

Experiment - 1

Aim: Installation and Configuration of Flutter Environment.

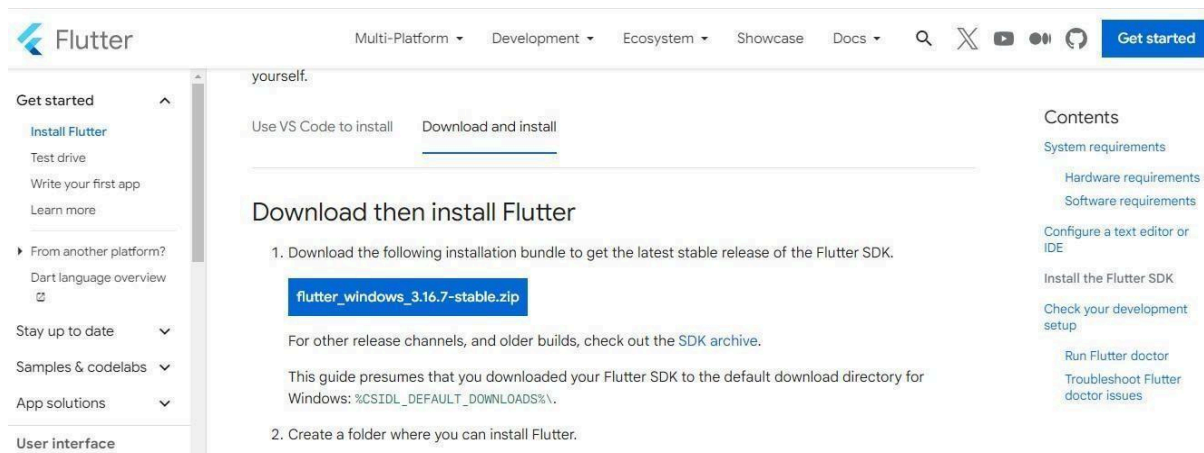
Theory:

Flutter is a popular open-source framework developed by Google for building natively compiled applications for mobile, web, and desktop from a single codebase. The framework is known for its expressive and flexible UI, hot reload feature, and high-performance rendering engine.

Flutter, at its core, is built on the principle of providing a unified user interface (UI) experience across multiple platforms. The framework's Dart programming language, along with its rich set of customizable widgets, allows developers to create consistent and visually appealing UIs that can seamlessly adapt to different devices and screen sizes.

Steps 1:

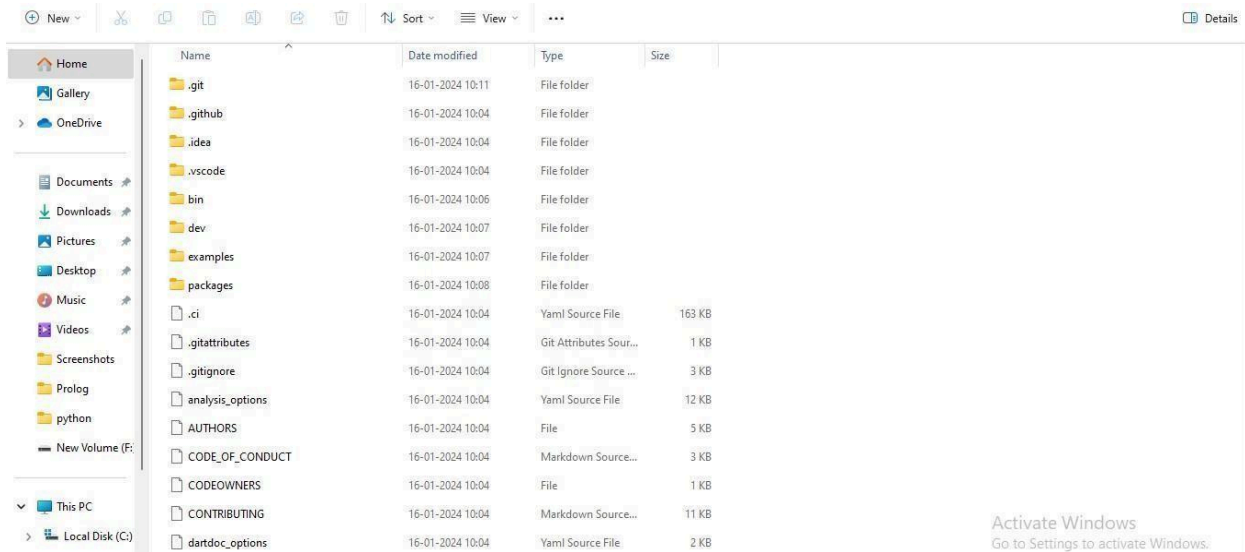
Download the latest version of Flutter SDK



