Expt 1

Aim: Installation and Configuration of Flutter Environment.

Theory:

Flutter is an open-source UI software development kit created by Google. It is used to develop cross platform applications from a single codebase for any web browser, Fuchsia, Android, iOS, Linux, macOS, and Windows. First described in 2015, Flutter was released in May 2017.

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (E-ADT) as the primary IDE for native Android application development.
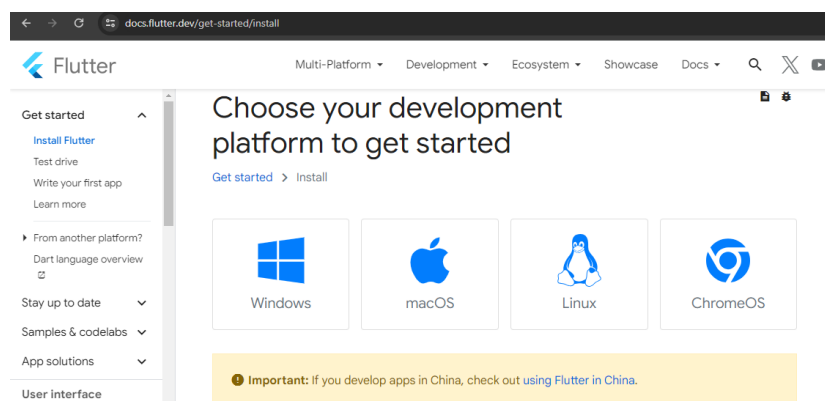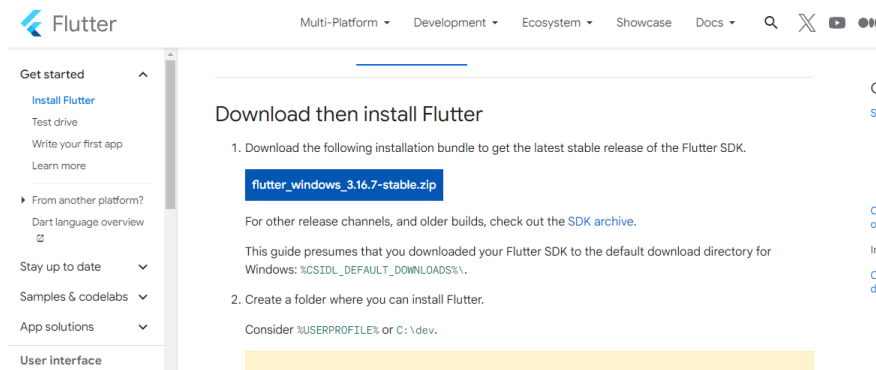
Installing the Flutter SDK

