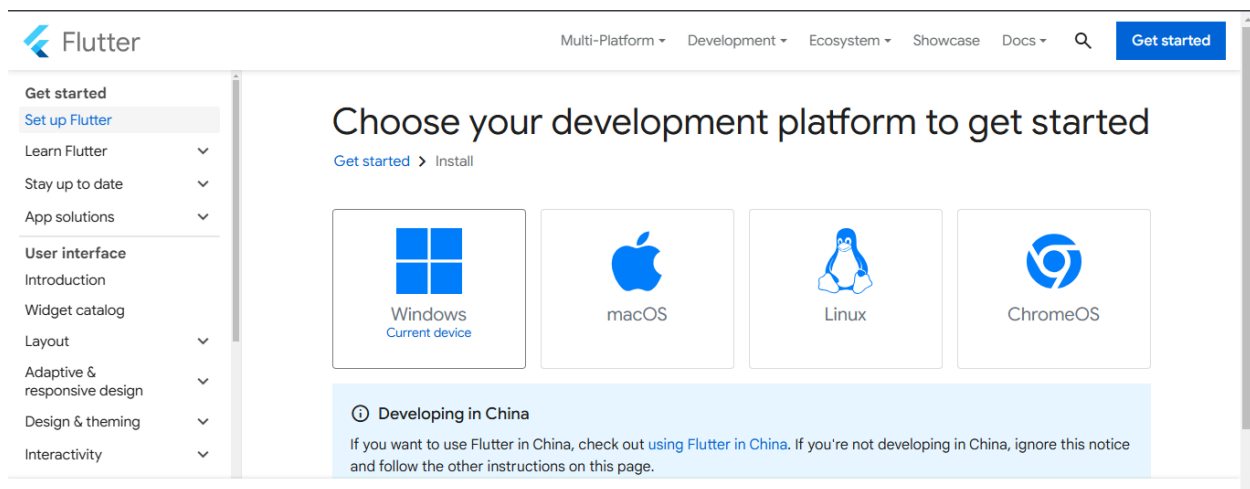**Name : Aaryan Kalbhor**
Div : D15B
Roll No : 26

EXP 1: Installation and Configuration of Flutter Environment.

Aim: To install and configure the Flutter Environment, also install Android Studio.

Install the Flutter SDK

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.
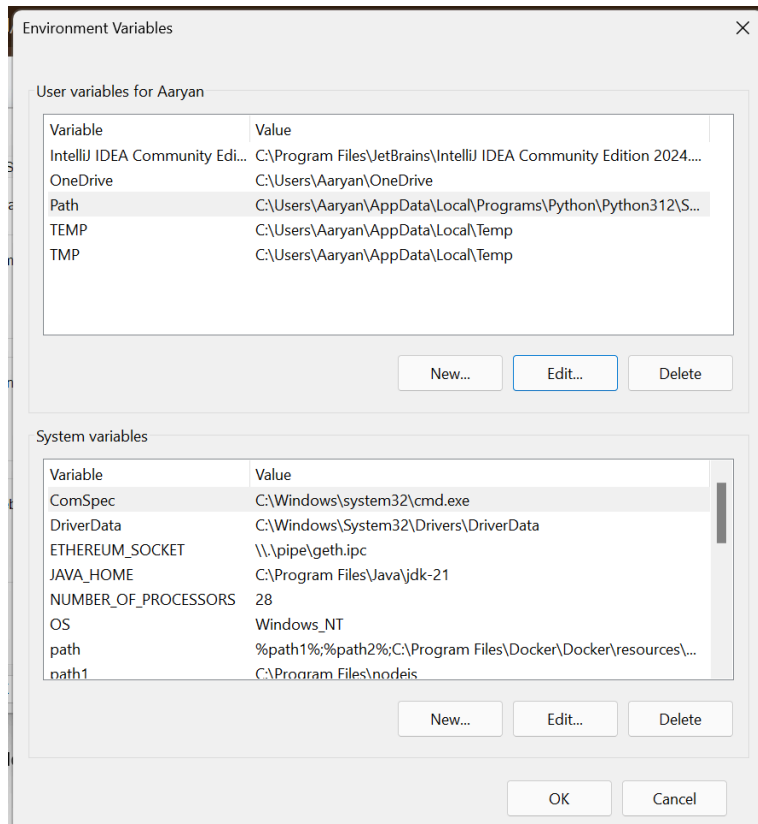