The screenshot shows the Flutter SDK download page. The top navigation bar includes links for Multi-Platform, Development, Ecosystem, Showcase, Docs, and a 'Get started' button. The left sidebar has a 'Get started' section with links to 'Install Flutter', 'Test drive', 'Write your first app', and 'Learn more'. The main content area is titled 'Download then install Flutter' and contains two steps: 1. Download the following installation bundle to get the latest stable release of the Flutter SDK. A blue button labeled 'flutter_windows_3.16.7-stable.zip' is provided. Below this, it says 'For other release channels, and older builds, check out the SDK archive.' and 'This guide presumes that you downloaded your Flutter SDK to the default download directory for Windows: %CSIDL_DEFAULT_DOWNLOADS%\'. 2. Create a folder where you can install Flutter. The right sidebar has a 'Contents' section with links to 'System requirements', 'Hardware requirements', 'Software requirements', 'Configure a text editor or IDE', 'Install the Flutter SDK', 'Check your development setup', 'Run Flutter doctor', and 'Troubleshoot Flutter doctor issues'.

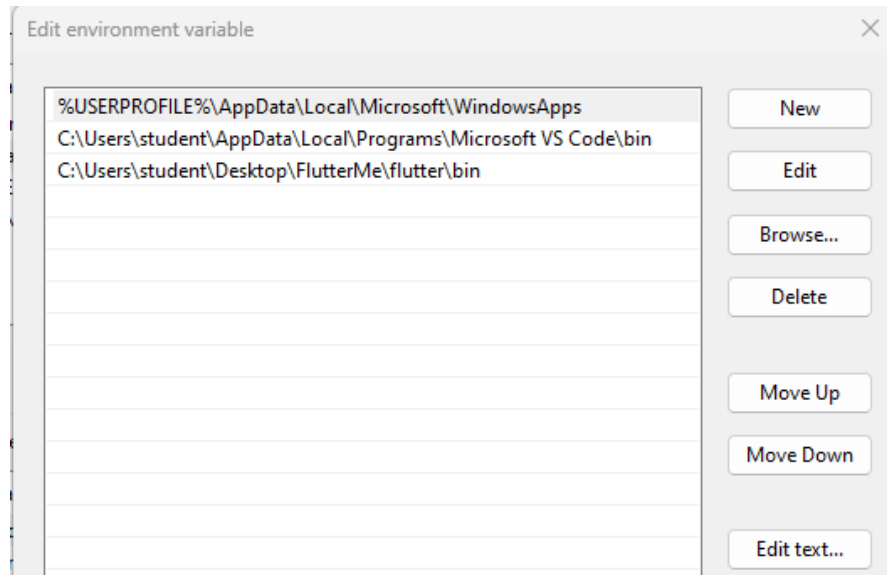
Step 2:

It's time to extract the zip file and move the contained flutter to the desired location for installing Flutter.



Step 3:

1. Type 'env' in the Start Search bar and select - Edit environment variable for your account.
2. Now, check the entry called Path: under User variables .
3. If you don't find any such entry, append the full path to `flutter\bin` using ; as a separator from existing values.
4. Create a new user variable named `Path` with the full path to `flutter\bin` as its value.



