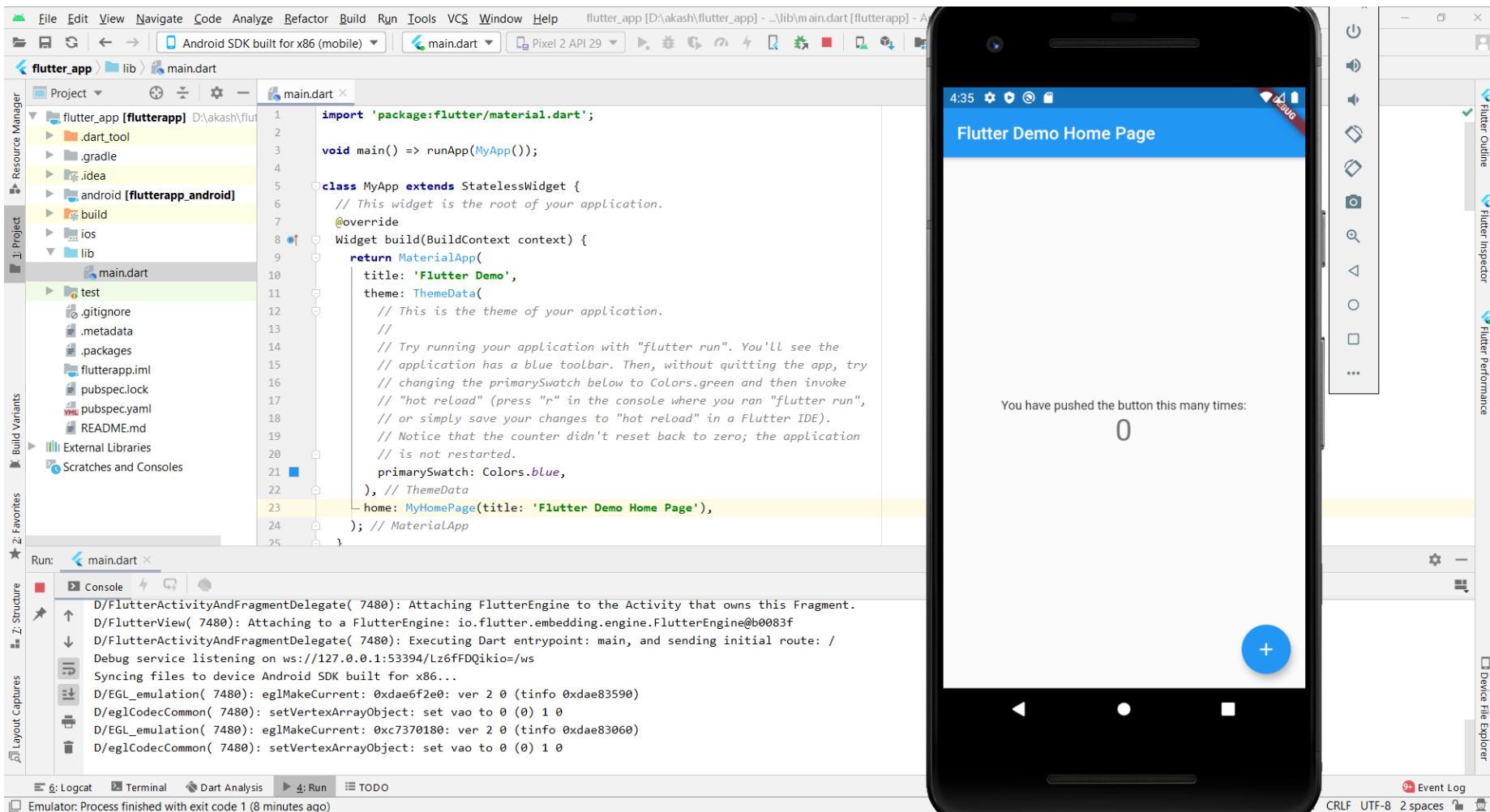


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Waiting .. 😊

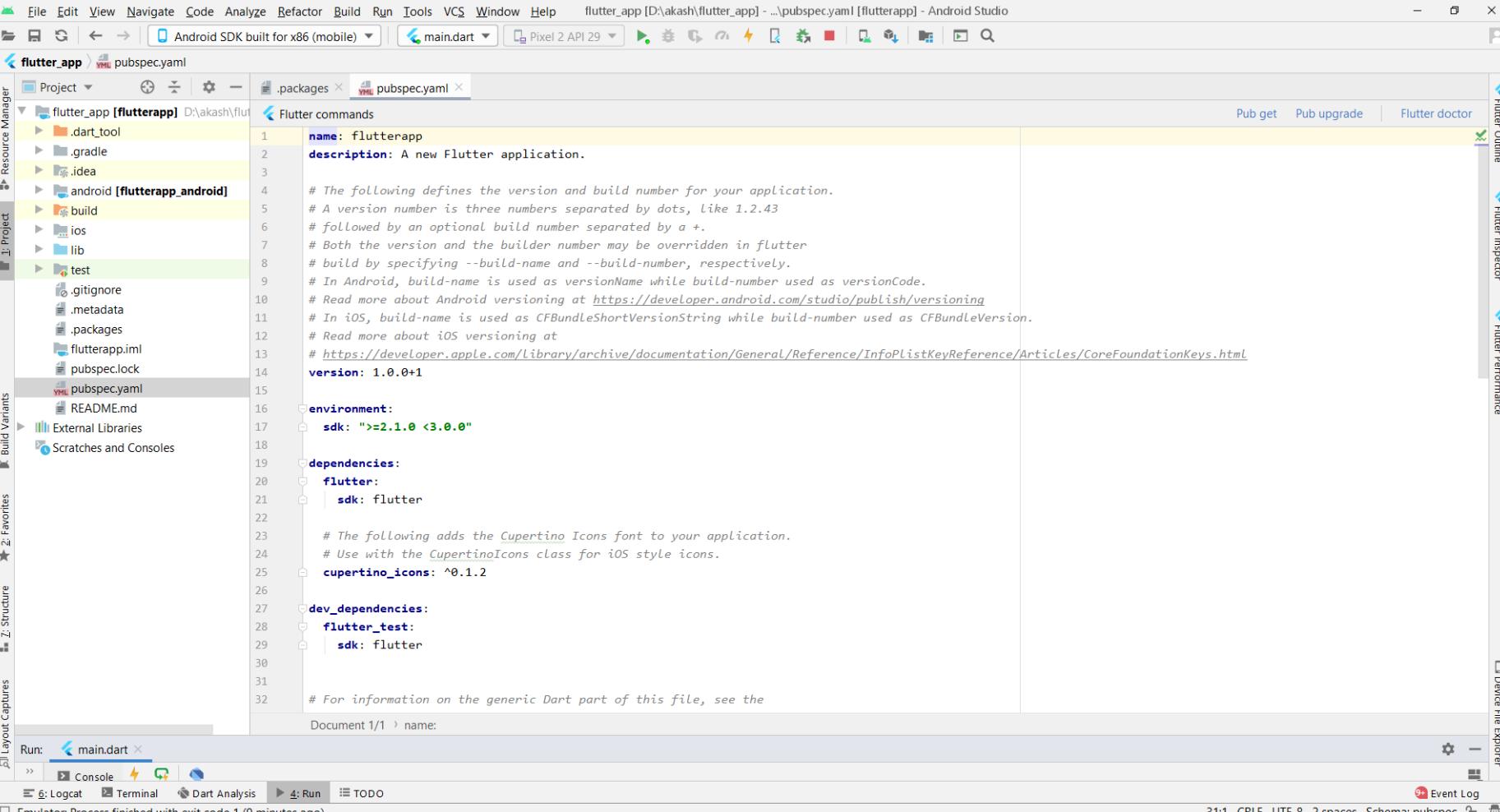




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Pubspec.yaml



The screenshot shows the Android Studio interface with the project 'flutter_app' open. The pubspec.yaml file is selected in the code editor. The code editor displays the YAML configuration for the Flutter application, including the name, version, dependencies on flutter and flutter_test, and dev_dependencies on flutter_test.

```
name: flutterapp
description: A new Flutter application.

# The following defines the version and build number for your application.
# A version number is three numbers separated by dots, like 1.2.43
# followed by an optional build number separated by a +
# Both the version and the builder number may be overridden in flutter
# build by specifying --build-name and --build-number, respectively.
# In Android, build-name is used as versionName while build-number used as versionCode.
