

Flutter Development Environment Setup on Windows

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System Requirements

Ensure your system meets the following minimum requirements:

- **Operating System:** Windows 10 (64-bit) or later.
- **Disk Space:** At least 1.64 GB (does not include disk space for IDE/tools).
- **Tools:** Windows PowerShell 5.0 or newer and Git for Windows.

Install Git for Windows

1. **Download Git:** Visit [Git for Windows](#) and download the latest version.
2. **Install Git:** Run the installer and follow the setup instructions. Make sure to select the option "Use Git from the Windows Command Prompt" during the installation.

Download Flutter SDK

1. **Download Flutter SDK:** Go to the [Flutter official website](#) and download the latest stable release of the Flutter SDK.
2. **Extract Flutter SDK:**
 - Right-click the downloaded ZIP file and select "Extract All ...".
 - Choose the location where you want to store the SDK (e.g., `C:\src\flutter`).
3. **Update Path:**
 - Open **Start Menu**, search for **Environment Variables**, and select **Edit the system environment variables**.
 - In the **System Properties** window, click **Environment Variables**.
 - Under **System variables**, find and select the **Path** variable, then click **Edit**.
 - Click **New** and add the path to the `flutter\bin` directory (e.g., `C:\src\flutter\bin`).
 - Click **OK** to close all dialogs.

Verify Installation

1. **Open PowerShell:** Open PowerShell or Command Prompt and run the following command to verify the installation:

```
flutter doctor
```

2. **Check Output:** The command checks your environment and displays a report of the status of your installation. You may need to install additional dependencies if any issues are reported.

- Unable to locate Android SDK:

```
flutter config --android-sdk <PATH_TO_ANDROID_SDK>
```

```
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.1, on Microsoft Windows [Version
    10.0.22631.4112], locale en-US)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[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/to/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.

[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Build Tools 2019 16.11.39)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[!] Proxy Configuration
    ! NO_PROXY is not set
[✓] Connected device (3 available)
[✓] Network resources
```

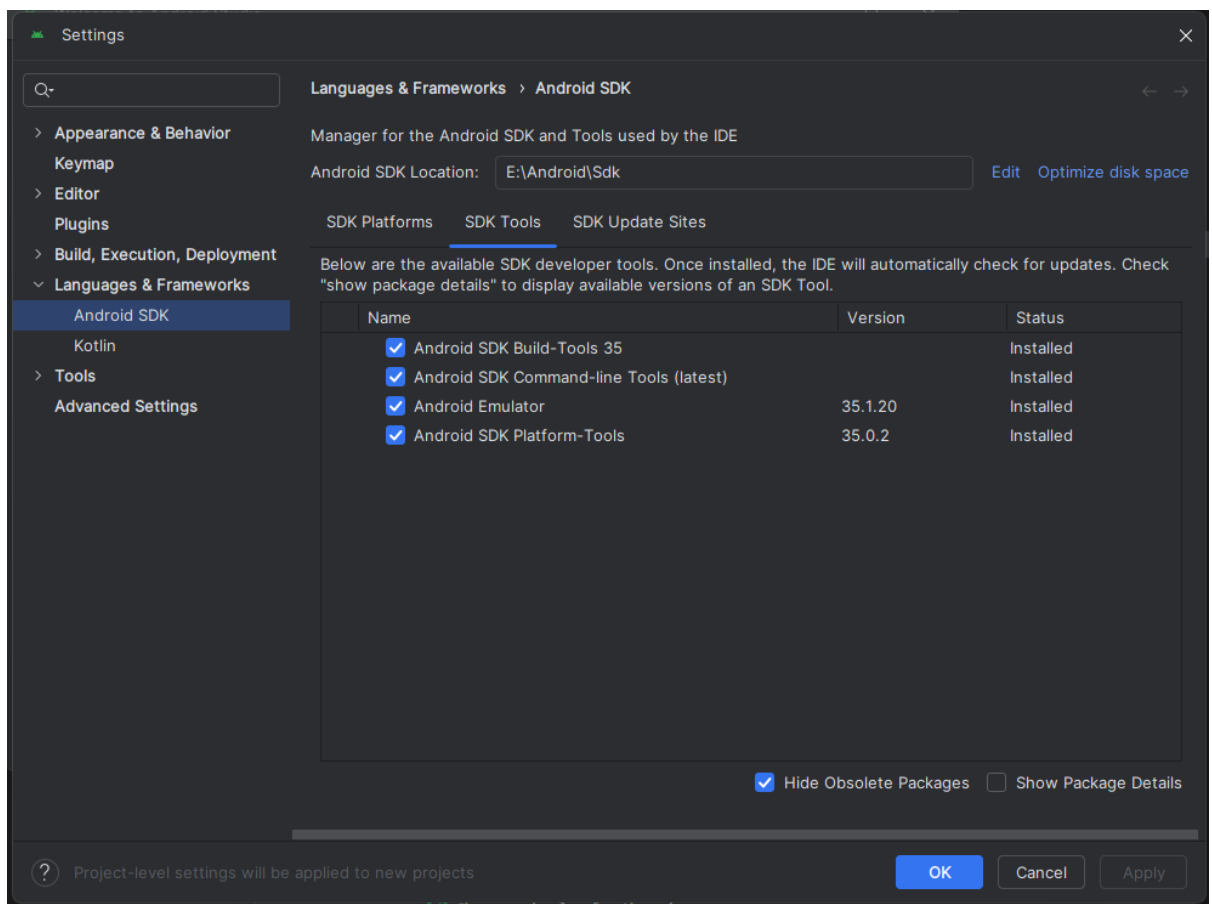
- Androin toolchain:

```
[✓] Flutter (Channel stable, 3.24.1, on Microsoft Windows [Version
10.0.22631.4112], locale en-US)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 35.0.0)
    ✗ cmdline-tools component is missing
      Run `path/to/sdkmanager --install "cmdline-tools;latest"`
      See https://developer.android.com/studio/command-line for more details.
    ✗ 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
[✓] Visual Studio - develop Windows apps (Visual Studio Build Tools 2019 16.11.39)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[!] Proxy Configuration
    ! NO_PROXY does not contain ::1
[✓] Connected device (4 available)
[✓] Network resources

! Doctor found issues in 2 categories.

E:\projects\flutter-projects\testapp>
```

- cmdline-tools component is missing: make sure Android SDK Command-line is checked and installed in Android Studio > SDK Manager > SDK Tools.

