

## Experiment No : 1

**Aim** : Installation and Configuration of Flutter Environment.

**Theory**:

Google introduced Flutter in May 2017. Flutter is an open-source UI software development kit used to create applications for both Android and iOS. Instead of writing different code for each operating system, it uses the same code base to create a cross-platform mobile application. Dart is the programming language used to create Flutter applications.

Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

**Some features of Flutter include:**

- Cross-platform development
- Widget library
- Native performance
- Open-source

**Advantages of Flutter**

1. Beautiful user interfaces
2. High performance
3. Fast development

**Disadvantages of Flutter**

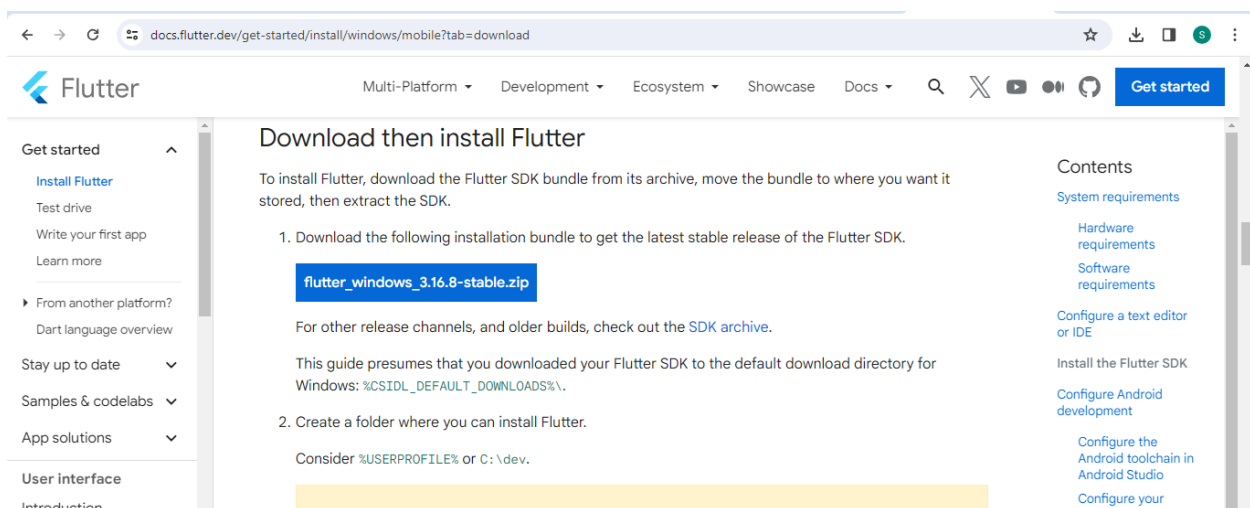
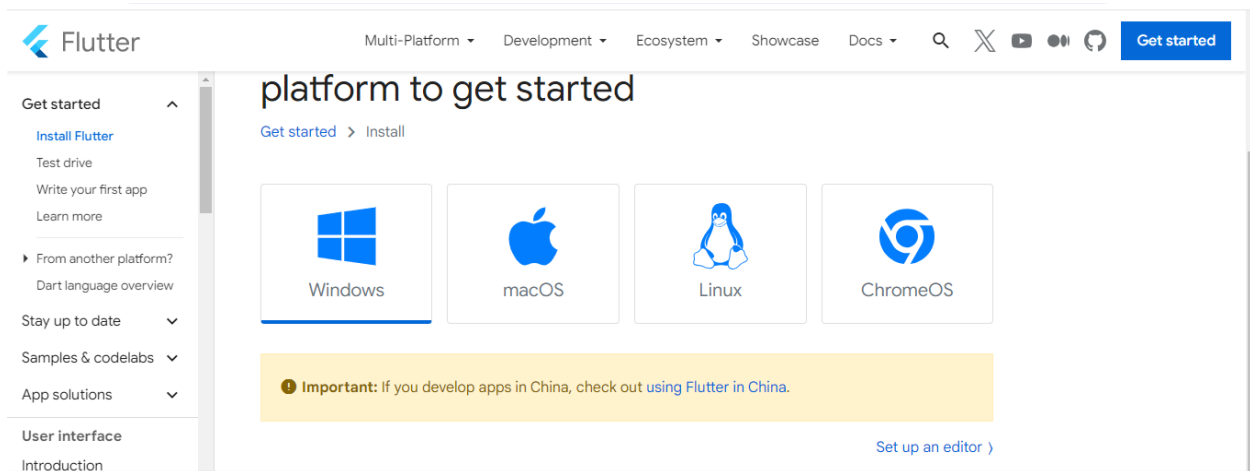
1. Limited third- party libraries
2. Limited corporate adoption

