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MPL Experiment - 1

A1

* Aim: To install and configure the Flutter development environment for building cross-platform mobile applications.

* Theory: Flutter is an open-source UI toolkit by Google for creating natively compiled applications for mobile, web, and desktop from a single codebase. It uses the Dart programming language and provides a rich set of pre-designed widgets. The setup process involves:

1. Installing Flutter SDK: Downloading and Setting up Flutter from the official website.

2. Setting up an IDE: Configuring Visual Studio Code or Android Studio (in our experiment) with Flutter and Dart pluggins.

3. Setting up an Emulator: Installing Android Emulator or using a real device for testing.

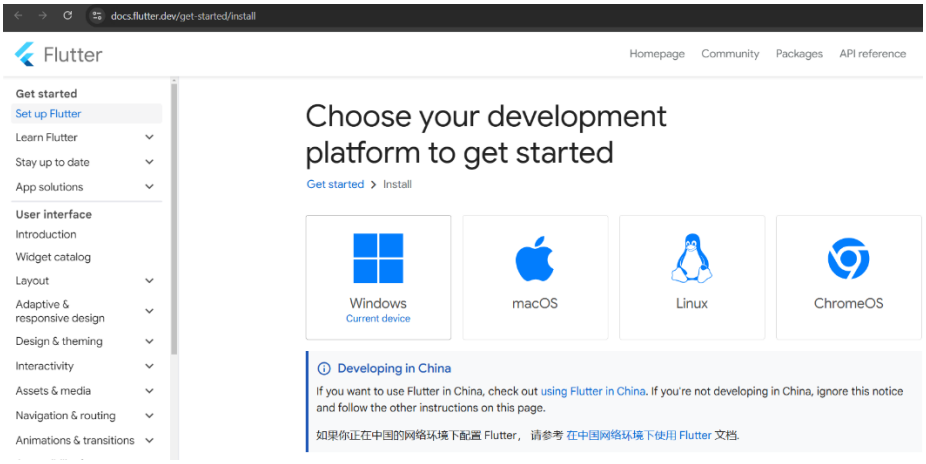
4. Configuring Environment Variables: Adding Flutter to the system PATH.

5. Verifying Installation: Running flutter doctor to check dependencies.

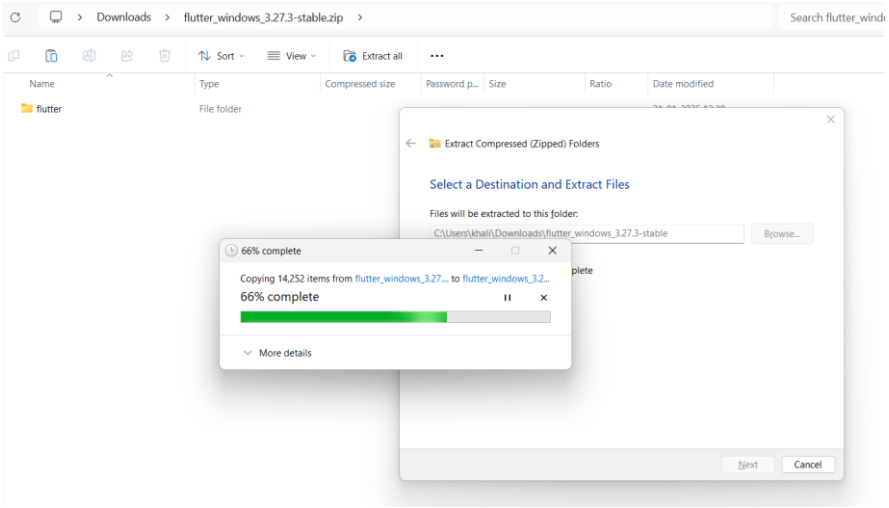
* Conclusion: In this experiment, we successfully installed and configured the Flutter development

environment. The Flutter SDK was downloaded and added to the system PATH, allowing global access. A suitable IDE, such as Android studio, was set up with the required Flutter and Dart plugins. Additionally an emulator or a real device was configured for testing Flutter applications. Finally, flutter doctor was executed to verify that all dependencies were properly installed, ensuring a fully functional Flutter development setup. With this environment ready, we can ~~now~~ now build, test, and deploy cross-platform applications efficiently.

