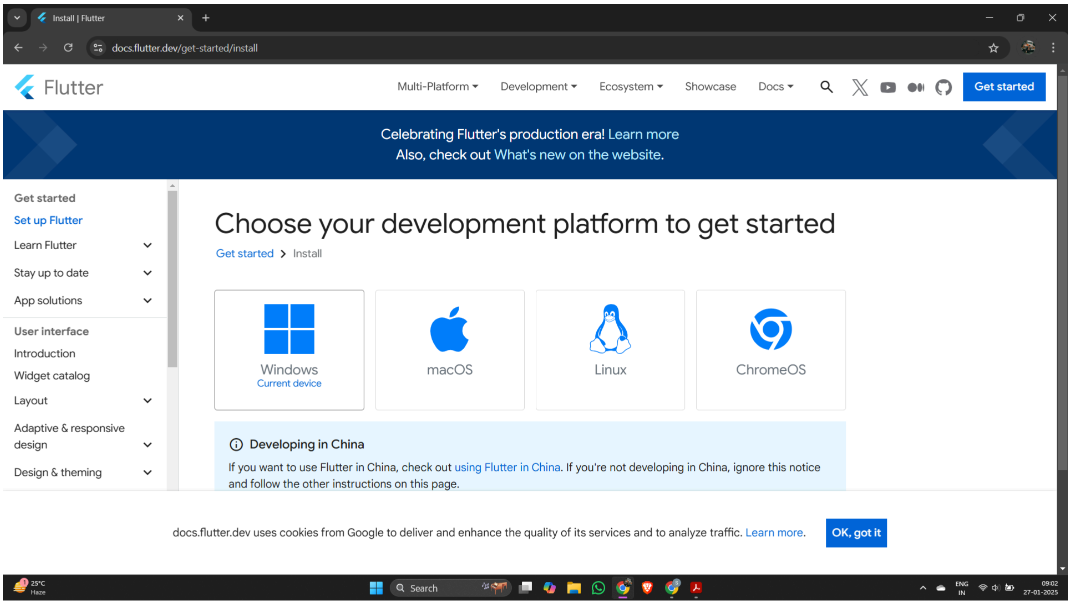
EXPERIMENT NO 01

Name:- Shreyash Dhekane **Class:-** D15A **Roll:No:-** 16

AIM:- Installation and Configuration of Flutter Environment.

Step 1: Go to the official Flutter website: https://docs.flutter.dev/get-started/install



Celebrating Flutter's production era! Learn more
Also, check out What's new on the website.

Choose your development platform to get started

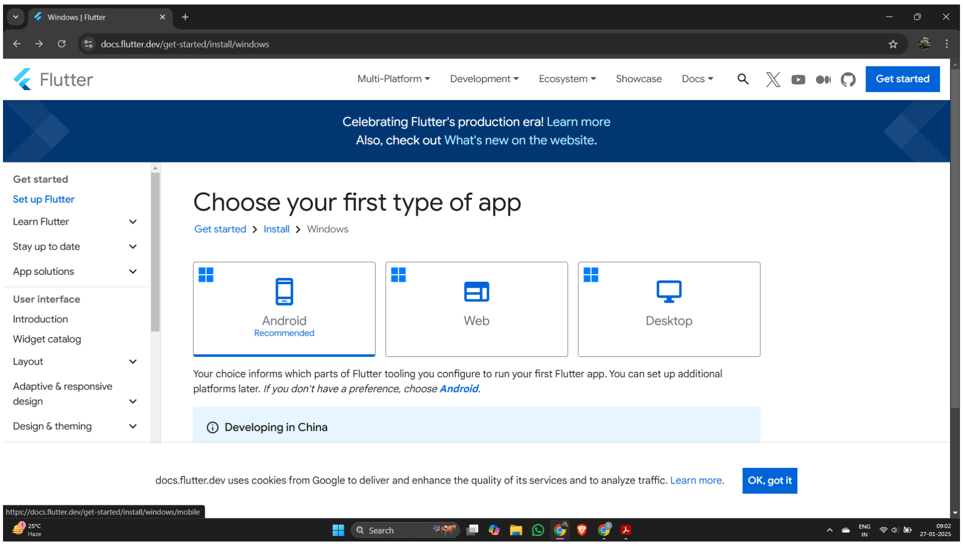
Get started > Install

Developing in China

If you want to use Flutter in China, check out using Flutter in China. If you're not developing in China, ignore this notice and follow the other instructions on this page.

docs.flutter.dev uses cookies from Google to deliver and enhance the quality of its services and to analyze traffic. Learn more.

Step 2:To download the latest Flutter SDK, click on the Windows icon > Android



Celebrating Flutter's production era! Learn more
Also, check out What's new on the website.

Choose your first type of app

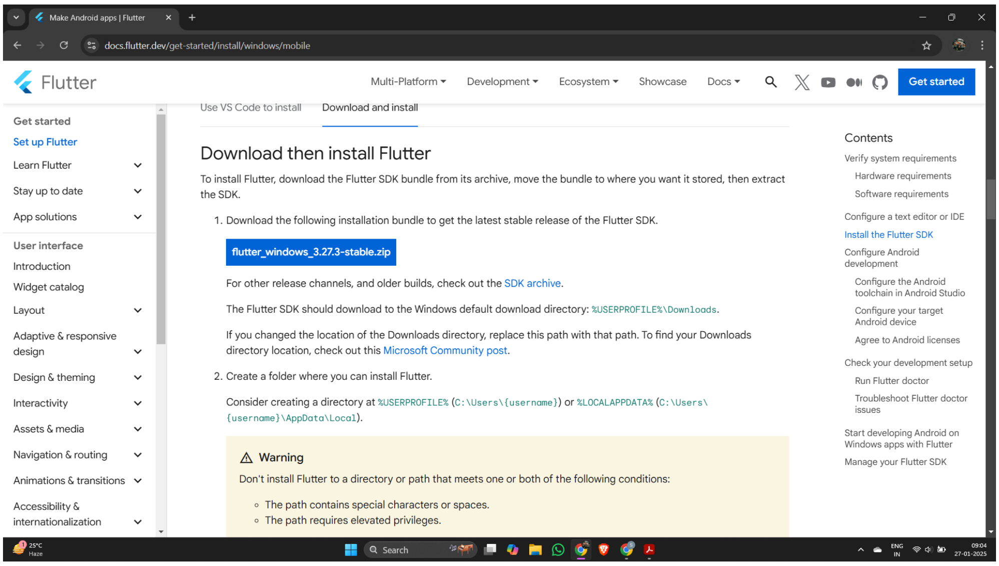
Get started > Install > Windows

Your choice informs which parts of Flutter tooling you configure to run your first Flutter app. You can set up additional platforms later. *If you don't have a preference, choose **Android**.*

Developing in China

docs.flutter.dev uses cookies from Google to deliver and enhance the quality of its services and to analyze traffic. Learn more.

Step 3: For Windows, download the stable release (a .zip file).


Make Android apps | Flutter
docs.flutter.dev/get-started/install/windows/mobile
Flutter
Multi-Platform
Development
Ecosystem
Showcase
Docs
Get started
Set up Flutter
Learn Flutter
Stay up to date
App solutions
User interface
Introduction
Widget catalog
Layout
Adaptive & responsive design
Design & theming
Interactivity
Assets & media
Navigation & routing
Animations & transitions
Accessibility & internationalization
Contents
Verify system requirements
Hardware requirements
Software requirements
Configure a text editor or IDE
Install the Flutter SDK
Configure Android development
Configure the Android toolchain in Android Studio
Configure your target Android device
Agree to Android licenses
Check your development setup
Run Flutter doctor
Troubleshoot Flutter doctor issues
Start developing Android on Windows apps with Flutter
Manage your Flutter SDK
Search
25°C Haze
ENG IN
09:04
27-01-2025

Use VS Code to install | Download and install

Download then install Flutter

To install Flutter, download the Flutter SDK bundle from its archive, move the bundle to where you want it stored, then extract the SDK.

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

   flutter_windows_3.27.3-stable.zip

   For other release channels, and older builds, check out the SDK archive.

   The Flutter SDK should download to the Windows default download directory: `%USERPROFILE%\Downloads`.

   If you changed the location of the Downloads directory, replace this path with that path. To find your Downloads directory location, check out this Microsoft Community post.

2. Create a folder where you can install Flutter.

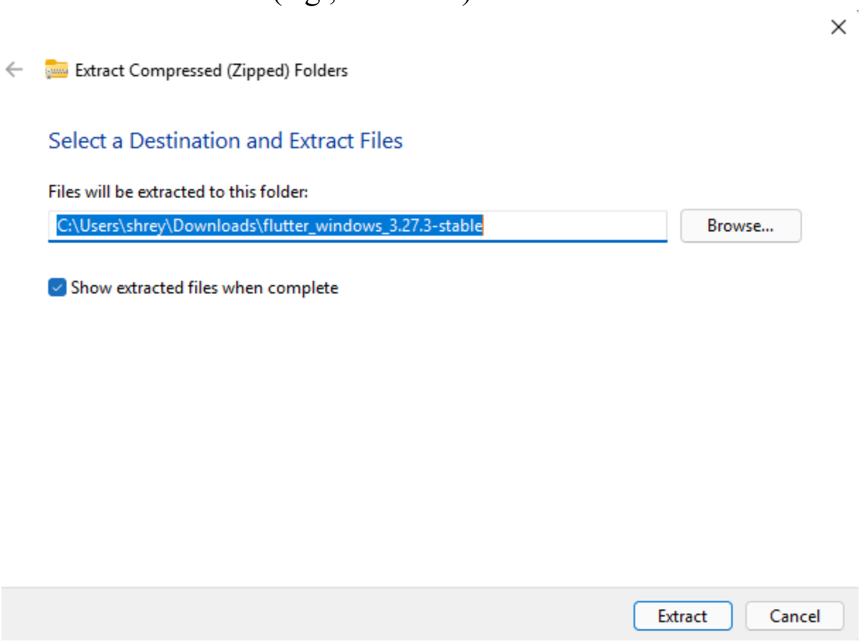
   Consider creating a directory at `%USERPROFILE%` (`C:\Users\{username}`) or `%LOCALAPPDATA%` (`C:\Users\{username}\AppData\Local`).

   ⚠ Warning

   Don't install Flutter to a directory or path that meets one or both of the following conditions:

   - The path contains special characters or spaces.
   - The path requires elevated privileges.

Step 4: Extract the ZIP file to a folder (e.g., C:\flutter).