**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.
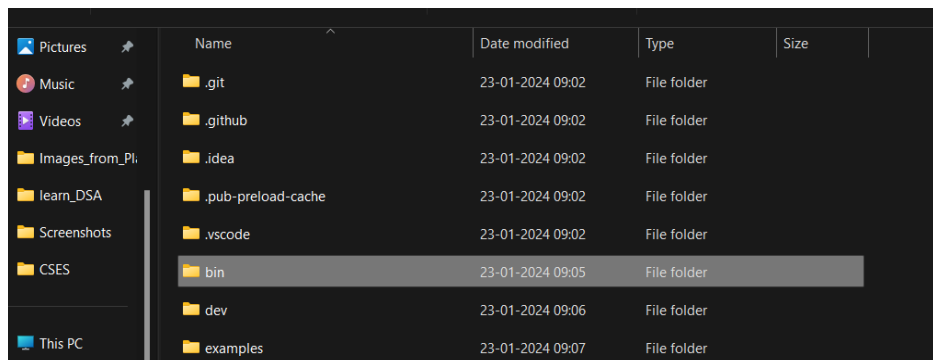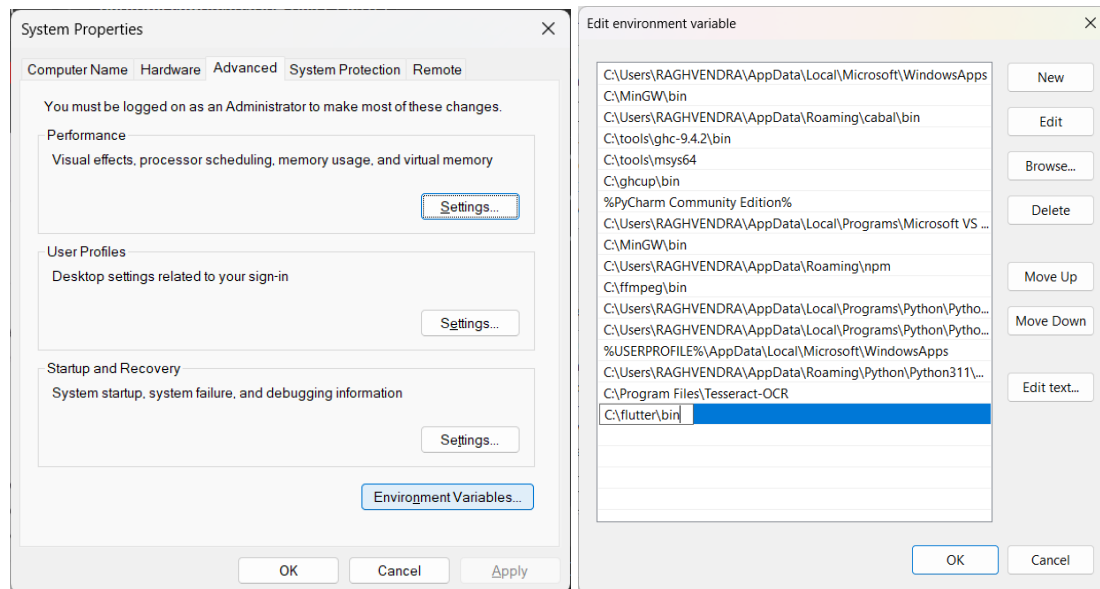
Step 3: When your download is complete, extract the zip file and place it in the desired installation folder or location, for example, C:/Flutter.
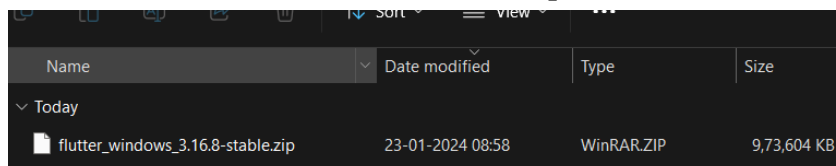
Step 4: To run the Flutter command in the regular windows console, you need to update the system path to include the flutter bin directory. The following steps are required to do this:
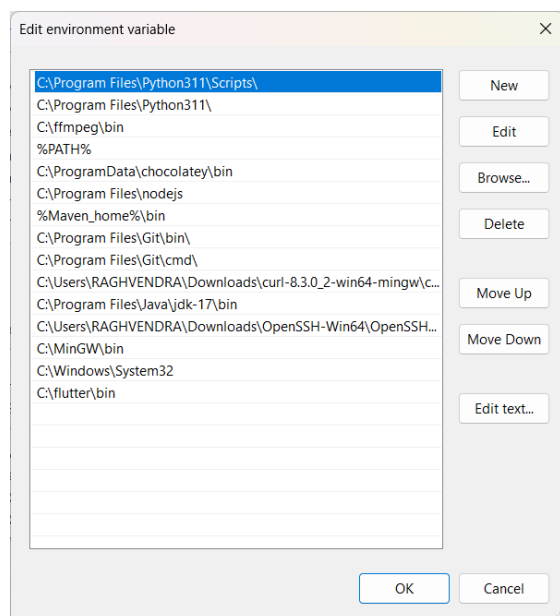

Step 4.1: Go to MyComputer properties -> advanced tab -> environment variables. You will get the following screen.

System Properties

Computer Name | Hardware | **Advanced** | System Protection | Remote

You must be logged on as an Administrator to make most of these changes.

Performance

Visual effects, processor scheduling, memory usage, and virtual memory

Settings...

User Profiles

Desktop settings related to your sign-in

Settings...

Startup and Recovery

System startup, system failure, and debugging information

Settings...

Environment Variables...

OK | Cancel | Apply

Edit environment variable

Path entries
C:\Users\RAGHVENDRA\AppData\Local\Microsoft\WindowsApps
C:\MinGW\bin
C:\Users\RAGHVENDRA\AppData\Roaming\cabal\bin
C:\tools\ghc-9.4.2\bin
C:\tools\msys64
C:\ghcup\bin
%PyCharm Community Edition%
C:\Users\RAGHVENDRA\AppData\Local\Programs\Microsoft VS ...
C:\MinGW\bin
C:\Users\RAGHVENDRA\AppData\Roaming\npm
C:\ffmpeg\bin
C:\Users\RAGHVENDRA\AppData\Local\Programs\Python\Pytho...
C:\Users\RAGHVENDRA\AppData\Local\Programs\Python\Pytho...
%USERPROFILE%\AppData\Local\Microsoft\WindowsApps
C:\Users\RAGHVENDRA\AppData\Roaming\Python\Python311\...
C:\Program Files\Tesseract-OCR
C:\flutter\bin

New | Edit | Browse... | Delete | Move Up | Move Down | Edit text...