Step 2: Next, to download the latest Flutter SDK, click on the Windows icon. Here, you will find the download link for SDK.
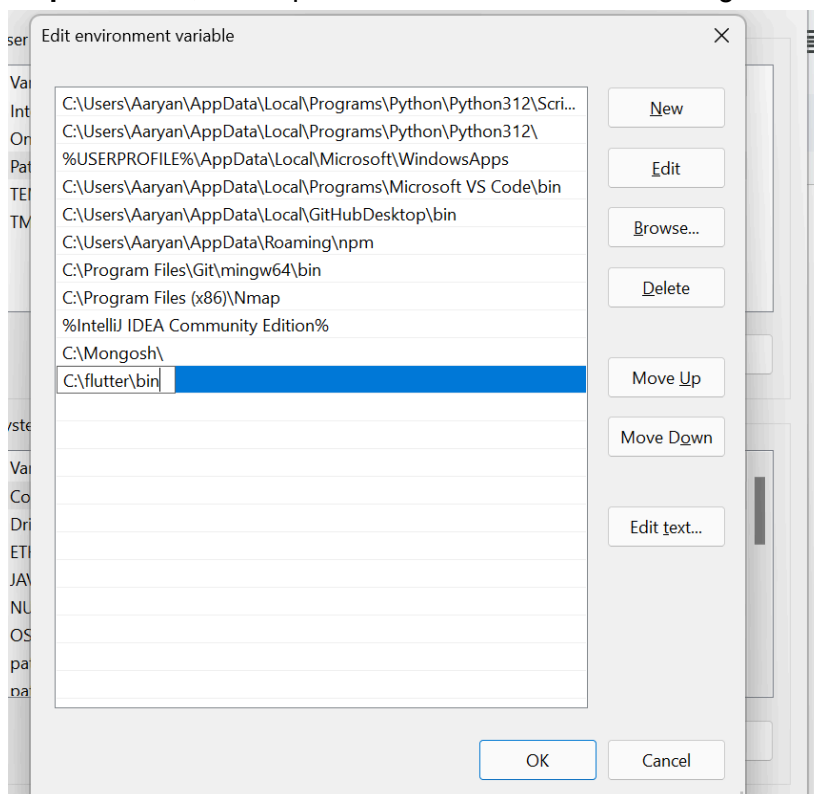
Step 3: When your download is complete, extract the zip file and place it in the desired installation folder or location, for example, C: /Flutter.

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 MyComputer 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: In the above window, click on New->write path of Flutter bin folder in variable value
Step 5: Now, run the $ flutter command in command prompt.

```
Command Prompt - flutter          ×    +   ∨                                        —   □   ×
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Aaryan>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:
```