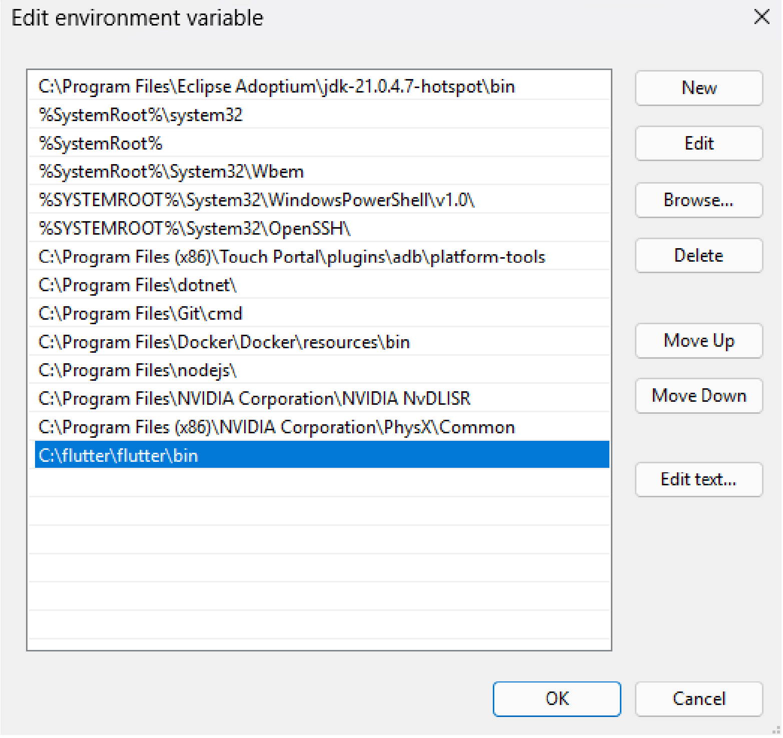
Select a Destination and Extract Files

Files will be extracted to this folder:

C:\Users\shrey\Downloads\flutter_windows_3.27.3-stable

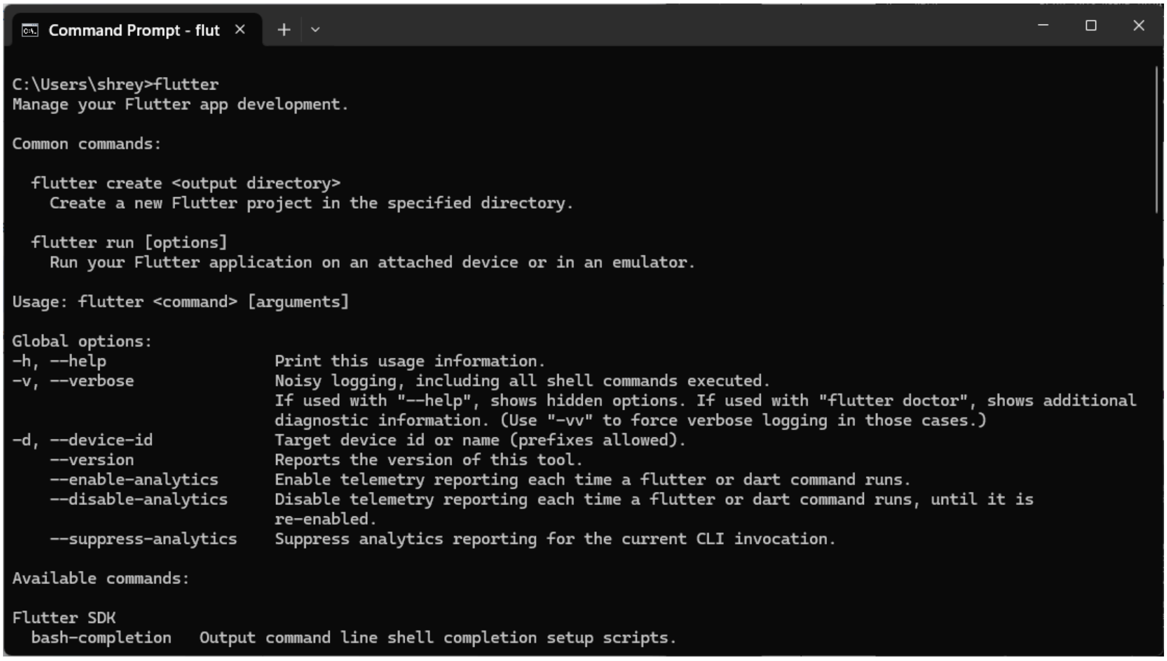
☑ Show extracted files when complete

Step 5 :- Add Flutter to System PATH
Right-click on the Start Menu > System > Advanced system settings > Environment Variables.
Under System Variables, find Path and click Edit.
Add the full path to the flutter/bin directory (e.g., C:\flutter\bin).



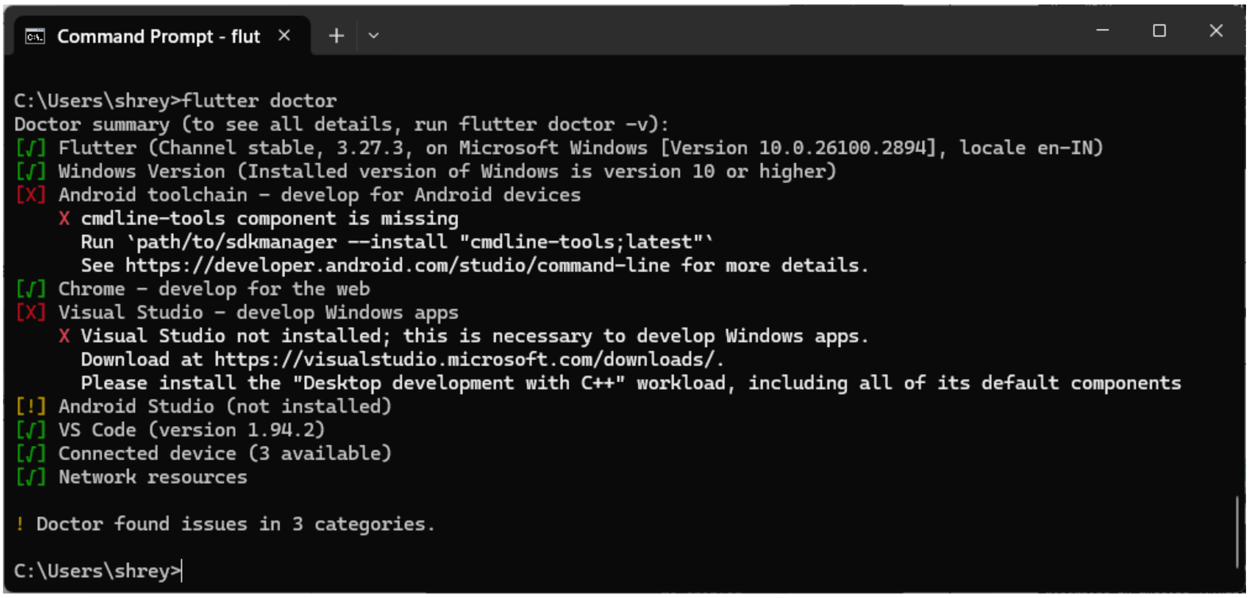
```
C:\Program Files\Eclipse Adoptium\jdk-21.0.4.7-hotspot\bin
%SystemRoot%\system32
%SystemRoot%
%SystemRoot%\System32\Wbem
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\
%SYSTEMROOT%\System32\OpenSSH\
C:\Program Files (x86)\Touch Portal\plugins\adb\platform-tools
C:\Program Files\dotnet\
C:\Program Files\Git\cmd
C:\Program Files\Docker\Docker\resources\bin
C:\Program Files\nodejs\
C:\Program Files\NVIDIA Corporation\NVIDIA NvDLISR
C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common
C:\flutter\flutter\bin
```

Step 6 : - Now, run the $ flutter command in command prompt.



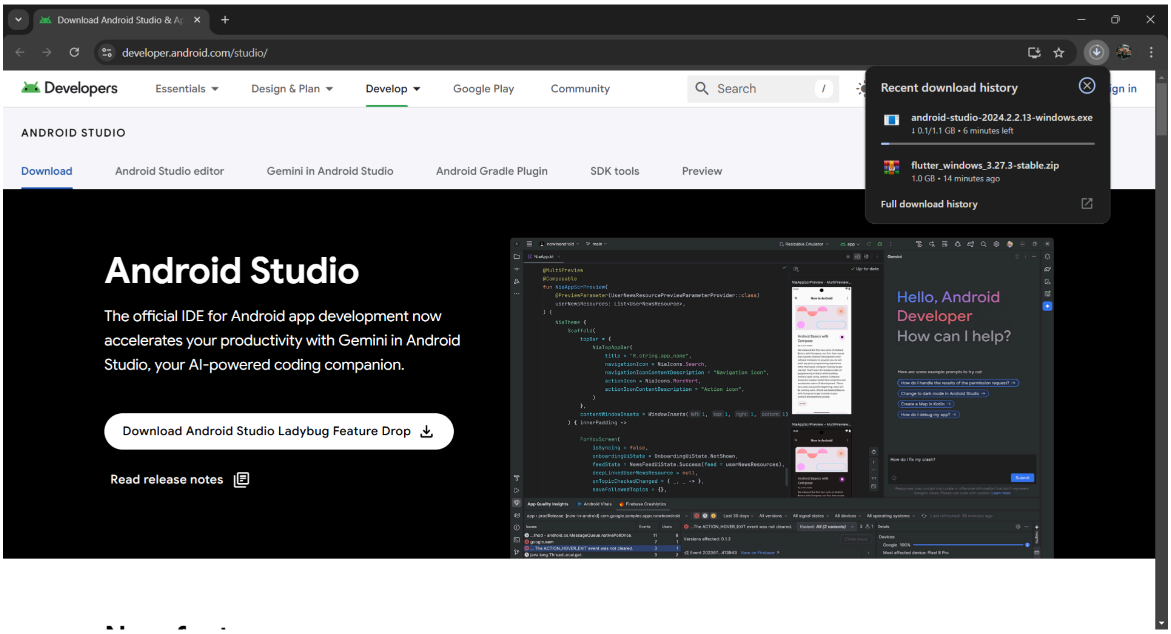
```
C:\Users\shrey>flutter
Manage your Flutter app development.

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. If used with "flutter doctor", shows additional
                            diagnostic information. (Use "-vv" to force verbose logging in those cases.)
-d, --device-id             Target device id or name (prefixes allowed).
    --version               Reports the version of this tool.
    --enable-analytics      Enable telemetry reporting each time a flutter or dart command runs.
    --disable-analytics     Disable telemetry reporting each time a flutter or dart command runs, until it is
                            re-enabled.
    --suppress-analytics    Suppress analytics reporting for the current CLI invocation.

Available commands:

Flutter SDK
  bash-completion   Output command line shell completion setup scripts.
```

Step 7:- Run the $ flutter doctor command. This command checks for all the requirements of Flutter app development and displays a report of the status of your Flutter installation



```
C:\Users\shrey>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.27.3, on Microsoft Windows [Version 10.0.26100.2894], locale en-IN)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[X] Android toolchain - develop for Android devices
    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.
[√] 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 (not installed)
[√] VS Code (version 1.94.2)
[√] Connected device (3 available)
[√] Network resources

! Doctor found issues in 3 categories.

C:\Users\shrey>
```

Step 8 : - Go to Android Studio and download the installer.