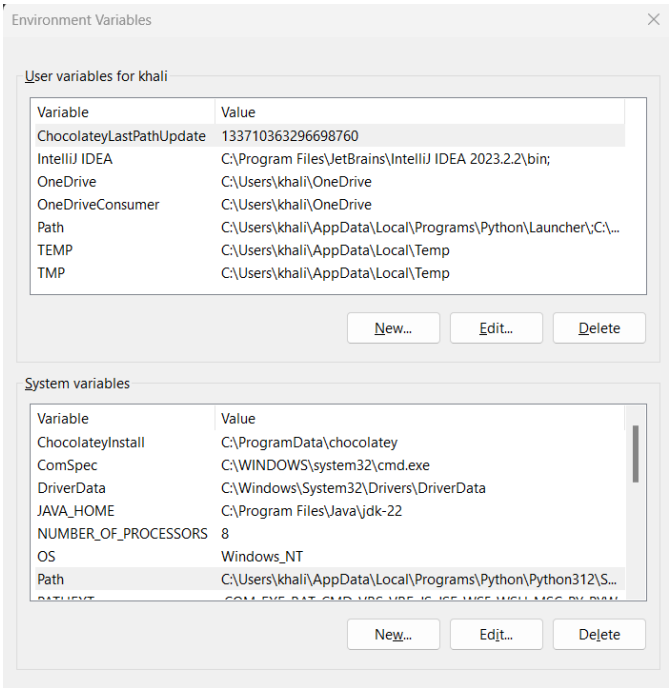
Step 1: Download the installation bundle of the Flutter Software Development Kit for windows. To download Flutter SDK, Go to its official website https://docs.flutter.dev/get-started/install , you will get the following screen.

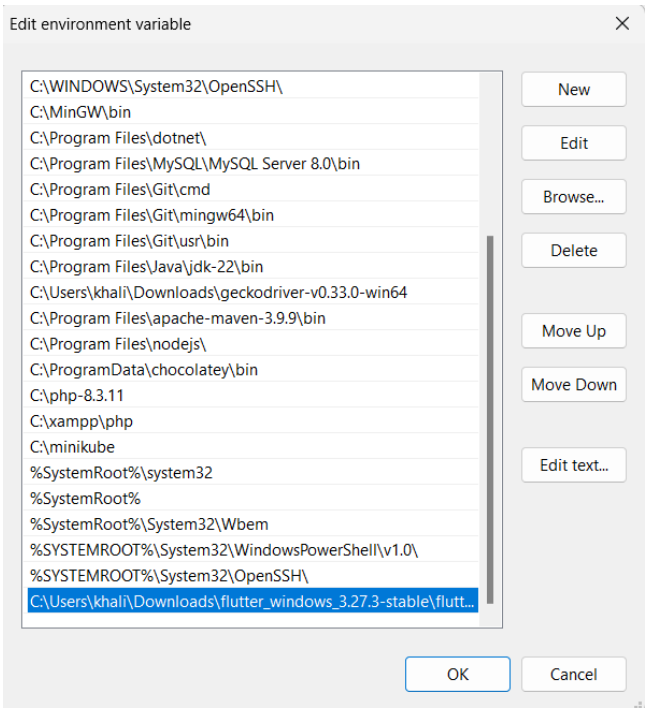


Step 2: When your download is complete, extract the zip file and place it in the desired installation folder or location.