Step 6: 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., 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.

```
Command Prompt - flutter d  ×    +   ∨                                        —   □   ×
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Aaryan>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.27.3, on Microsoft Windows [Version 10.0.22631.4751], locale en-ID)
[√] 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/to/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)
[√] IntelliJ IDEA Community Edition (version 2024.3)
[√] VS Code (version 1.96.4)
[√] Connected device (3 available)
[√] Network resources

! Doctor found issues in 3 categories.

C:\Users\Aaryan>
```
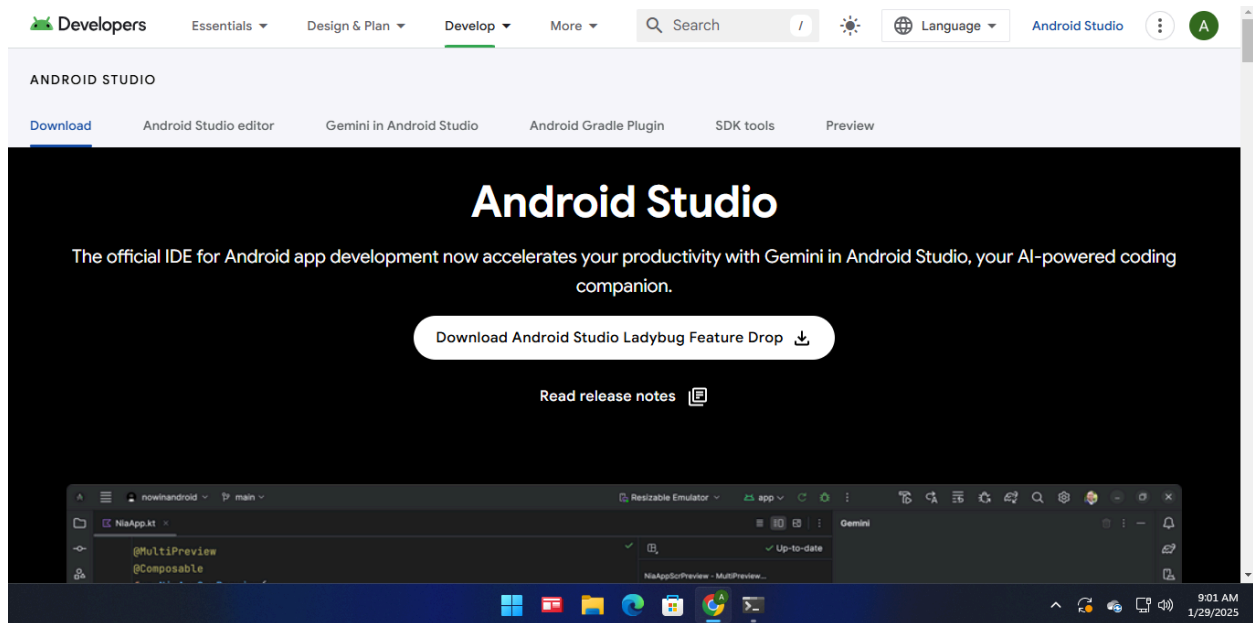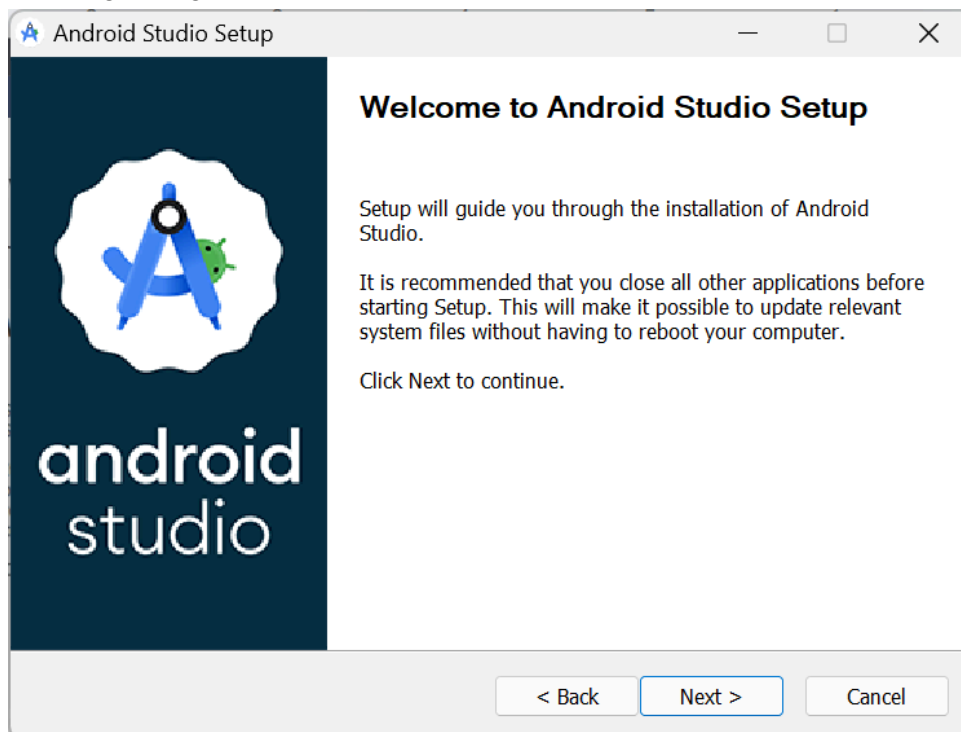
Step 7: Install the Android SDK. If the flutter doctor command does not find the Android SDK tool in your system, then you need first to install the Android Studio IDE. To install Android Studio IDE, do the following steps.
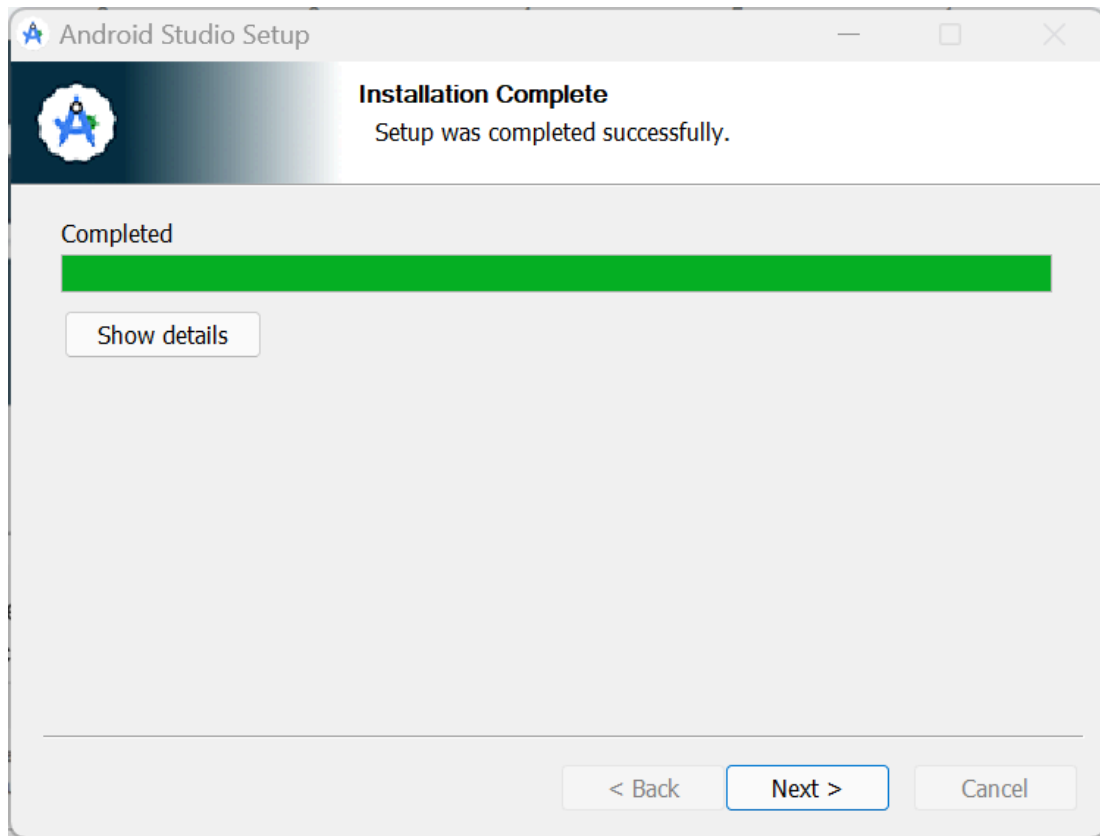
Step 7.1: Download the latest Android Studio executable or zip file from the official site.

