

Experiment No: 1

Experiment No 1 1: Installation and Configuration of Flutter Environment.	
ROLL NO	03
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Experiment 1

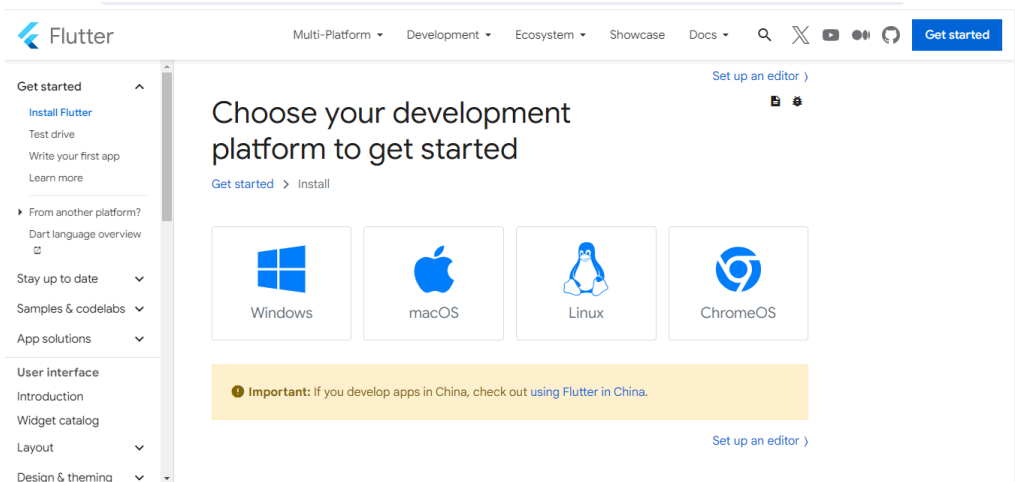
Aim: Installation and Configuration of Flutter Environment.

Theory:

Flutter, an open-source UI software development framework crafted by Google, facilitates cross-platform application development, enabling the creation of apps for both iOS and Android with a single codebase. Built on the Dart programming language, Flutter emphasizes the use of widgets as fundamental UI elements, allowing developers to compose intricate user interfaces. Its standout feature, Hot Reload, enables real-time visualization of code changes during development without restarting the application. Flutter supports both Material Design and Cupertino style, offering a rich set of customizable widgets for versatile design. Known for high performance, Flutter compiles to native ARM code, contributing to its efficiency. The framework's active community contributes to its ecosystem with packages and plugins. Flutter's appeal lies in its streamlined development process, expressive UI, and the ability to maintain a single codebase, making it increasingly popular among mobile app developers.

Installation:

1) Install Flutter sdk



2) Install Android Studio

Install Android Studio

Set up Android Studio in just a few clicks. First, check the system requirements. Then [download the latest version of Android Studio](#).