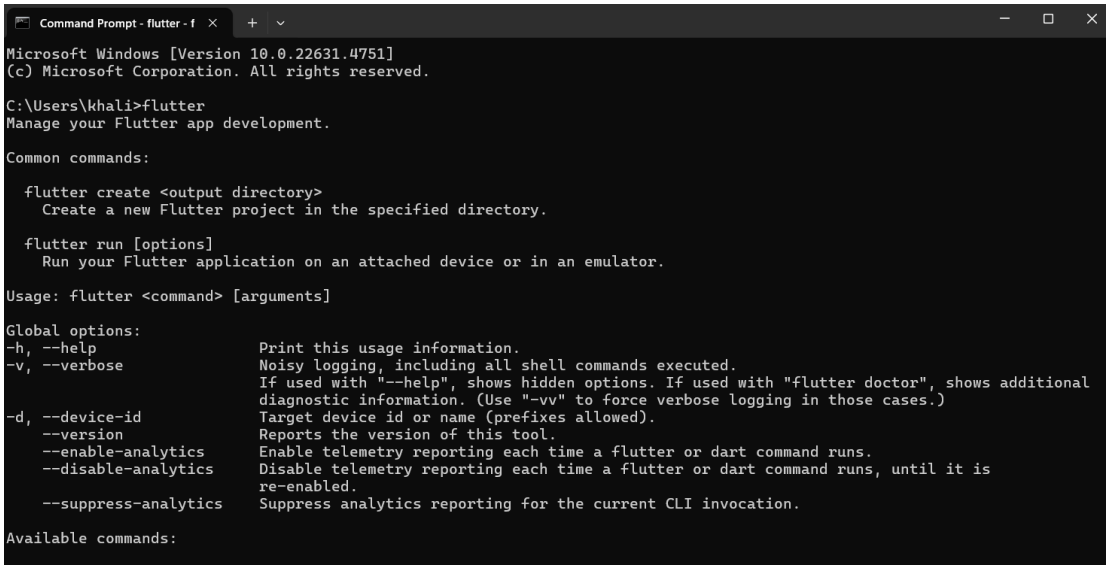
Step 3: To run the Flutter command in regular windows console, you need to update the system path to include the flutter bin directory.



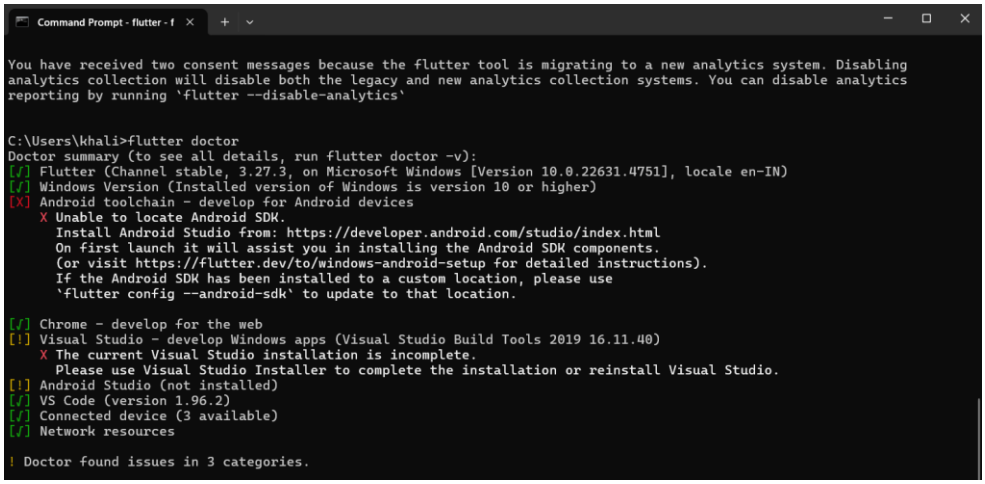


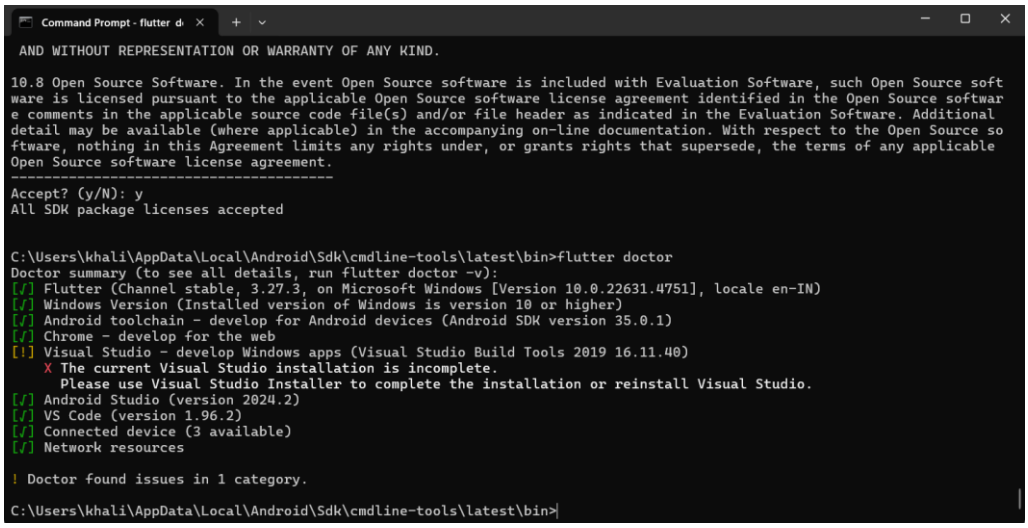
Step 4: Now, run the $ flutter command in command prompt.

