

# Experiment No: 1

## **Experiment No 1**

### **1: Installation and Configuration of Flutter Environment.**

<b>ROLL NO</b>	<b>30</b>
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**Aim:** Installation and Configuration of Flutter Environment.

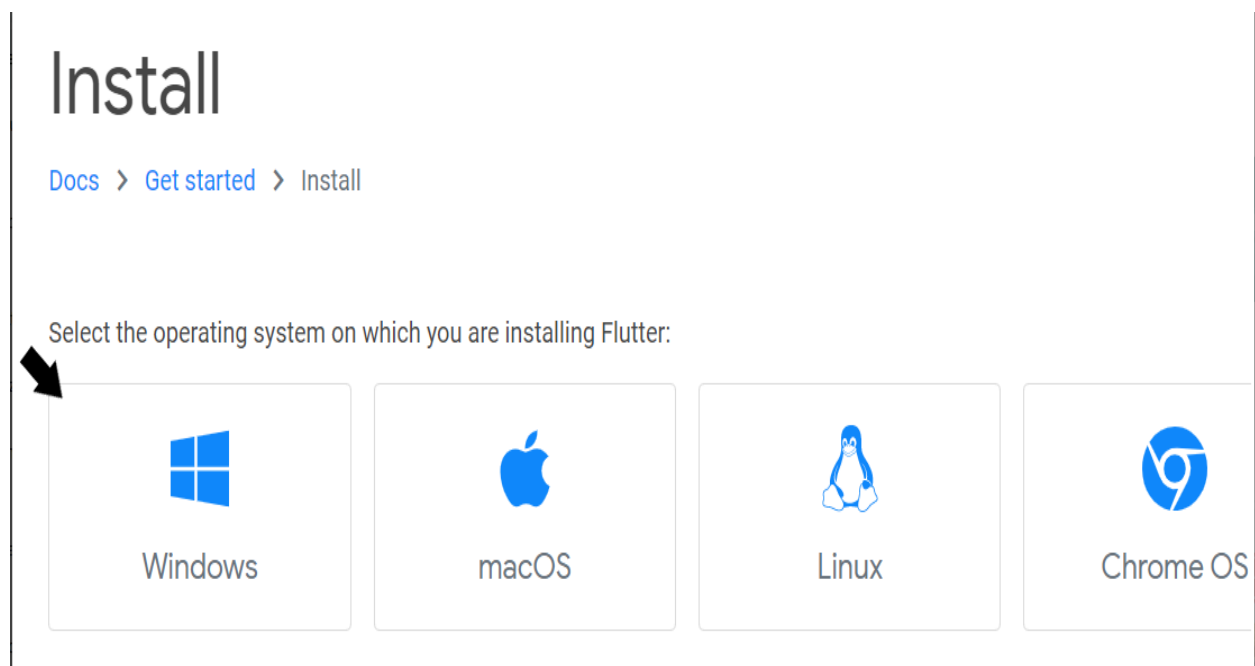
**Theory:** Flutter is basically Google's portable user interface (UI) toolkit, used to build and develop eye-catching, natively-built applications for mobile, desktop, and web, from a single codebase. Flutter is free, open-sourced, and compatible with existing code. It is utilized by companies and developers around the world, due to its user-friendly interface and fairly simple, yet to-the-point commands.

### Step 1: Download Flutter SDK

Visit the official Flutter website:

<https://docs.flutter.dev/get-started/install>.

Click on the Windows icon to download the Flutter SDK.



# Windows install

[Docs](#) > [Get started](#) > [Install](#) > Windows

## System requirements

To install and run Flutter, your development environment must meet these minimum requirements:

- **Operating Systems:** Windows 7 SP1 or later (64-bit), x86-64 based.
- **Disk Space:** 1.64 GB (does not include disk space for IDE/tools).
- **Tools:** Flutter depends on these tools being available in your environment.
  - [Windows PowerShell 5.0](#) or newer (this is pre-installed with Windows 10)
  - [Git for Windows](#) 2.x, with the **Use Git from the Windows Command Prompt** option.

If Git for Windows is already installed, make sure you can run `git` commands from the command prompt or PowerShell.

Once downloaded, extract the zip file to your desired installation folder (e.g., C:/Flutter).

## Get the Flutter SDK

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

`flutter_windows_2.2.3-stable.zip`

For other release channels, and older builds, see the [SDK releases](#) page.