Step 4:

Run flutter doctor

```
Windows PowerShell  X + v

Welcome to Flutter! - https://flutter.dev

The Flutter tool uses Google Analytics to anonymously report feature usage
statistics and basic crash reports. This data is used to help improve
Flutter tools over time.

Flutter tool analytics are not sent on the very first run. To disable
reporting, type 'flutter config --no-analytics'. To display the current
setting, type 'flutter config'. If you opt out of analytics, an opt-out
event will be sent, and then no further information will be sent by the
Flutter tool.

By downloading the Flutter SDK, you agree to the Google Terms of Service.
The Google Privacy Policy describes how data is handled in this service.

Moreover, Flutter includes the Dart SDK, which may send usage metrics and
crash reports to Google.

Read about data we send with crash reports:
https://flutter.dev/docs/reference/crash-reporting

See Google's privacy policy:
https://policies.google.com/privacy

To disable animations in this tool, use 'flutter config --no-animations'.
```

```
Windows PowerShell  X + v

Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.16.7, on Microsoft Windows [Version 10.0.22621.3007], locale en-IN)
[✓] 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/docs/get-started/install/windows#android-setup for detailed instructions)
      If the Android SDK has been installed to a custom location, please use
      'flutter config --android-sdk' to update to that location.

[✓] 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 unknown)
    x Unable to determine VS Code version.
[✓] Connected device (3 available)
[✓] Network resources

! Doctor found issues in 2 categories
```

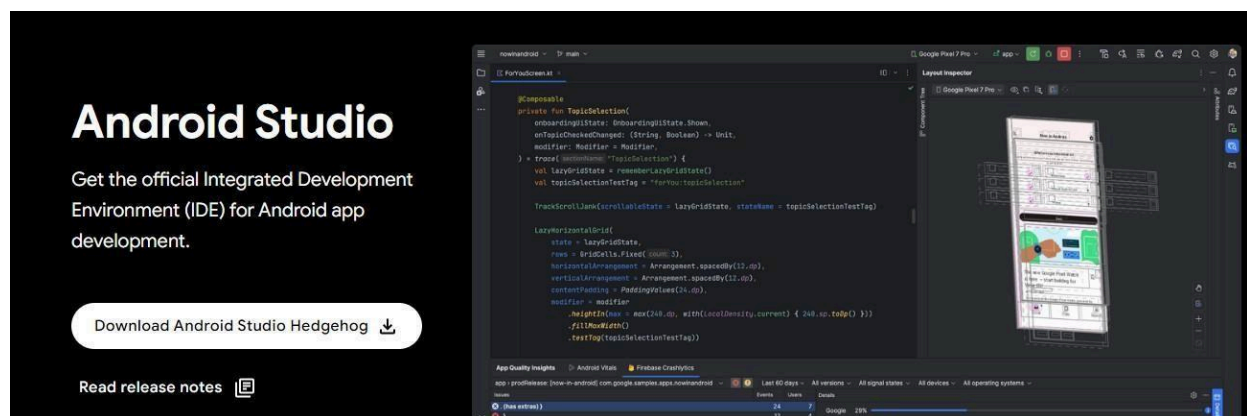
Installing Android Studio

Android Studio is the official IDE (Integrated Development Environment) for Android app development and it is based on JetBrains' IntelliJ IDEA software. Android Studio provides many excellent features that enhance productivity when building Android apps, such as:

- A blended environment where one can develop for all Android devices
- Apply Changes to push code and resource changes to the running app without restarting the app
- A flexible Gradle-based build system
- A fast and feature-rich emulator