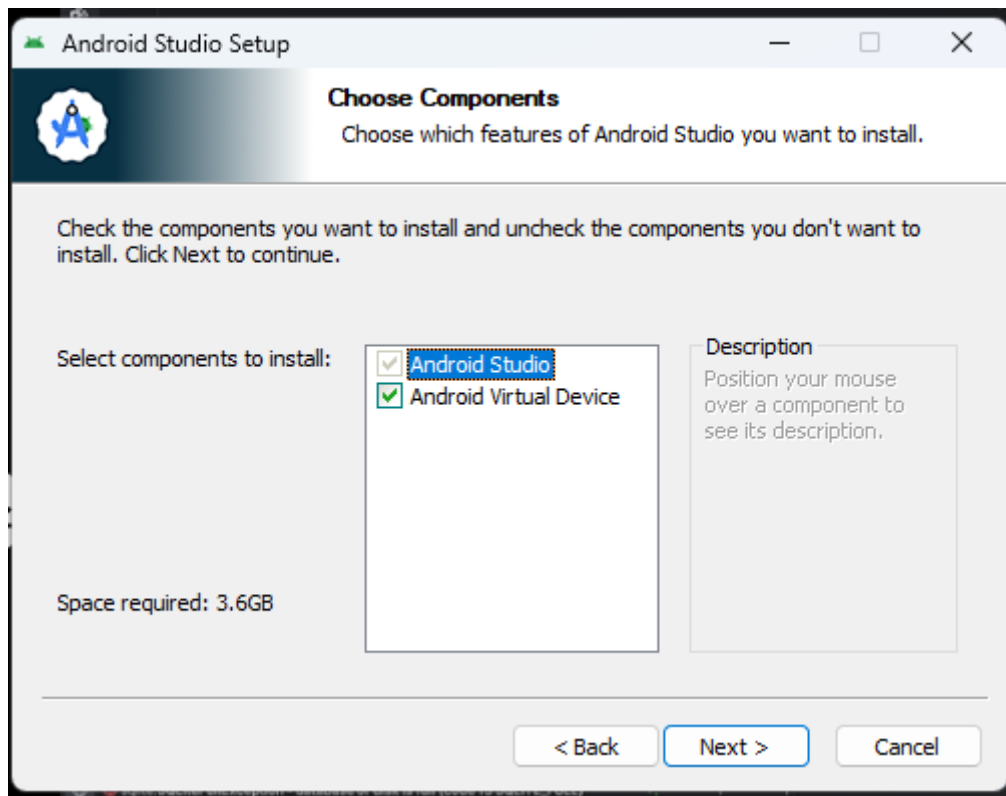


- Android license status unknown: run following command and press y then Enter to confirm licenses.

```
flutter doctor --android-licences
```

Install Android Studio

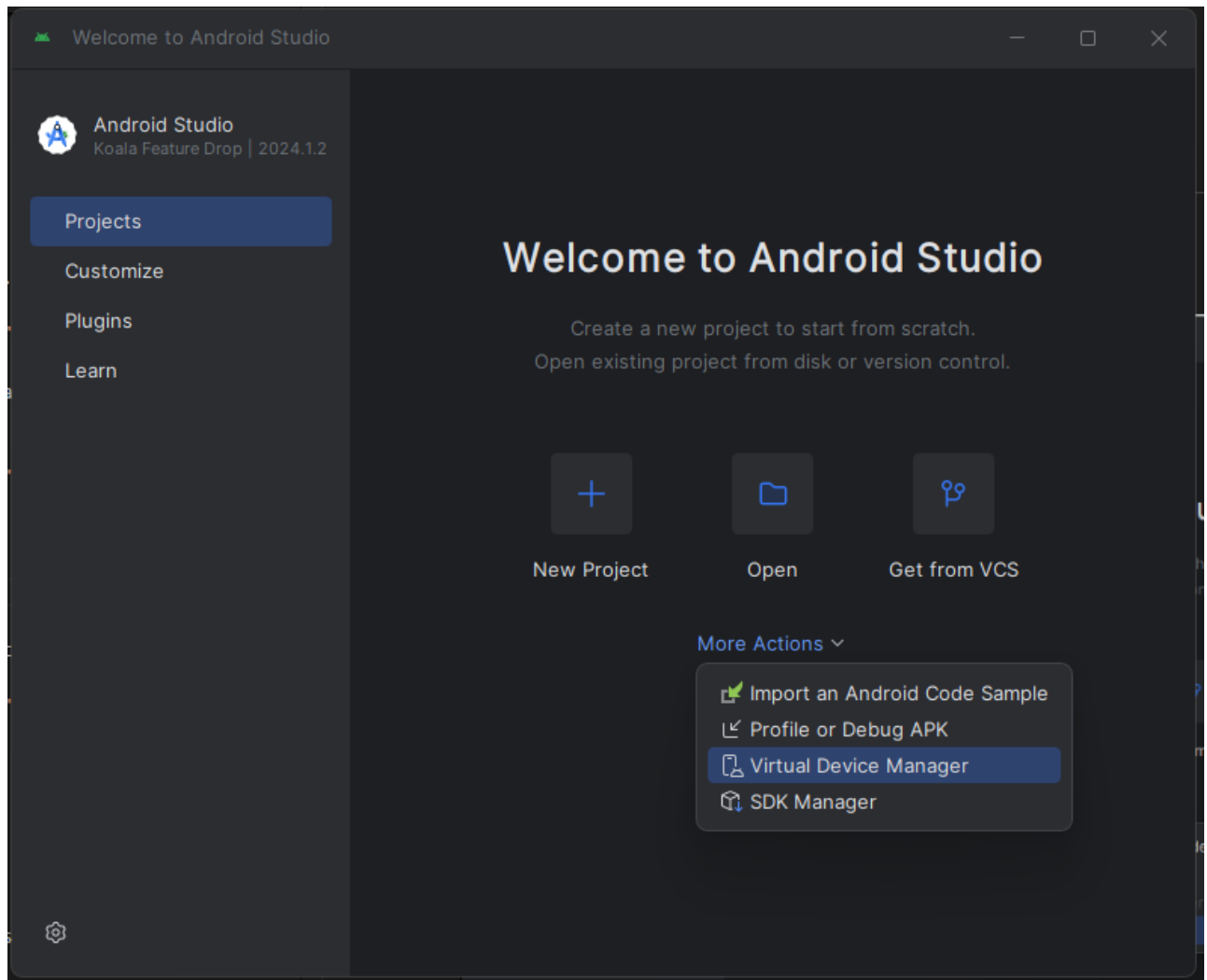
1. Download Android Studio: Visit the [Android Studio download page](#) and download the installer.
2. Install Android Studio:
 - Run the installer and follow the setup instructions.
 - During installation, ensure that the boxes for Android SDK, Android SDK Platform, Android Virtual Device are checked.