# Read more about Android versioning at https://developer.android.com/studio/publish/versioning
# In iOS, build-name is used as CFBundleShortVersionString while build-number used as CFBundleVersion.
# Read more about iOS versioning at
# https://developer.apple.com/library/archive/documentation/General/Reference/InfoPlistKeyReference/Articles/CoreFoundationKeys.html
version: 1.0.0+1

environment:
  sdk: ">=2.1.0 <3.0.0"

dependencies:
  flutter:
    sdk: flutter

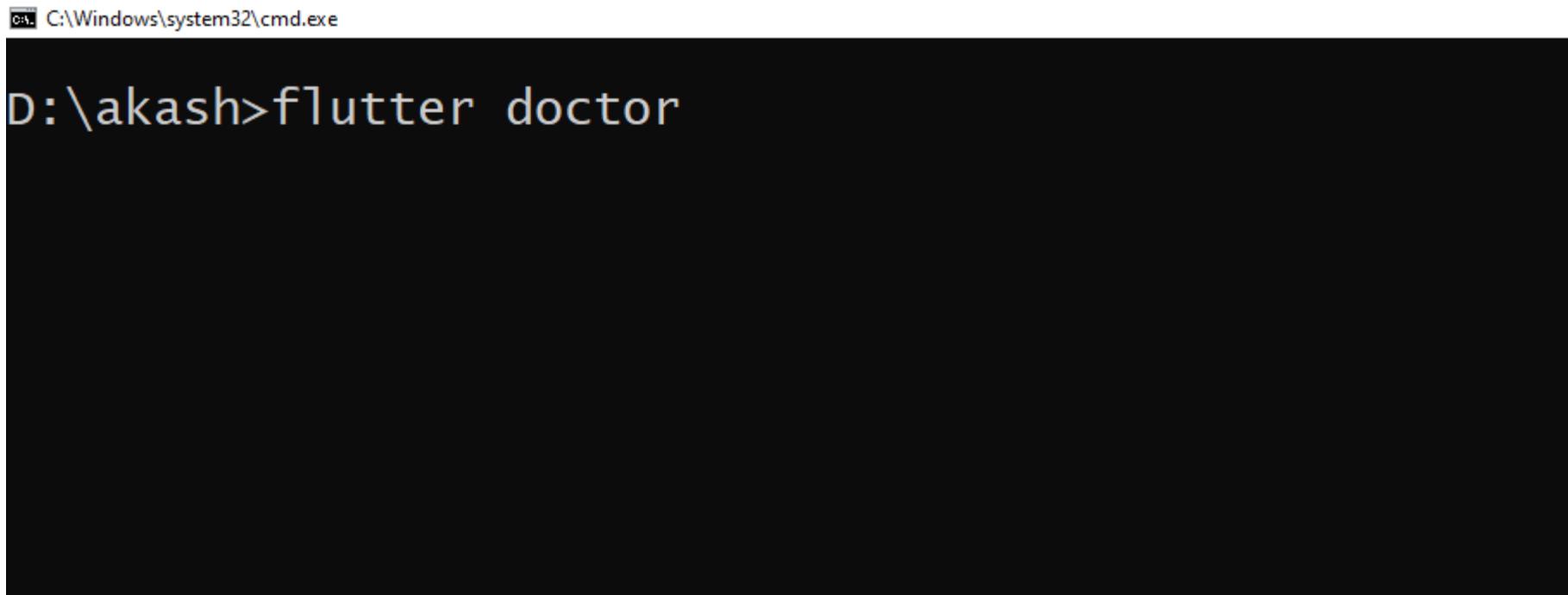
  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^0.1.2

dev_dependencies:
  flutter_test:
    sdk: flutter

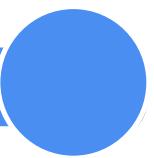
# For information on the generic Dart part of this file, see the
# Document 1/1 > name:
```



Flutter doctor



A screenshot of a Windows command prompt window titled 'C:\Windows\system32\cmd.exe'. The command 'D:\akash>flutter doctor' is typed into the window. The rest of the window is blank, indicating no output has been displayed.



