

Flutter Environment Setup

Software Studio
DataLab, CS, NTHU

Flutter

- Go to <https://docs.flutter.dev/release/archive> download Flutter SDK.
- Unzip it to a folder (Ex:C:\Users\User\ss2025\flutter_install).
 - Be sure to avoid placing the folder in directories that require special permissions, such as C:\Program Files.
- Add the path of the **bin** folder inside Flutter to the **Path** environment variable.
- MAKE SURE USE ENGLISH DIRECTORY !!!

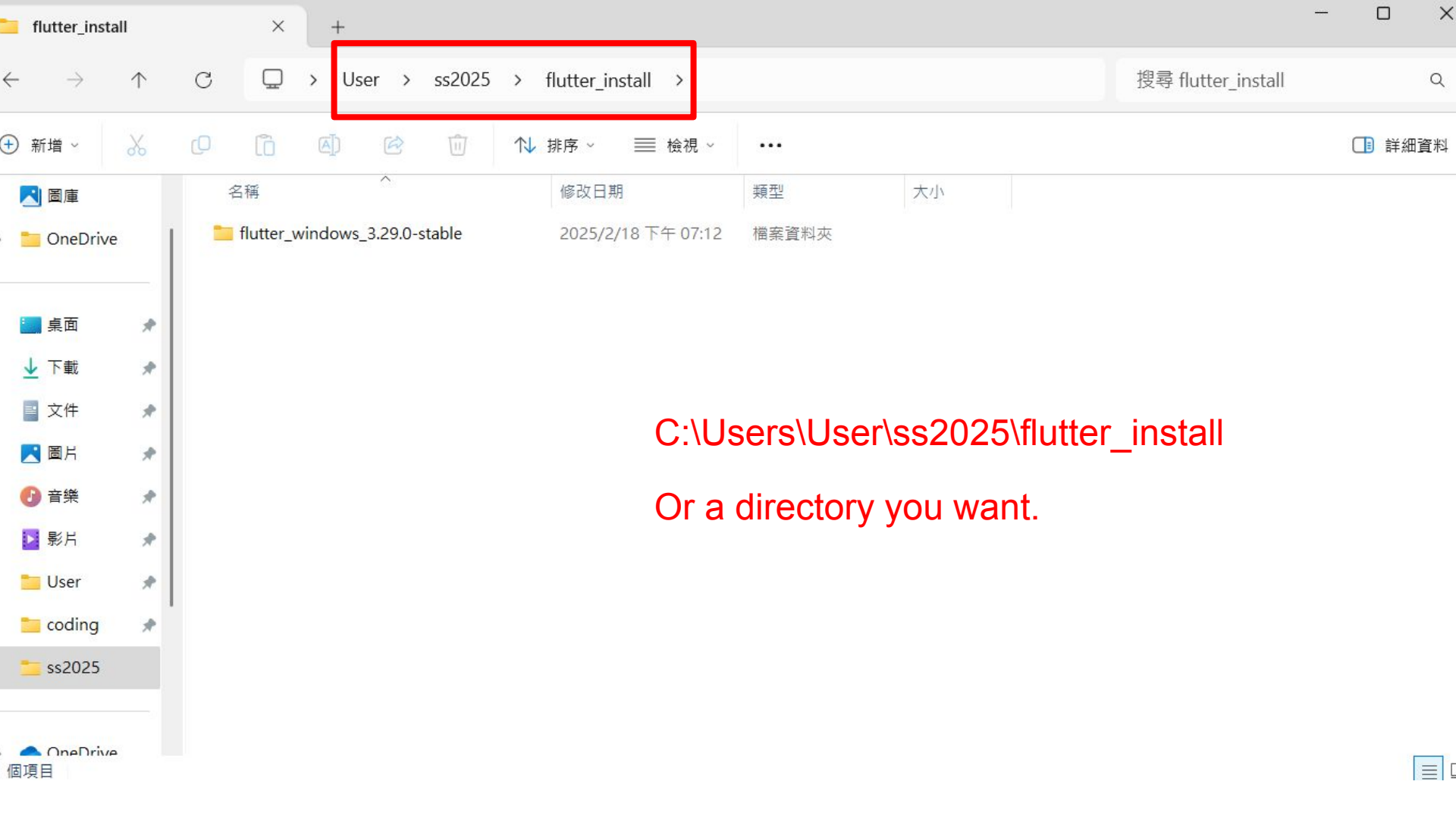
Windows

macOS

Linux

Select from the following scrollable list:

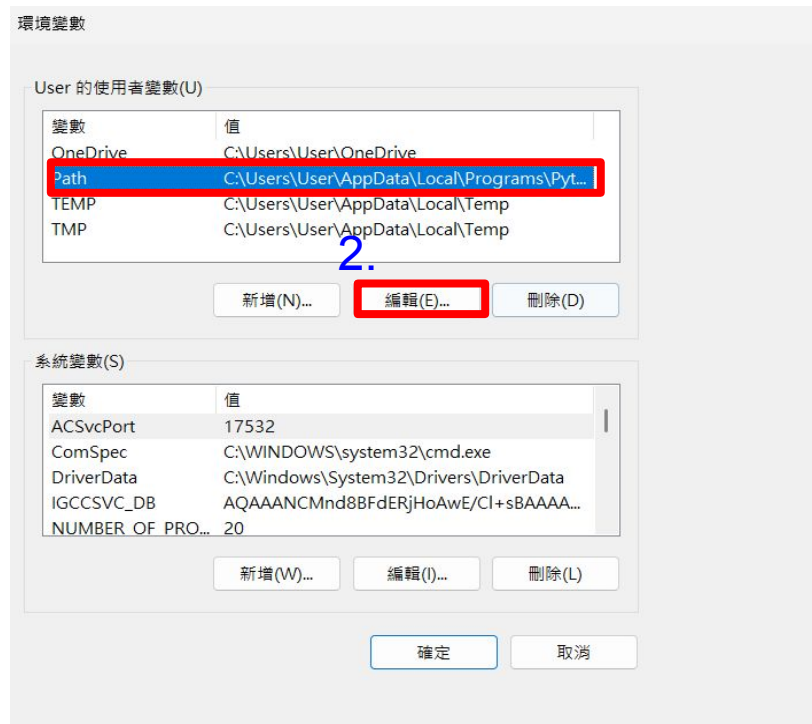
Flutter version	Architecture	Ref	Release Date	Dart version	Provenance
3.29.0	x64	35c388a	2025/2/13	3.7.0	Attestation bundle
3.27.4	x64	d8a9f9a	2025/2/6	3.6.2	Attestation bundle
3.27.3	x64	c519ee9	2025/1/22	3.6.1	Attestation bundle
3.27.2	x64	68415ad	2025/1/14	3.6.1	Attestation bundle
3.27.1	x64	17025dd	2024/12/17	3.6.0	Attestation bundle
3.27.0	x64	8495dee	2024/12/12	3.6.0	Attestation bundle