## Installation Steps :

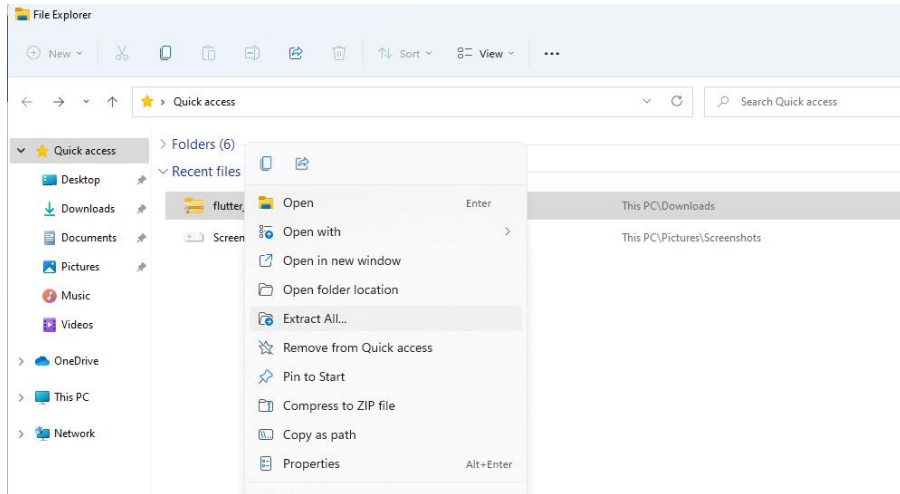
**Step 1:** Download the installation bundle of the Flutter Software Development Kit for windows.

To download Flutter SDK, Go to its official website <https://docs.flutter.dev/get-started/install> , you will get the following screen.

**Step 2:** Next, to download the latest Flutter SDK, click on the Windows icon. Here, you will find the download link for SDK.



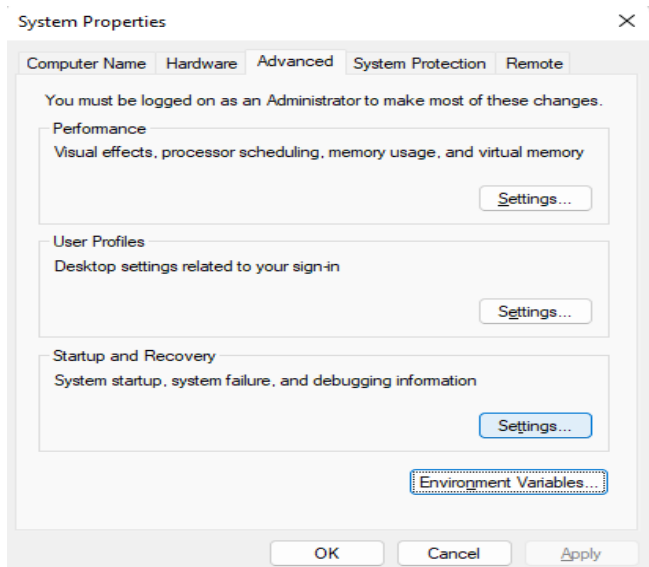
**Step 3:** When your download is complete, extract the zip file and place it in the desired installation folder or location, for example, C: /Flutter.