Requirement Satisfy 😊

```
C:\Windows\system32\cmd.exe

D:\akash>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, v1.12.13+hotfix.9, on Microsoft Windows [Version 10.0.18363.778], locale en-US)
[!] Android toolchain - develop for Android devices (Android SDK version 29.0.3)
    ! Some Android licenses not accepted. To resolve this, run: flutter doctor --android-licenses
[✓] Android Studio (version 3.6)
[!] VS Code (version 1.44.2)
    X Flutter extension not installed; install from
        https://marketplace.visualstudio.com/items?itemName=Dart-Code.flutter
[!] Connected device
    ! No devices available

! Doctor found issues in 3 categories.

D:\akash>
```





Visual Studio Code

Command Line Project Create

- We can Create Flutter Project using command line
- No need to run Android Studio.



Create Project

C:\Windows\system32\cmd.exe

```
D:\akash>flutter create helloflutterapp
```



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Wait 😊

```
C:\Windows\system32\cmd.exe - flutter create helloflutterapp
helloflutterapp\ios\.gitignore (created)
helloflutterapp\ios\Flutter\AppFrameworkInfo.plist (created)
helloflutterapp\ios\Flutter\Debug.xcconfig (created)
helloflutterapp\ios\Flutter\Release.xcconfig (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Contents.json (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-1024x1024@1x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-20x20@1x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-20x20@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-20x20@3x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-29x29@1x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-29x29@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-29x29@3x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-40x40@1x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-40x40@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-40x40@3x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-60x60@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-60x60@3x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-76x76@1x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-76x76@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\AppIcon.appiconset\Icon-App-83.5x83.5@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\Contents.json (created)
helloflutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@2x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@3x.png (created)
helloflutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\README.md (created)
helloflutterapp\ios\Runner\Base.lproj\LaunchScreen.storyboard (created)
helloflutterapp\ios\Runner\Base.lproj>Main.storyboard (created)
helloflutterapp\ios\Runner\Info.plist (created)
helloflutterapp\ios\Runner.xcodeproj\project.xcworkspace\contents.xcworkspacedata (created)
helloflutterapp\ios\Runner.xcworkspace\contents.xcworkspacedata (created)
helloflutterapp\lib\main.dart (created)
helloflutterapp\helloflutterapp.iml (created)
helloflutterapp\pubspec.yaml (created)
helloflutterapp\README.md (created)
helloflutterapp\test\widget_test.dart (created)
Running "flutter pub get" in helloflutterapp...
```



Project Created

```
C:\Windows\system32\cmd.exe
hellol flutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@2x.png (created)
hellol flutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@3x.png (created)
hellol flutterapp\ios\Runner\Assets.xcassets\LaunchImage.imageset\README.md (created)
hellol flutterapp\ios\Runner\Base.lproj\LaunchScreen.storyboard (created)
hellol flutterapp\ios\Runner\Base.lproj>Main.storyboard (created)
hellol flutterapp\ios\Runner\Info.plist (created)
hellol flutterapp\ios\Runner.xcodeproj\project.xcworkspace\contents.xcworkspacedata (created)
hellol flutterapp\ios\Runner.xcworkspace\contents.xcworkspacedata (created)
hellol flutterapp\lib\main.dart (created)
hellol flutterapp\hellol flutterapp.iml (created)
hellol flutterapp\pubspec.yaml (created)
hellol flutterapp\README.md (created)
hellol flutterapp\test\widget_test.dart (created)
Running "flutter pub get" in hellol flutterapp...                                9.9s
Wrote 68 files.

All done!
[✓] Flutter: is fully installed. (Channel stable, v1.12.13+hotfix.9, on Microsoft Windows [Version
    10.0.18363.778], locale en-US)
[!] Android toolchain - develop for Android devices: is partially installed; more components are available.
    (Android SDK version 29.0.3)
[✓] Android Studio: is fully installed. (version 3.6)
[!] VS Code: is partially installed; more components are available. (version 1.44.2)
[!] Connected device: is not available.

Run "flutter doctor" for information about installing additional components.

In order to run your application, type:

$ cd hellol flutterapp
$ flutter run

Your application code is in hellol flutterapp\lib\main.dart.

D:\akash>
```



Get Installed Emulators

flutter emulators

```
C:\Windows\system32\cmd.exe
```

```
D:\akash\helloflutterapp>flutter emulators  
1 available emulator:
```

```
Pixel_2_API_29 • Pixel 2 API 29 • Google • android
```

```
To run an emulator, run 'flutter emulators --launch <emulator id>'.  
To create a new emulator, run 'flutter emulators --create [--name xyz]'.
```

```
You can find more information on managing emulators at the links below:
```

```
https://developer.android.com/studio/run/managing-avds
```

```
https://developer.android.com/studio/command-line/avdmanager
```

```
D:\akash\helloflutterapp>
```