User > ss2025 > flutter_install >

名稱	修改日期	類型	大小
flutter_windows_3.29.0-stable	2025/2/18 下午 07:12	檔案資料夾	

C:\Users\User\ss2025\flutter_install
Or a directory you want.





C:\Users\User\ss2025\flutter_install\flutter_windows_3.29.0-stable\flutter\bin

Android Studio Setup

Android Studio

- Go to <https://developer.android.com/studio> download Android Studio.
- Follow the steps to complete Android Studio installation.
- Configure the environment variables.
- Modify the “emulator.emulatorPath” setting to your emulator.
- Finished!

ANDROID STUDIO

Download

Android Studio editor

Gemini in Android Studio

Android Gradle Plugin

SDK tools

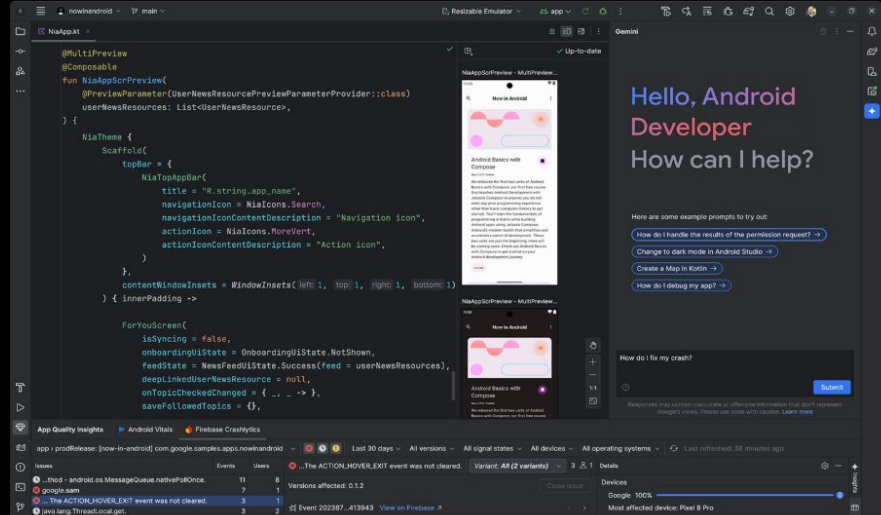
Preview

Android Studio

The official IDE for Android app development now accelerates your productivity with Gemini in Android Studio, your AI-powered coding companion.

Download Android Studio Ladybug Feature Drop

Read release notes





android
studio

Welcome to Android Studio Setup

Setup will guide you through the installation of Android Studio.

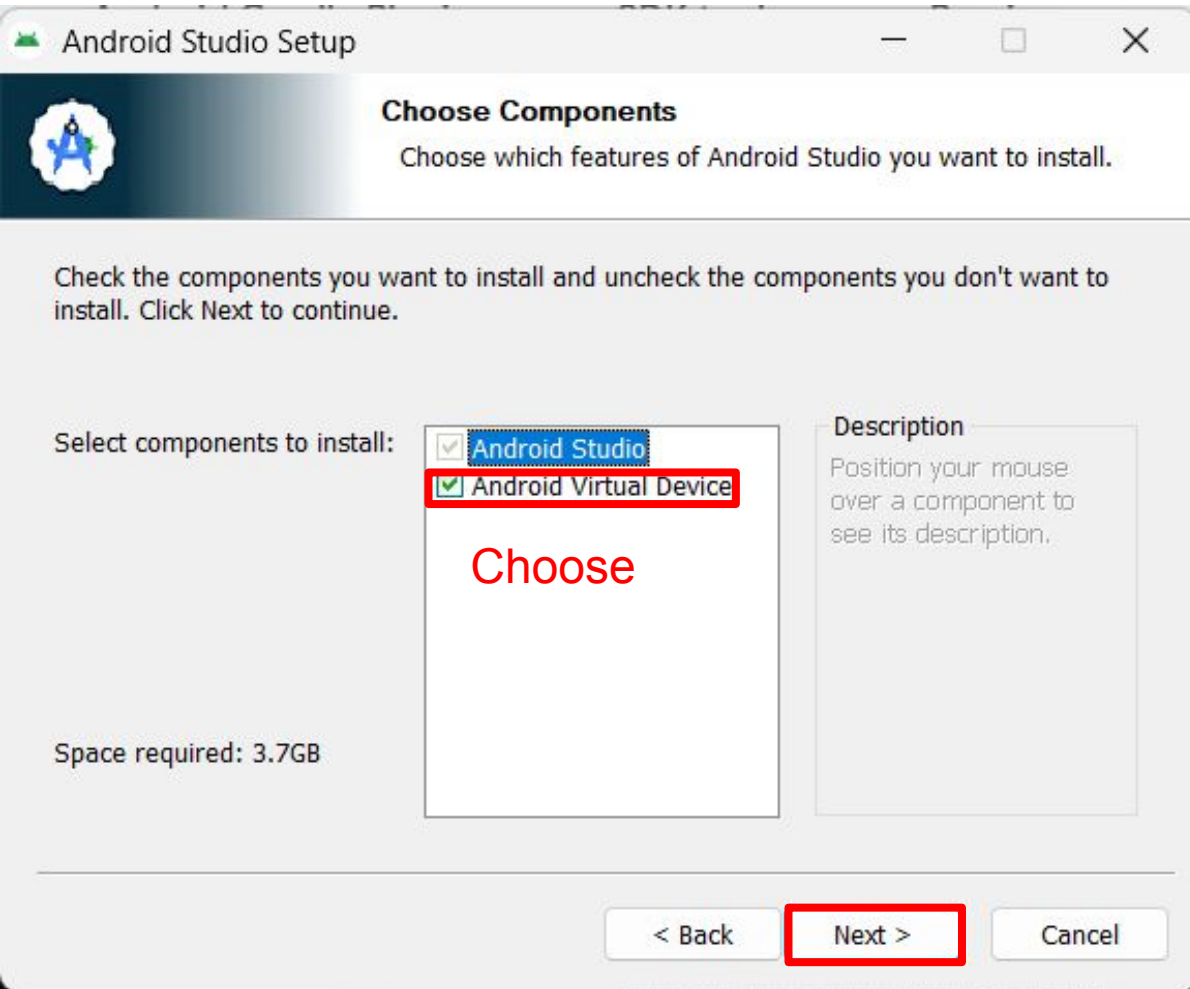
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