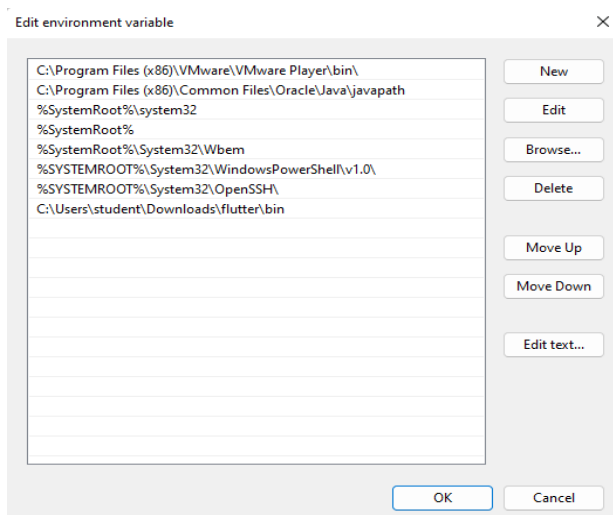
**Step 4:** To run the Flutter command in regular windows console, you need to update the system path to include the flutter bin directory. The following steps are required to do this:

**Step 4.1:** Go to My Computer properties -> advanced tab -> environment variables. You will get the following screen.

**Step 4.2:** Now, select path -> click on edit. The following screen appears.



**Step 4.3:** Edit environment variables . Add flutter bin path to the path .



**Step 5 :** Run flutter command on cmd.

Now, 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.

Here, you will find the details of all missing tools, which required to run Flutter as well as the development tools that are available but not connected with the device.

```
C:\Users\student>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 "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:
```