Step 7.2: When the download is complete, open the .exe file and run it. You will get the following dialog box.

Step 7.3: Follow the steps of the installation wizard. Once the installation wizard completes, you will get the following screen.

Step 7.4: In the above screen, click Next-> Finish.

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

```
nment or any agency thereof or the foreign government from where it is shipping requires an export license, or other gov
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ftware, nothing in this Agreement limits any rights under, or grants rights that supersede, the terms of any applicable
Open Source software license agreement.
-----------------------------------------
Accept? (y/N): y
All SDK package licenses accepted

C:\Users\Aaryan>
```

```
C:\Users\Aaryan>sdkmanager --version
C:\Users\Aaryan>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.27.3, on Microsoft Windows [Version 10.0.22631.4751], locale en-ID)
[√] 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
[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 (version 2024.2)
[√] IntelliJ IDEA Community Edition (version 2024.3)
[√] VS Code (version 1.96.4)
[√] Connected device (3 available)
[√] Network resources

! Doctor found issues in 1 category.

C:\Users\Aaryan>
```
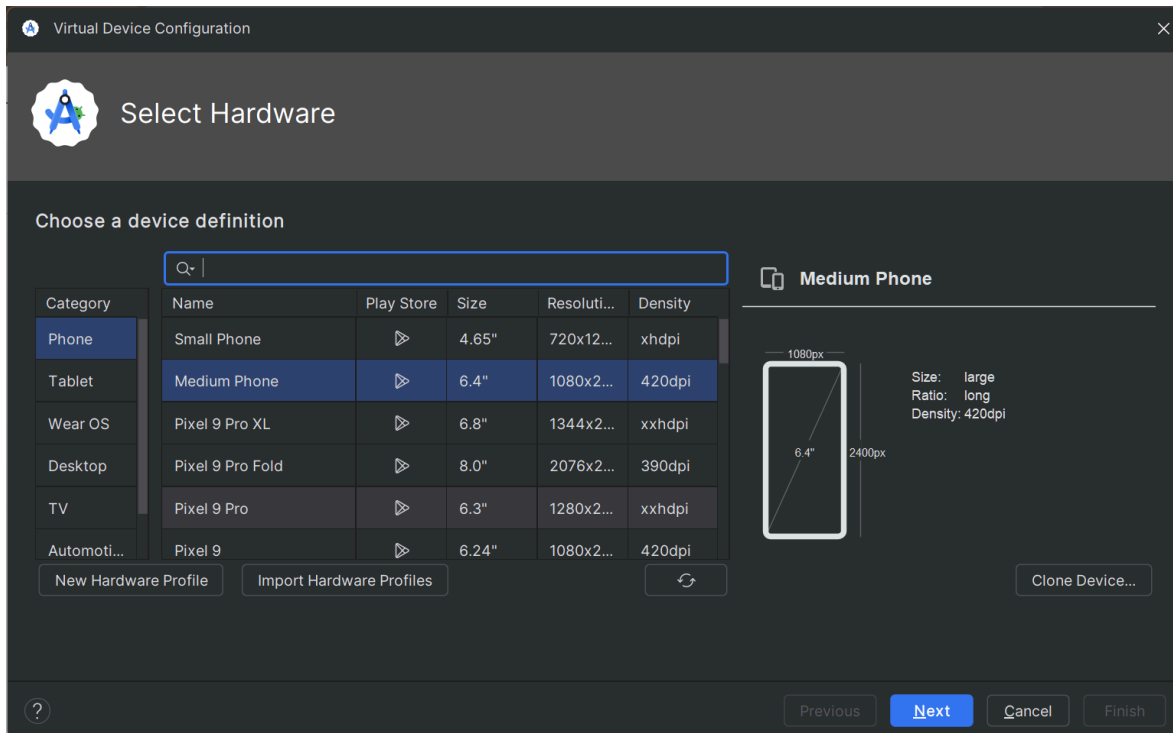
Step 8: Next, you need to set up an Android emulator. It is responsible for running and testing the Flutter application.
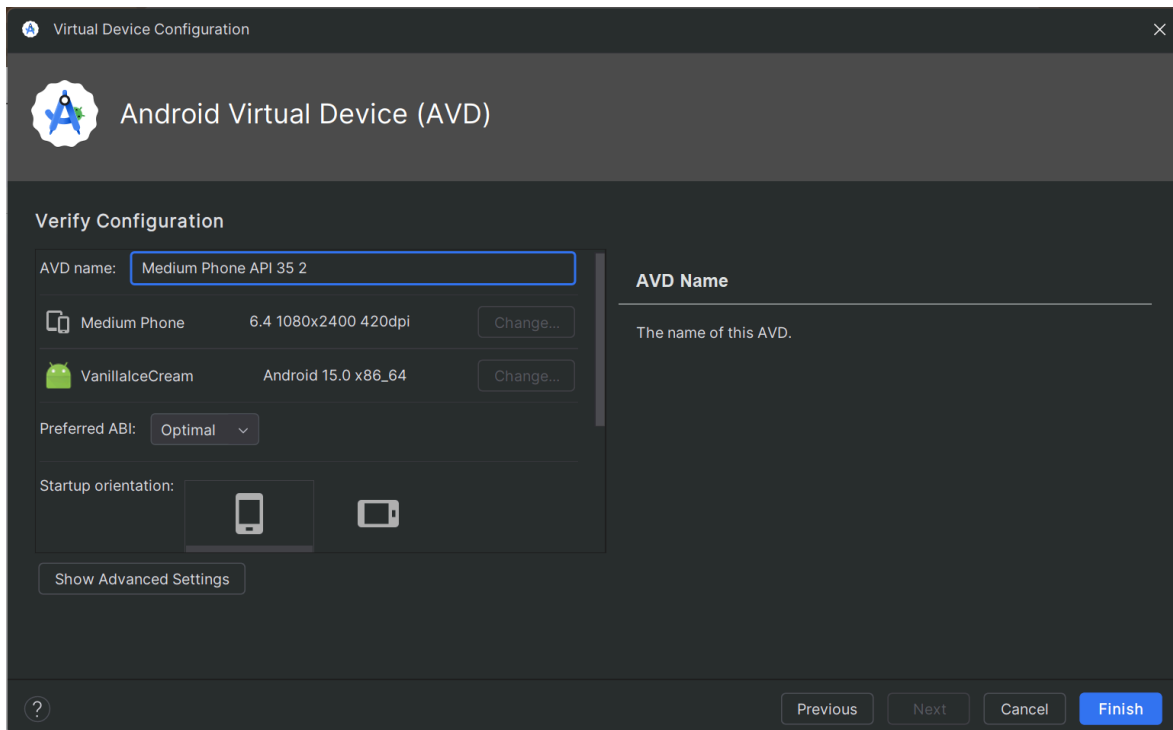
Step 8.1: To set an Android emulator, go to Android Studio > Tools > Android > AVD Manager and select Create Virtual Device. Or, go to Help->Find Action->Type Emulator in the search box. You will get the following screen.