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.

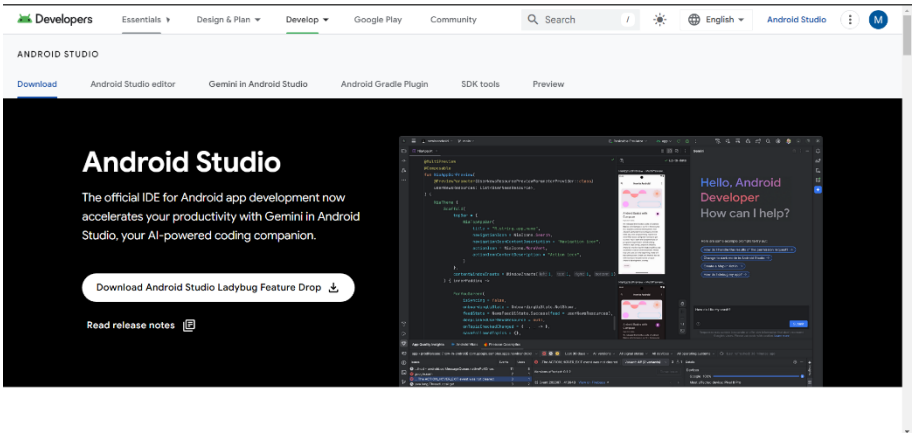


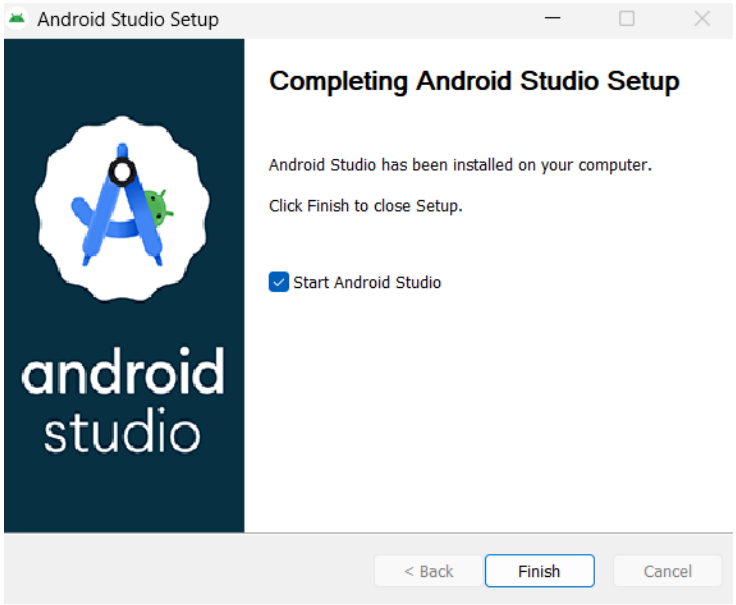
Step 5: Run the $ flutter doctor command and Run flutter doctor --android-licenses command.