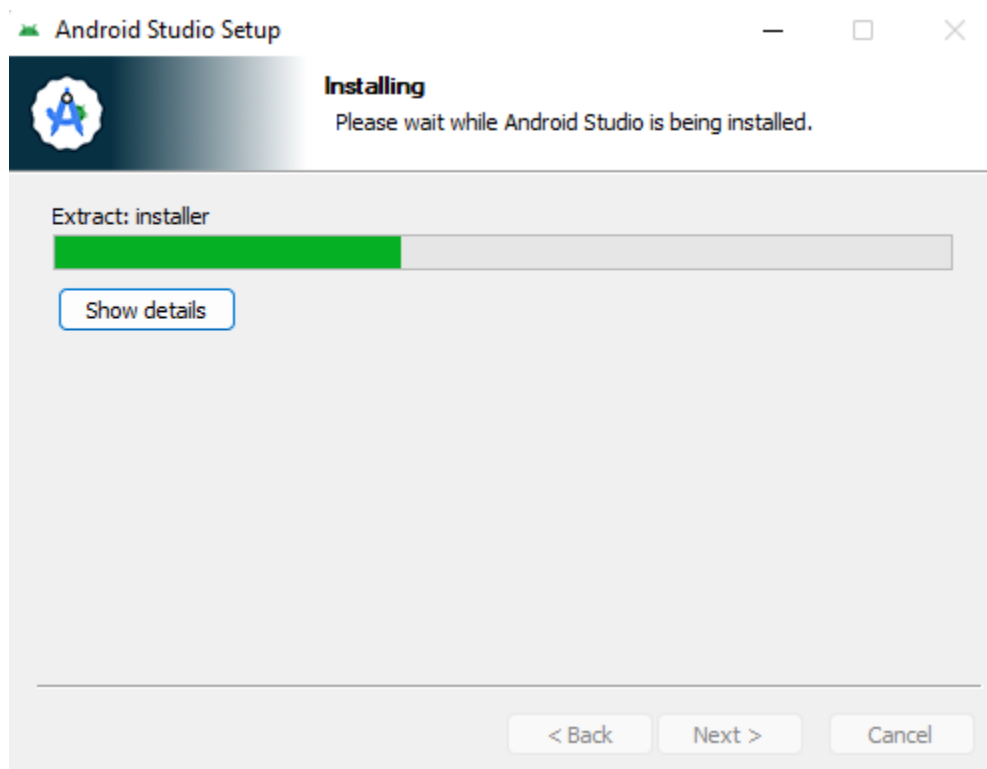
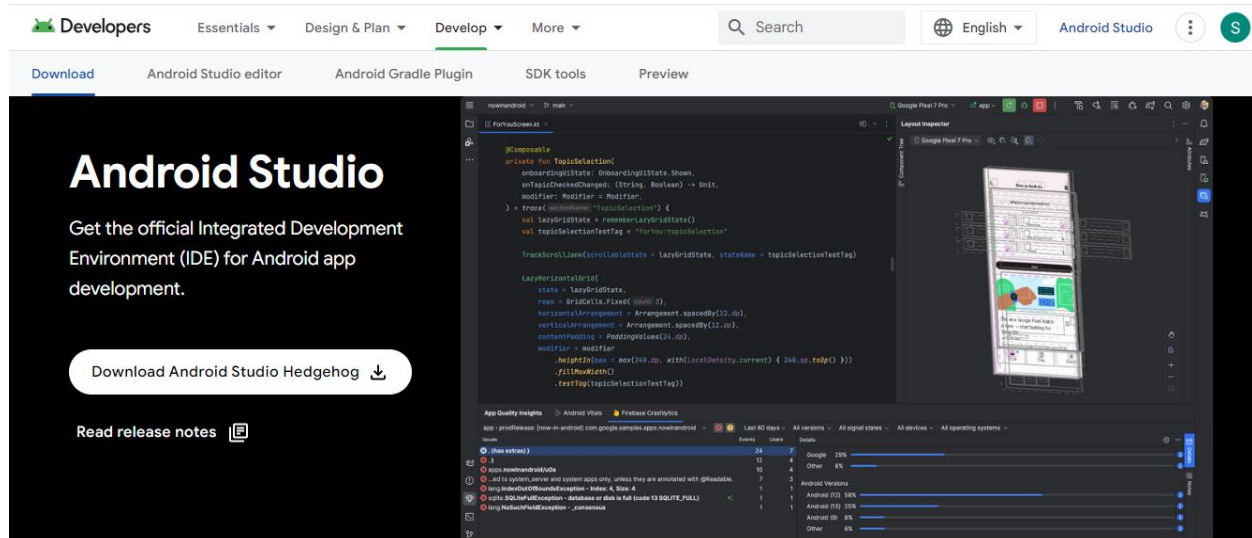
```
C:\Users\student>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[V] Flutter (Channel stable, 3.16.8, on Microsoft Windows [Version 10.0.22000.2538], locale en-IN)
[V] Windows Version (Installed version of Windows is version 10 or higher)
[X] Android toolchain - develop 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.
[V] 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)
[V] VS Code (version 1.85.2)
[V] Connected device (3 available)
[V] Network resources

! Doctor found issues in 3 categories.
```