Run Emulators

```
C:\Windows\system32\cmd.exe - flutter emulators --launch Pixel_2_API_29

D:\akash\helloflutterapp>flutter emulators
1 available emulator:

Pixel_2_API_29 • Pixel 2 API 29 • Google • android

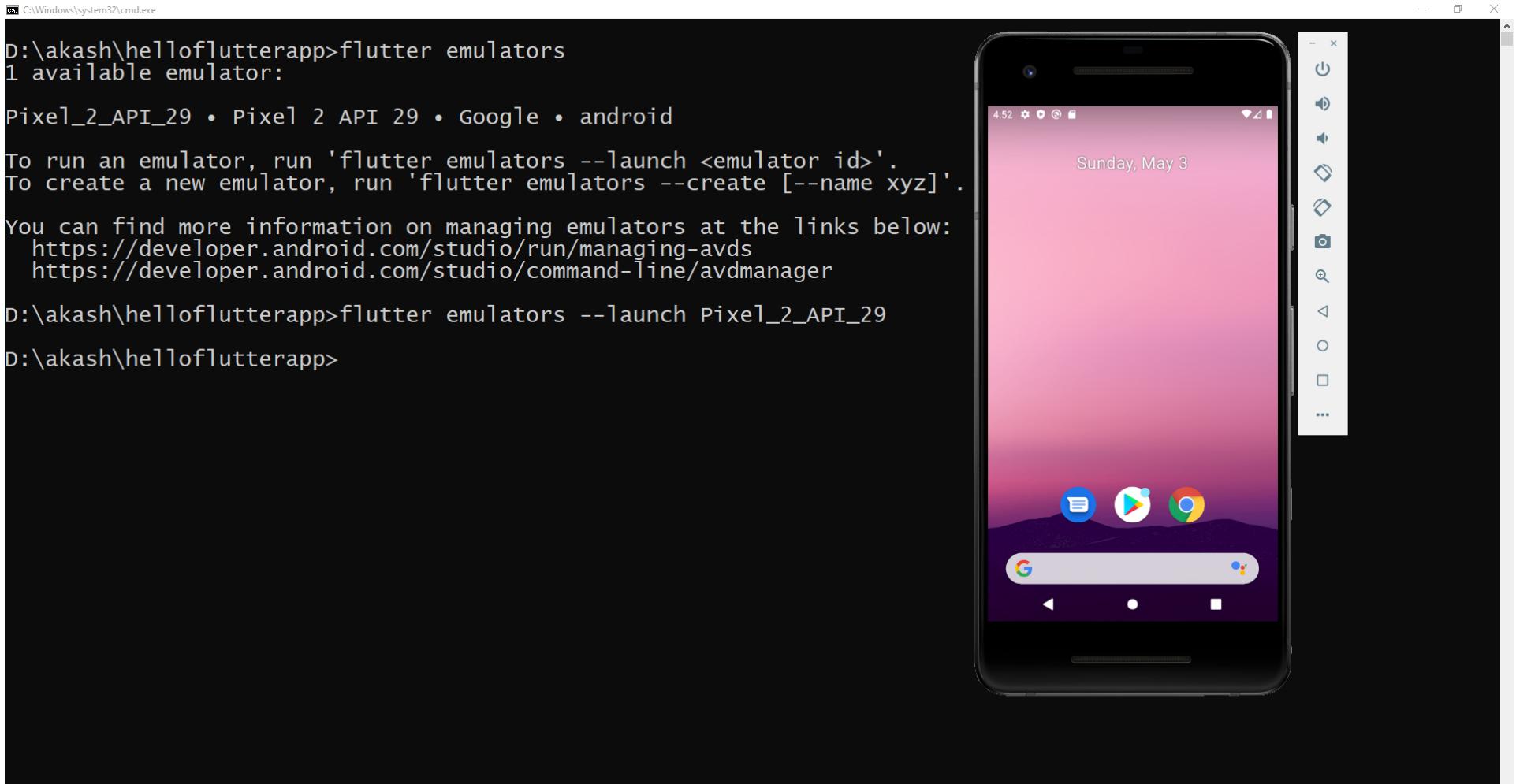
To run an emulator, run 'flutter emulators --launch <emulator id>'.
To create a new emulator, run 'flutter emulators --create [--name xyz]'.

You can find more information on managing emulators at the links below:
  https://developer.android.com/studio/run/managing-avds
  https://developer.android.com/studio/command-line/avdmanager

D:\akash\helloflutterapp>flutter emulators --launch Pixel_2_API_29 ←
```



Ready to Launch App 😊



D:\akash\helloflutterapp>flutter emulators
1 available emulator:

Pixel_2_API_29 • Pixel 2 API 29 • Google • android

To run an emulator, run 'flutter emulators --launch <emulator id>'.
To create a new emulator, run 'flutter emulators --create [--name xyz]'.

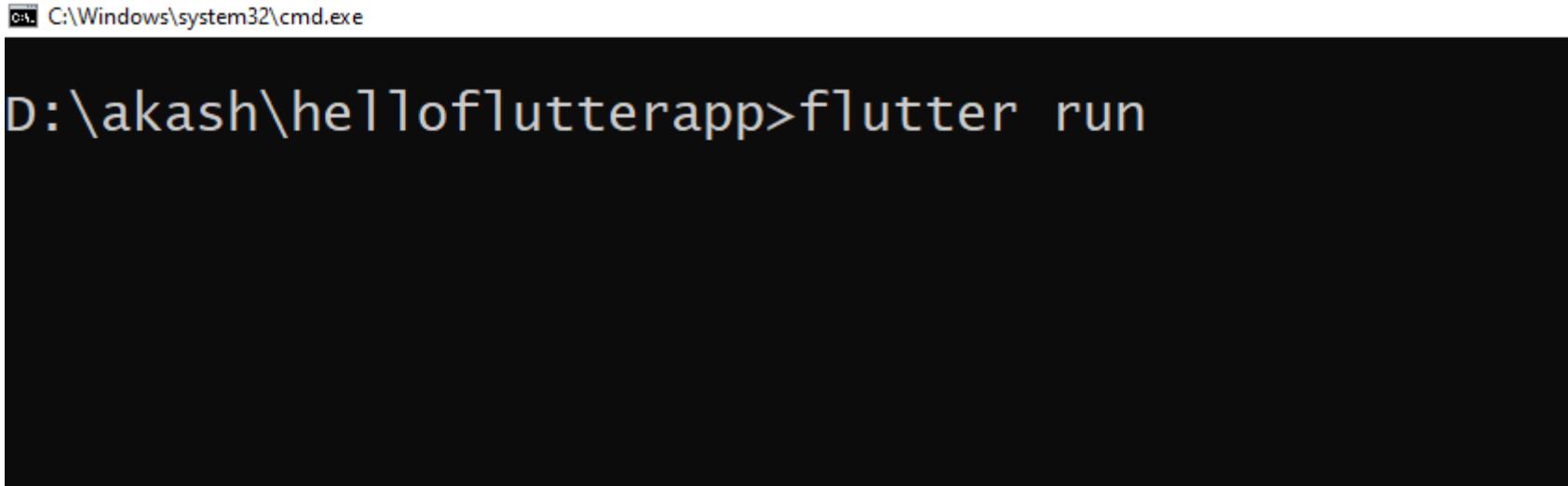
You can find more information on managing emulators at the links below:
 <https://developer.android.com/studio/run/managing-avds>
 <https://developer.android.com/studio/command-line/avdmanager>