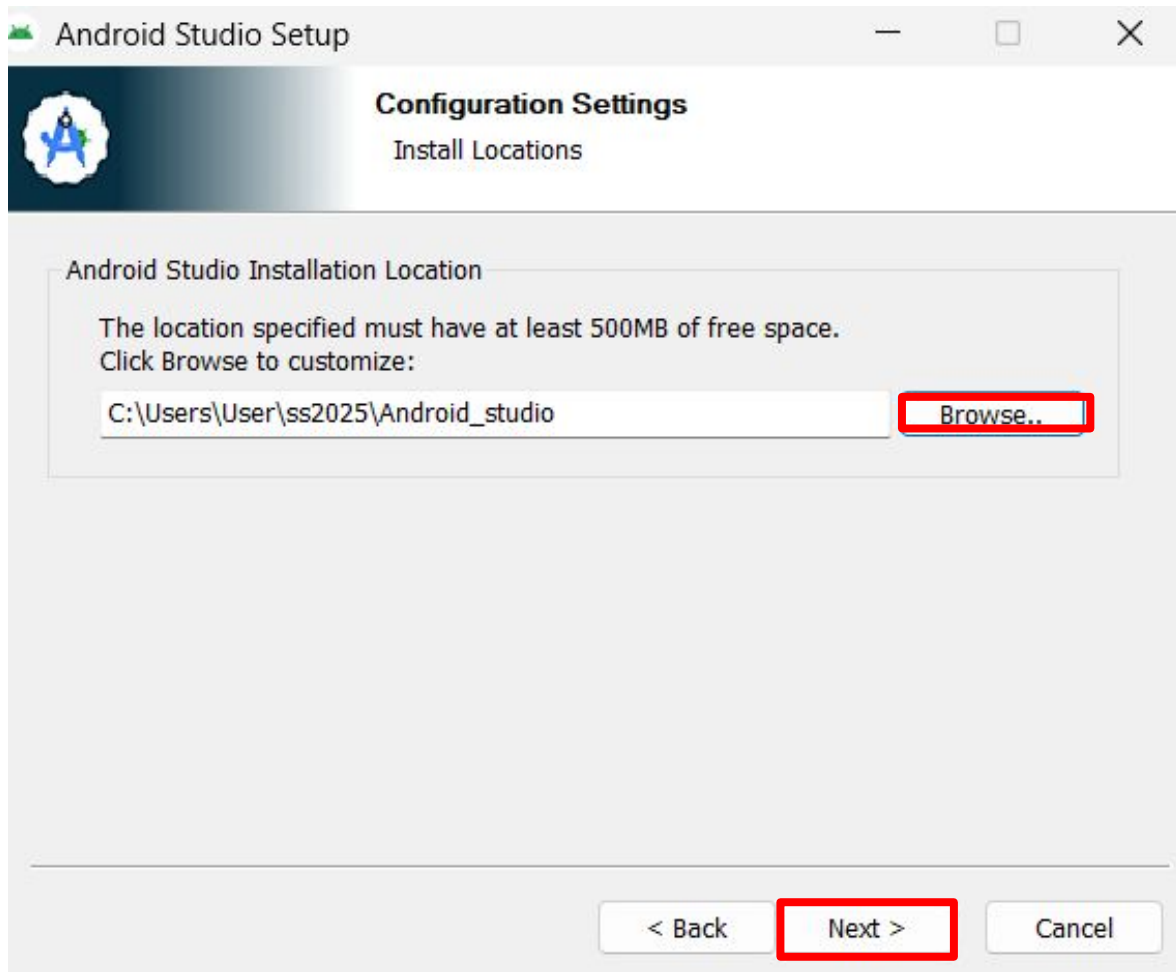
Click Next to continue.

< Back

Next >

Cancel





Android Studio Setup



Installation Complete

Setup was completed successfully.

Completed



```
Output folder: C:\Users\User\ss2025\Android_studio\plugins\yaml
Output folder: C:\Users\User\ss2025\Android_studio\plugins\yaml\lib
Extract: yaml-editing.jar... 100%
Extract: yaml.jar... 100%
Output folder: C:\Users\User\ss2025\Android_studio
Output folder: C:\Users\User\ss2025\Android_studio
Output folder: C:\Users\User
Create folder: C:\Users\User\.android\studio
Create folder: C:\Users\User\.android\studio\installer
Completed
```

< Back

Next >

Cancel



Install Type

Choose the type of setup you want for Android Studio:



Standard

Android Studio will be installed with the most common settings and options.
Recommended for most users.