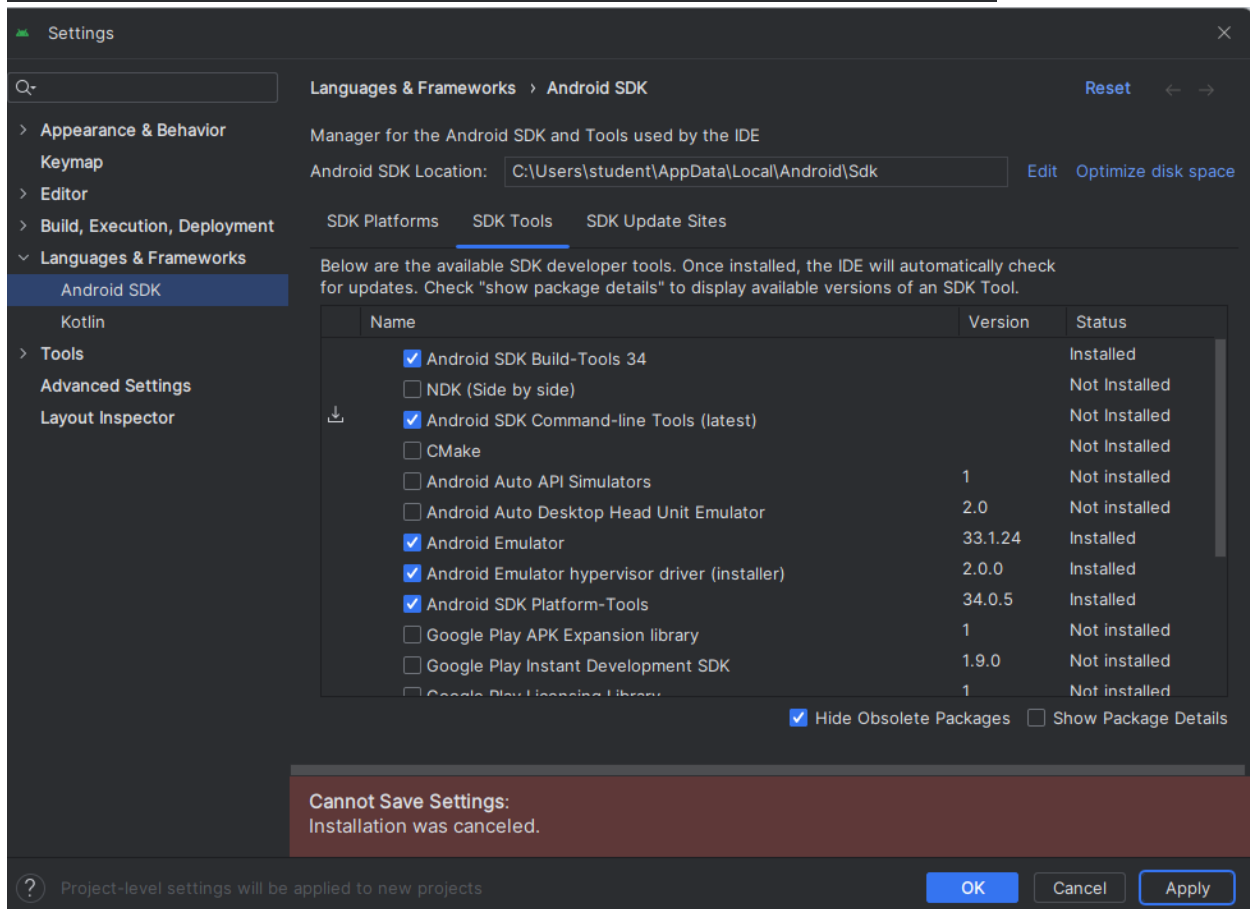
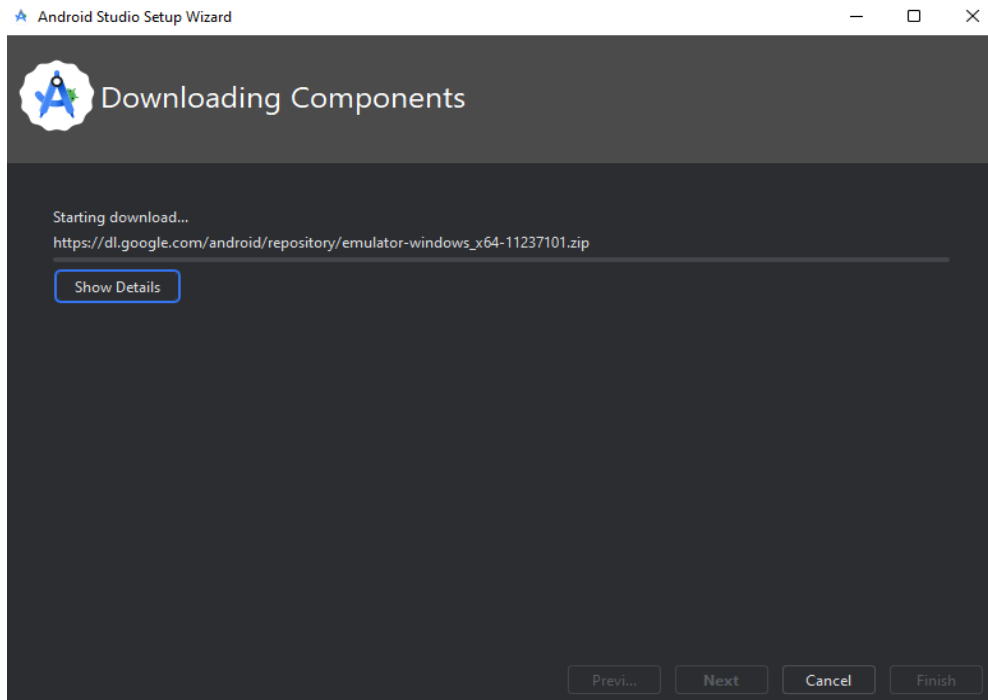
**Step 7:** Install the Android SDK. If the flutter doctor command does not find the Android SDK