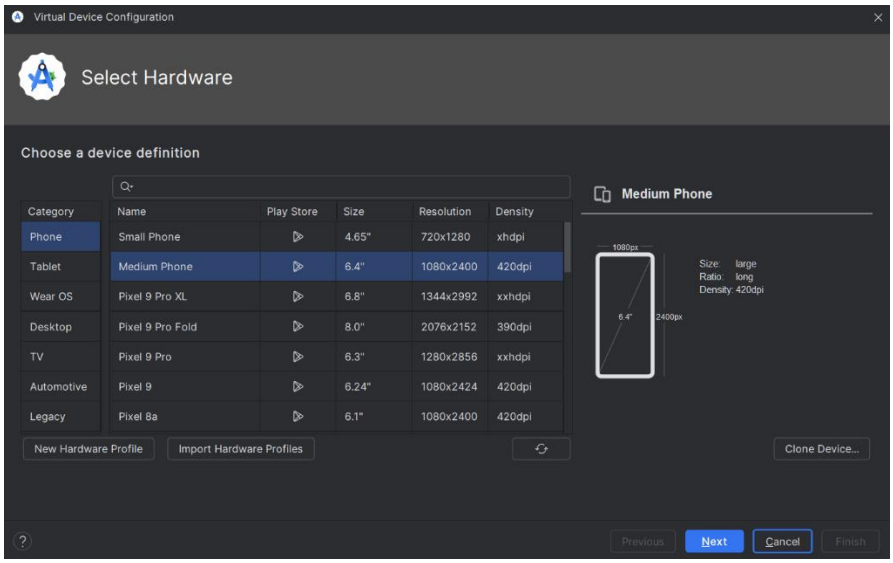


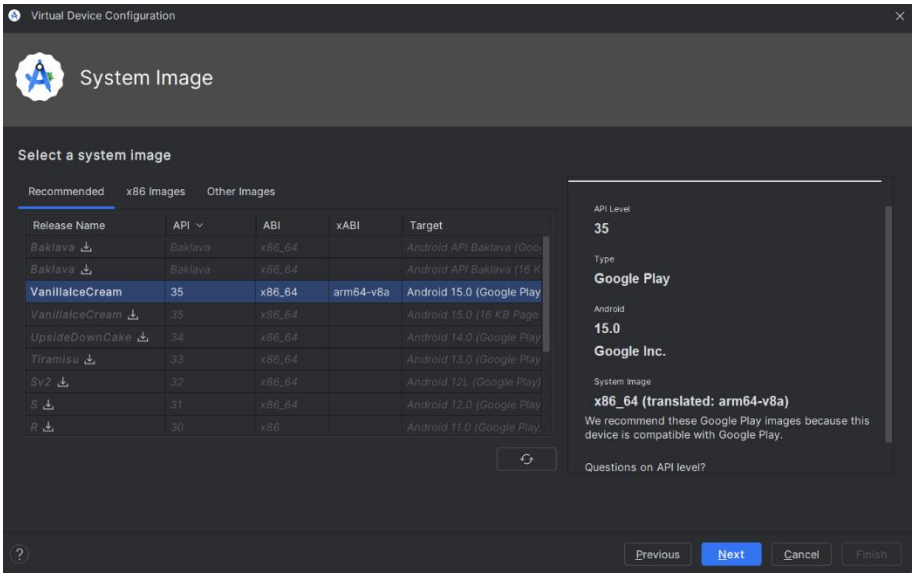
Step 6: Download the latest Android Studio executable or zip file from the official site.