2. Extract the zip file and place the contained `flutter` in the desired installation location for the Flutter SDK (for example, `C:\Users\<your-user-name>\Documents`).

**⚠ Warning:** Do not install Flutter in a directory like `C:\Program Files\` that requires elevated privileges.

If you don't want to install a fixed version of the installation bundle, you can skip steps 1 and 2. Instead, get the source code from the [Flutter repo](#) on GitHub, and change branches or tags as needed. For example:

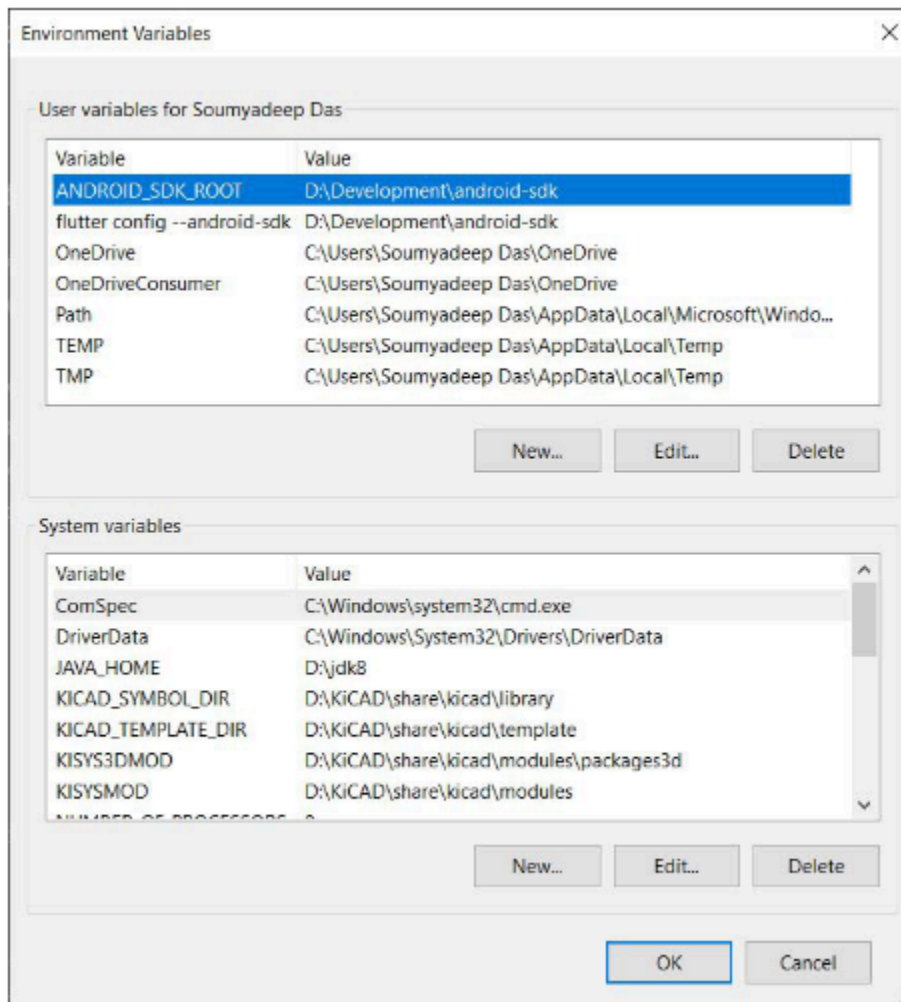
```
C:\src>git clone https://github.com/flutter/flutter.git -b stable
```