D:\akash\helloflutterapp>flutter emulators --launch Pixel_2_API_29

D:\akash\helloflutterapp>



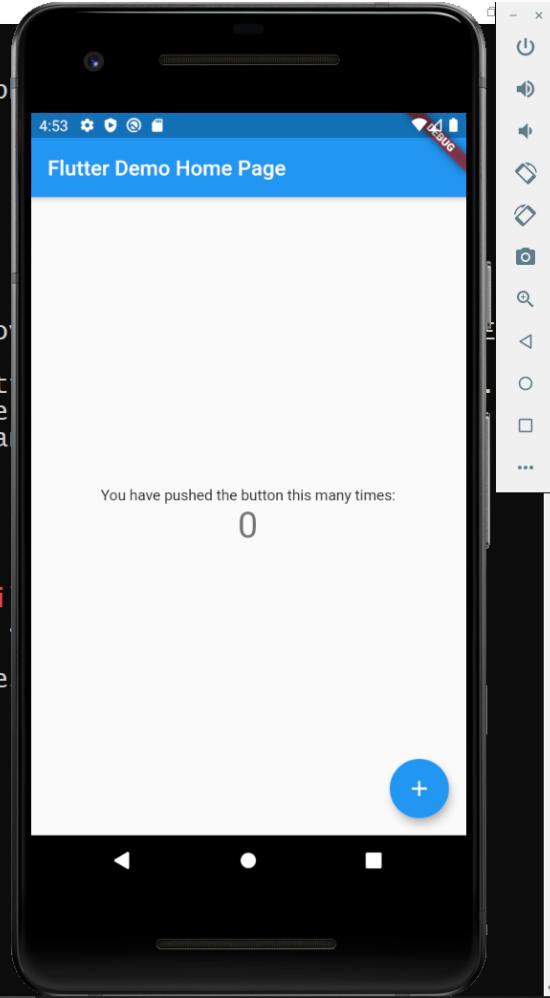
Run Project



A screenshot of a Windows command prompt window titled 'C:\Windows\system32\cmd.exe'. The window contains the command 'D:\akash\helloflutterapp>flutter run' which has been partially typed. The background of the window is black and the text is white.



Finally 😊



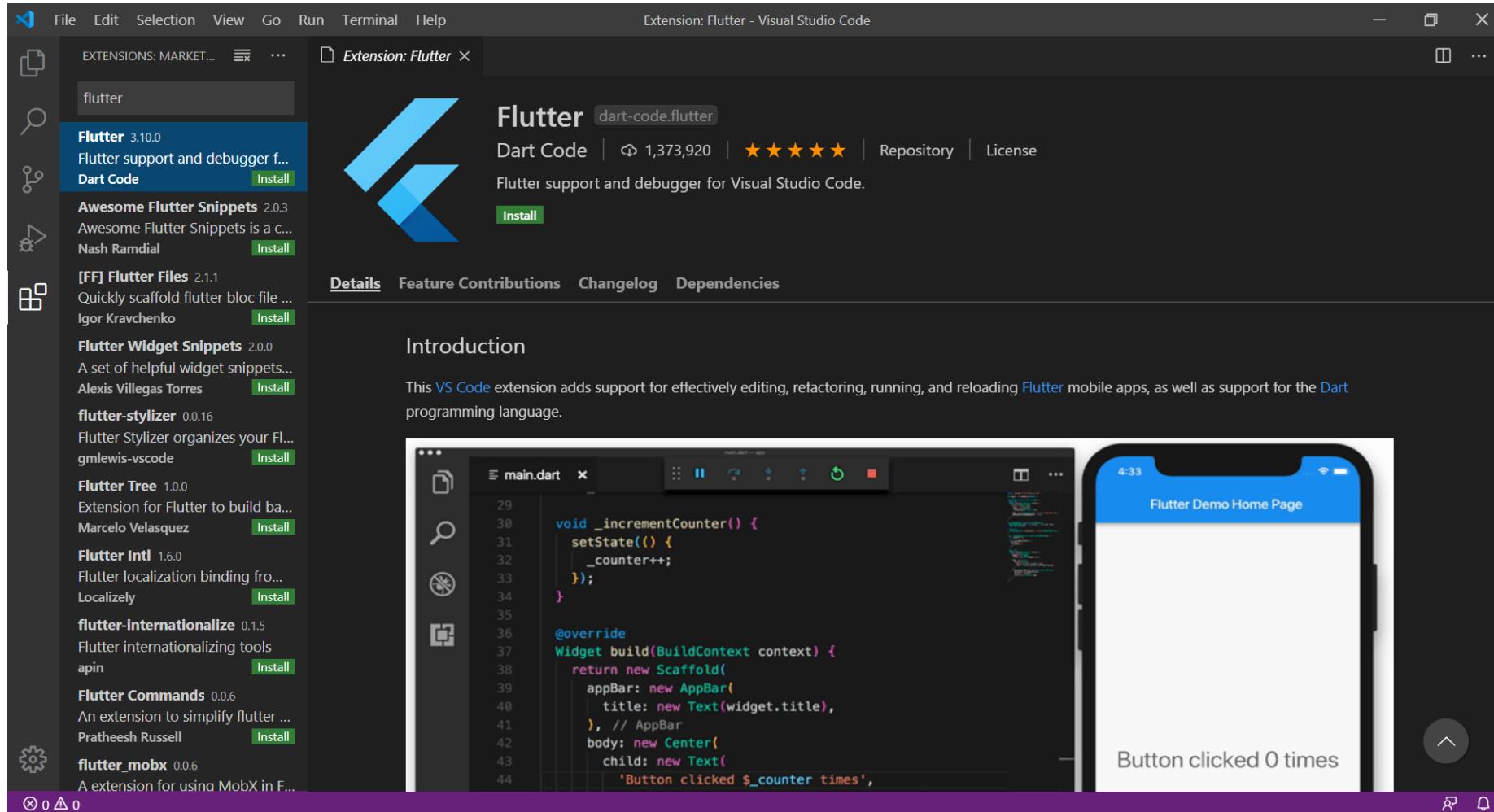
A screenshot of a Flutter application running on an iPhone X simulator. The app displays a blue header with the text "Flutter Demo Home Page". Below the header, there is a white content area with the text "You have pushed the button this many times:" followed by a large blue circular button with a white plus sign. To the right of the button, the number "0" is displayed. The status bar at the top shows the time as 4:53 and signal strength.

```
D:\akash\helloflutterapp>flutter run
Using hardware rendering with device Android SDK built for x86. If you get graph
enabling software rendering with "--enable-software-rendering".
Launching lib/main.dart on Android SDK built for x86 in debug mode...
Running Gradle task 'assembleDebug'...
Running Gradle task 'assembleDebug'... Done                                24.9s
✓ Built build\app\outputs\apk\debug\app-debug.apk.                         0.7s
Installing build\app\outputs\apk\app.apk...
D/FlutterActivity( 7749): Using the launch theme as normal theme.
D/FlutterActivityAndFragmentDelegate( 7749): Setting up FlutterEngine.
D/FlutterActivityAndFragmentDelegate( 7749): No preferred FlutterEngine was pro
ine for this FlutterFragment.
D/FlutterActivityAndFragmentDelegate( 7749): Attaching FlutterEngine to the Act
D/FlutterView( 7749): Attaching to a FlutterEngine: io.flutter.embedding.engine
D/FlutterActivityAndFragmentDelegate( 7749): Executing Dart entrypoint: main, a
D/EGL_emulation( 7749): eglMakeCurrent: 0xe6452de0: ver 2 0 (tinfo 0xe64bae90)
D/eglCodecCommon( 7749): setVertexArrayObject: set vao to 0 (0) 1 0
Syncing files to device Android SDK built for x86...
5,144ms (!)

□ □ To hot reload changes while running, press "r". To hot restart (and rebui
An Observatory debugger and profiler on Android SDK built for x86 is available
http://127.0.0.1:53744/yzKN7OjGVns=/
For a more detailed help message, press "h". To detach, press "d"; to quit, pre
```