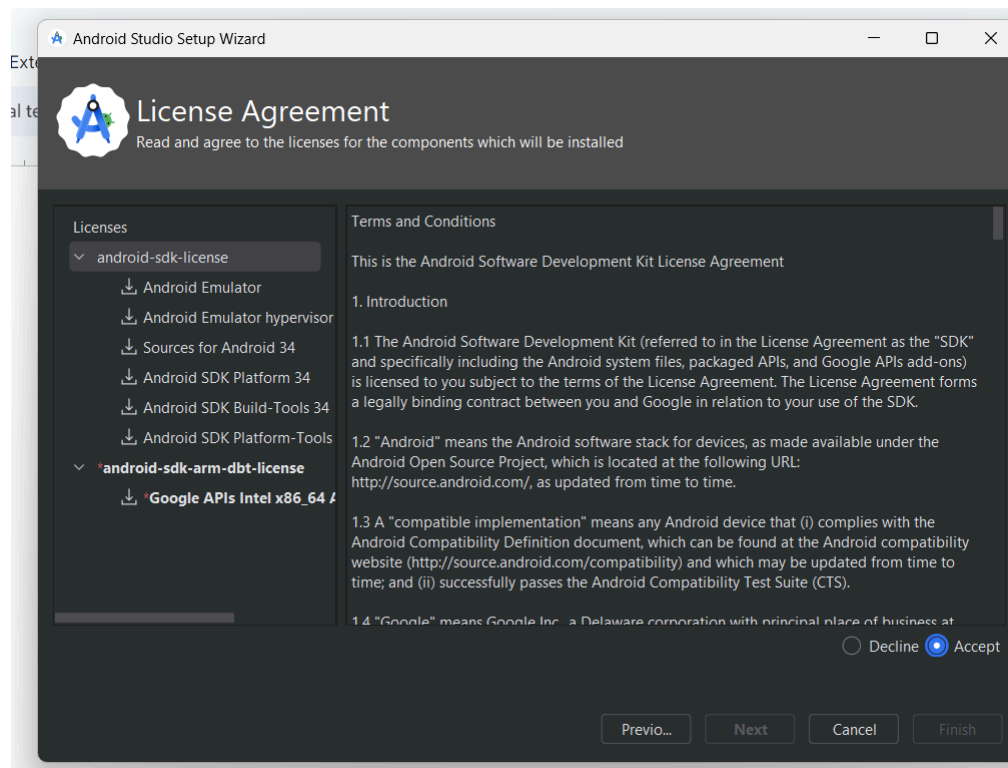
Windows

★ **Note:** Windows machines with ARM-based CPUs aren't currently supported.

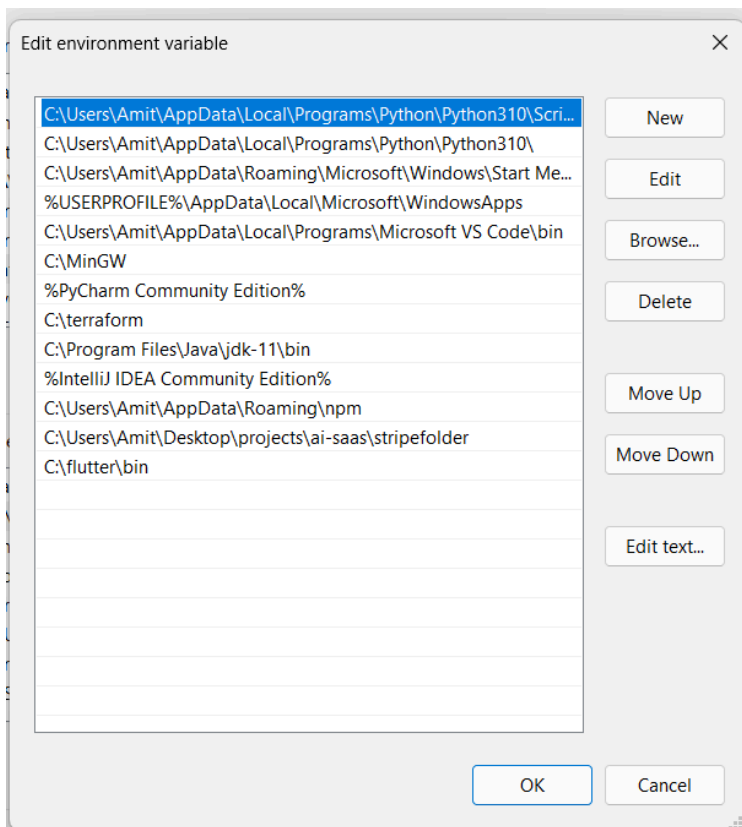
Here are the system requirements for Windows:

Requirement	Minimum	Recommended
OS	64-bit Microsoft Windows 8	Latest 64-bit version of Windows
RAM	8 GB RAM	16 GB RAM or more

3)Setup Android Studio



4) Update the environment variables



5) Check if flutter is installed by typing flutter in command prompt

```
Windows PowerShell
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Amit> 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:

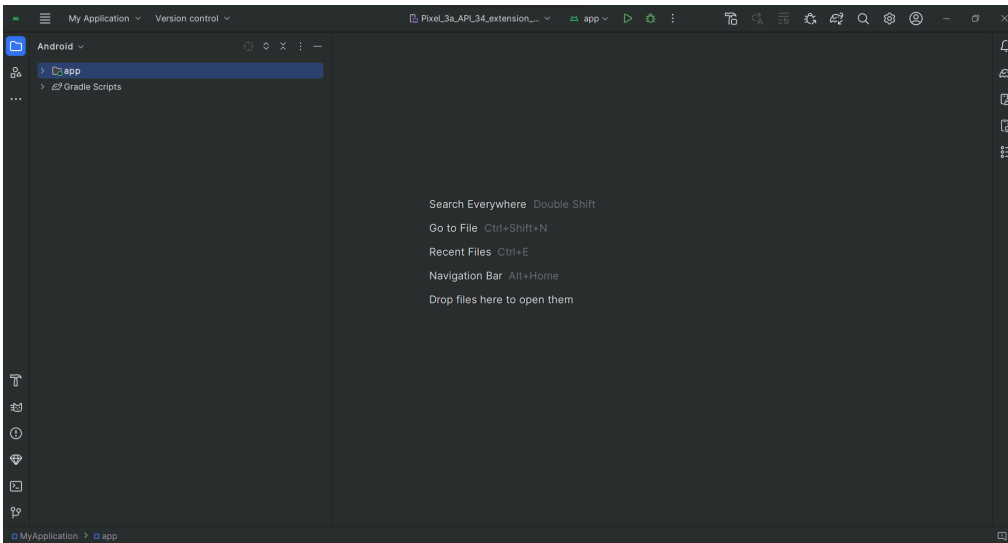
Flutter SDK
```