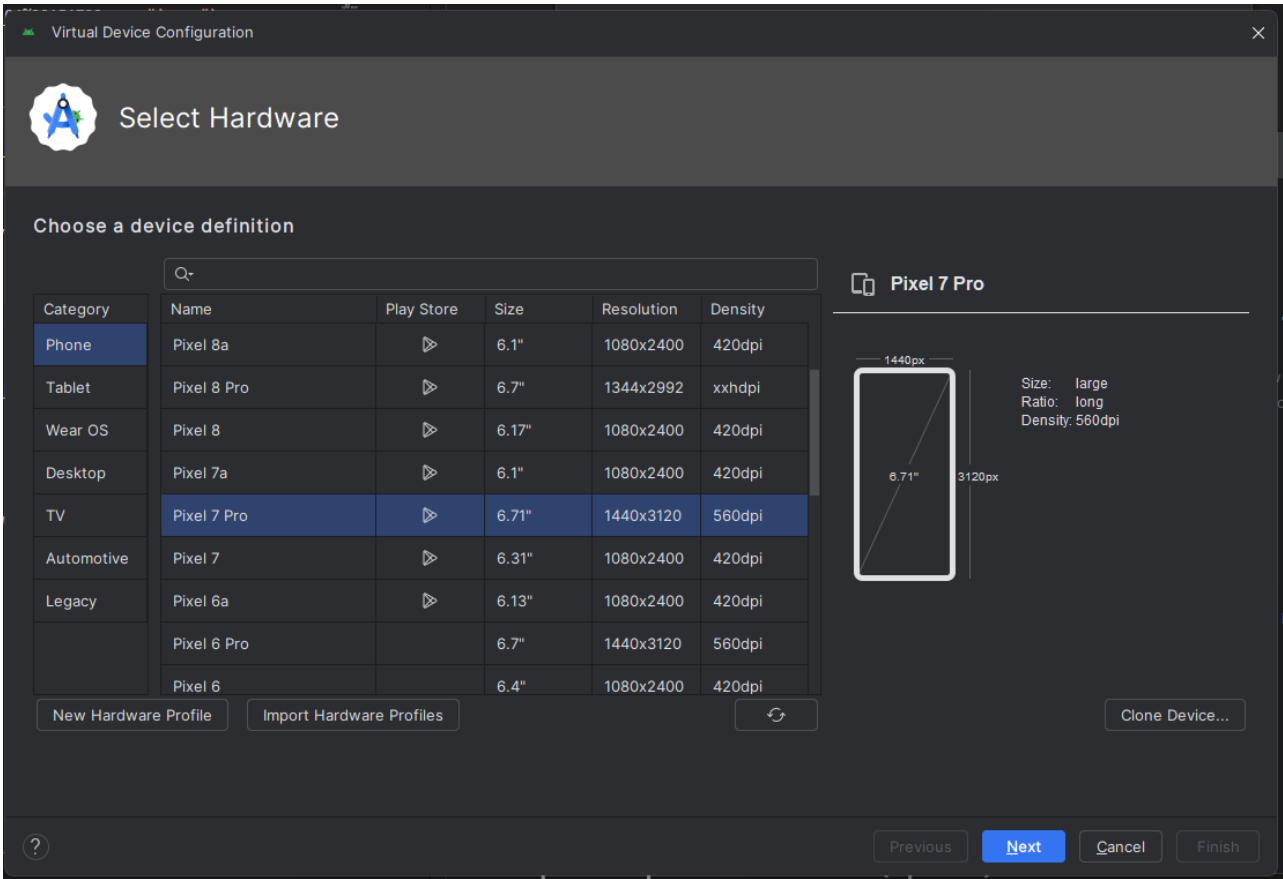
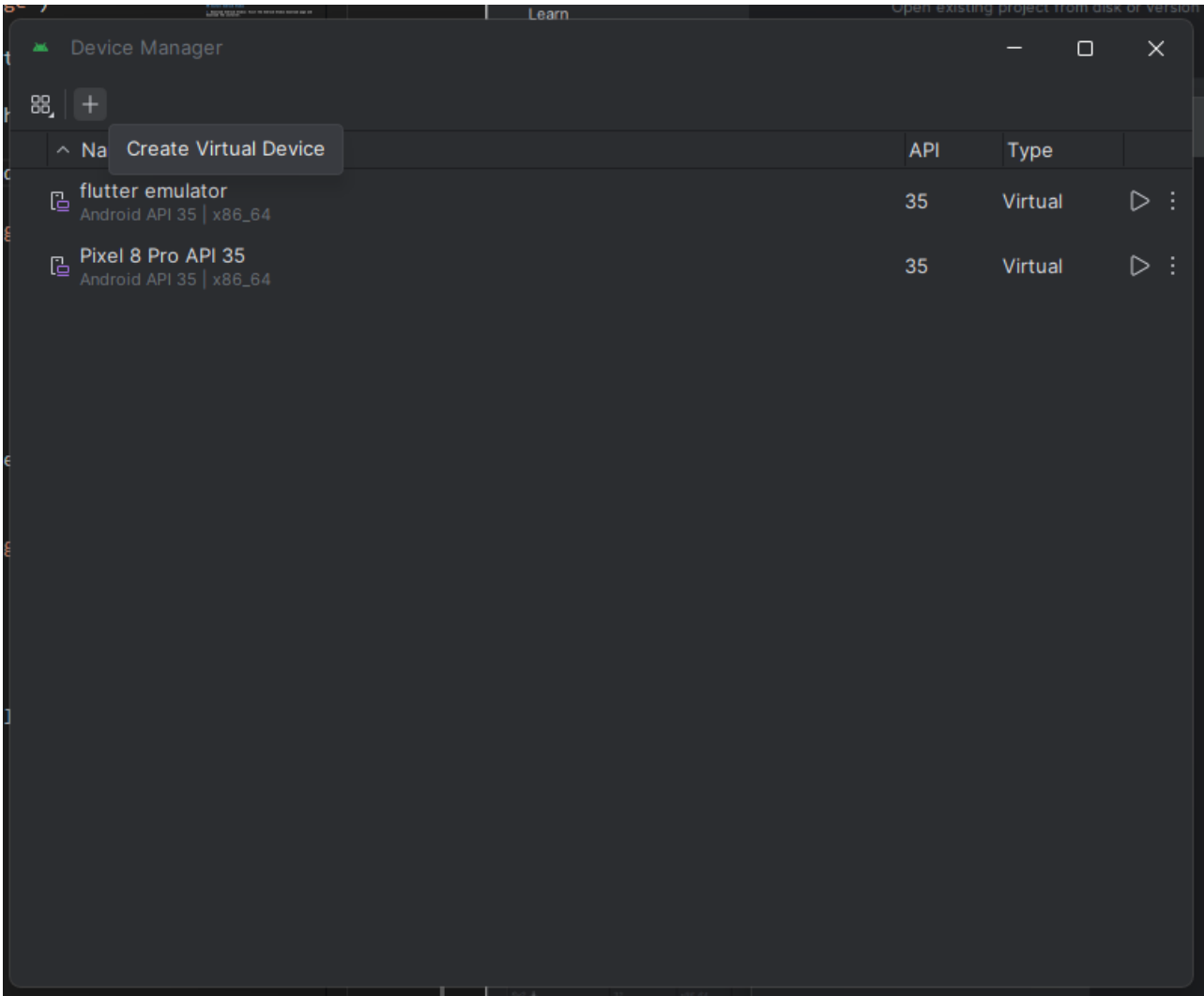
- Set the Android SDK path during the installation process. It's usually set in C:\Users<Your-Username>\AppData\Local\Android\Sdk.
3. Install Flutter and Dart Plugins:
 - Open Android Studio.
 - Go to File > Settings.
 - Under Plugins, search for "Flutter" and install it.
 - When prompted, also install the Dart plugin.