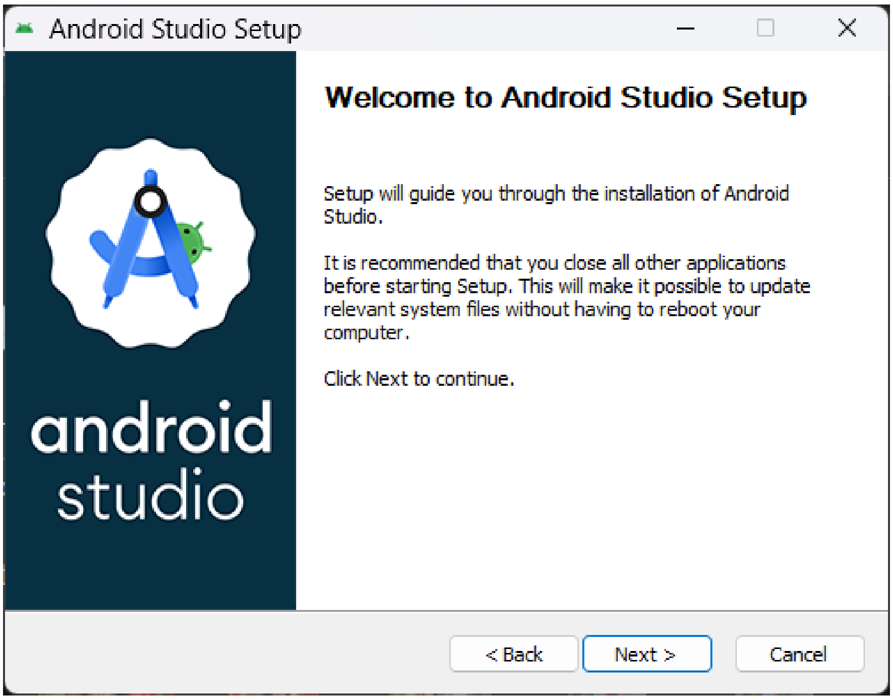
android-studio-2024.2.2.13-windows.exe
0.1/1.1 GB • 6 minutes left

flutter_windows_3.27.3-stable.zip
1.0 GB • 14 minutes ago

Android Studio

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

Step 8.1: - When the download is complete, open the .exe file and run it. You will get the following dialog box



Android Studio Setup

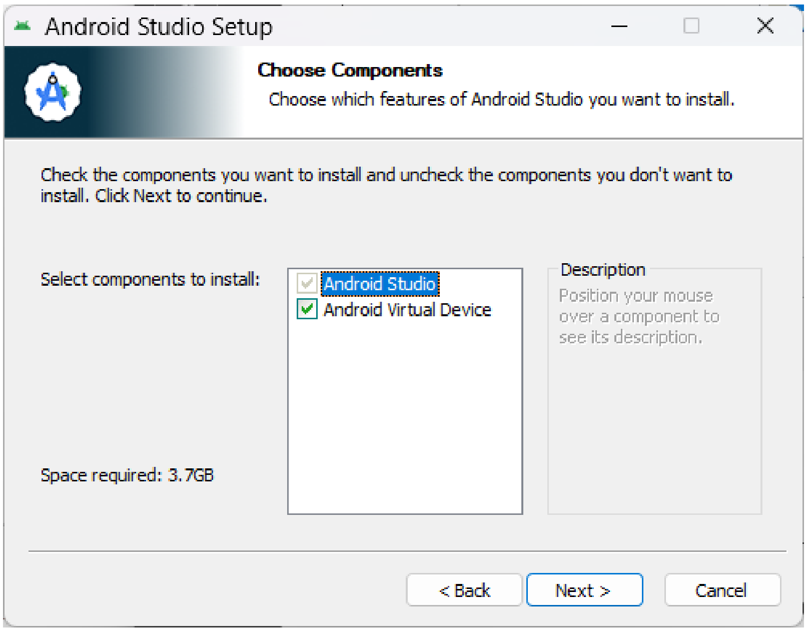
Welcome to Android Studio Setup

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.

Step 8.2: - Select all the Checkboxes and Click on ‘Next’ Button.



Android Studio Setup

Choose Components

Choose which features of Android Studio you want to install.

Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.

Select components to install:

☑ Android Studio

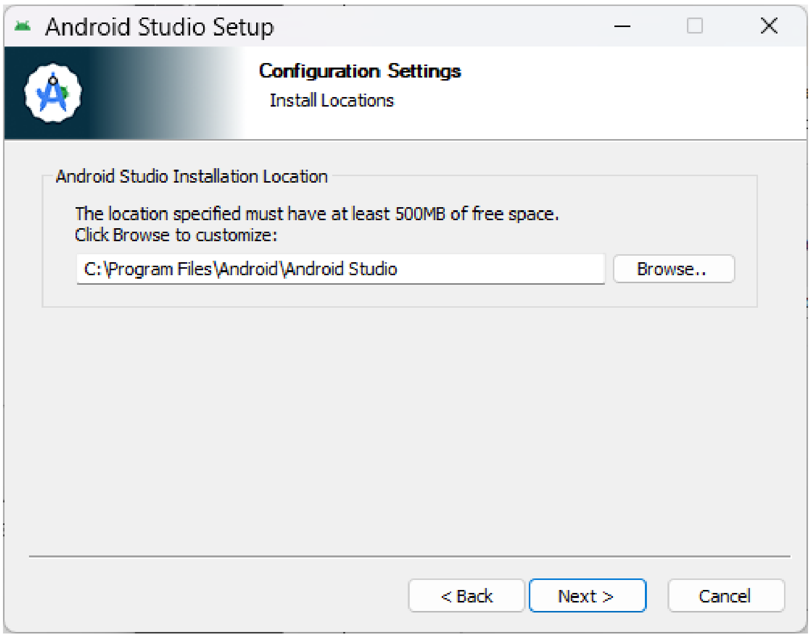
☑ Android Virtual Device

Description

Position your mouse over a component to see its description.

Space required: 3.7GB

Step 8.3: - Change the destination as per your convenience and click on ‘Next’ Button.



Android Studio Setup

Configuration Settings

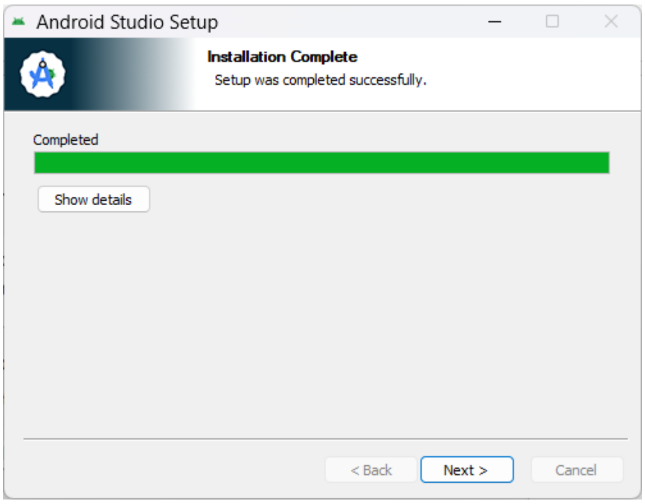
Install Locations

Android Studio Installation Location

The location specified must have at least 500MB of free space.
Click Browse to customize:

C:\Program Files\Android\Android Studio

Step 8.4: - Follow the steps of the installation wizard. Once the installation wizard completes, you will get the following screen.

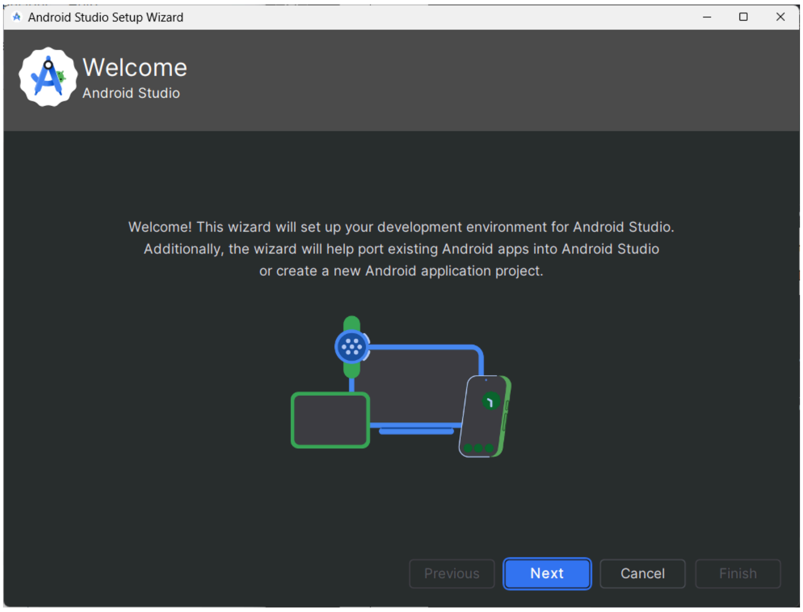


Android Studio Setup

Installation Complete

Setup was completed successfully.