6)Run flutter doctor command

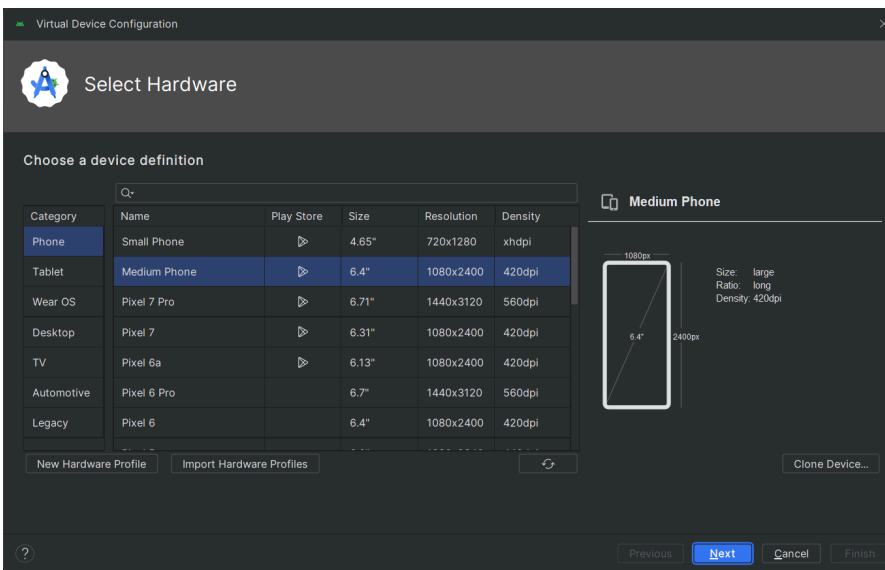
```
PS C:\Users\Amit> flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.16.8, on Microsoft Windows [Version 10.0.22621.3007], locale en-IN)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
    x cmdline-tools component is missing
      Run 'path/to/sdkmanager --install "cmdline-tools;latest"'
      See https://developer.android.com/studio/command-line for more details.
    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 Build Tools 2019 16.11.27)
[✓] Android Studio (version 2023.1)
[✓] VS Code (version 1.85.2)
[✓] Connected device (3 available)
[✓] Network resources

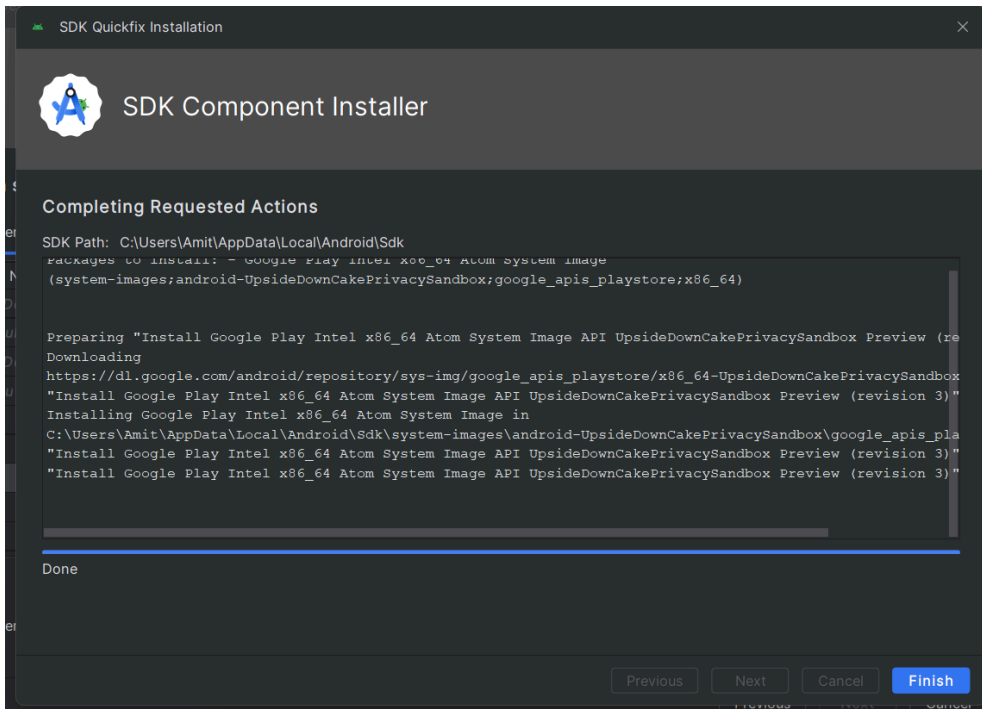
! Doctor found issues in 1 category.
```