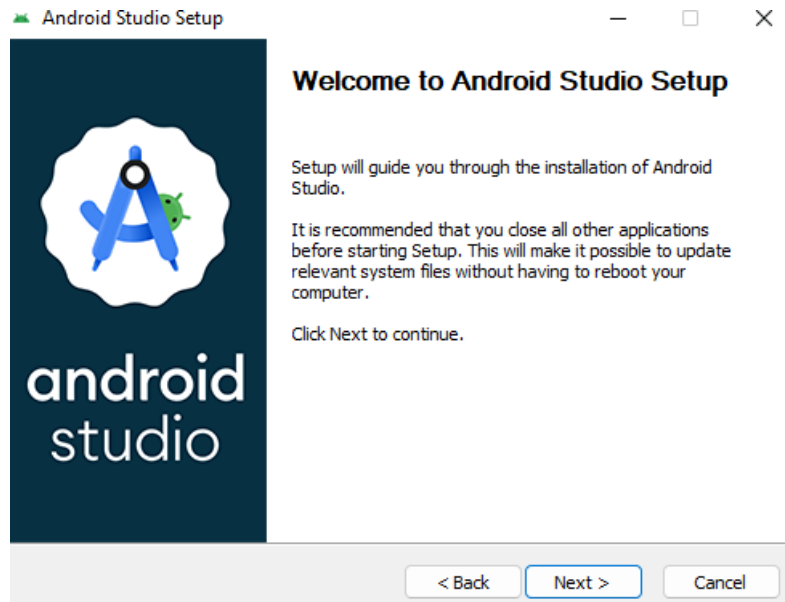
Step 1:

Download Android Studio from the original website.



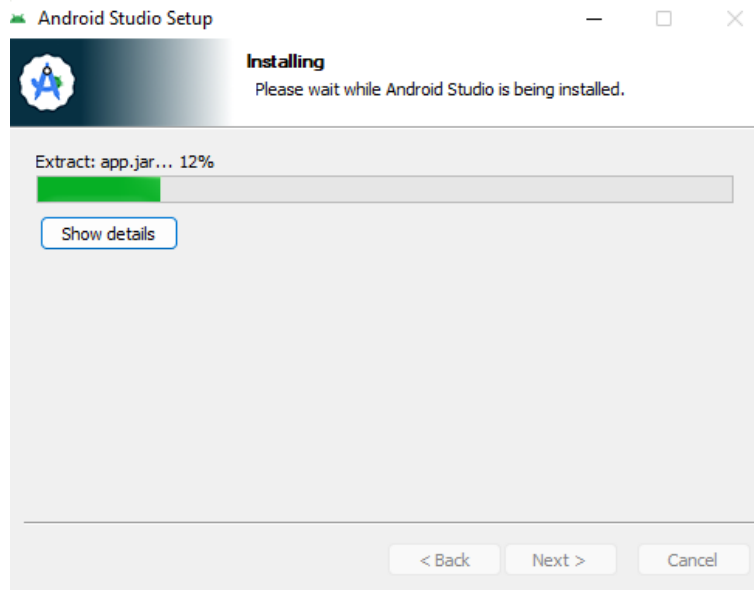
Step 2:

After the downloading has finished, open the file from downloads and run it. It will prompt the following dialog box.

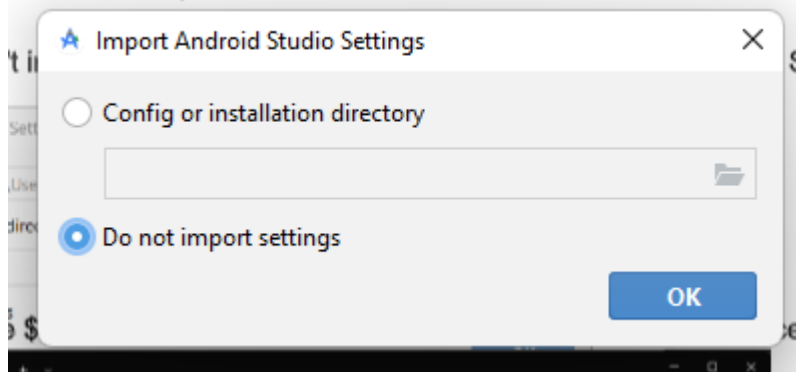


Step 3:

Install Android Studio.