Completed



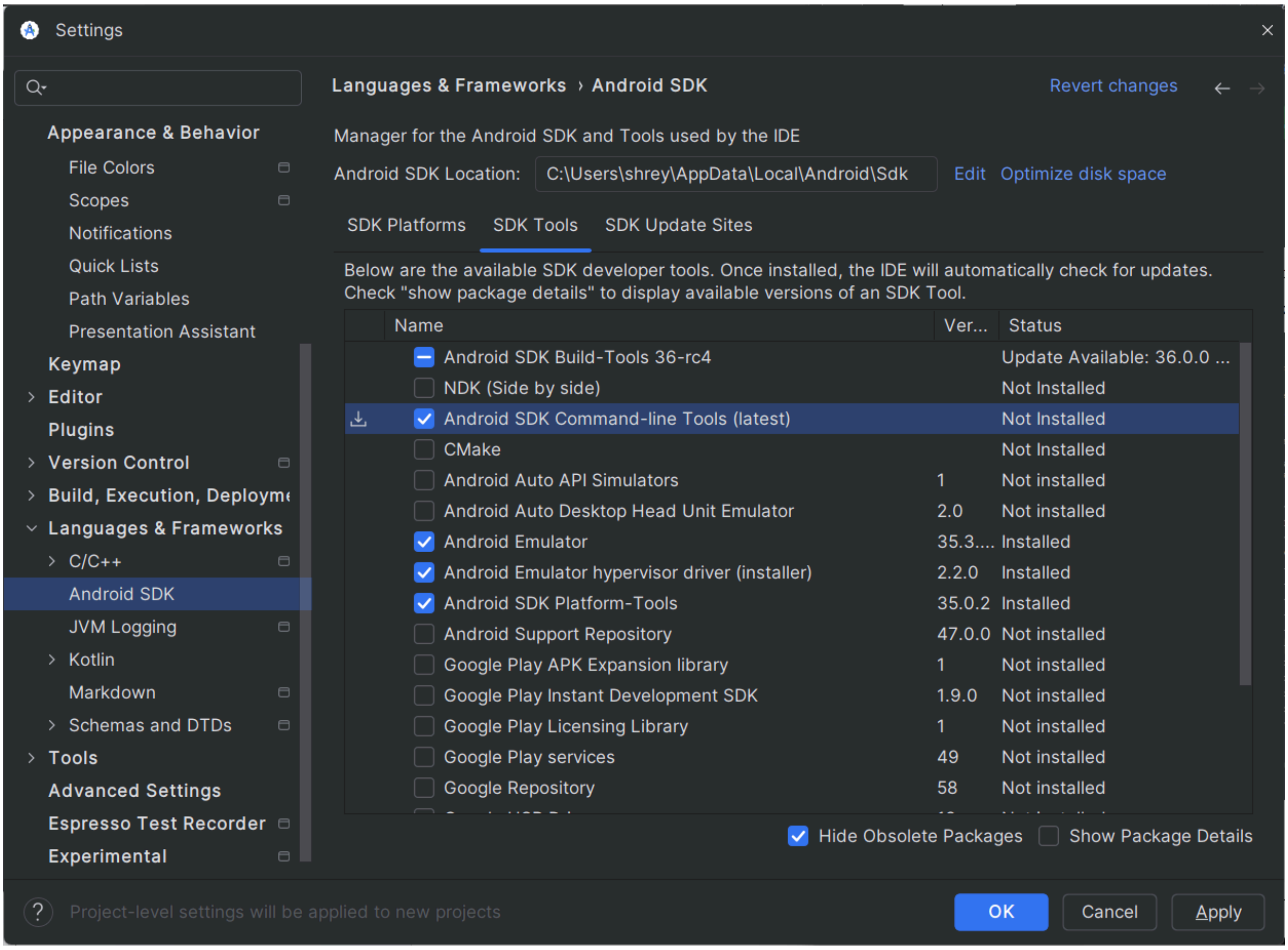
Android Studio Setup Wizard

Welcome

Android Studio

Welcome! This wizard will set up your development environment for Android Studio.
Additionally, the wizard will help port existing Android apps into Android Studio
or create a new Android application project.

Step 8.5: - Go to Preferences > Appearance & Behavior > System Settings > Android SDK. Select the SDK Tools tab and check Android SDK Command-line Tools and Install it.



Languages & Frameworks › Android SDK

Manager for the Android SDK and Tools used by the IDE

Android SDK Location: C:\Users\shrey\AppData\Local\Android\Sdk

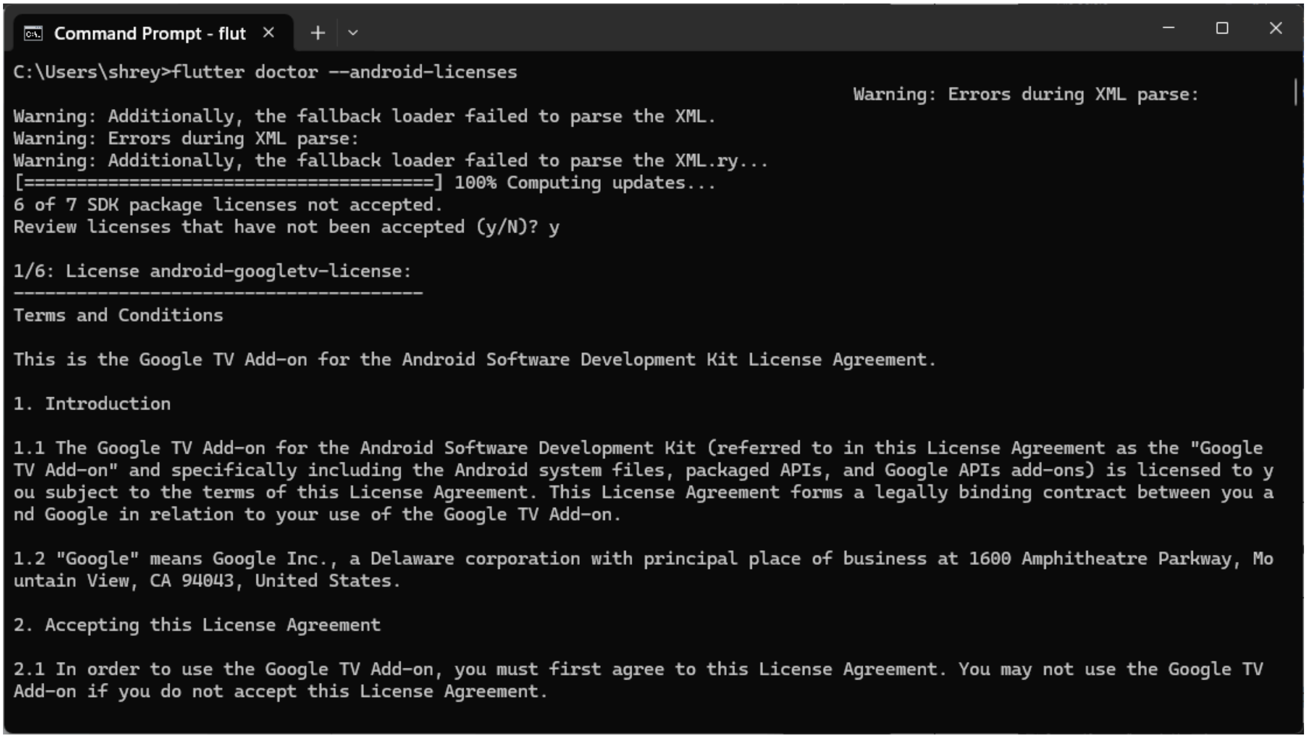
Below are the available SDK developer tools. Once installed, the IDE will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.

	Name	Ver...	Status
	⊟ Android SDK Build-Tools 36-rc4		Update Available: 36.0.0 ...
	☐ NDK (Side by side)		Not Installed
⤓	☑ Android SDK Command-line Tools (latest)		Not Installed
	☐ CMake		Not Installed
	☐ Android Auto API Simulators	1	Not installed
	☐ Android Auto Desktop Head Unit Emulator	2.0	Not installed
	☑ Android Emulator	35.3....	Installed
	☑ Android Emulator hypervisor driver (installer)	2.2.0	Installed
	☑ Android SDK Platform-Tools	35.0.2	Installed
	☐ Android Support Repository	47.0.0	Not installed
	☐ Google Play APK Expansion library	1	Not installed
	☐ Google Play Instant Development SDK	1.9.0	Not installed
	☐ Google Play Licensing Library	1	Not installed
	☐ Google Play services	49	Not installed
	☐ Google Repository	58	Not installed

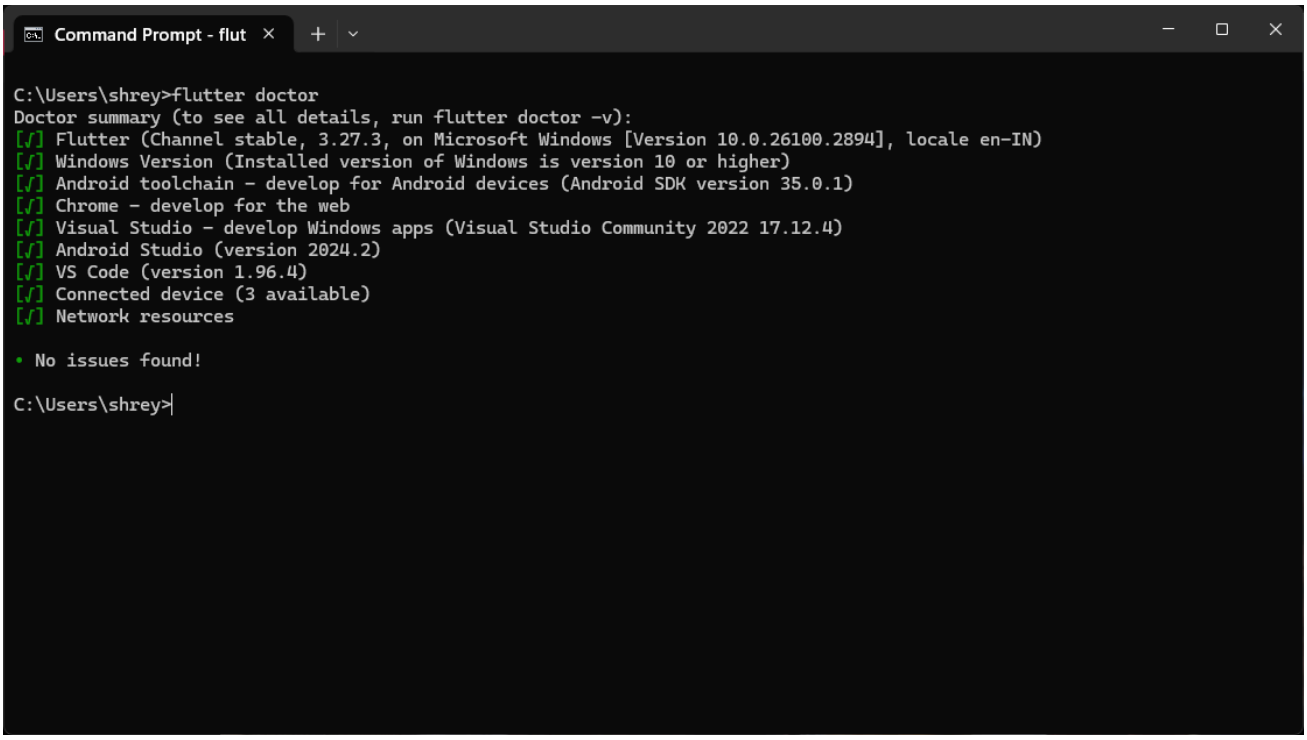
☑ Hide Obsolete Packages ☐ Show Package Details