OK | Cancel

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 ->ok->ok->ok

You need to also add C:\WIndows\System32 in the environment variable as well

Edit environment variable

Path entries
C:\Program Files\Python311\Scripts\
C:\Program Files\Python311\
C:\ffmpeg\bin
%PATH%
C:\ProgramData\chocolatey\bin
C:\Program Files\nodejs
%Maven_home%\bin
C:\Program Files\Git\bin\
C:\Program Files\Git\cmd\
C:\Users\RAGHVENDRA\Downloads\curl-8.3.0_2-win64-mingw\c...
C:\Program Files\Java\jdk-17\bin
C:\Users\RAGHVENDRA\Downloads\OpenSSH-Win64\OpenSSH...
C:\MinGW\bin
C:\Windows\System32
C:\flutter\bin

New | Edit | Browse... | Delete | Move Up | Move Down | Edit text...

OK | Cancel

Step 5: Now, run the $ flutter command in the command prompt. Also now if you run flutter --version it should give this
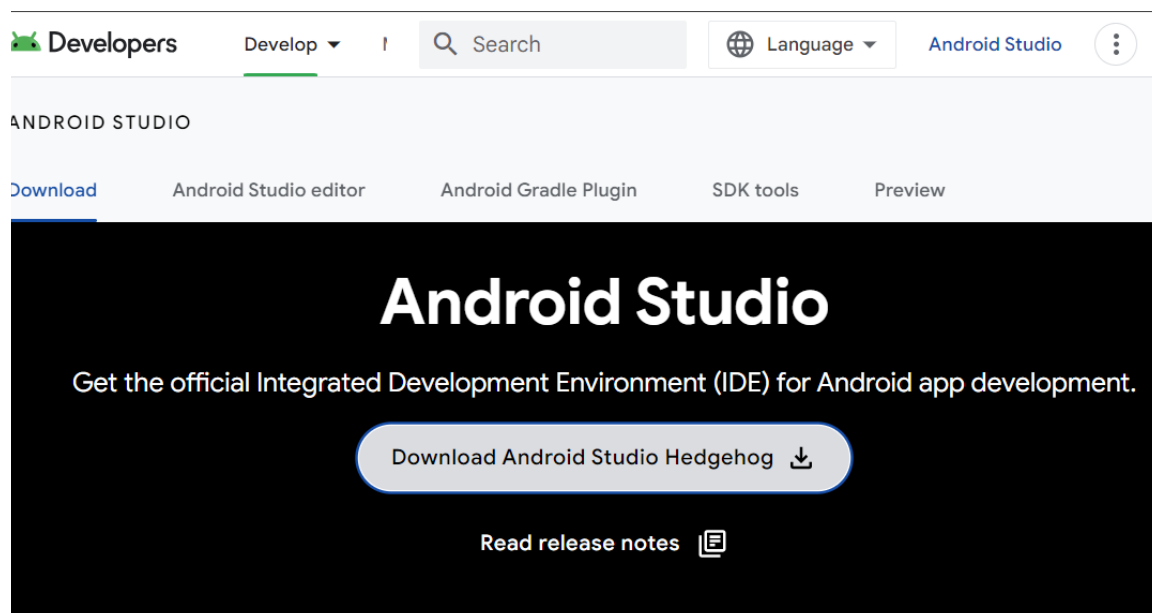
```
C:\Users\RAGHVENDRA>flutter --version
Flutter 3.16.8 • channel stable • https://github.com/flutter/flutter.git
Framework • revision 67457e669f (6 days ago) • 2024-01-16 16:22:29 -0800
Engine • revision 6e2ea58a5c
Tools • Dart 3.2.5 • DevTools 2.28.5

C:\Users\RAGHVENDRA>
```

Downloading Android Studio:

Step 6: 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.

The zip file for android studio is downloaded:

Step 7.2: When the download is complete, open the .exe file and run it. You will get the following dialog box.
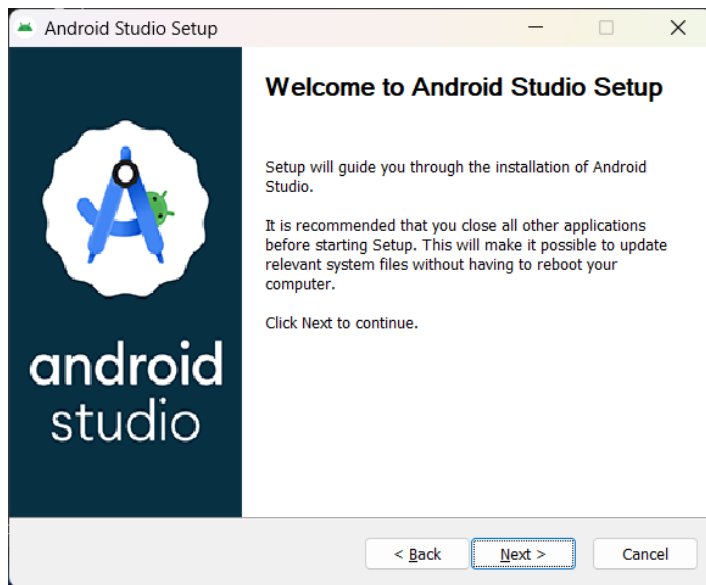
Step 7.3: Follow the steps of the installation wizard. Once the installation wizard completes, you will get the following screen.
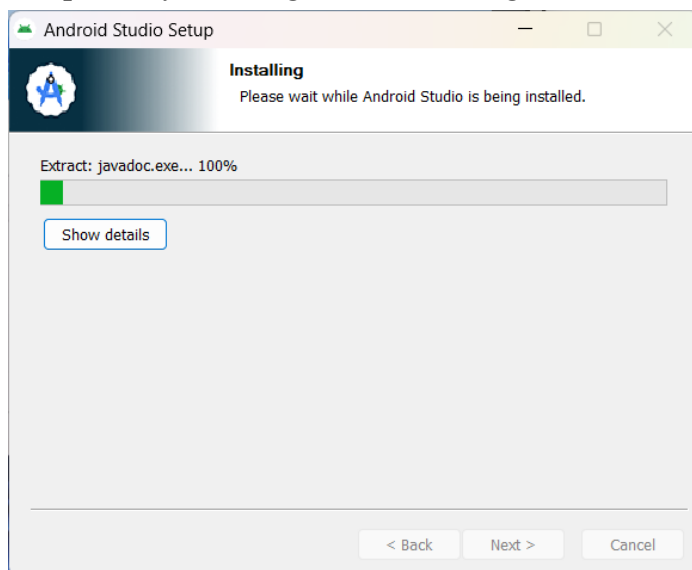
Step 7.4: In the above screen, click Next-> Finish. Once the Finish button is clicked, you need to choose the 'Don't import Settings option' and click OK. It will start the Android Studio.
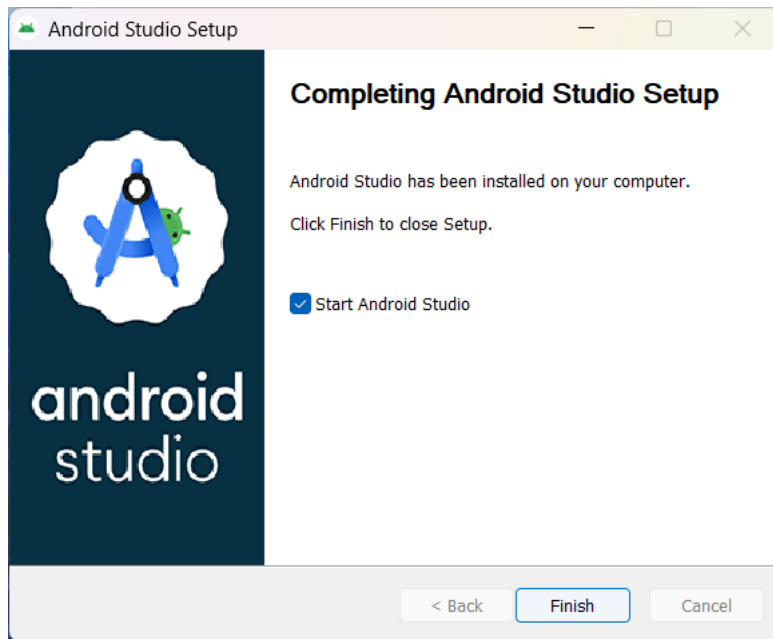
Step 7.5: Run the $ flutter doctor command and Run flutter doctor --android-licenses command.