Custom

You can customize installation settings and components installed.

Previo...

Next

Cancel

Finish



License Agreement

Read and agree to the licenses for the components which will be installed

Licenses

▼ android-sdk-license

- ↓ Android Emulator
- ↓ Google Play Intel x86_64 At
- ↓ Android Emulator hypervis
- ↓ Sources for Android 35
- ↓ Android SDK Platform 35
- ↓ Android SDK Build-Tools 35
- ↓ Android SDK Platform-Tool

AND REGULATIONS. YOU MUST COMPLY WITH ALL DOMESTIC AND INTERNATIONAL EXPORT LAWS AND REGULATIONS THAT APPLY TO THE SDK. THESE LAWS INCLUDE RESTRICTIONS ON DESTINATIONS, END USERS AND END USE.

14.6 The rights granted in the License Agreement may not be assigned or transferred by either you or Google without the prior written approval of the other party. Neither you nor Google shall be permitted to delegate their responsibilities or obligations under the License Agreement without the prior written approval of the other party.

14.7 The License Agreement, and your relationship with Google under the License Agreement, shall be governed by the laws of the State of California without regard to its conflict of laws provisions. You and Google agree to submit to the exclusive jurisdiction of the courts located within the county of Santa Clara, California to resolve any legal matter arising from the License Agreement. Notwithstanding this, you agree that Google shall still be allowed to apply for injunctive remedies (or an equivalent type of urgent legal relief) in any jurisdiction.

January 16, 2019

Decline

Accept

Previo...

Next

Cancel

Finish



Downloading Components

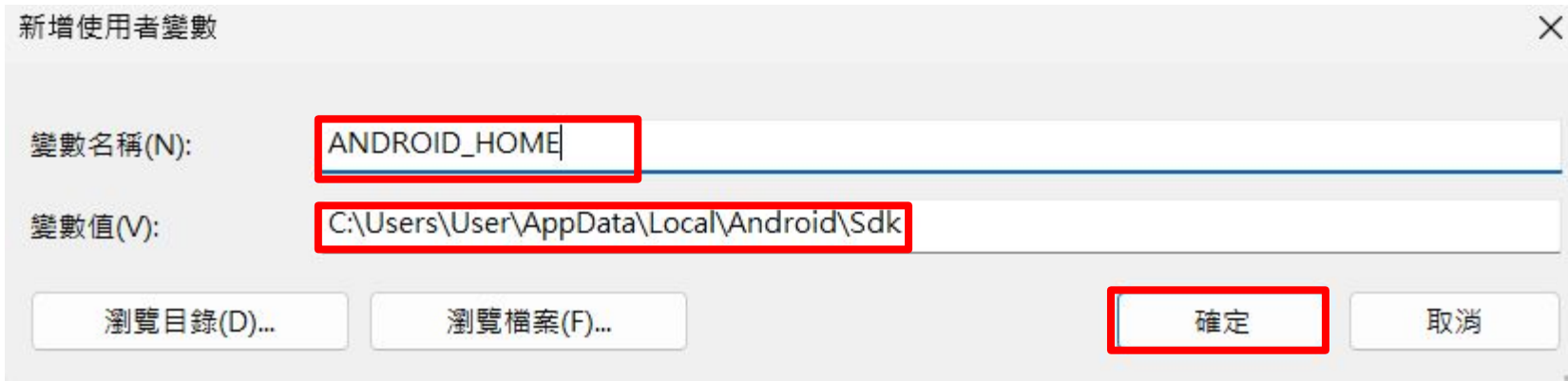
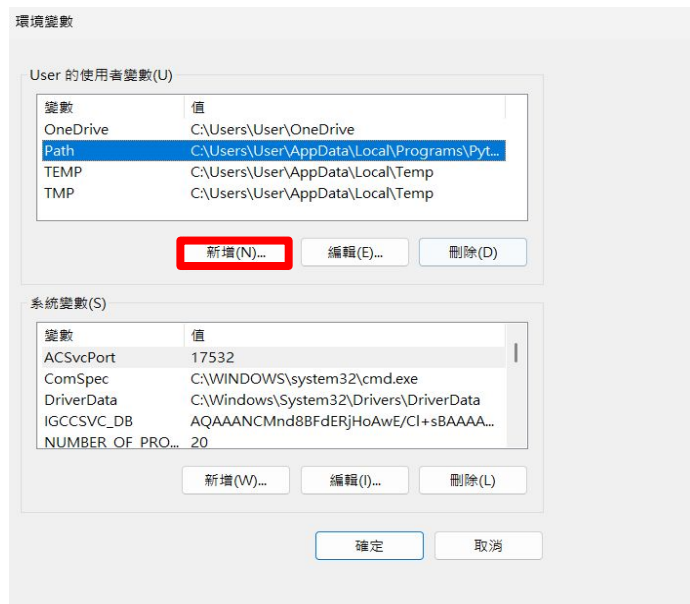
```
Preparing "Install Android Emulator v.35.3.11".  
Downloading https://dl.google.com/android/repository/emulator-windows_x64-12836668  
.zip  
"Install Android Emulator v.35.3.11" ready.  
Installing Android Emulator in C:\Users\User\AppData\Local\Android\Sdk\emulator  
"Install Android Emulator v.35.3.11" complete.  
"Install Android Emulator v.35.3.11" finished.  
Preparing "Install Google Play Intel x86_64 Atom System Image API 35 (revision 9)".  
Downloading https://dl.google.com/android/repository/sys-img/google_apis_playstore  
/x86_64-35_r09.zip  
"Install Google Play Intel x86_64 Atom System Image API 35 (revision 9)" ready.  
Installing Google Play Intel x86_64 Atom System Image in  
C:\Users\User\AppData\Local\Android\Sdk\system-images\android-35  
\google_apis_playstore\x86_64
```

Previo...