Project-level settings will be applied to new projects

Step 9: - Open a terminal and run the following command

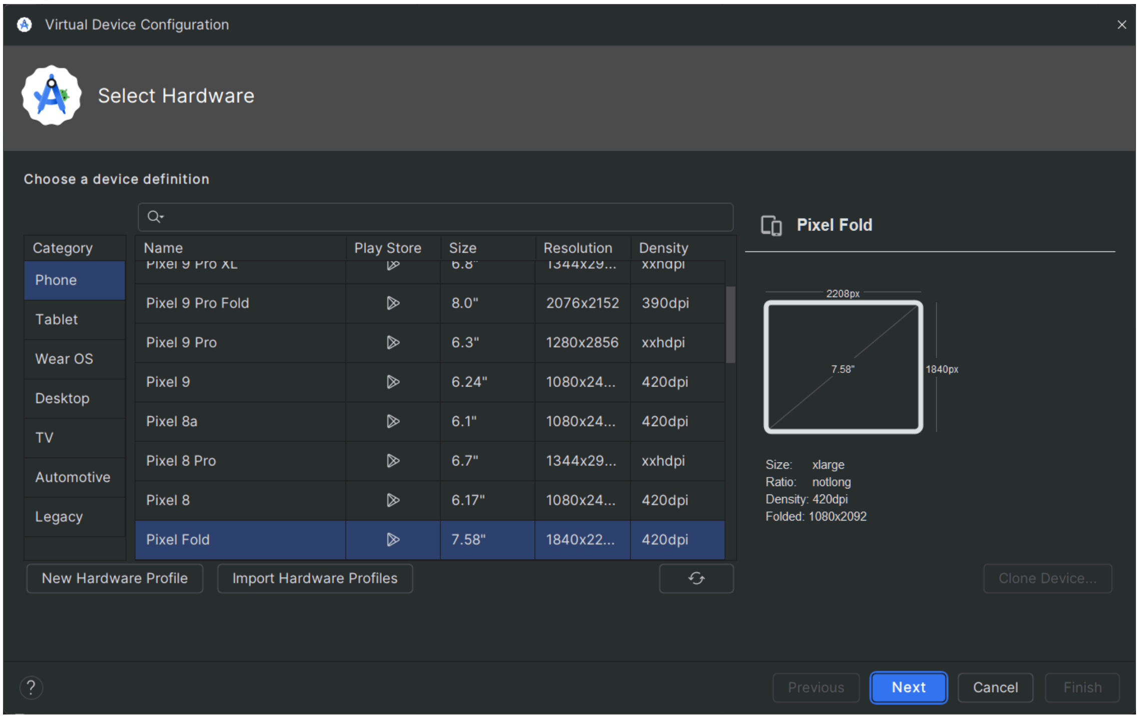


```
C:\Users\shrey>flutter doctor --android-licenses
                                                                     Warning: Errors during XML parse:
Warning: Additionally, the fallback loader failed to parse the XML.
Warning: Errors during XML parse:
Warning: Additionally, the fallback loader failed to parse the XML.ry...
[=======================================] 100% Computing updates...
6 of 7 SDK package licenses not accepted.
Review licenses that have not been accepted (y/N)? y

1/6: License android-googletv-license:
---------------------------------------
Terms and Conditions

This is the Google TV Add-on for the Android Software Development Kit License Agreement.

1. Introduction

1.1 The Google TV Add-on for the Android Software Development Kit (referred to in this License Agreement as the "Google
TV Add-on" and specifically including the Android system files, packaged APIs, and Google APIs add-ons) is licensed to y
ou subject to the terms of this License Agreement. This License Agreement forms a legally binding contract between you a
nd Google in relation to your use of the Google TV Add-on.

1.2 "Google" means Google Inc., a Delaware corporation with principal place of business at 1600 Amphitheatre Parkway, Mo
untain View, CA 94043, United States.

2. Accepting this License Agreement

2.1 In order to use the Google TV Add-on, you must first agree to this License Agreement. You may not use the Google TV
Add-on if you do not accept this License Agreement.
```



```
C:\Users\shrey>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.27.3, on Microsoft Windows [Version 10.0.26100.2894], locale en-IN)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[√] Android toolchain - develop for Android devices (Android SDK version 35.0.1)
[√] Chrome - develop for the web
[√] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.12.4)
[√] Android Studio (version 2024.2)
[√] VS Code (version 1.96.4)
[√] Connected device (3 available)
[√] Network resources

• No issues found!

C:\Users\shrey>
```

Step 10: - Next, you need to set up an Android emulator. It is responsible for running and testing the Flutter application

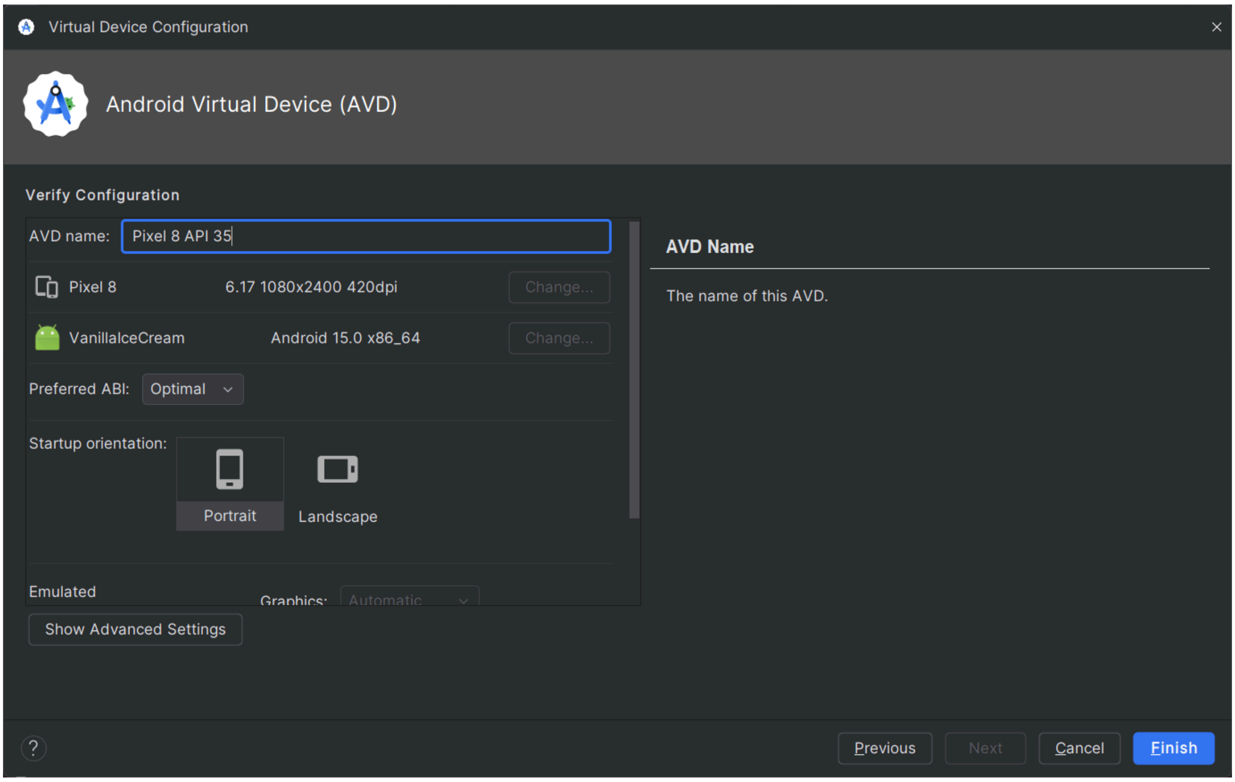


Name	Play Store	Size	Resolution	Density
Pixel 9 Pro XL	▷	6.8"	1344x29...	xxhdpi
Pixel 9 Pro Fold	▷	8.0"	2076x2152	390dpi
Pixel 9 Pro	▷	6.3"	1280x2856	xxhdpi
Pixel 9	▷	6.24"	1080x24...	420dpi
Pixel 8a	▷	6.1"	1080x24...	420dpi
Pixel 8 Pro	▷	6.7"	1344x29...	xxhdpi
Pixel 8	▷	6.17"	1080x24...	420dpi
Pixel Fold	▷	7.58"	1840x22...	420dpi

Pixel Fold

Size: xlarge
Ratio: notlong
Density: 420dpi
Folded: 1080x2092

Step 10.1: - Open Android Studio and go to Tools > AVD Manager. Create a new virtual device.



Virtual Device Configuration

Android Virtual Device (AVD)