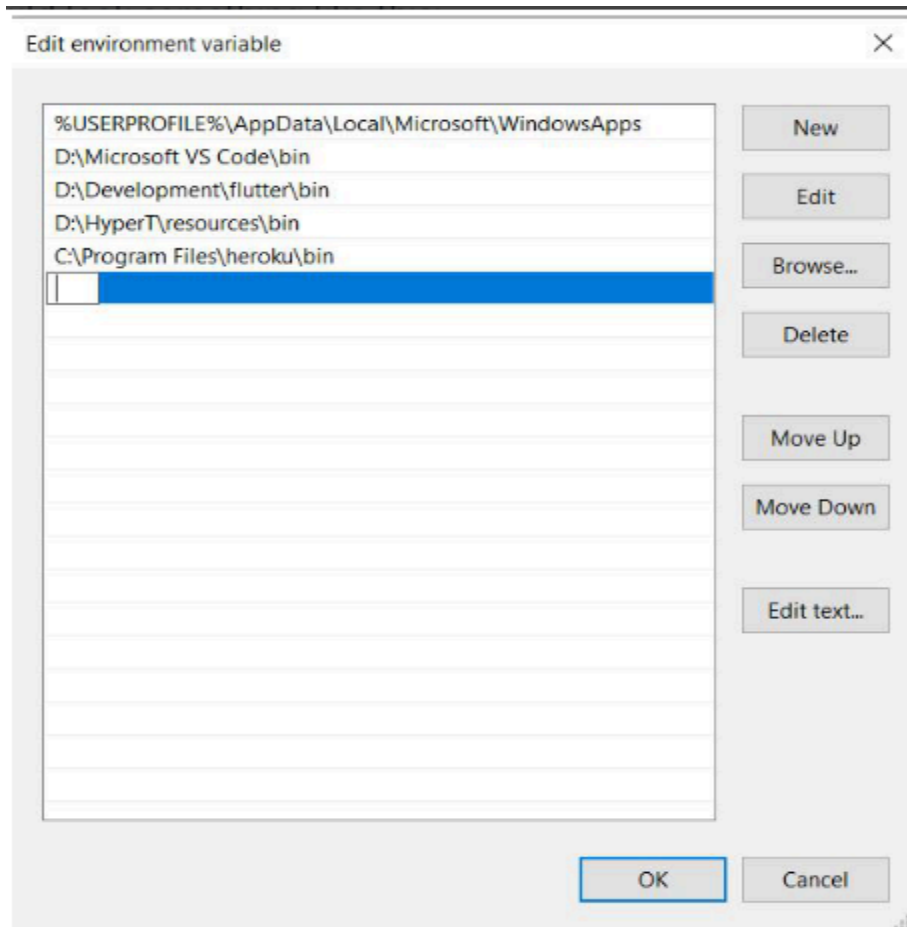


You are now ready to run Flutter commands in the Flutter Console.

## Step 2: Update System Path

- Go to My Computer properties -> advanced tab -> environment variables.
- Select "path" and click on edit.
- Click on New and add the path of the Flutter bin folder (e.g., C:/Flutter/bin).
- Click OK in each window.





### Step 3: Run Flutter Commands

Open the command prompt and run `flutter` to ensure the installation is successful.

```
C:\Users\Kaushik Kotian>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:
```

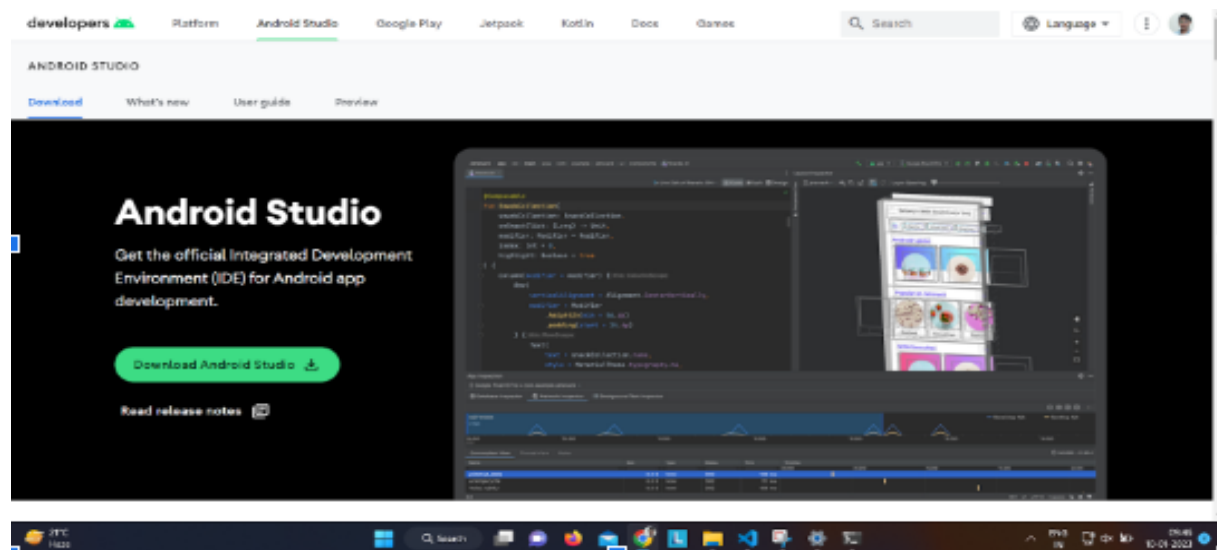
Run `flutter doctor` to check for any missing dependencies.