Set Up the Android Emulator

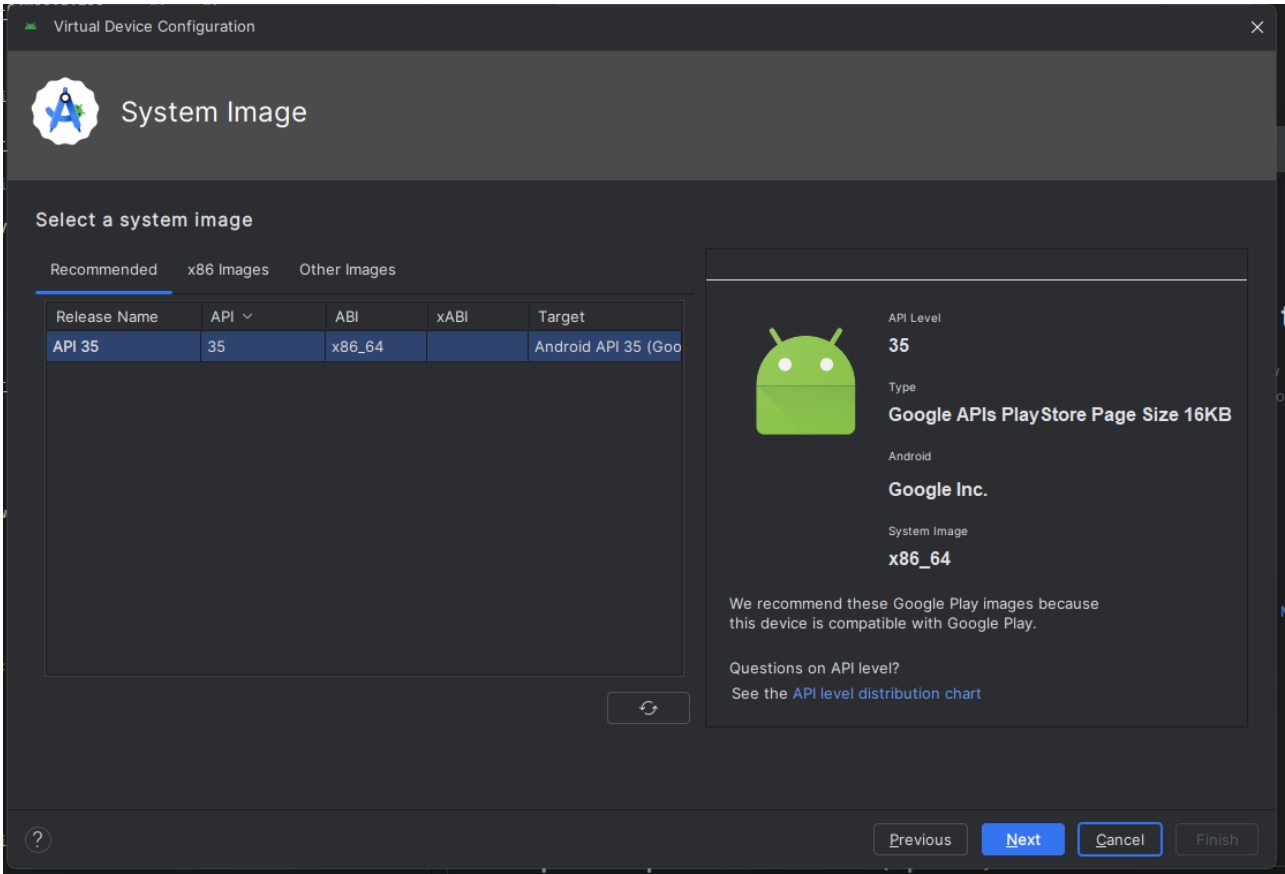
1. Open Android Studio.
2. Virtual Device Manager: More Actions > Virtual Device Manager.