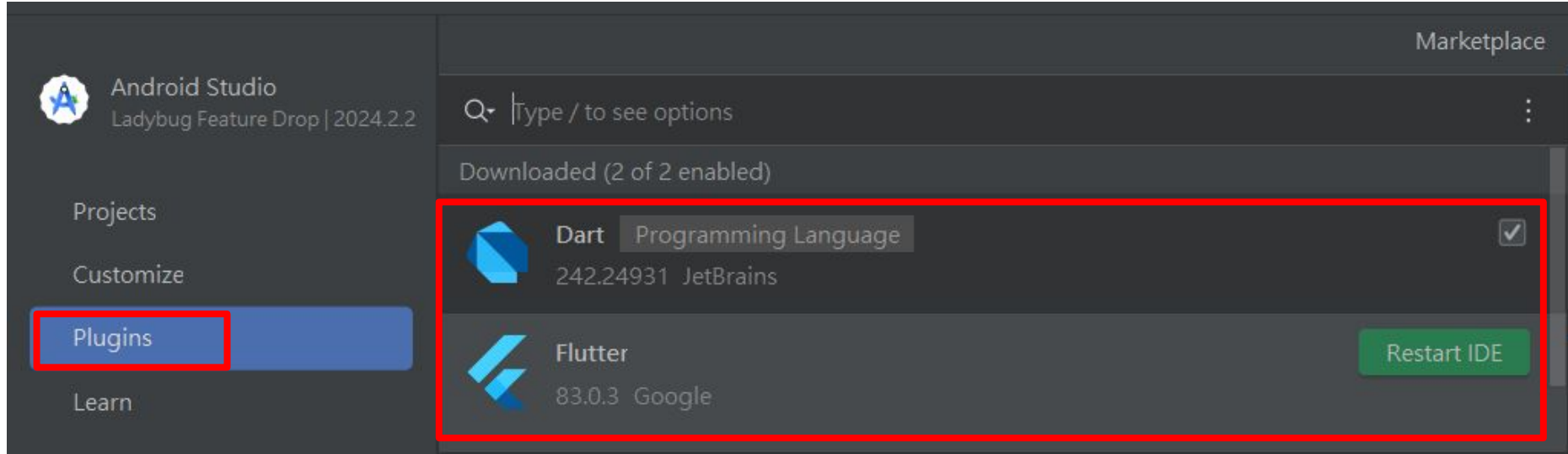
Next

Cancel

Finish



Download Flutter and Dart plugins



The screenshot shows the Android Studio interface. On the left sidebar, the 'Plugins' tab is selected and highlighted with a red box. The main area displays the 'Marketplace' for plugins. A search bar at the top contains the text 'Type / to see options'. Below the search bar, it indicates 'Downloaded (2 of 2 enabled)'. Two plugins are listed:

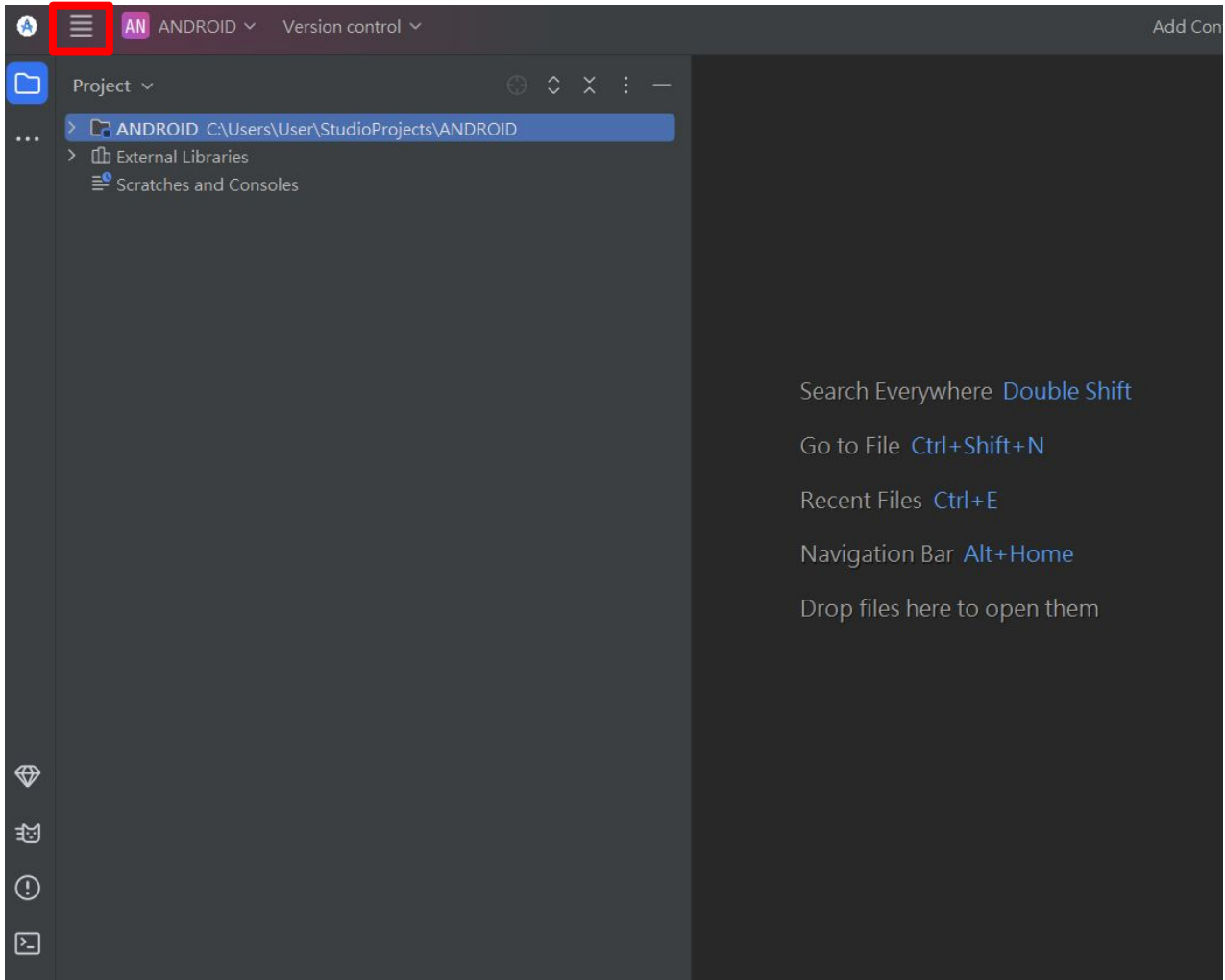
- Dart** (Programming Language) by JetBrains, version 242.24931. It has a checkmark in a box on the right, indicating it is installed.
- Flutter** by Google, version 83.0.3. A green button labeled 'Restart IDE' is visible to the right of this entry.