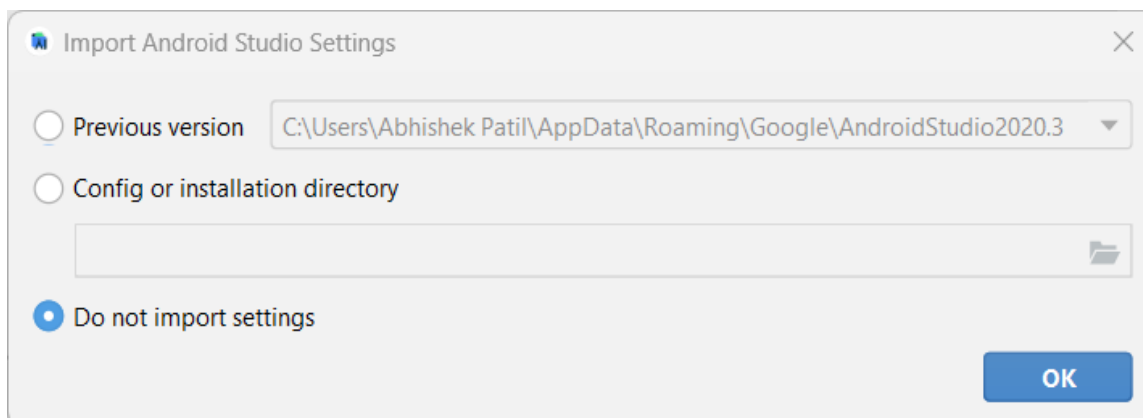
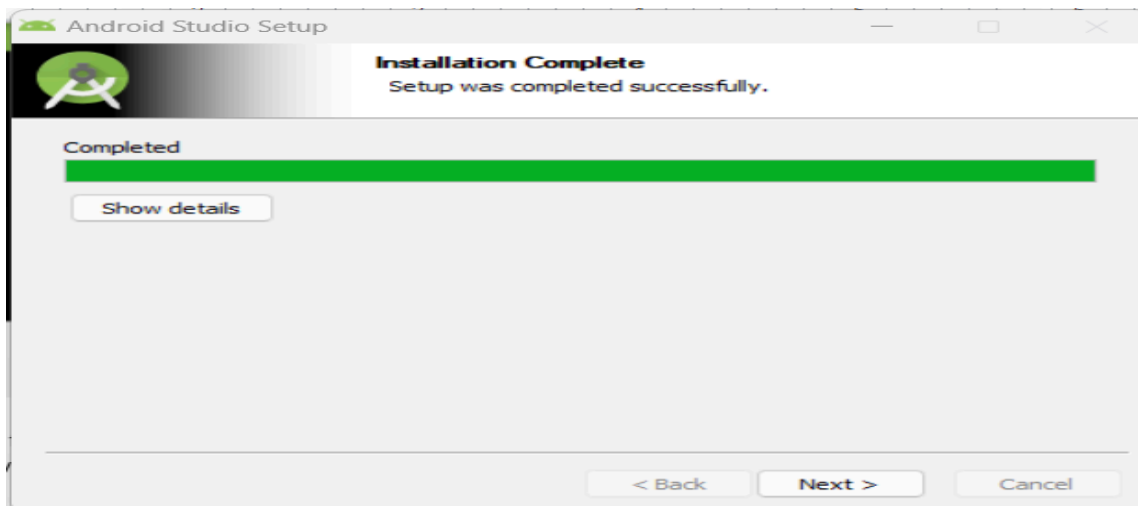
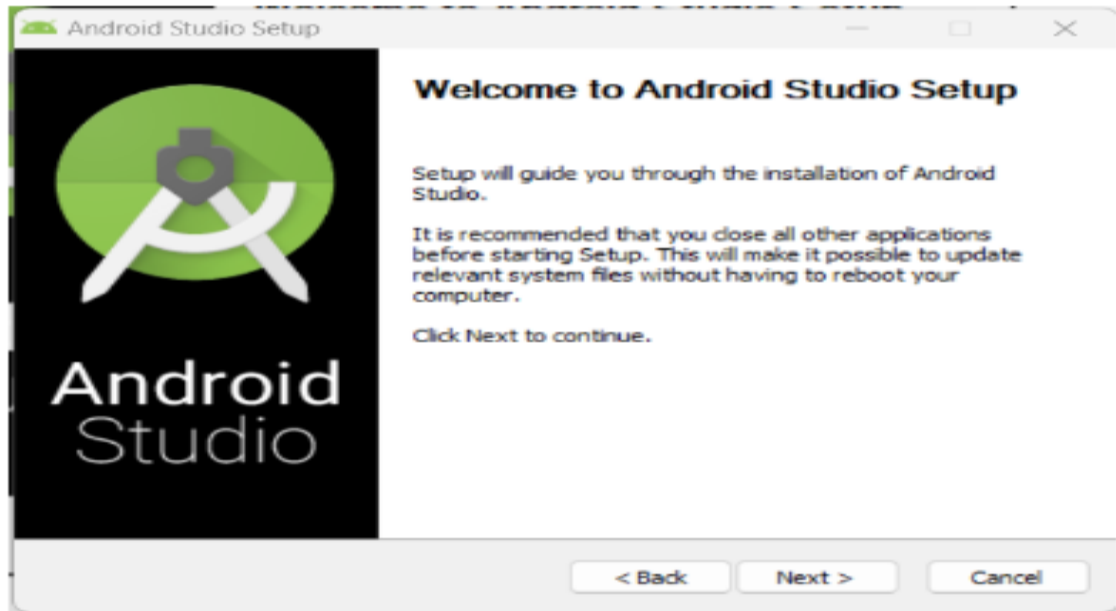
```
C:\Users\Student>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.16.7, on Microsoft Windows [Version 10.0.22000.2713], locale en-IN)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
    X Android license status unknown.
      Run 'flutter doctor --android-licenses' to accept the SDK licenses.
      See https://flutter.dev/docs/get-started/install/windows#android-setup for more details.
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.4.3)
[✓] Android Studio (version 2021.3)
[✓] VS Code (version 1.85.1)
[✓] Connected device (3 available)
[!] Network resources
    X A cryptographic error occurred while checking "https://pub.dev/": Connection terminated during handshake
      You may be experiencing a man-in-the-middle attack, your network may be compromised, or you may have malware
      installed on your computer.
    X A cryptographic error occurred while checking "https://cocoapods.org/": Connection terminated during handshake
      You may be experiencing a man-in-the-middle attack, your network may be compromised, or you may have malware
      installed on your computer.
    X A cryptographic error occurred while checking "https://github.com/": Connection terminated during handshake
      You may be experiencing a man-in-the-middle attack, your network may be compromised, or you may have malware
      installed on your computer.
```