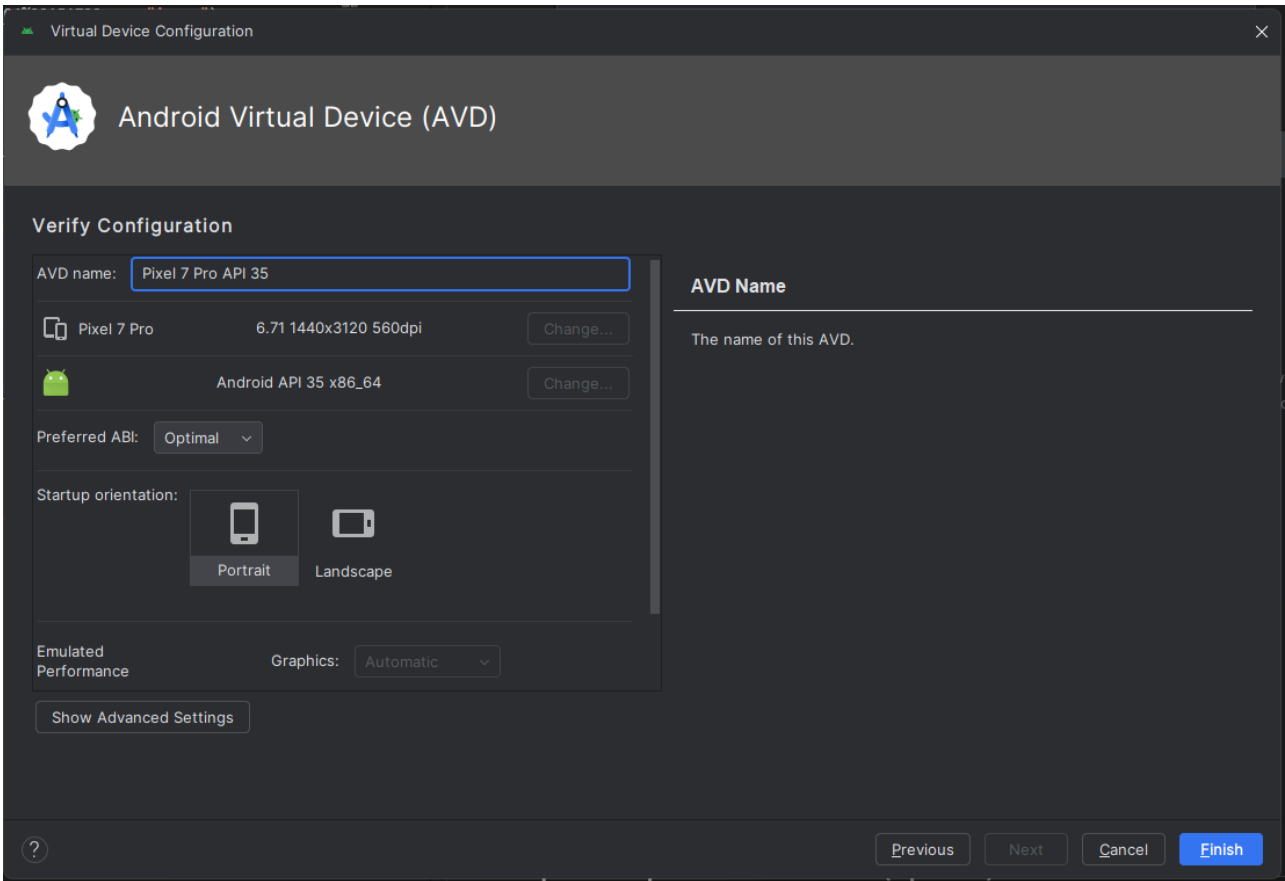
3. Create a Virtual Device: Click Create Virtual Device, select a device model, then click Next.



4. Select a System Image: Choose a system image that matches the version you want to test, and click Next.

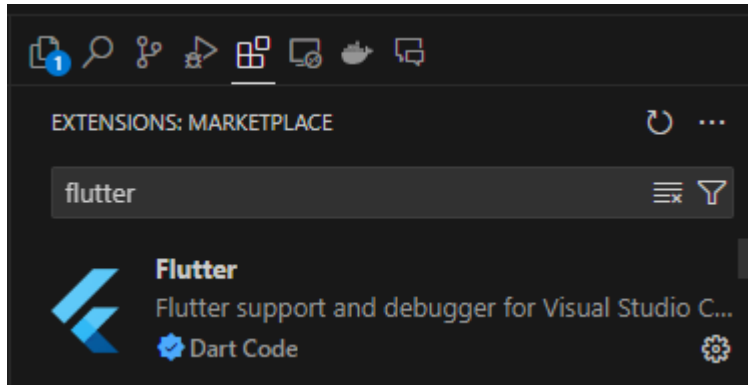


5. Verify Configuration: Confirm the configuration settings and click Finish.



Set Up Visual Studio Code (Optional)

1. Install VS Code: Download and install Visual Studio Code.
2. Install Flutter Extension:
 - Open VS Code.
 - Go to Extensions.
 - Search for "Flutter" and install the official Flutter extension. This will also install the Dart extension.