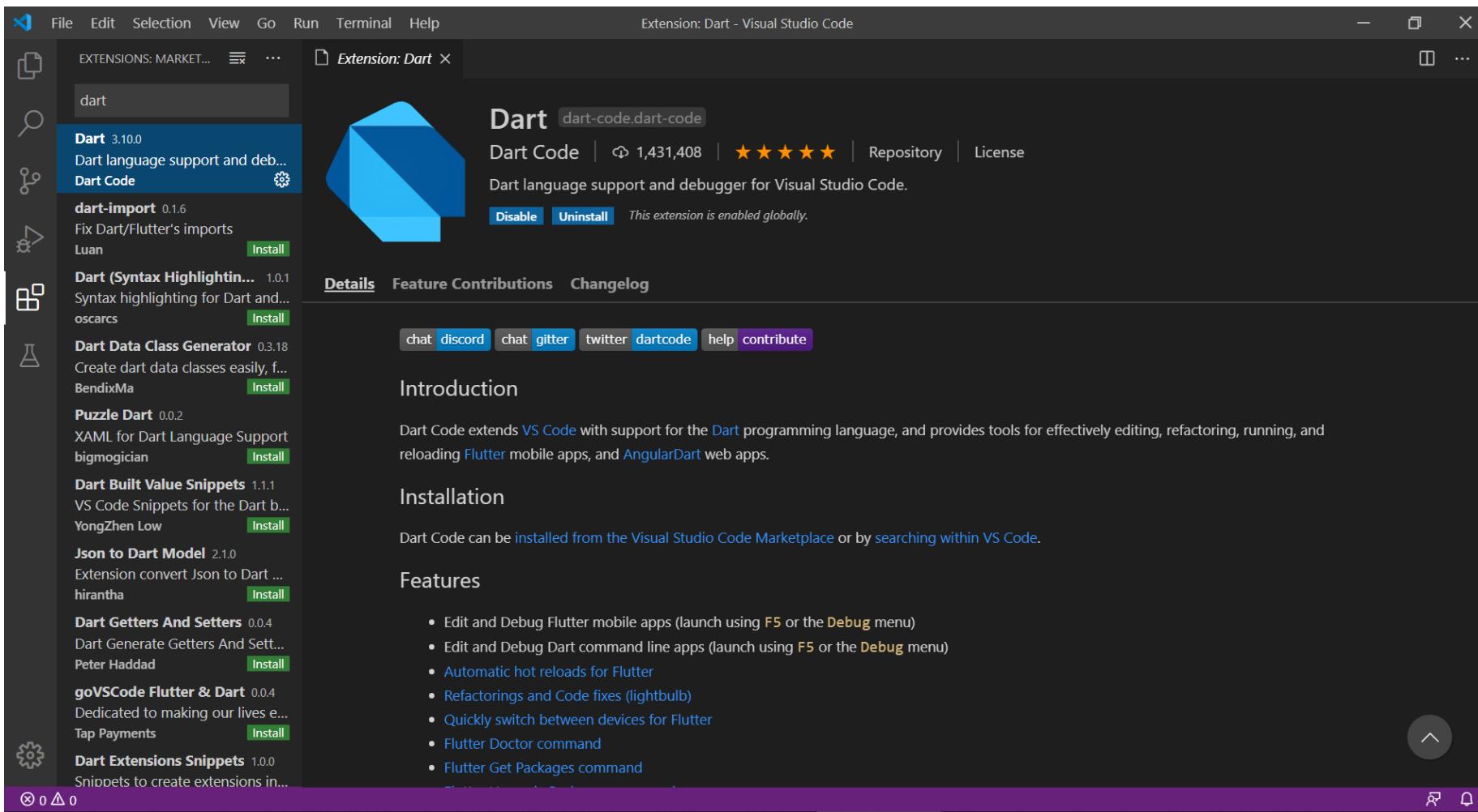
Flutter Visual Studio Extension



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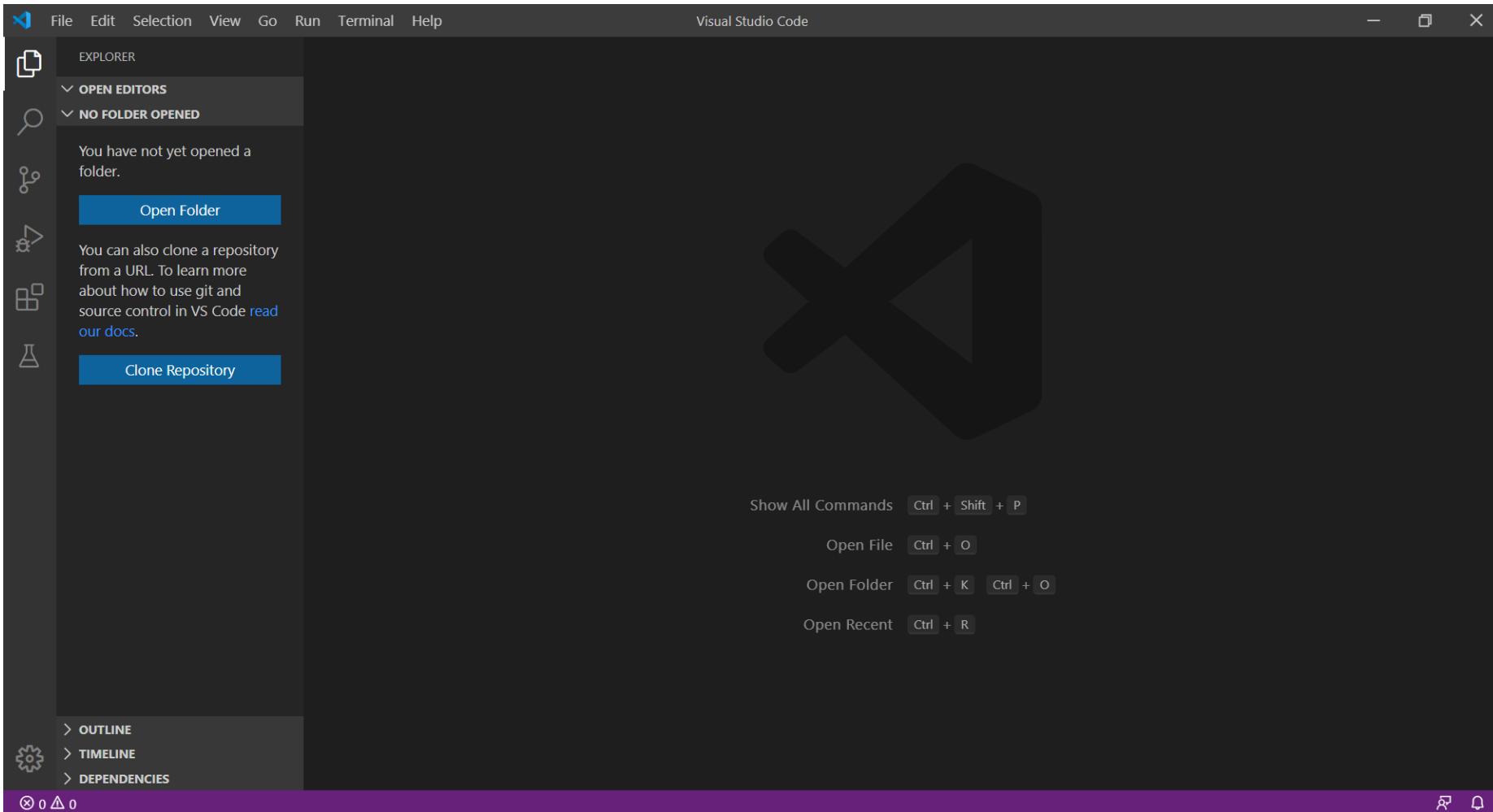
Dart Visual Studio Extension



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Open Project



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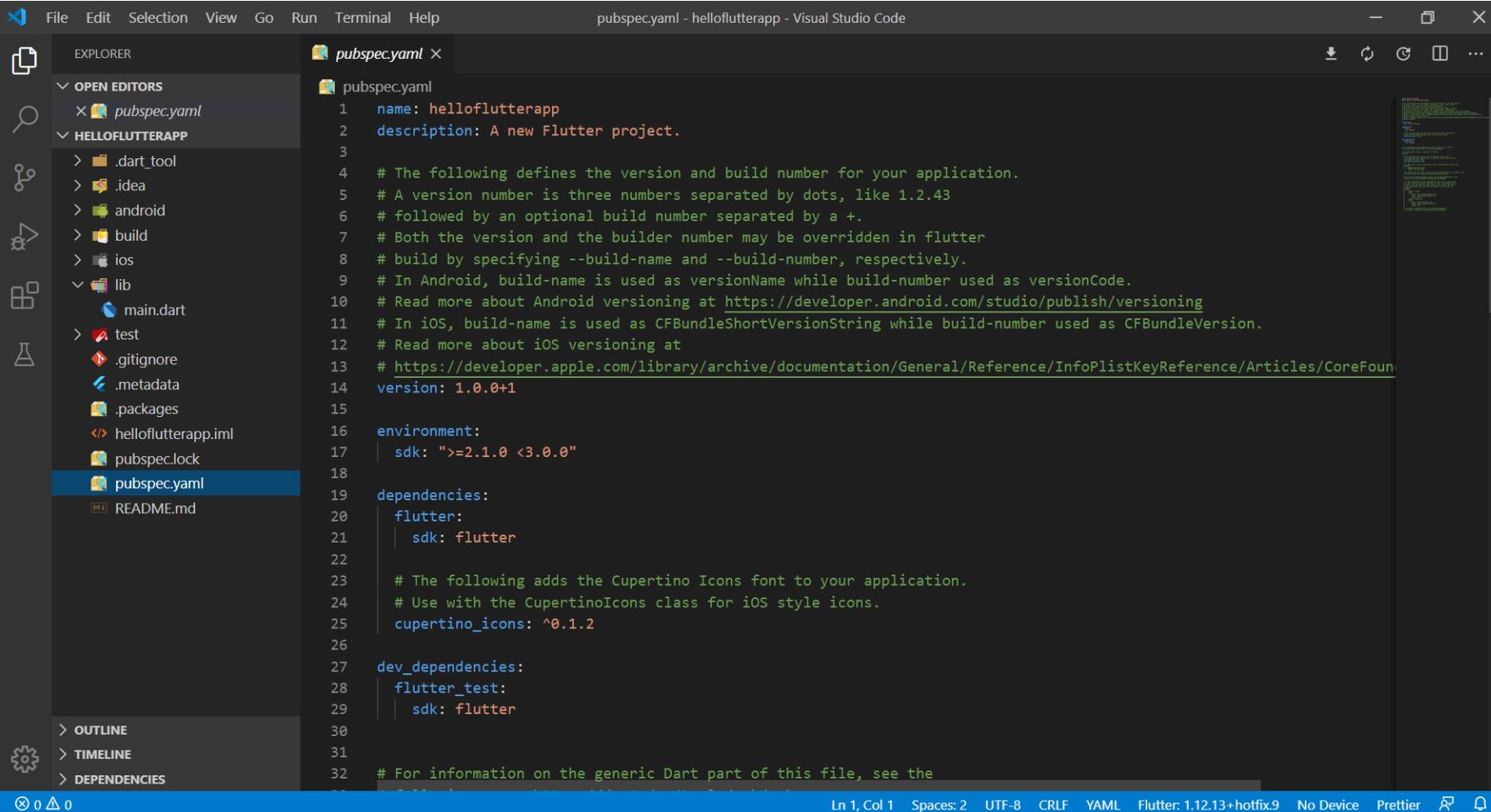
Main.dart

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** main.dart - helloflutterapp - Visual Studio Code.
- Explorer Panel (Left):**
 - OPEN EDITORS: main.dart, lib.
 - HELLOFLUTTERAPP:
 - .dart_tool
 - .idea
 - android
 - build
 - ios
 - lib:
 - main.dart
 - test
 - .gitignore
 - .metadata
 - .packages
 - helloflutterapp.iml
 - pubspec.lock
 - pubspec.yaml
 - README.md
- Editor Area (Center):** The main.dart file is open, showing Dart code for a Flutter application. The code defines the main entry point and a custom StatelessWidget named MyApp.
- Bottom Status Bar:** Ln 1, Col 1 | Spaces: 2 | UTF-8 | CRLF | Dart | Flutter: 1.12.13+hotfix.9 | No Device | Analyzing...