## Step 4: Install Android SDK (if needed)

If Flutter doctor indicates a missing Android SDK, install Android Studio:

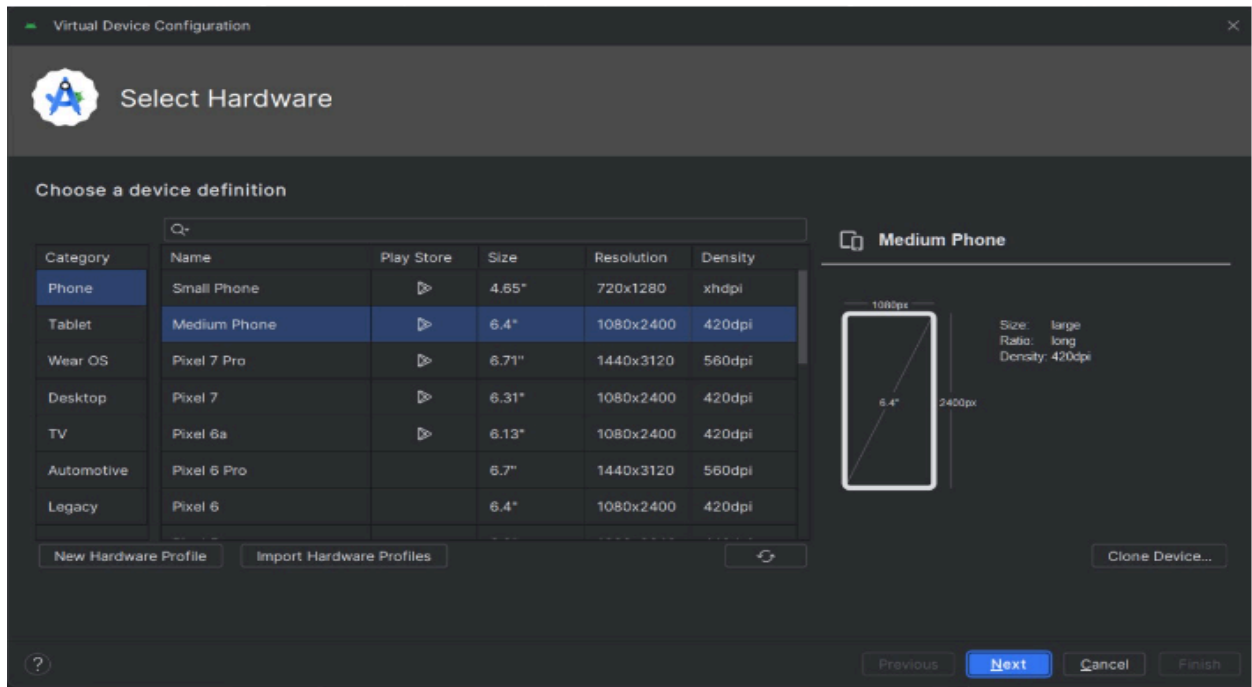
- Download Android Studio from the official site.
- Run the installer and follow the installation wizard.
- Launch Android Studio and complete the setup.



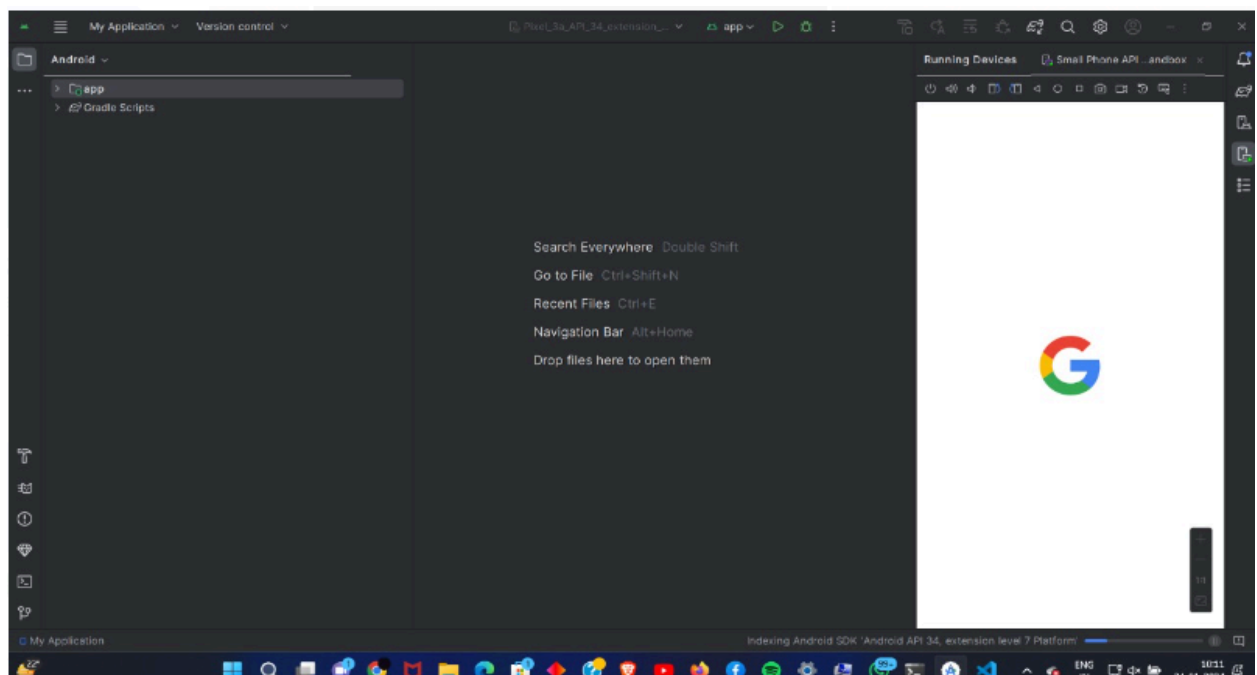


## Step 5: Set Up Android Emulator

- In Android Studio, go to Tools -> Android -> AVD Manager.
- Create a Virtual Device by choosing a device definition and system image.