Step 7.6: Open Android Studio and click on Next-> Accept all the licenses->Next->Finish.
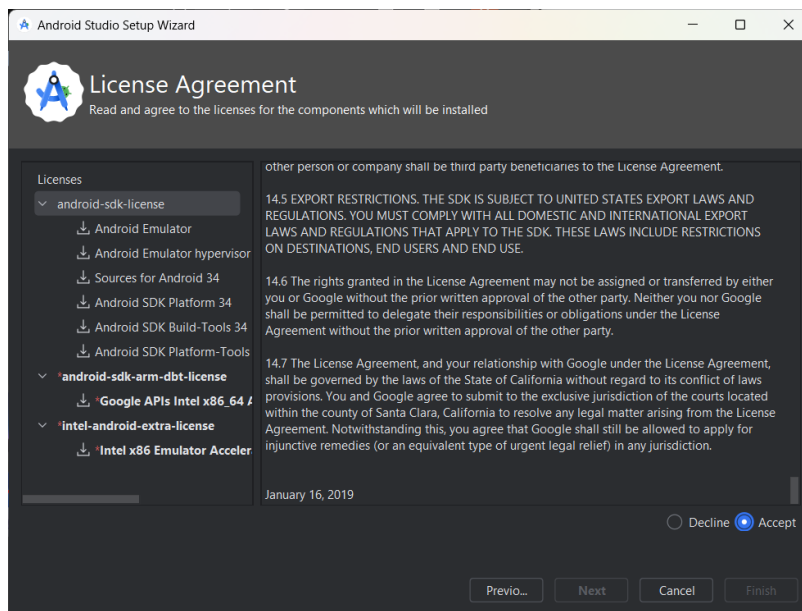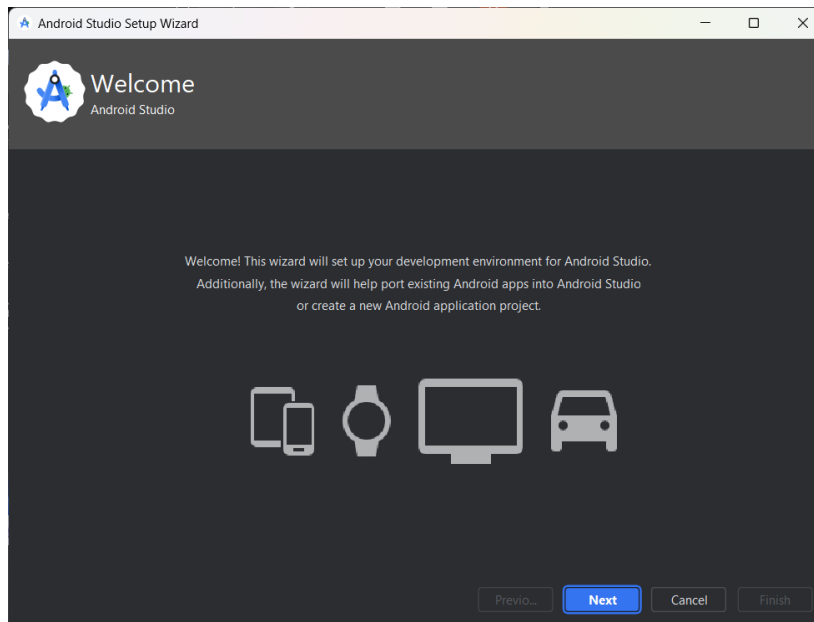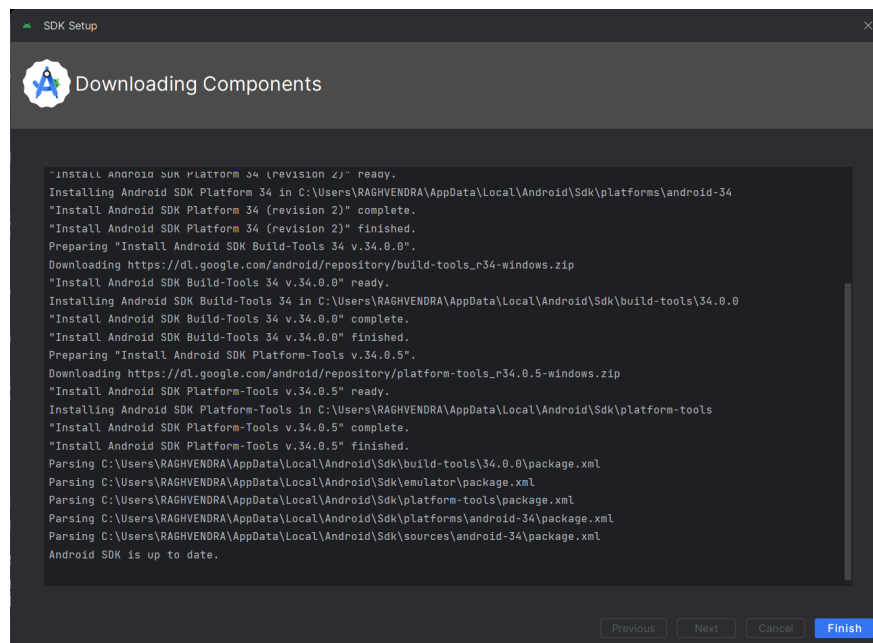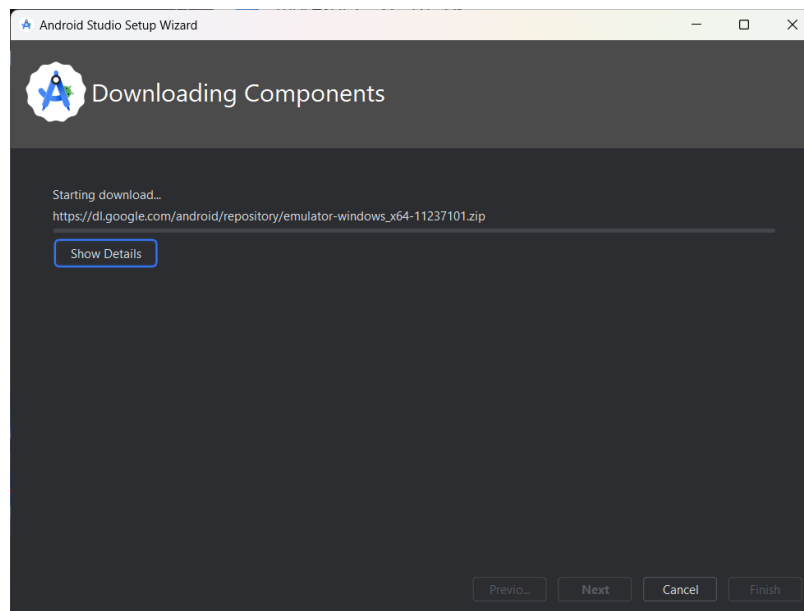
Step 8: Next, you need to set up an Android emulator. It is responsible for running and testing the Flutter application.