The entire list of installed plugins is enclosed in a red rectangular border.




Oops! Flutter doctor problem









```
C:\Users\User>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.27.0, on Microsoft Windows [版本 10.0.26100.3194], locale zh-TW)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 35.0.1)
    X cmdline-tools component is missing
      Run `path/to/sdkmanager --install "cmdline-tools;latest"`
      See https://developer.android.com/studio/command-line for more details.
    X Android license status unknown.
      Run `flutter doctor --android-licenses` to accept the SDK licenses.
      See https://flutter.dev/to/windows-android-setup for more details.
[✓] Chrome - develop for the web
[X] Visual Studio - develop Windows apps
    X Visual Studio not installed; this is necessary to develop Windows apps.
      Download at https://visualstudio.microsoft.com/downloads/.
      Please install the "Desktop development with C++" workload, including all of its default components
[✓] Android Studio (version 2024.2)
[✓] VS Code (version 1.97.2)
[✓] Connected device (3 available)
[✓] Network resources

! Doctor found issues in 2 categories.
```



Project ▾

- >  **ANDROID** C:\Users\User\StudioProjects\ANDROID
- >  External Libraries
-  Scratches and Consoles

-  Device Manager
-  **SDK Manager**
-  AGP Upgrade Assistant...
- Android SDK Upgrade Assistant
-  Troubleshoot Device Connections
-  App Links Assistant
-  Firebase
-  Layout Inspector
- Tasks & Contexts >
- Generate JavaDoc...
- Create Command-line Launcher...
- Services >
- XML Actions >
- Markdown >
- Cling >
- JShell Console... >
-  Kotlin >

everywhere Double Shift

Ctrl+Shift+N

files Ctrl+E

on Bar Alt+Home

Drop files here to open them



Languages & Frameworks > Android SDK

Manager for the Android SDK and Tools used by the IDE

Android SDK Location:

[Edit](#) [Optimize disk space](#)

SDK Platforms **SDK Tools** SDK Update Sites

Below are the available SDK developer tools. Once installed, the IDE will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.

Name	Version	Status
<input type="checkbox"/> Android SDK Build-Tools 36-rc5		Update Available: 36.0.0 rc5
<input type="checkbox"/> NDK (Side by side)		Update Available: 28.0.13004108
<input checked="" type="checkbox"/> Android SDK Command-line Tools (latest)		Installed
<input type="checkbox"/> CMake		Update Available: 3.31.5
<input type="checkbox"/> Android Auto API Simulators	1	Not installed
<input type="checkbox"/> Android Auto Desktop Head Unit Emulator	2.0	Not installed
<input type="checkbox"/> Android Emulator	35.3.11	Update Available: 35.3.12
<input checked="" type="checkbox"/> Android Emulator hypervisor driver (installer)	2.2.0	Installed
<input checked="" type="checkbox"/> Android SDK Platform-Tools	35.0.2	Installed
<input type="checkbox"/> Android Support Repository	47.0.0	Not installed
<input type="checkbox"/> Google Play APK Expansion library	1	Not installed
<input type="checkbox"/> Google Play Instant Development SDK	1.9.0	Not installed
<input type="checkbox"/> Google Play Licensing Library	1	Not installed
<input type="checkbox"/> Google Play services	49	Not installed
<input type="checkbox"/> Google Repository	58	Not installed
<input type="checkbox"/> Google USB Driver	13	Not installed
<input type="checkbox"/> Google Web Driver	2	Not installed
<input type="checkbox"/> Intel x86 Emulator Accelerator (HAXM installer) - Deprecated	7.6.5	Not installed