Run Your First Flutter App

1. Create a New Flutter Project:
 - Open PowerShell or Command Prompt.
 - Navigate to the directory where you want to create your Flutter project.
 - Run the following command:

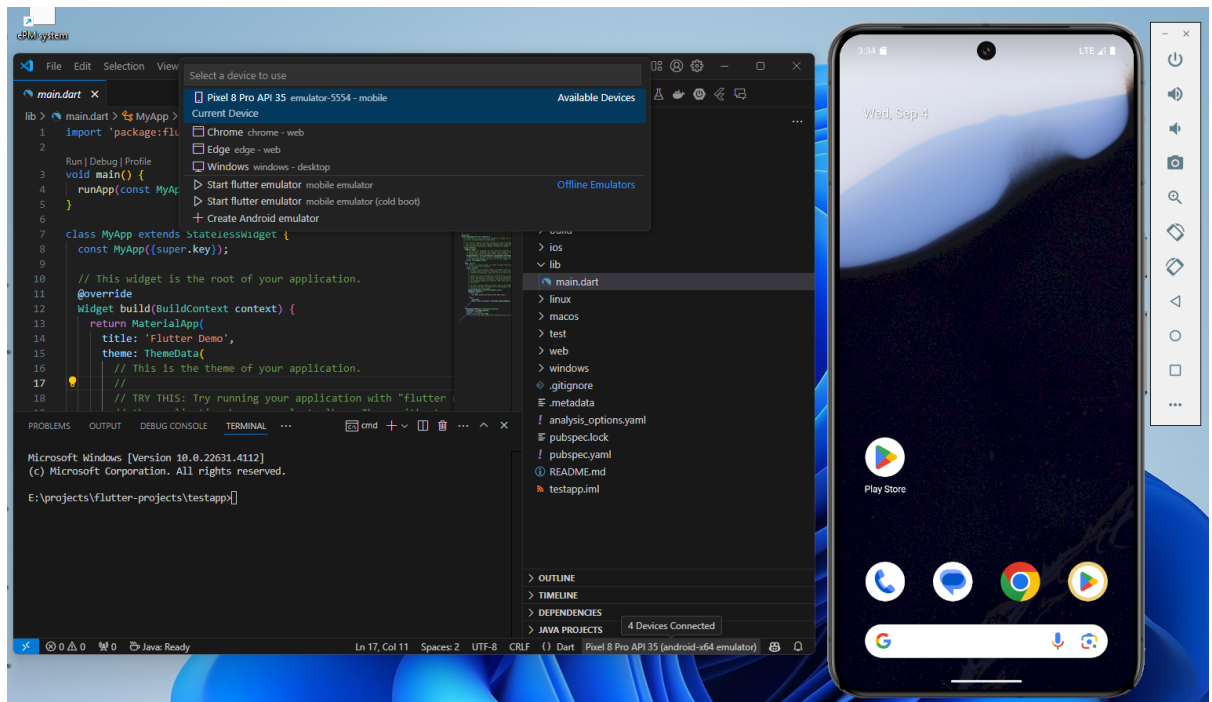
```
flutter create my_first_app
```

- Navigate into your project directory:

```
cd my_first_app
```

2. Run the App:

- Ensure your Android emulator is running or a physical device is connected.



- Run the following command to launch your app:

```
flutter run
```

Keeping Flutter and Tools Up to Date

1. Update Flutter SDK:

- To update the Flutter SDK, run:

```
flutter upgrade
```

or

```
flutter upgrade --force
```

```
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS ... cmd + v [icon] [icon] ... ^ X
E:\phanakhone docs\update-projects\quickuploadapp>flutter upgrade --force
Upgrading Flutter to 3.24.2 from 3.24.1 in E:\flutter...
Checking Dart SDK version...
Downloading Dart SDK from Flutter engine a6bd3f1de158bb61090e0c8053df93a10cb548e1...
Expanding downloaded archive with PowerShell...
Building flutter tool...
Running pub upgrade...
Resolving dependencies...
Downloading packages...
Got dependencies.

Upgrading engine...
Downloading android-arm-profile/windows-x64 tools... 1,014ms
Downloading android-arm-release/windows-x64 tools... 967ms
Downloading android-arm64-profile/windows-x64 tools... 983ms
Downloading android-arm64-release/windows-x64 tools... 641ms
Downloading android-x64-profile/windows-x64 tools... 672ms
Downloading android-x64-release/windows-x64 tools... 972ms
Downloading android-x86 tools... 3.1s
Downloading android-x64 tools... 2,759ms
Downloading android-arm tools... 2,834ms
Downloading android-arm-profile tools... 1,121ms
Downloading android-arm-release tools... 928ms
Downloading android-arm64 tools... 5.5s
Downloading android-arm64-profile tools... 1,635ms
Downloading android-arm64-release tools... 991ms
Downloading android-x64-profile tools... 1,660ms
Downloading android-x64-release tools... 1,027ms
Downloading android-x86-jit-release tools... 1,565ms
Downloading Web SDK... 9.3s
Downloading package sky_engine... 685ms
Downloading package flutter_gpu... 178ms
Downloading flutter_patched_sdk tools... 999ms
Downloading flutter_patched_sdk_product tools... 962ms
Downloading windows-x64 tools... 5.0s
Downloading windows-x64-debug/windows-x64-flutter tools... 11.4s
Downloading windows-x64/flutter-cpp-client-wrapper tools... 506ms
Downloading windows-x64-profile/windows-x64-flutter tools... 9.2s
Downloading windows-x64-release/windows-x64-flutter tools... 27.2s
Downloading windows-x64/font-subset tools... 718ms

Flutter 3.24.2 • channel stable • https://github.com/flutter/flutter.git
Framework • revision 4cf269e36d (34 hours ago) • 2024-09-03 14:30:00 -0700
Engine • revision a6bd3f1de1
Tools • Dart 3.5.2 • DevTools 2.37.2

Running flutter doctor...
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version 10.0.22631.4112], locale en-US)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.0)
```

- Verify

```
flutter doctor
```

```
E:\phanakhone docs\update-projects\quickuploadapp>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version 10.0.22631.4112], locale en-US)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.0)
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Build Tools 2019 16.11.39)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[✓] Proxy Configuration
[✓] Connected device (3 available)
[✓] Network resources

• No issues found!
```