Step 8.1: To set an Android emulator, go to Android Studio -> SDK Tools -> Android SDK -> Check on "Android Emulator Hypervisor driver (Installer) -> ok
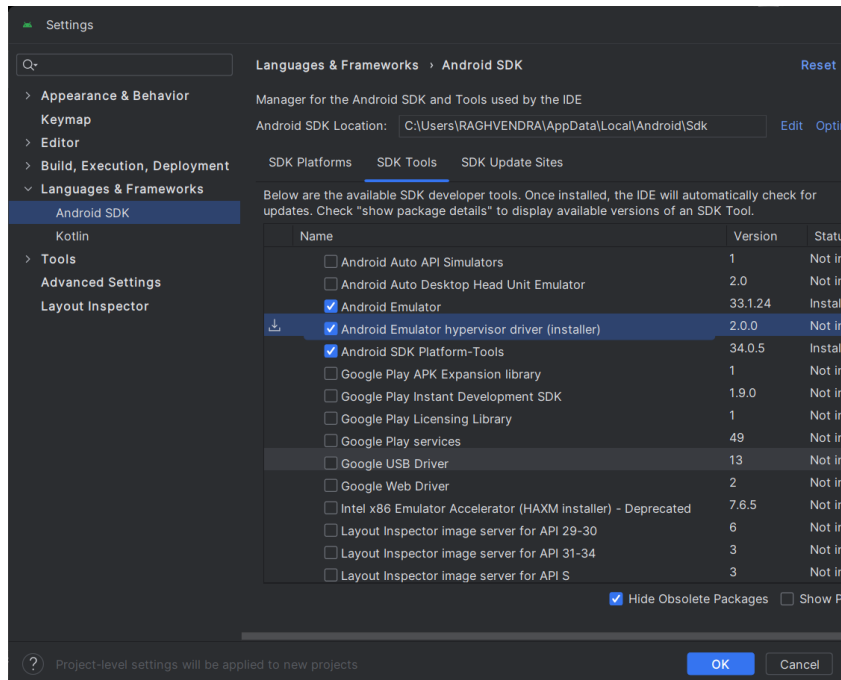
Click on Next and wait for it to finish installing.
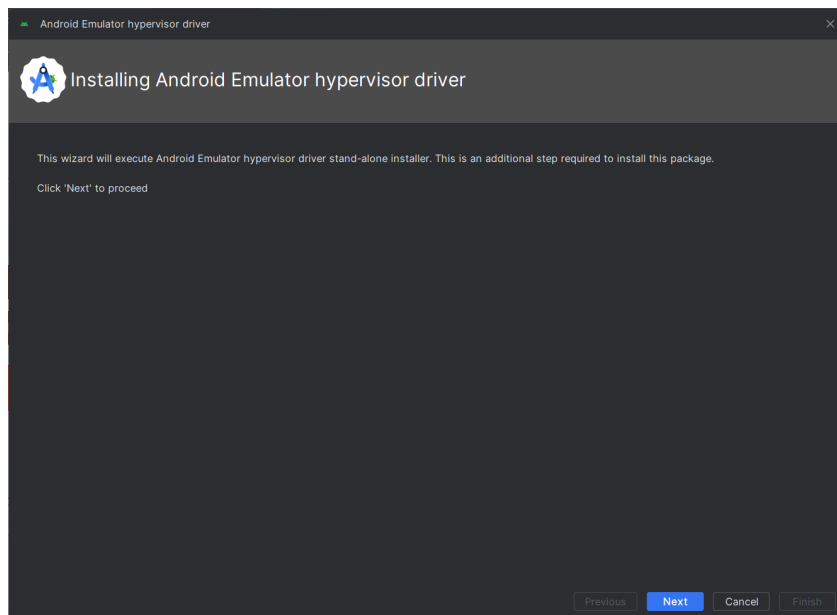
Now if you run flutter doctor this is what it should look like:
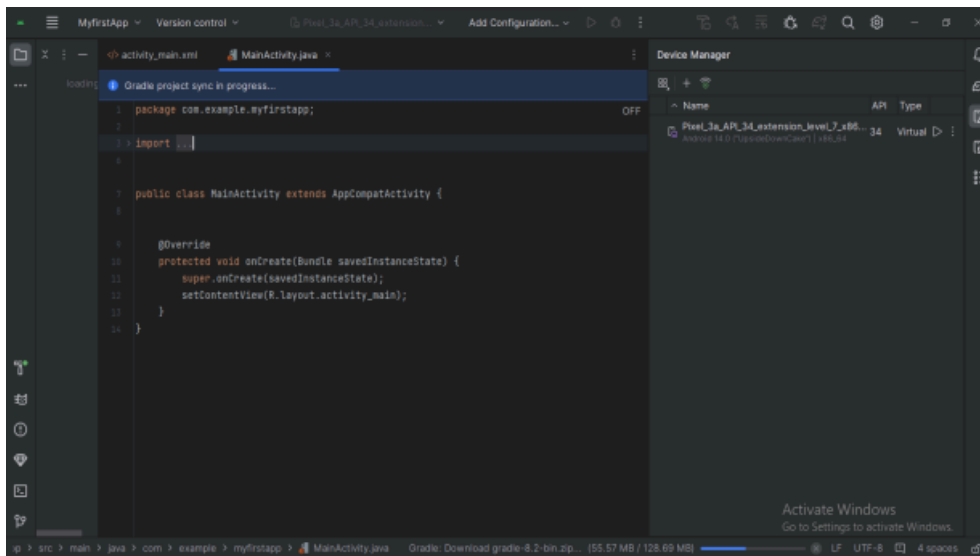
Your Android Studio has started