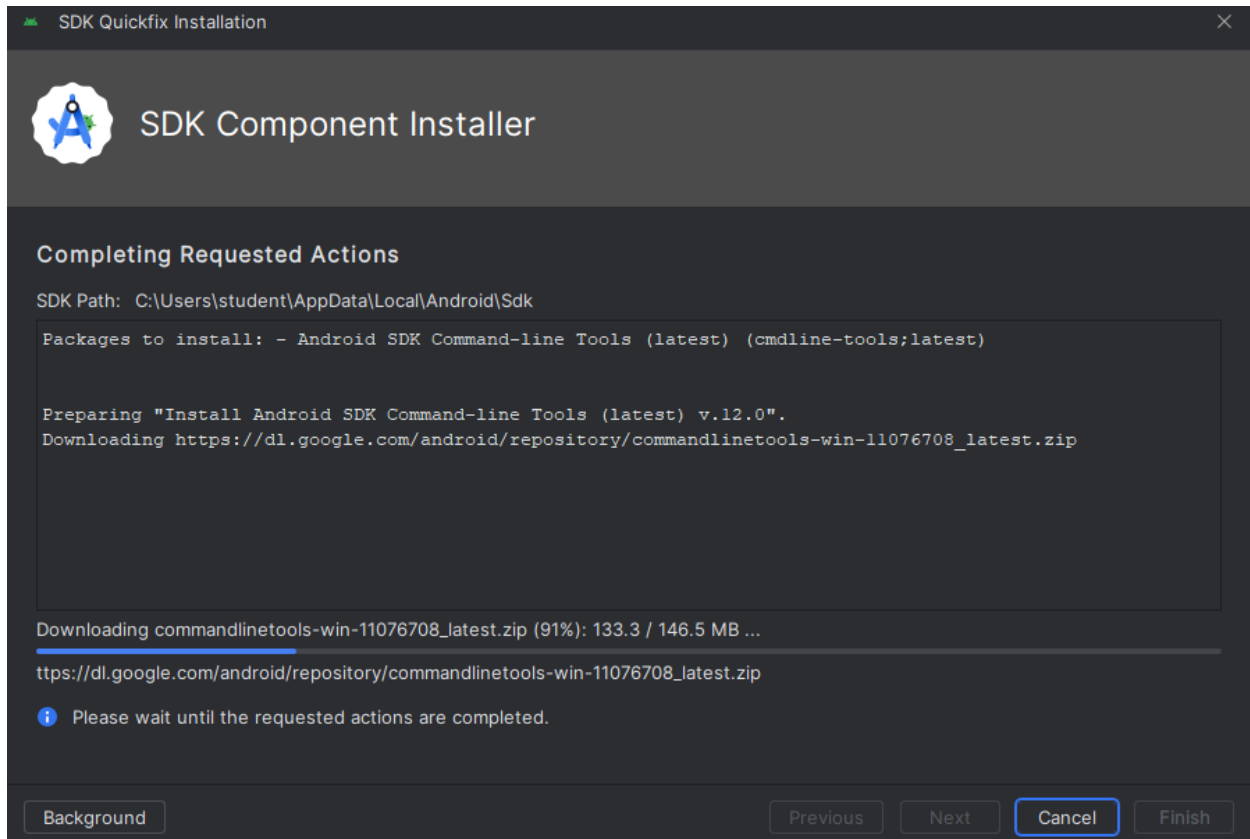
tool in your system, then you need first to install the Android Studio IDE. To install Android Studio IDE, do the following steps.