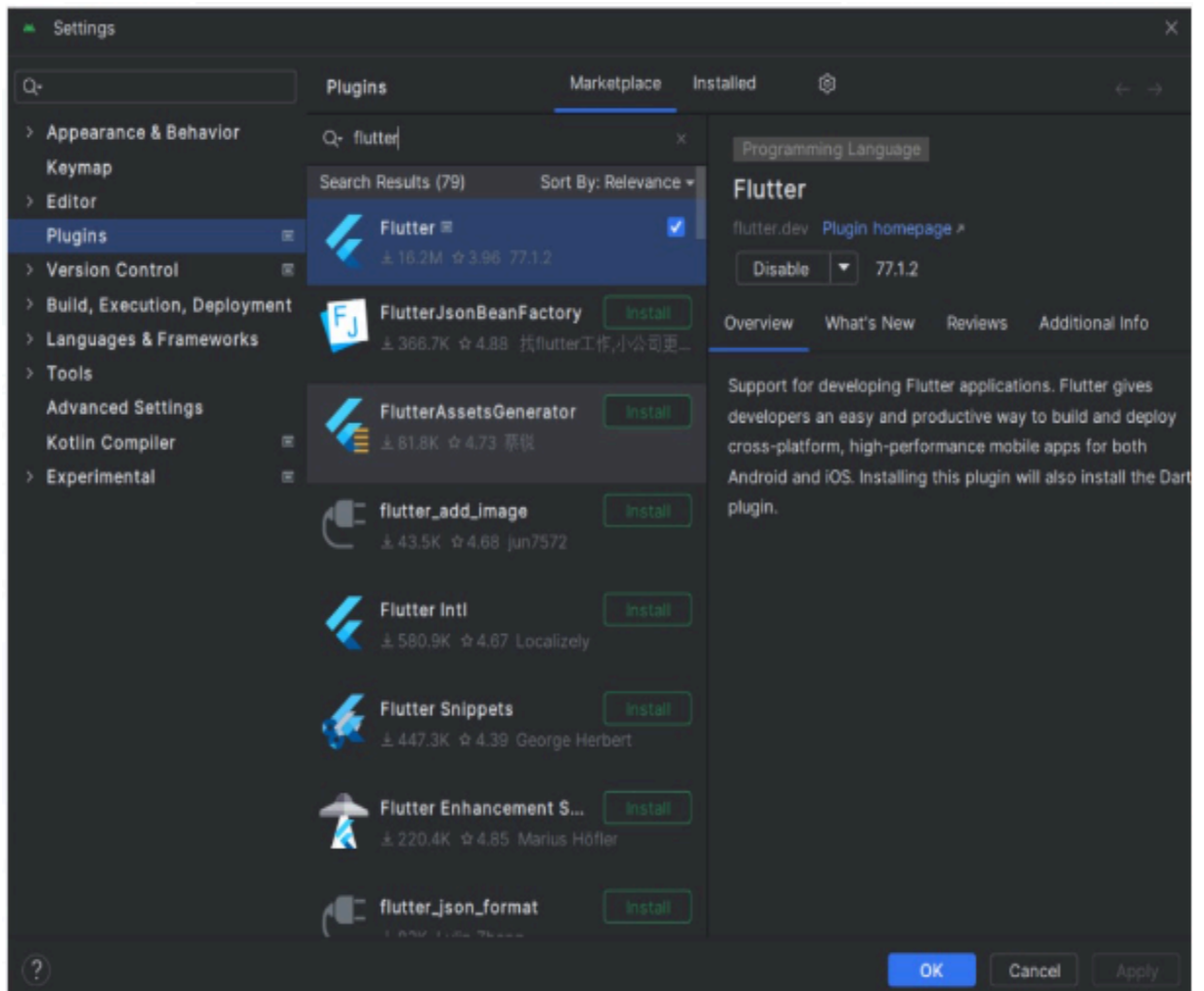
- Start the emulator.