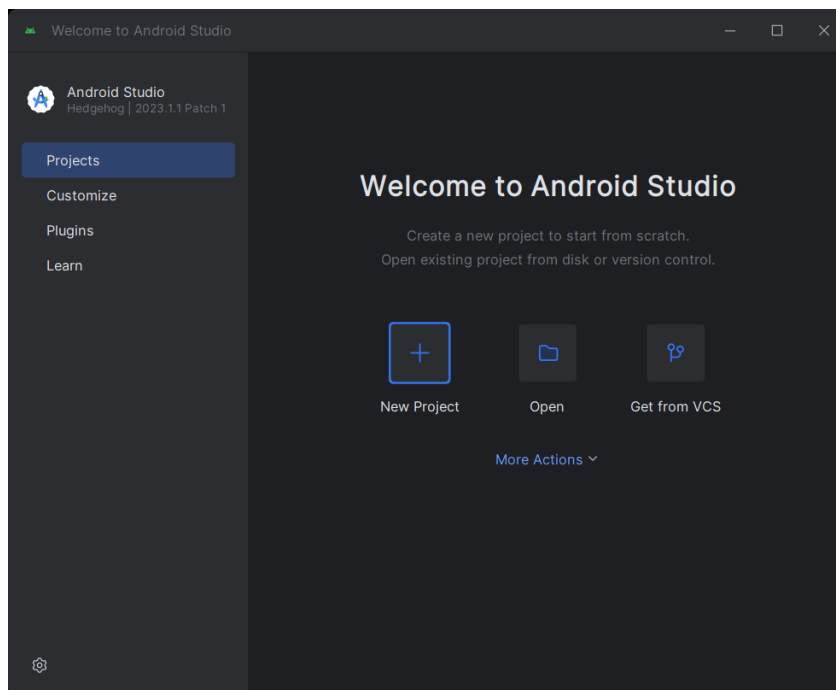
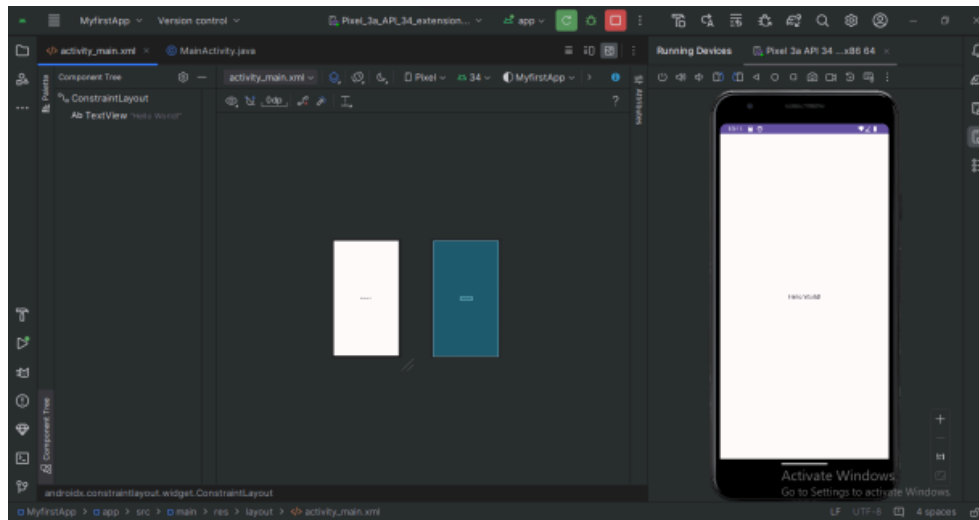**Step 8.2:** Choose your device definition and click on Next.
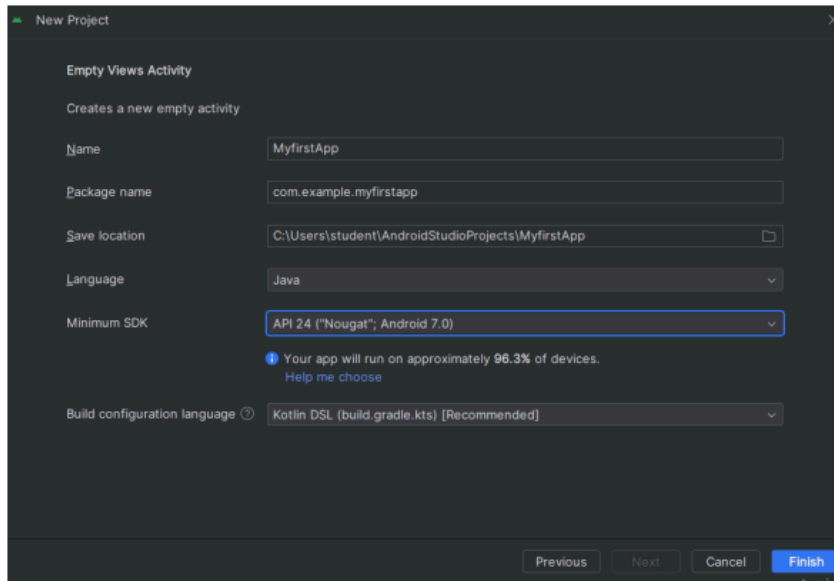
Step 8.3: Select the system image for the latest Android version and click on Next.
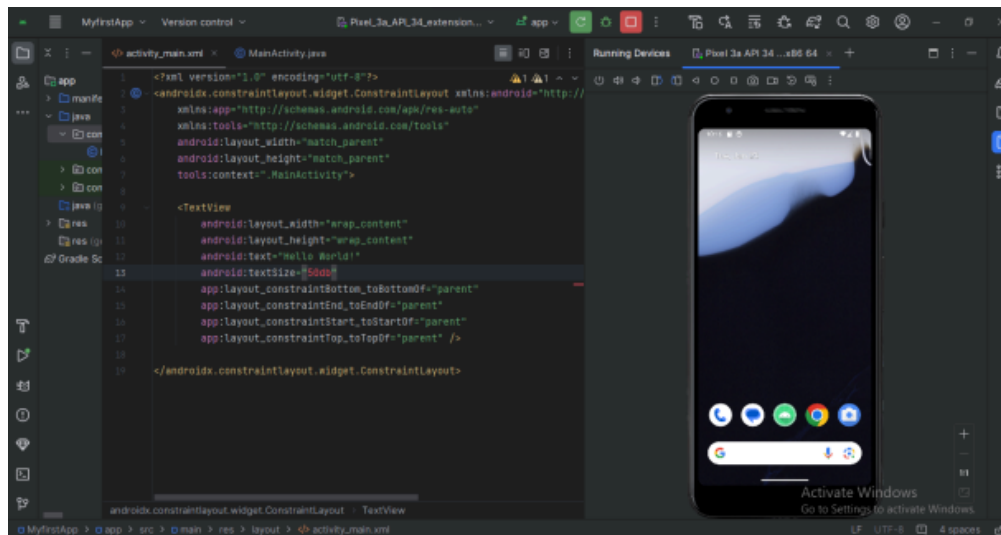
Step 8.4: Now, verify the all AVD configuration. If it is correct, click on Finish. The following screen appears.

Step 8.5: Last, click on the icon pointed into the red color rectangle. The Android emulator displayed as below screen.

Step 9: Restart the Android Studio.

Conclusion: Thereby we have successfully installed Flutter and Android Studio on our machine. The overall process is straightforward, only making sure the paths of flutter bin and Windows32 are added in the environment variables.