Step 8.2: Choose your device definition and click on Next.

Step 8.3: Select the system image for the latest Android version and click on Next.
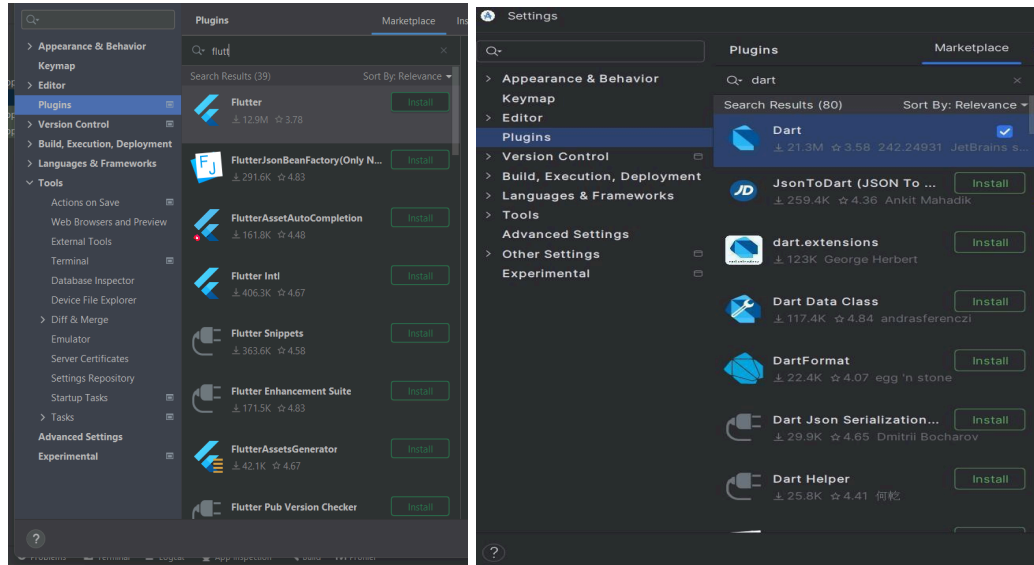
Step 8.4: Now, verify the all AVD configuration. If it is correct, click on Finish. The following screen appears.

Step 9: Now, install Flutter and Dart plugin for building Flutter application in Android Studio.

Step 9.1: Open the Android Studio and then go to File->Settings->Plugins

Step 9.2: 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 9.3: Restart the Android Studio.

Conclusion: The lab practical successfully showcased the installation and configuration of Flutter with Android Studio. The setup facilitated smooth cross-platform app development, emphasizing the significance of proper SDK setup, emulator usage, and plugin integration for efficient Flutter development.