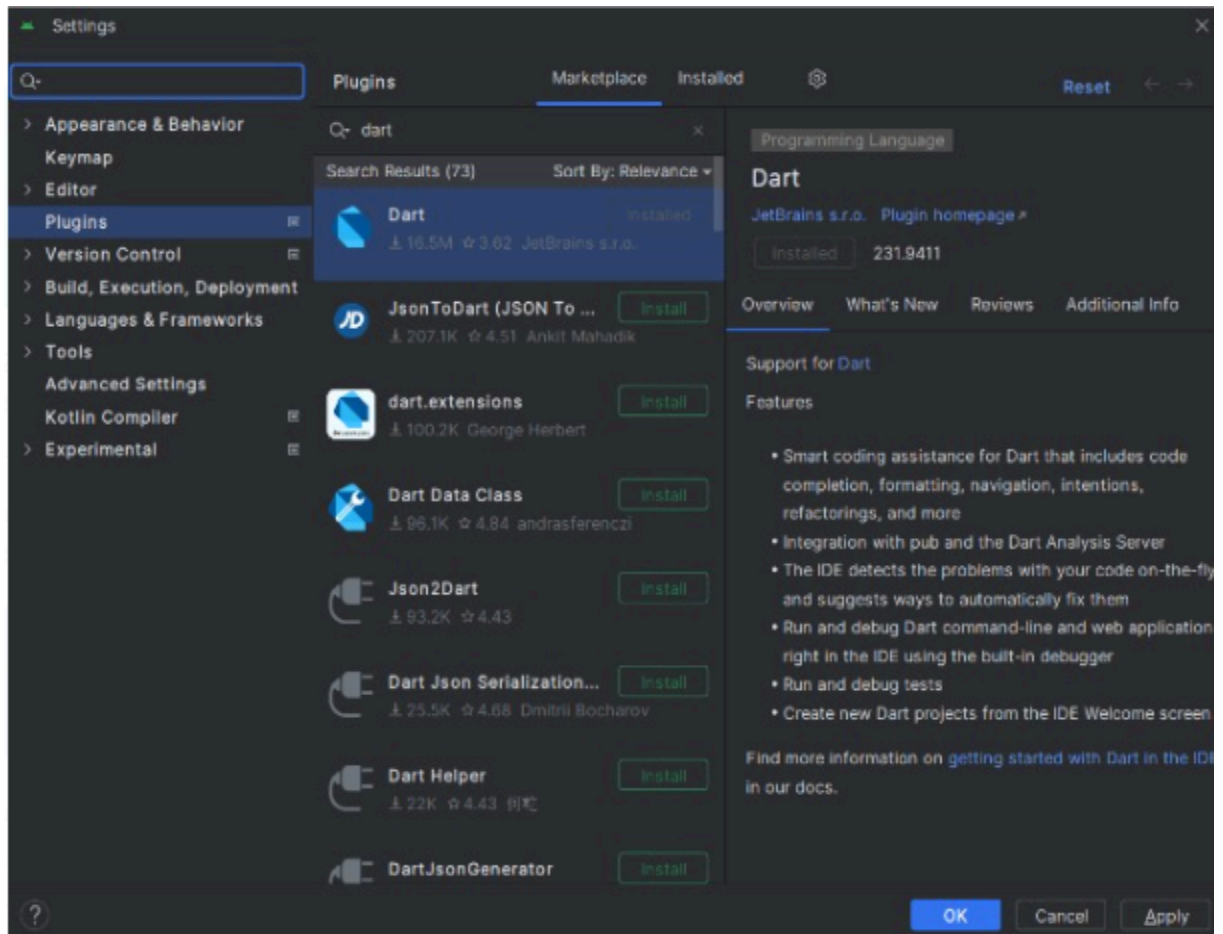




## Step 6: Install Flutter and Dart Plugins in Android Studio

- Open Android Studio, go to File -> Settings -> Plugins.
- Search for and install the Flutter plugin.
- When prompted, install the Dart plugin as well.
- Restart Android Studio.





## Conclusion:

In this experiment, we successfully installed and configured the Flutter SDK, set up an Android emulator, and installed necessary plugins in Android Studio for Flutter app development.