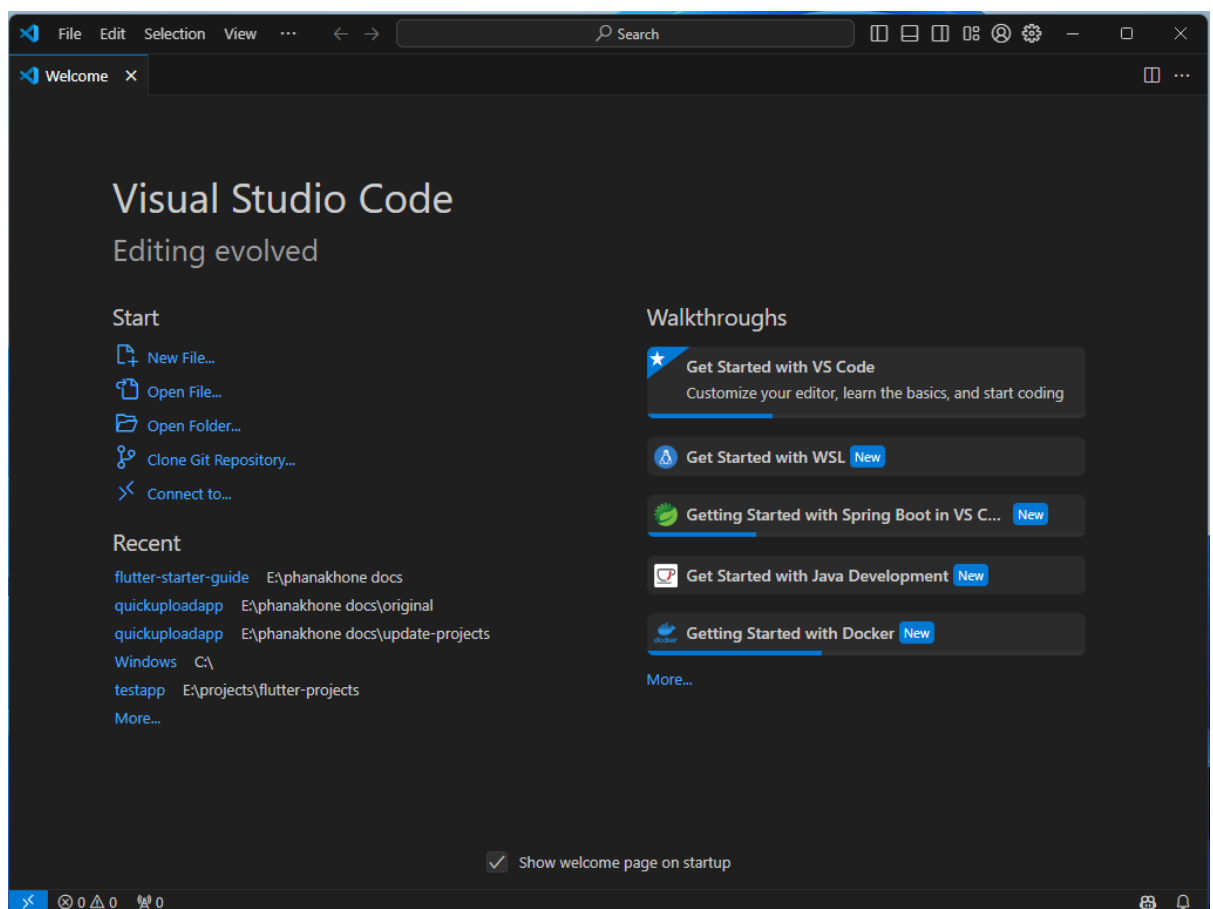
2. Update Android Studio:

- Check for updates regularly within Android Studio to ensure you're using the latest version of the Android SDK and related tools.