> Appearance & Behavior

Keypmap

> Editor

Plugins

> Version Control

> Build, Execution, Deployment

> Languages & Frameworks

> C/C++

Android SDK

Dart

Flutter

JVM Logging

> Kotlin

Markdown

> Schemas and DTDs

Template Data Languages

> Tools

Advanced Settings

> Other Settings

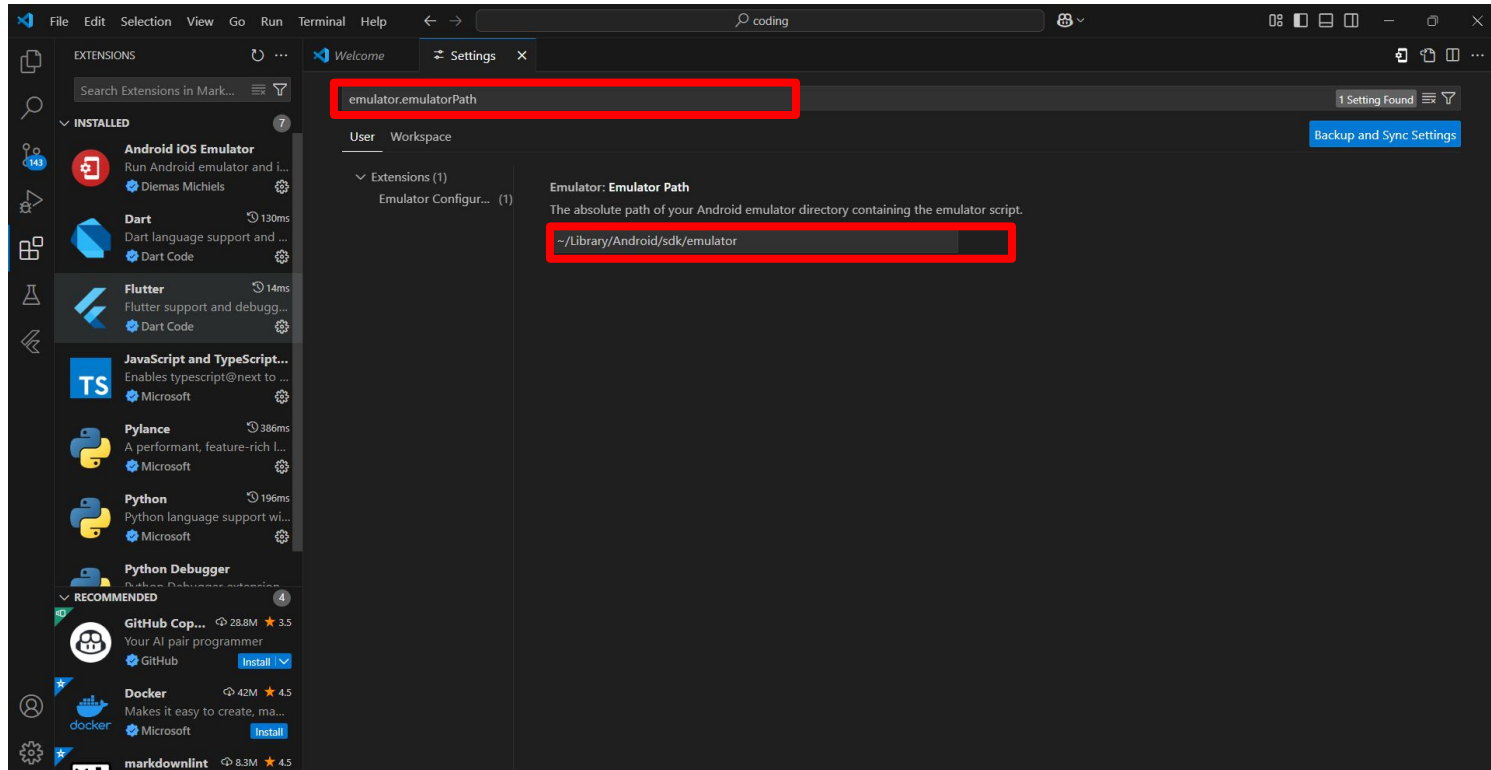
Experimental

Done

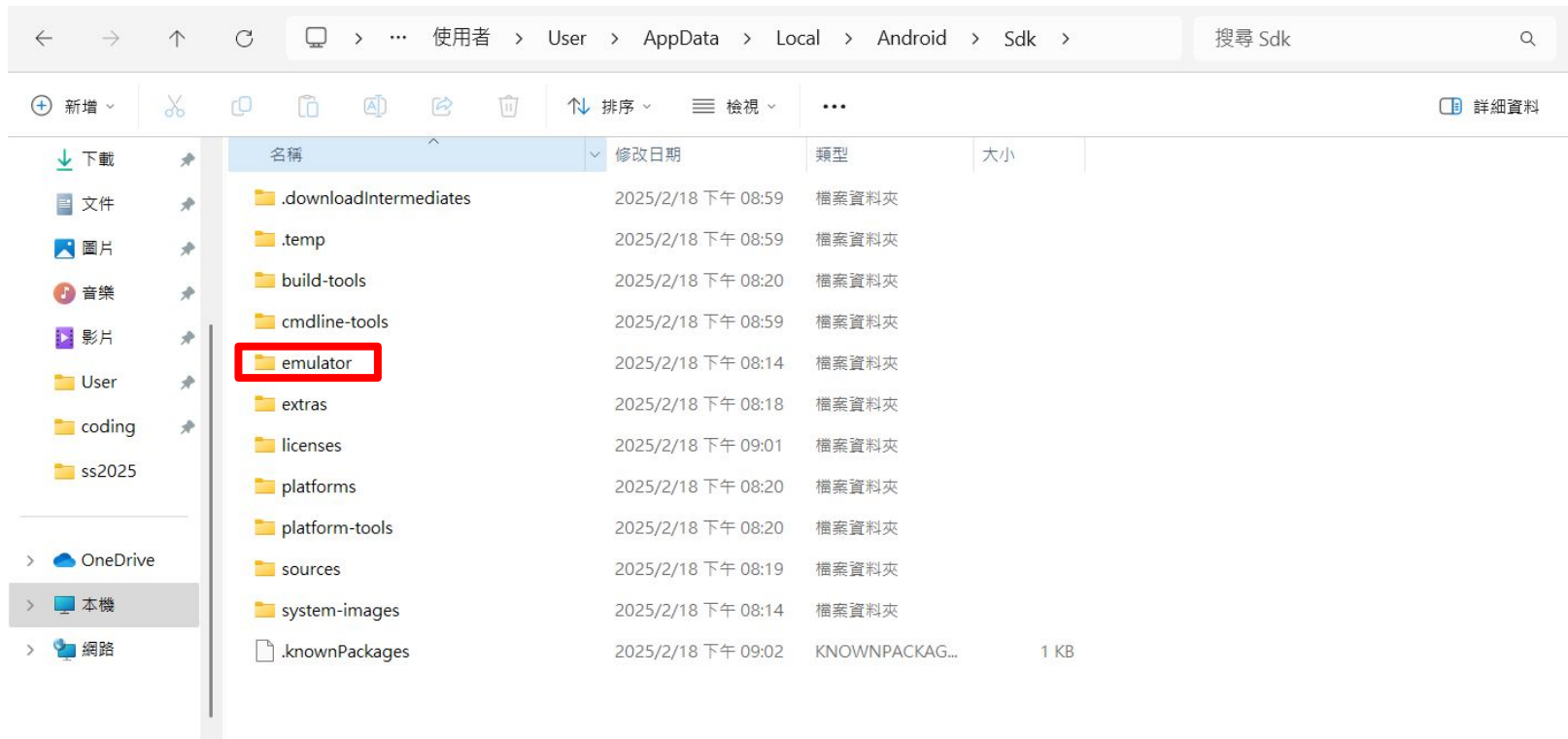
```
C:\Users\User>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.29.0, on Microsoft Windows [版本 10.0.26100.3194], locale zh-TW)
[✓] Windows Version (11 家用版 64-bit, 24H2, 2009)
[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.1)
[✓] Chrome - develop for the web
[X] Visual Studio - develop Windows apps
    X Visual Studio not installed; this is necessary to develop Windows apps.
      Download at https://visualstudio.microsoft.com/downloads/.
      Please install the "Desktop development with C++" workload, including all of its default components
[✓] Android Studio (version 2024.2)
[✓] VS Code (version 1.97.2)
[✓] Connected device (3 available)
[✓] Network resources

! Doctor found issues in 1 category.
```