Verify Configuration

AVD name: Pixel 8 API 35

Pixel 8 6.17 1080x2400 420dpi

VanillaIceCream Android 15.0 x86_64

Preferred ABI: Optimal

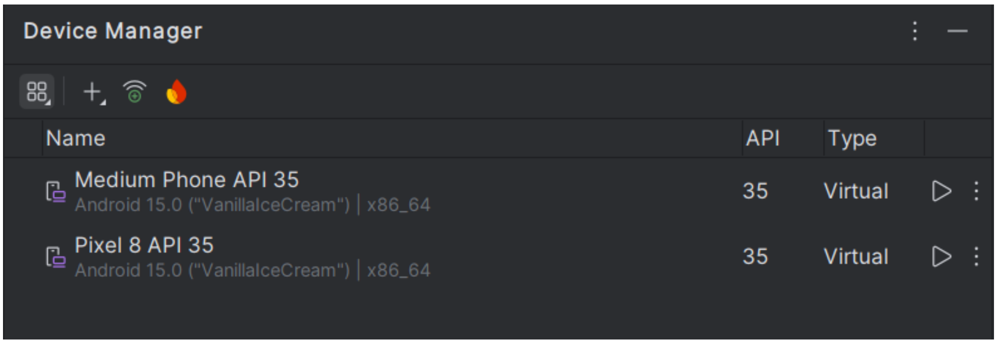
Startup orientation: Portrait

Emulated Graphics: Automatic

AVD Name

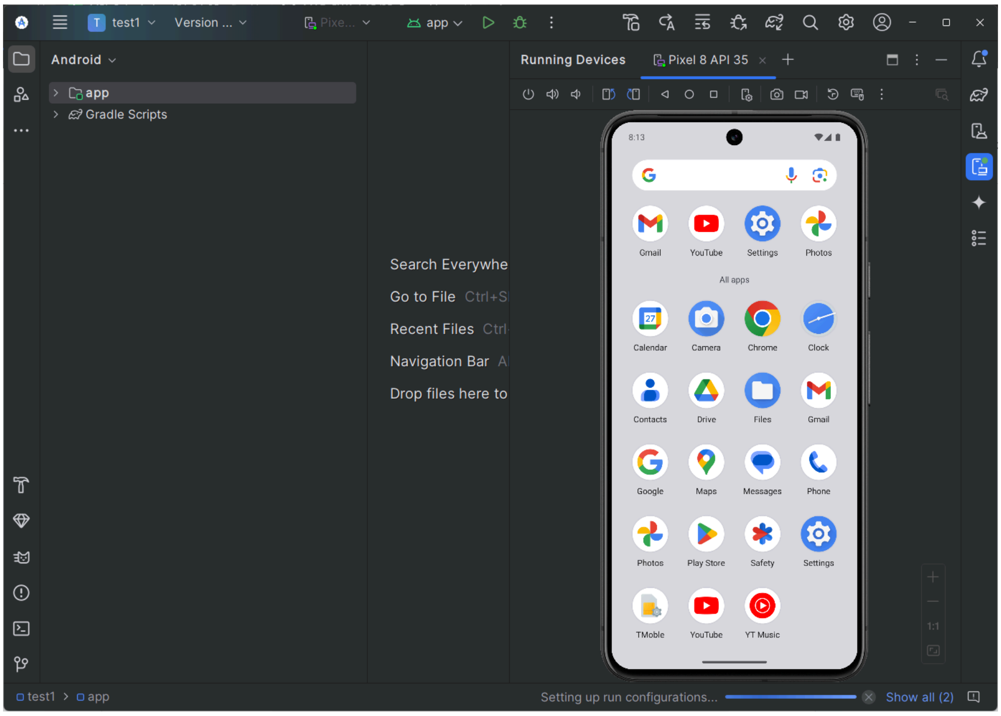
The name of this AVD.

Step 10.2: - Click on the icon pointed into the red color rectangle. The Android emulator displayed as below screen



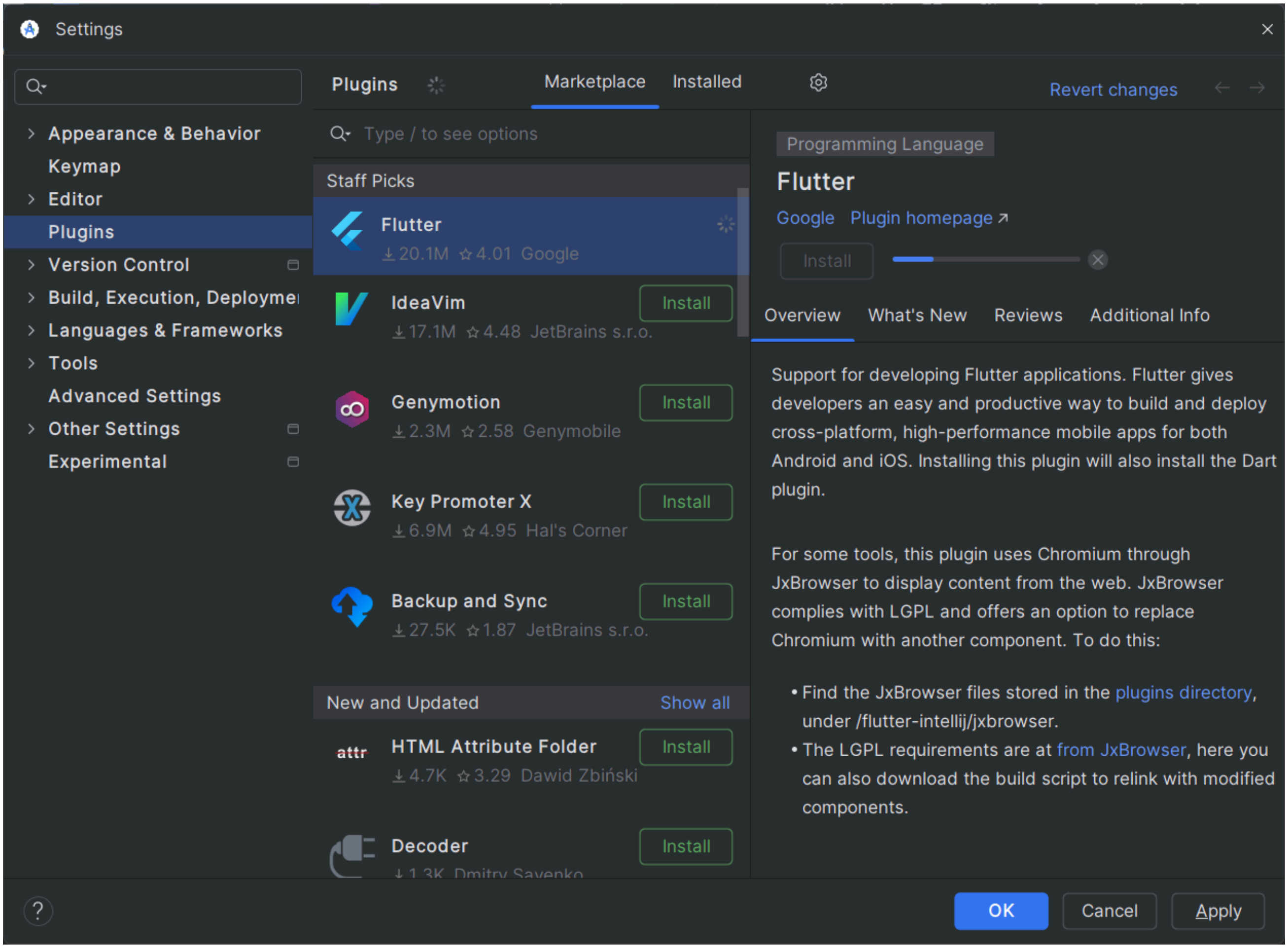
Device Manager

Name	API	Type
Medium Phone API 35 Android 15.0 ("VanillaIceCream") | x86_64	35	Virtual
Pixel 8 API 35 Android 15.0 ("VanillaIceCream") | x86_64	35	Virtual



Step 11: - Now, install Flutter and Dart plugin for building Flutter application in Android Studio. These plugins provide a template to create a Flutter application, give an option to run and debug Flutter application in the Android Studio itself

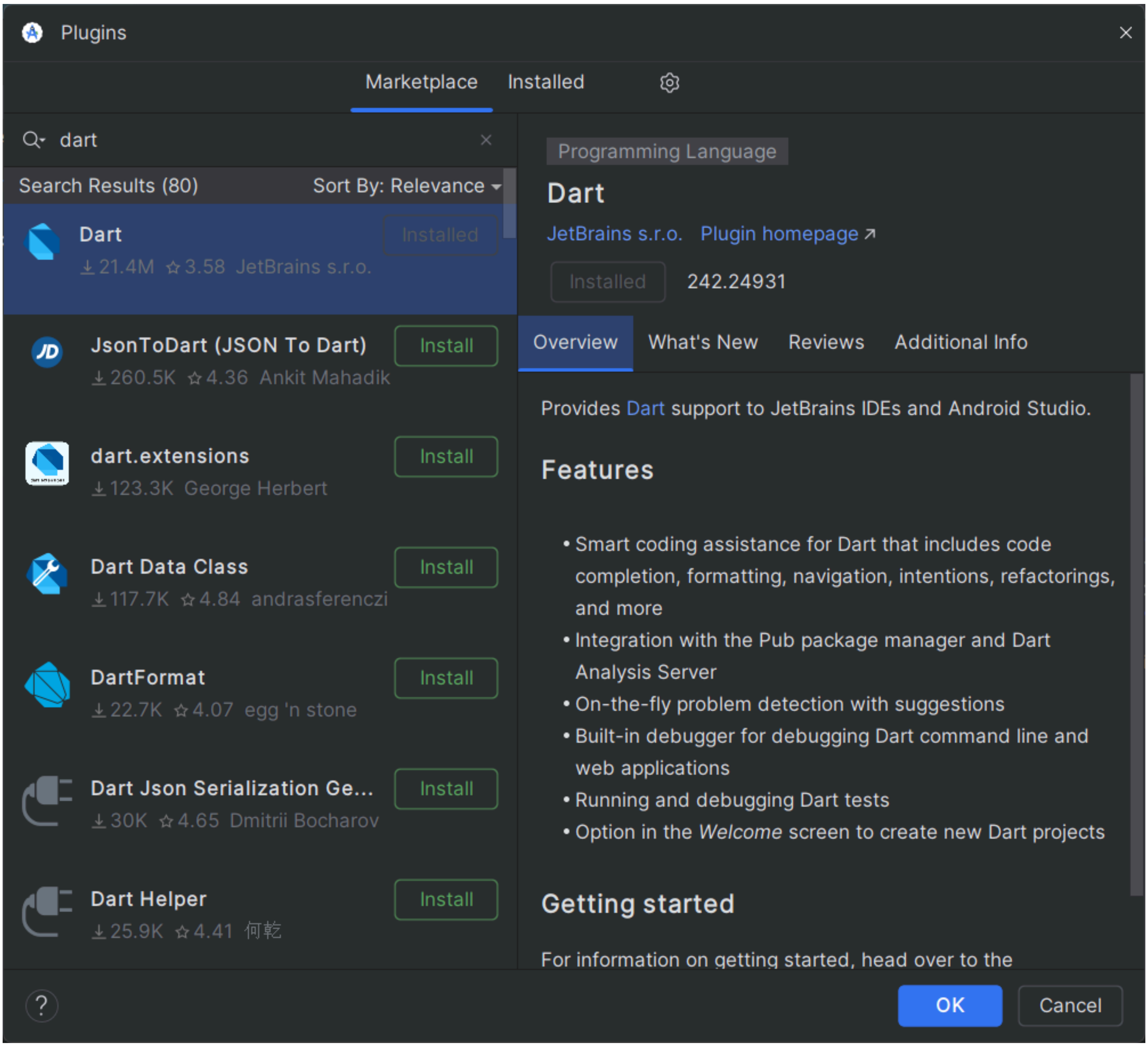
Step 11.1: - Open the Android Studio and then go to File->Settings->Plugins. Now, search the Flutter plugin. If found, select Flutter plugin and click install



Support for developing Flutter applications. Flutter gives developers an easy and productive way to build and deploy cross-platform, high-performance mobile apps for both Android and iOS. Installing this plugin will also install the Dart plugin.