Pubspec.yaml



The screenshot shows a Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Explorer:** Shows the project structure for "HELLOFLUTTERAPP". The "pubspec.yaml" file is selected in the list.
- Editor:** Displays the content of the "pubspec.yaml" file. The code is as follows:

```
name: helloflutterapp
description: A new Flutter project.

# The following defines the version and build number for your application.
# A version number is three numbers separated by dots, like 1.2.43
# followed by an optional build number separated by a +
# Both the version and the builder number may be overridden in flutter
# build by specifying --build-name and --build-number, respectively.
# In Android, build-name is used as versionName while build-number used as versionCode.
# Read more about Android versioning at https://developer.android.com/studio/publish/versioning
# In iOS, build-name is used as CFBundleShortVersionString while build-number used as CFBundleVersion.
# Read more about iOS versioning at
# https://developer.apple.com/library/archive/documentation/General/Reference/InfoPlistKeyReference/Articles/CoreFoundationKeys.html#//apple\_ref/doc/uid/TP40009249-SW1
version: 1.0.0+1

environment:
  sdk: ">=2.1.0 <3.0.0"

dependencies:
  flutter:
    sdk: flutter

  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^0.1.2

dev_dependencies:
  flutter_test:
    sdk: flutter

# For information on the generic Dart part of this file, see the
# https://dart.dev/guides/language/pubspec
```

At the bottom, the status bar shows: Ln 1, Col 1 Spaces: 2 UTF-8 CRLF YAML Flutter: 1.12.13+hotfix.9 No Device Prettier



Quick Steps

- Flutter create
- Flutter emulators
- Flutter emulators --launch
- Flutter run



THANK YOU FOR LISTENING!



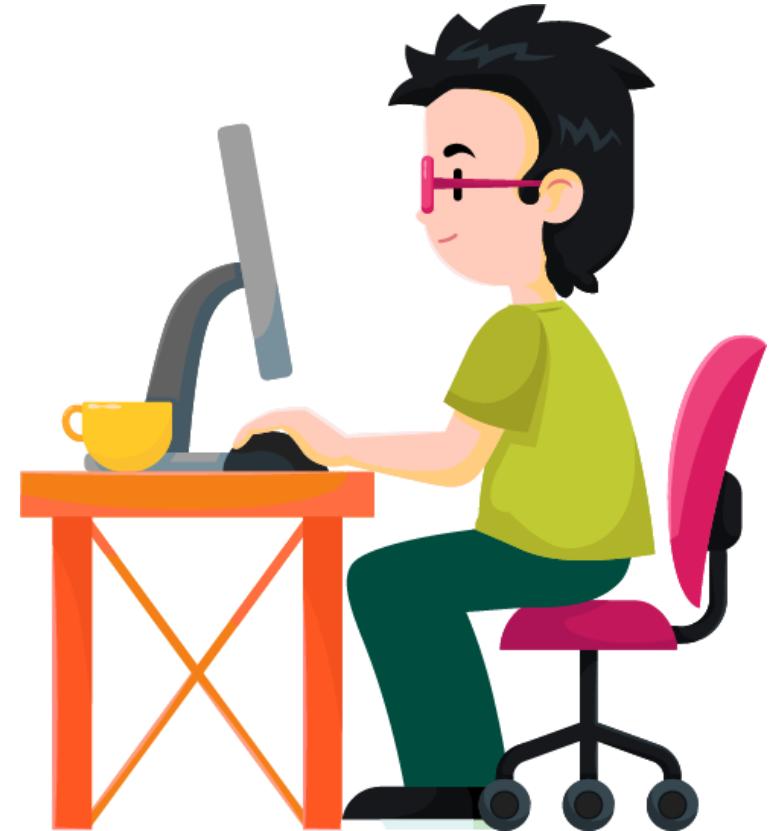
ANY QUESTIONS?



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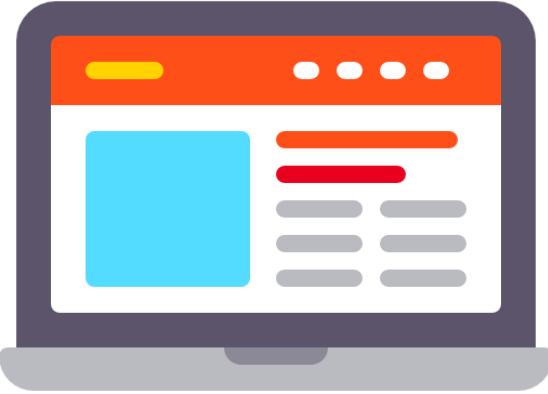
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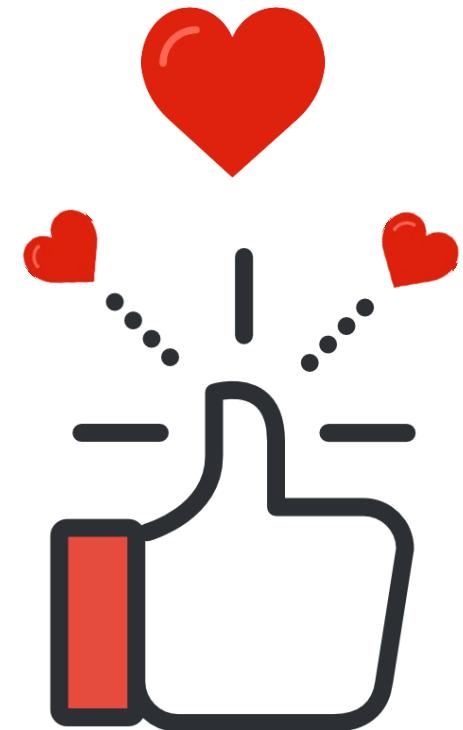
Just Dial

https://www.justdial.com/Ahmedabad/Akash-Technolabs-Navrangpura-Bus-Stop-Navrangpura/079PXX79-XX79-170615221520-S5C4_BZDET



Sulekha

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