Setting emulator path



Go to your SDK folder



emulator

← → ↑ ↻ 🖥️ > ... User > AppData > Local > Android > Sdk > emulator > 搜尋 emulator 🔍

📁 新增 ✂️ 📄 📁 🗑️ ↕️ 排序 🔍 檢視 ... 詳細資料

名稱	修改日期	類型	大小
include	2025/2/18 下午 08:14	檔案資料夾	
lib	2025/2/18 下午 08:14	檔案資料夾	
lib64	2025/2/18 下午 08:14	檔案資料夾	
qemu	2025/2/18 下午 08:14	檔案資料夾	
resources	2025/2/18 下午 08:14	檔案資料夾	
android-emu-agents.lib	2025/2/18 下午 08:14	LIB 檔案	16 KB
android-info	2025/2/18 下午 08:14	文字文件	1 KB
concr140.dll	2025/2/18 下午 08:14	應用程式擴充	304 KB
crashpad_handler	2025/2/18 下午 08:14	應用程式	817 KB
crashreport	2025/2/18 下午 08:14	應用程式	1,515 KB
emulator	2025/2/18 下午 08:14	應用程式	1,781 KB
emulator-check	2025/2/18 下午 08:14	應用程式	10,700 KB
libabseil_dll.dll	2025/2/18 下午 08:14	應用程式擴充	787 KB

Demo

- Open VScode (or other IDE).
- Go to your coding folder and create a new terminal.
- Use “flutter create .” to create a testing flutter project.
- Ctrl+Shift+p, input “Flutter: Launch Emulator” to turn on your emulator.
- Use “flutter run” to run the project.
 - If your PC crashed (like mine), use “flutter run --no-enable-impeller”.

Done

The image shows a development environment with two main components: a code editor on the left and an Android emulator on the right.

Code Editor (main.dart):

```
lib > main.dart > MyApp
7   class MyApp extends StatelessWidget {
12  Widget build(BuildContext context) {
31      |   colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
32      |   ), // ThemeData
33      |   home: const MyHomePage(title: 'Flutter Demo Home Page'),
34      |   ); // MaterialApp
35  }
36 }
37
38 class MyHomePage extends StatefulWidget {
39   const MyHomePage({super.key, required this.title});
40
41   // This widget is the home page of your application. It is stateful, meaning
42   // that it has a State object (defined below) that contains fields that affect
43   // how it looks.
44
45   // This class is the configuration for the state. It holds the values (in this
46   // case the title) provided by the parent (in this case the App widget) and
47   // used by the build method of the State. Fields in a Widget subclass are
48   // always marked "final".
49
50   final String title;
51
52   @override
```

Android Emulator (Small_Phone_API_35:5554):

The emulator displays the "Flutter Demo Home Page" with a purple header. The main content area shows the text "You have pushed the button this many times:" followed by a large "0". A purple button with a "+" sign is visible at the bottom right of the screen.

Terminal Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

A Dart VM Service on sdk gphone64 x86_64 is available at: http://127.0.0.1:7083/cDiibMt6xw=/
The Flutter DevTools debugger and profiler on sdk gphone64 x86_64 is available at: http://127.0.0.1:9100/?url=
I/Choreographer(5916): Skipped 152 frames! The application may be doing too much work on its main thread.
I/om.example.test(5916): Compiler allocated 5174KB to compile void android.view.ViewRootImpl.performTraversals()
I/WindowExtensionsImpl(5916): Initializing Window Extensions, vendor API level=6, activity embedding enabled
W/HWUI(5916): Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED, retrying without...
W/HWUI(5916): Failed to initialize 101010-2 format, error = EGL_SUCCESS
I/om.example.test(5916): Compiler allocated 5417KB to compile void android.view.ViewRootImpl.performTraversals()
I/Gralloc4(5916): mapper 4.x is not supported
I/Choreographer(5916): Skipped 41 frames! The application may be doing too much work on its main thread.
D/ProfileInstaller(5916): Installing profile for com.example.test
```

Others

- Flutter command line:
 - <https://docs.flutter.dev/reference/flutter-cli>
- Linux Flutter and Android Studio installation:
 - <https://ferilukmansyah.medium.com/setup-flutter-with-android-studio-in-linux-see-this-tips-e1f9327f6a2>
- macOS Flutter and Android Studio installation:
 - <https://docs.flutter.cn/get-started/install/macos/mobile-android/>

Any problems?

1. ChatGPT or Google it.
2. Contact: ssta2025@datalab.cs.nthu.edu.tw.

Thanks