For some tools, this plugin uses Chromium through JxBrowser to display content from the web. JxBrowser complies with LGPL and offers an option to replace Chromium with another component. To do this:

- Find the JxBrowser files stored in the plugins directory, under /flutter-intellij/jxbrowser.
- The LGPL requirements are at from JxBrowser, here you can also download the build script to relink with modified components.



Provides Dart support to JetBrains IDEs and Android Studio.

Features

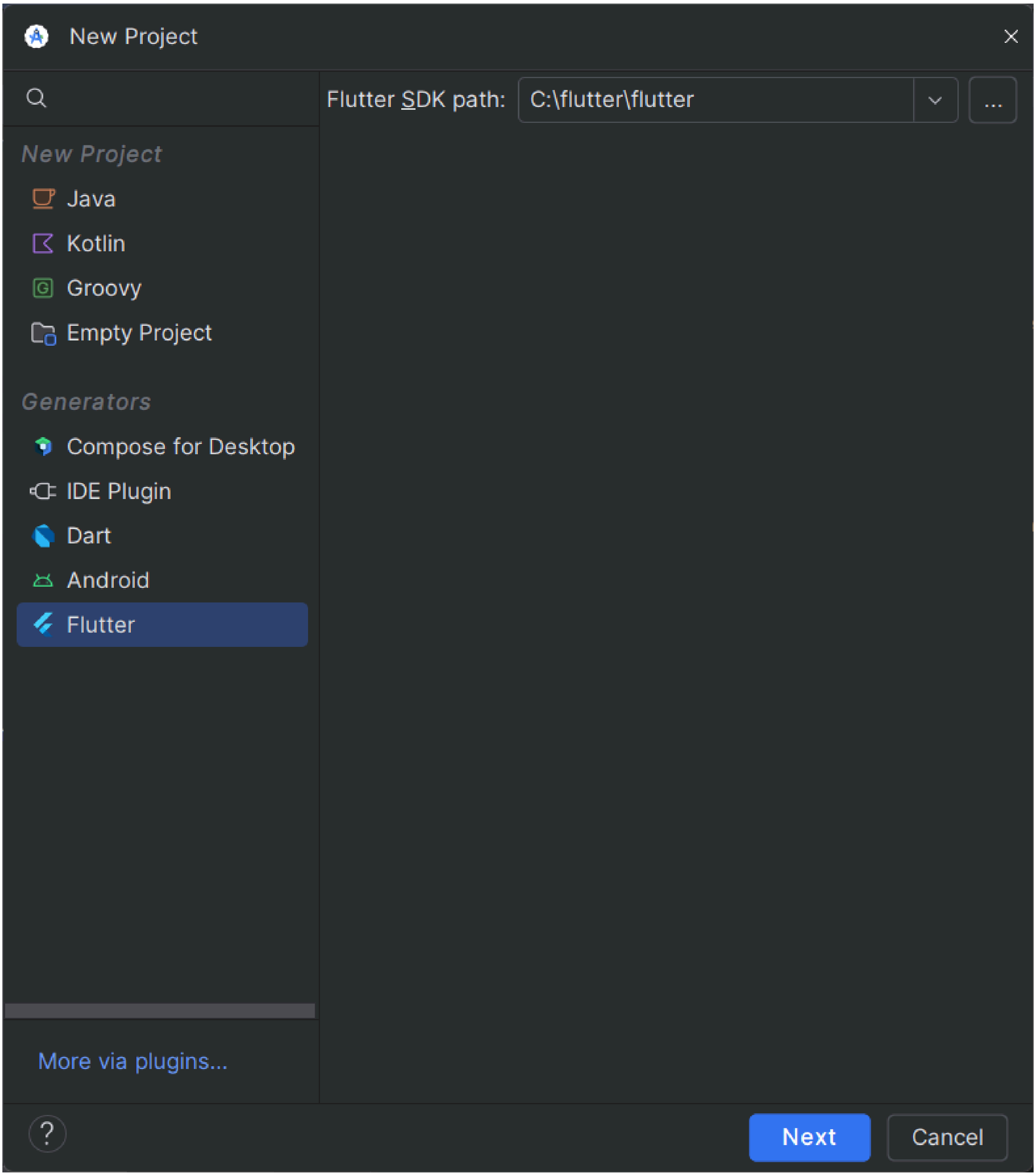
- Smart coding assistance for Dart that includes code completion, formatting, navigation, intentions, refactorings, and more
- Integration with the Pub package manager and Dart Analysis Server
- On-the-fly problem detection with suggestions
- Built-in debugger for debugging Dart command line and web applications
- Running and debugging Dart tests
- Option in the *Welcome* screen to create new Dart projects

Getting started

For information on getting started, head over to the

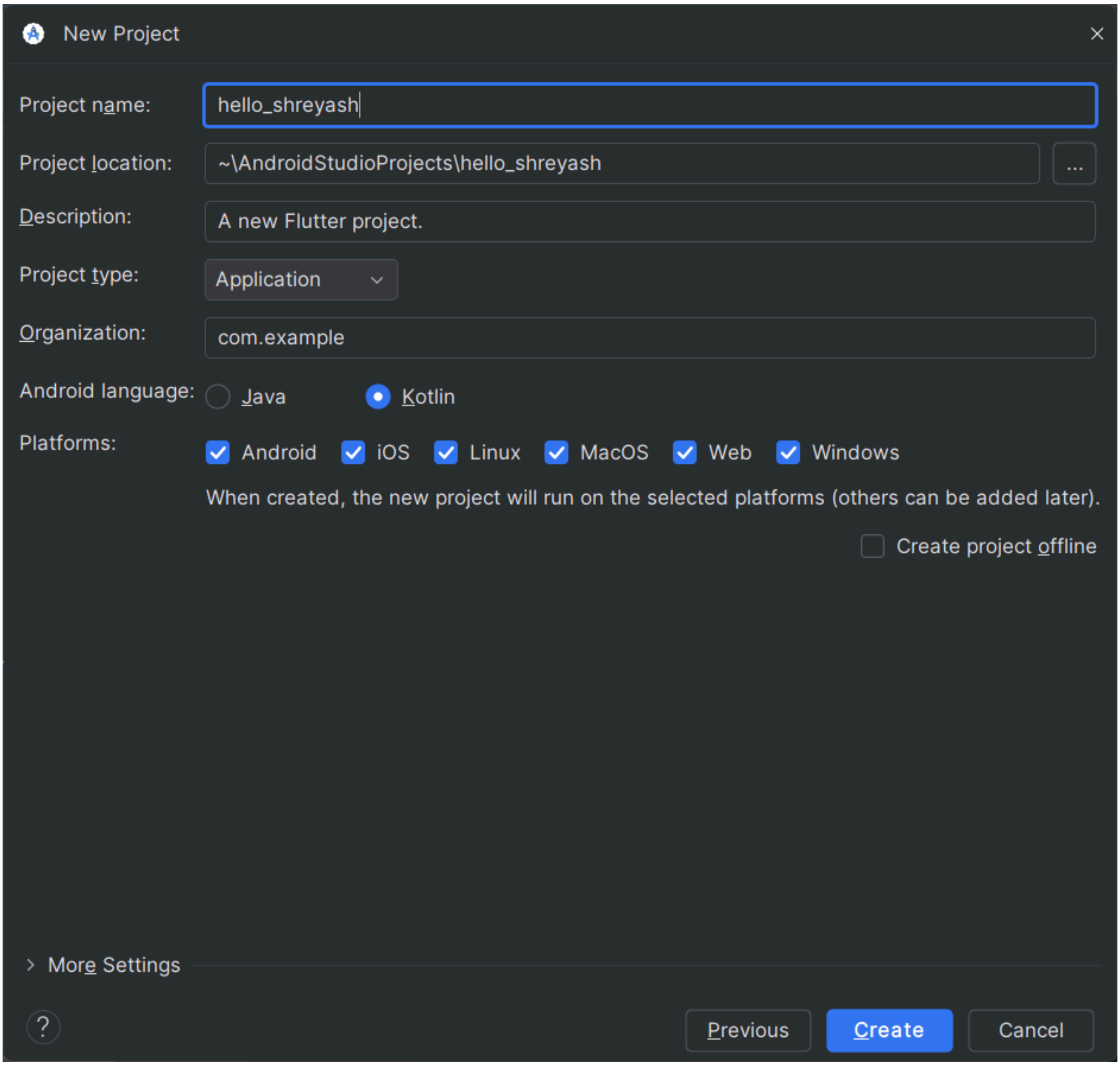
Step 11.2: - Restart the Android Studio
Step 12: - Go to File > New Project > Create Flutter Project, then select the project name and location, and click Next to proceed.

Shreyash Dhekane D15A Roll No:16



Flutter SDK path: C:\flutter\flutter

Shreyash Dhekane D15A Roll No:16



New Project

Project name: hello_shreyash

Project location: ~\AndroidStudioProjects\hello_shreyash

Description: A new Flutter project.