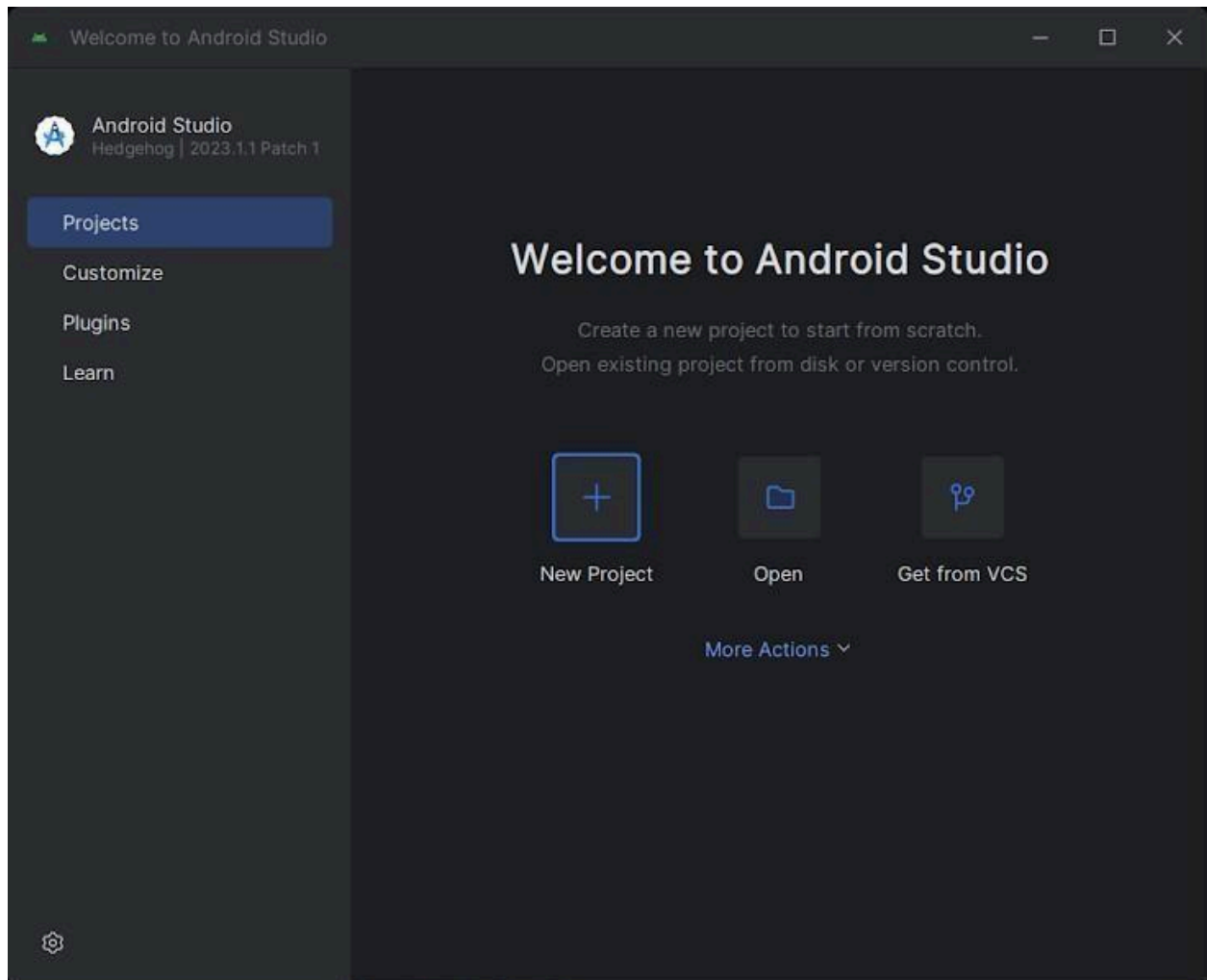


above screen, click Next-> Finish. Once the Finish button is clicked



Step 4:

Click on Start a new Android Studio project to build a new app.



Conclusion:

We have successfully installed and configured Flutter and Android Studio.