**Step 7.1:** Download the latest Android Studio executable or zip file from the official site.



**Step 7.2:** Follow the steps of the installation wizard. Once the installation wizard completes, you will get the following screen.





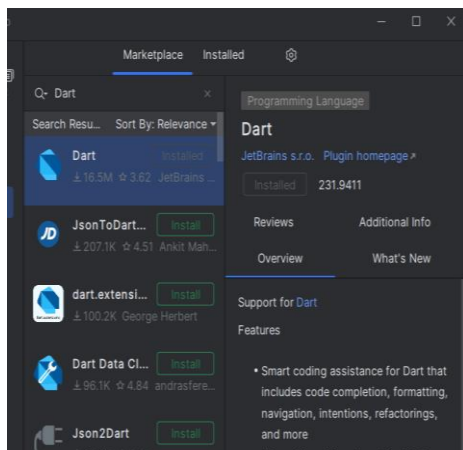
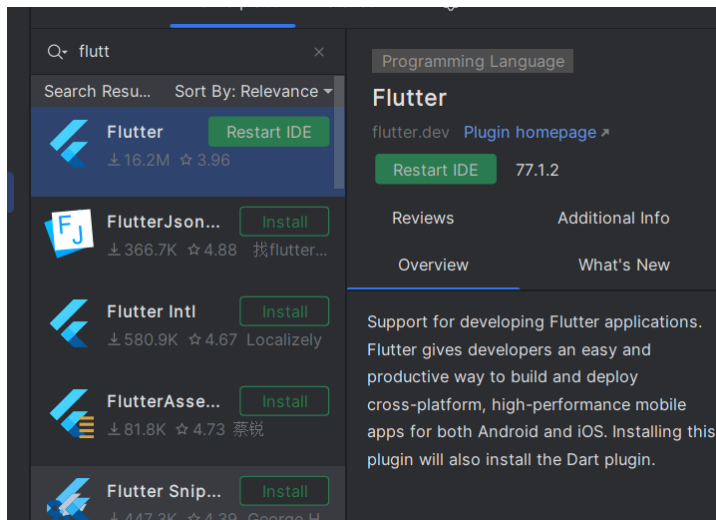
**Step 7.5:** run the \$ flutter doctor command and Run flutter doctor --android-licenses command.

```
C:\Users\student>flutter doctor --android-licenses
Warning: Failed to download any source lists! Fetch remote repository...
Warning: IO exception while downloading manifeststtch remote repository...
Warning: IO exception while downloading manifeststtch remote repository...
Warning: Still waiting for package manifests to be fetched remotely.
[=====] 100% Computing updates...
All SDK package licenses accepted.
```

**Step 8 :** Now, search the Flutter plugin. If found, select Flutter plugin and click install. When you click on install, it will ask you to install Dart plugin as below screen. Click yes to proceed.

**Step 8.1:** Open android studio file->setting ->plugins.





**Step 8 :** Click yes and restart the android studio.

### **Conclusion :**

In this experiment we learned about the flutter and it's features . In this experiment we also understood installation steps. We installed flutter as well as android studio and the plugins of flutter and dart on it . We made some installations on SDK manager in android studio .