7)Open Android Studio

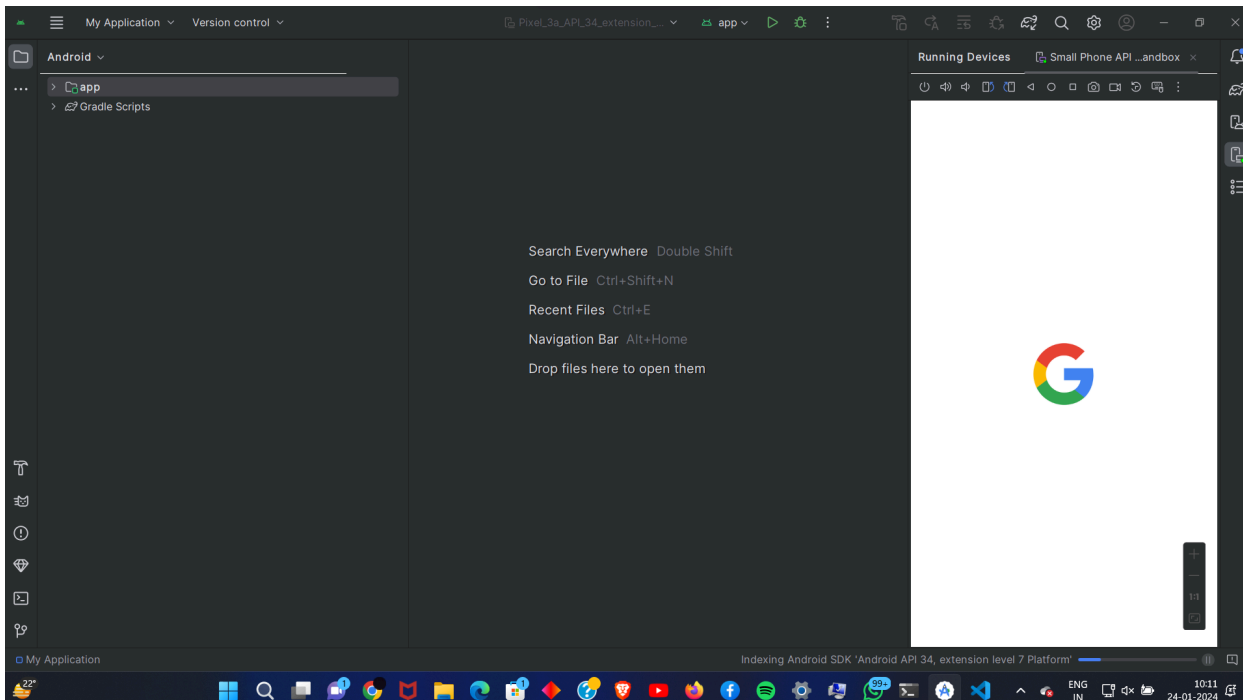


8) Select Hardware

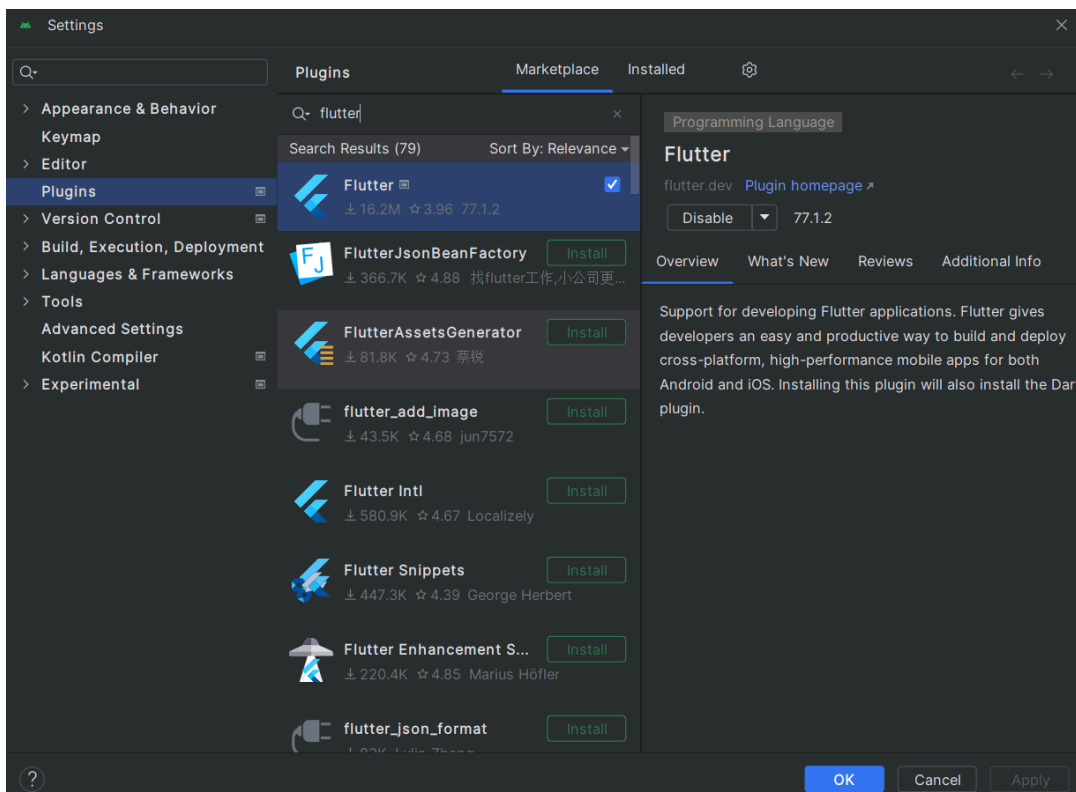
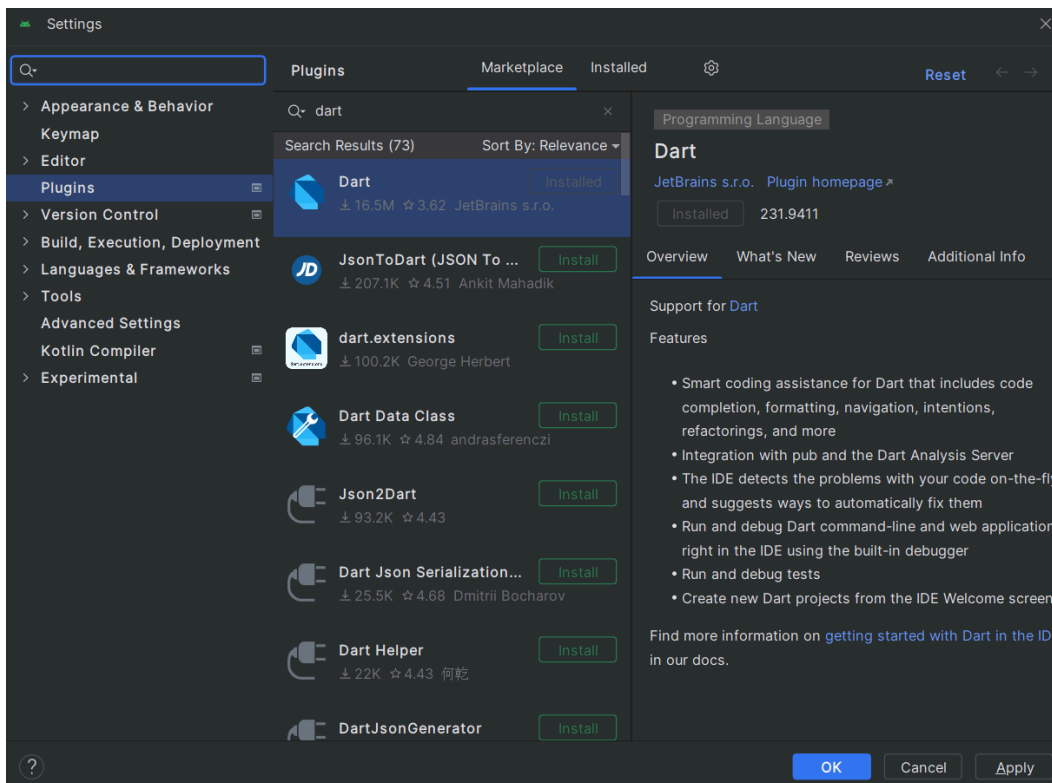




9) Install and setup device



10) Install dart and flutter plugins



11) Restart Android Studio

Conclusion: We have successfully configured and installed Flutter environment.