Project type: Application

Organization: com.example

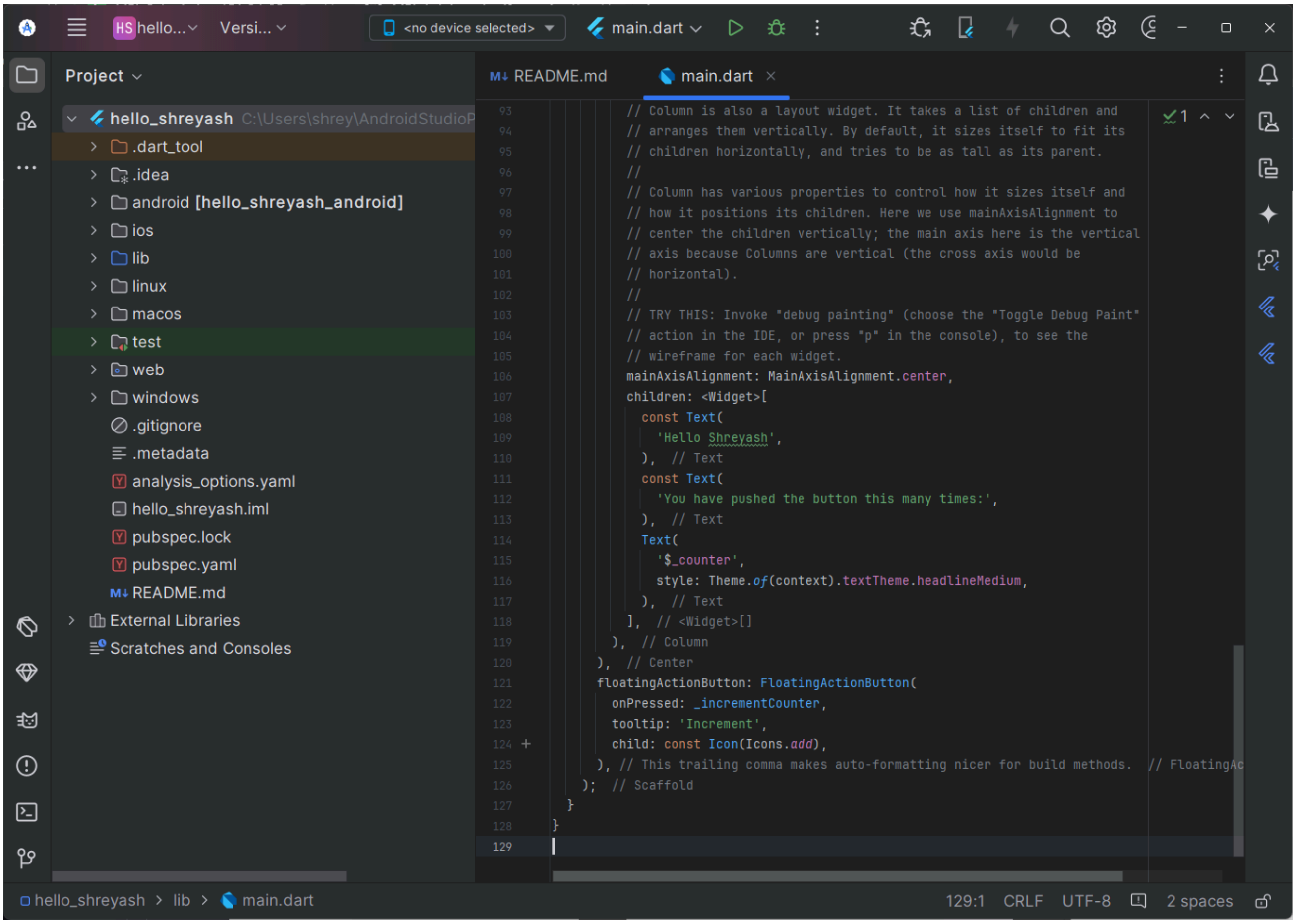
Android language: ○ Java ● Kotlin

Platforms: ☑ Android ☑ iOS ☑ Linux ☑ MacOS ☑ Web ☑ Windows

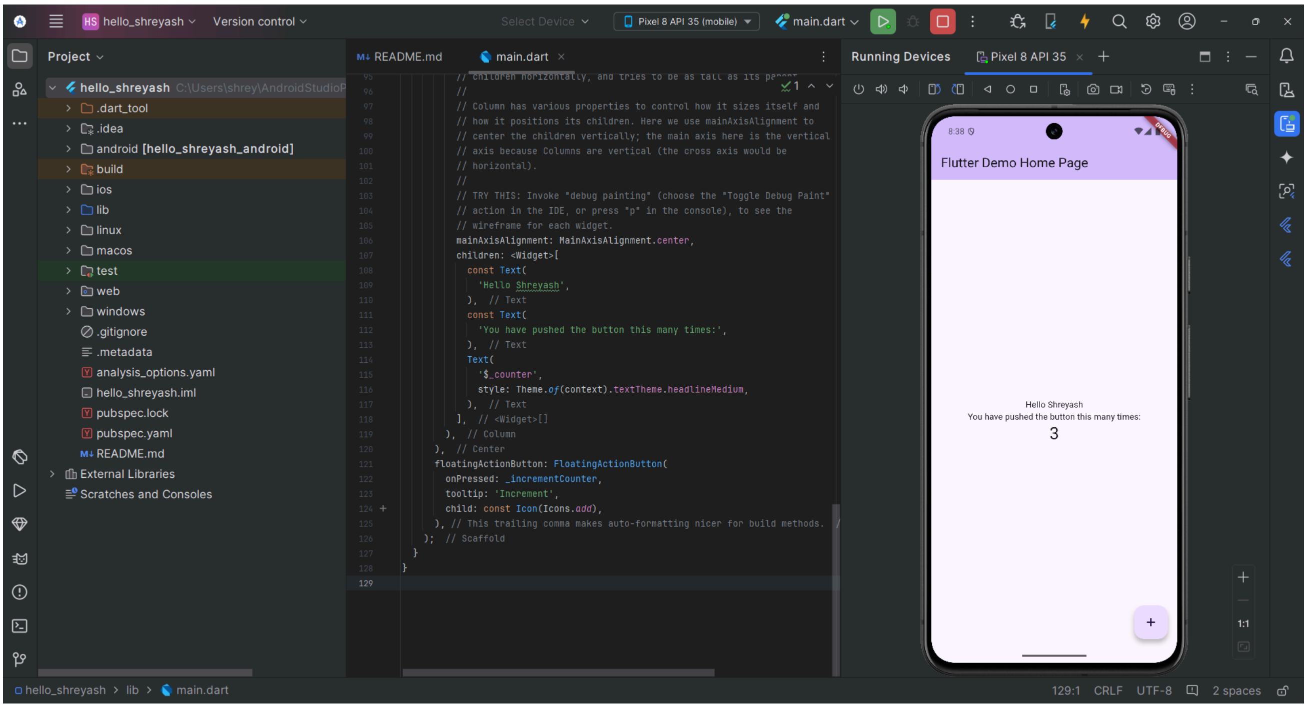
When created, the new project will run on the selected platforms (others can be added later).

□ Create project offline

Shreyash Dhekane D15A Roll No:16



```dart
          // Column is also a layout widget. It takes a list of children and
          // arranges them vertically. By default, it sizes itself to fit its
          // children horizontally, and tries to be as tall as its parent.
          //
          // Column has various properties to control how it sizes itself and
          // how it positions its children. Here we use mainAxisAlignment to
          // center the children vertically; the main axis here is the vertical
          // axis because Columns are vertical (the cross axis would be
          // horizontal).
          //
          // TRY THIS: Invoke "debug painting" (choose the "Toggle Debug Paint"
          // action in the IDE, or press "p" in the console), to see the
          // wireframe for each widget.
          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            const Text(
              'Hello Shreyash',
            ),  // Text
            const Text(
              'You have pushed the button this many times:',
            ),  // Text
            Text(
              '$_counter',
              style: Theme.of(context).textTheme.headlineMedium,
            ),  // Text
          ],  // <Widget>[]
        ),  // Column
      ),  // Center
      floatingActionButton: FloatingActionButton(
        onPressed: _incrementCounter,
        tooltip: 'Increment',
        child: const Icon(Icons.add),
      ), // This trailing comma makes auto-formatting nicer for build methods.  // FloatingAc
    );  // Scaffold
  }
}
```



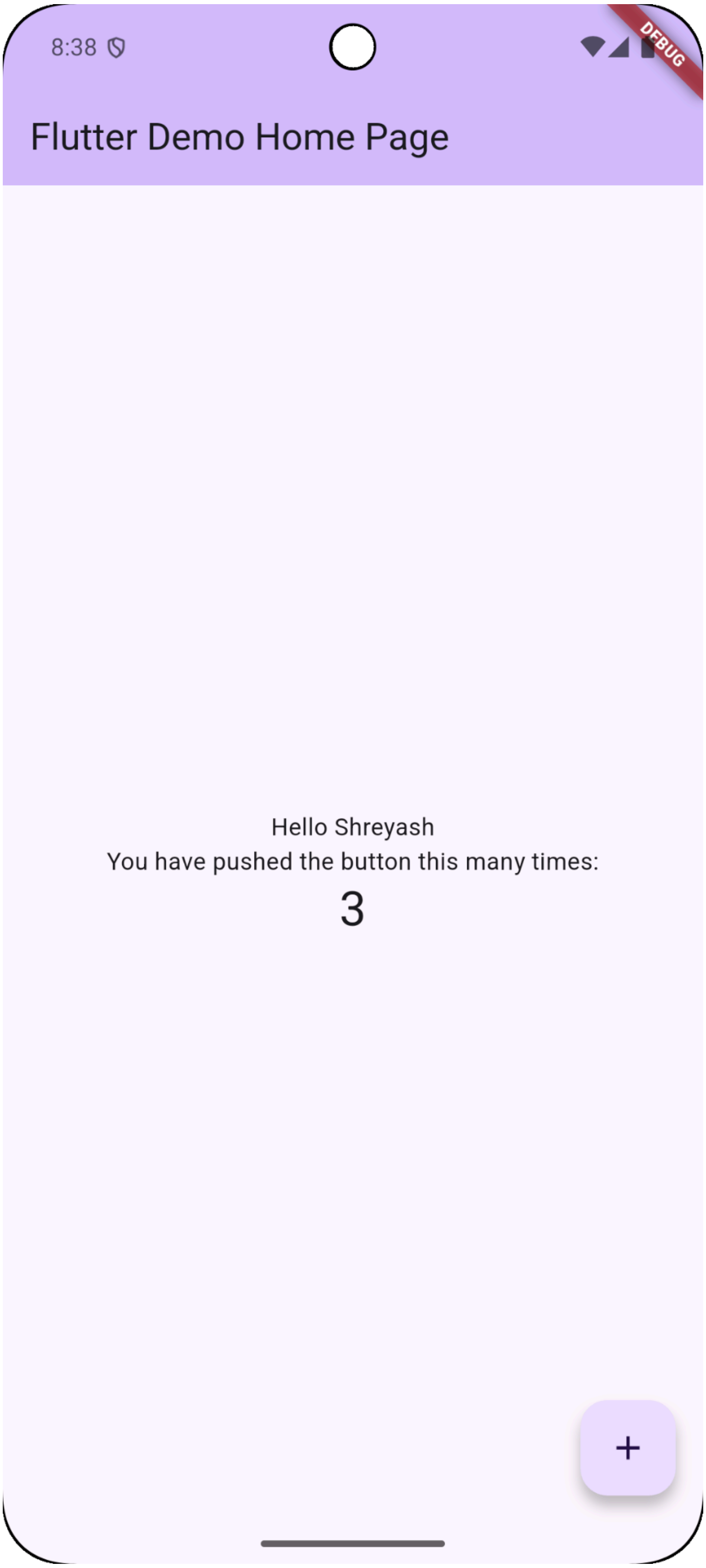
Flutter Demo Home Page

Hello Shreyash

You have pushed the button this many times:

3

Shreyash Dhekane *D15A* *Roll No:16*



Flutter Demo Home Page

Hello Shreyash

You have pushed the button this many times:

3