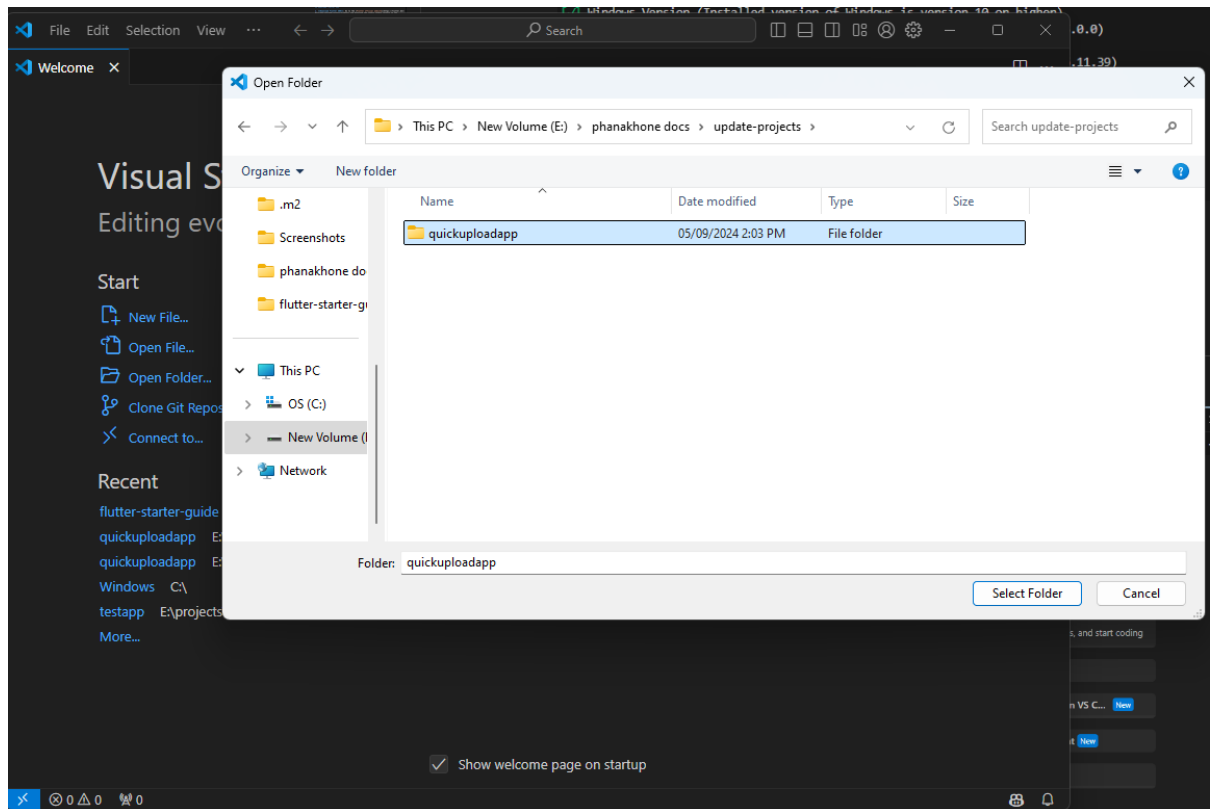
Open Existing Flutter project

1. Open project

- Open VS Code



- Click Open Folder then select project folder



- To check project's packages outdated Press Ctrl + ` to open terminal then type

```
flutter outdated
```

```

E:\phanakhone docs\update-projects\quickuploadapp>flutter pub outdated
Showing outdated packages.
[*] indicates versions that are not the latest available.

Package Name          Current  Upgradable  Resolvable  Latest
direct dependencies: all up-to-date.

dev_dependencies: all up-to-date.

transitive dependencies:
collection             *1.18.0  *1.18.0     *1.18.0     1.19.0
http_parser            *4.0.2   *4.0.2     *4.0.2     4.1.0
js                     *0.6.7   *0.6.7     *0.6.7     0.7.1
material_color_utilities *0.11.1  *0.11.1     *0.11.1     0.12.0
string_scanner         *1.2.0   *1.2.0     *1.2.0     1.3.0

transitive dev_dependencies:
leak_tracker           *10.0.5  *10.0.5     *10.0.5     10.0.7
leak_tracker_flutter_testing *3.0.5  *3.0.5     *3.0.5     3.0.8
test_api               *0.7.2   *0.7.2     *0.7.2     0.7.3
all dependencies are up-to-date.

E:\phanakhone docs\update-projects\quickuploadapp>flutter pub upgrade
Resolving dependencies... (2.0s)
Downloading packages...
  collection 1.18.0 (1.19.0 available)
  http_parser 4.0.2 (4.1.0 available)
  js 0.6.7 (0.7.1 available)
  leak_tracker 10.0.5 (10.0.7 available)
  leak_tracker_flutter_testing 3.0.5 (3.0.8 available)
  material_color_utilities 0.11.1 (0.12.0 available)
  string_scanner 1.2.0 (1.3.0 available)
  test_api 0.7.2 (0.7.3 available)
No dependencies changed.
8 packages have newer versions incompatible with dependency constraints.
Try `flutter pub outdated` for more information.

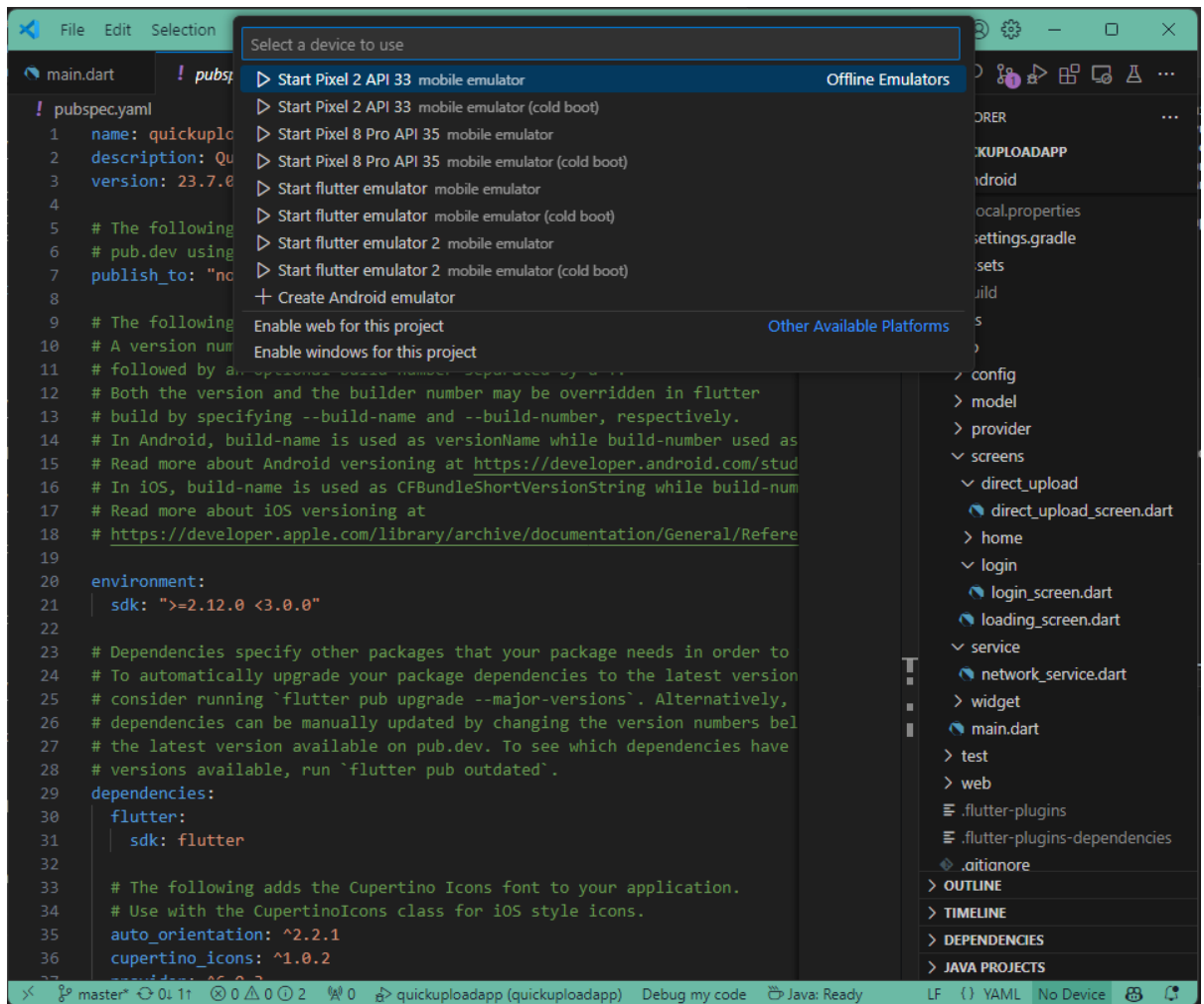
```

- To upgrade packages

```
flutter pub upgrade
```

2. Run project on android emulator

- Select emulator



- Run project

```
flutter run
```

or click debug icon