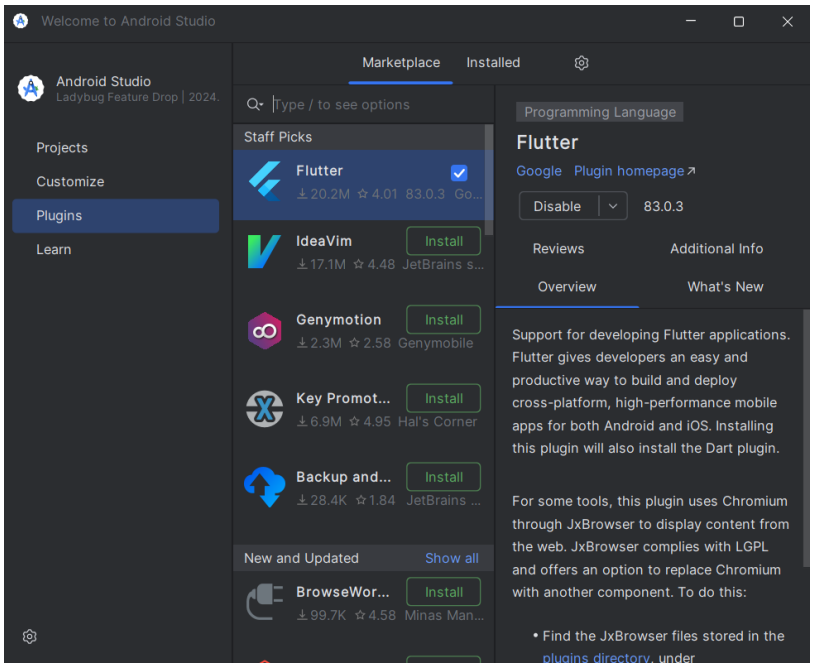


Step 7: To set an Android emulator, go to Android Studio > Tools > Android > AVD Manager and select Create Virtual Device. Or, go to Help->Find Action->Type Emulator in the search box, verify the all AVD configuration. If it is correct, click on Finish.

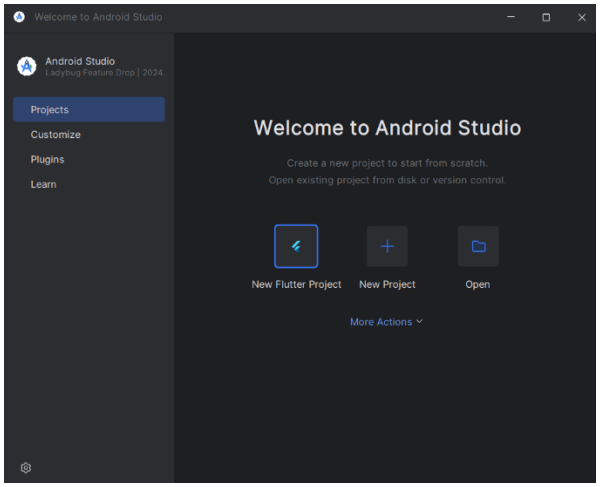




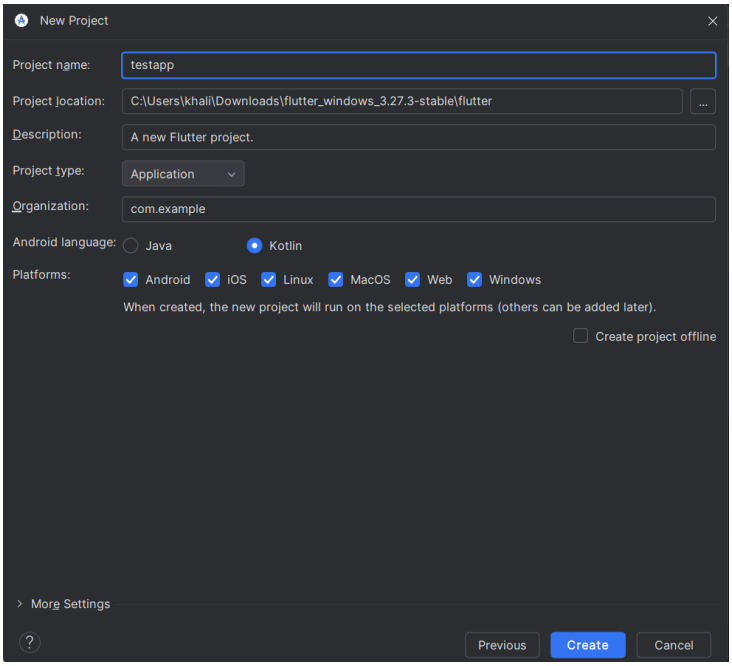
Step 8: Now, install Flutter and Dart plugin for building Flutter application in Android Studio. These plugins provide a template to create a Flutter application, give an option to run and debug Flutter application in the Android Studio itself.



Step 9: Now we can a new create Flutter Project.



Step 10: Set name, location, description and other project details as per your choice.



Step 11: Now start the emulator and we are ready to execute the code and it will be displayed on the emulator.