

Running Flutter App on Android Emulator:

1. Install Prerequisites

Ensure the following are installed on the system:

- Flutter SDK
- Android Studio

After installation, open the terminal or command prompt and run:

```
flutter doctor
```

This command will check for any missing dependencies. Follow the instructions provided by flutter doctor to resolve any issues.

2. Extract the ZIP File

1. Download the ZIP file of the Flutter project if you haven't already.
2. Extract the ZIP file to a location on the computer.

3. Install Dependencies

1. Open the terminal (or command prompt).
2. Navigate to the extracted Flutter app folder:

```
cd /path/to/your/flutter_application_1
```
3. Run the following command to install all dependencies listed in the pubspec.yaml file:

```
flutter pub get
```

4. Set Up Android Emulator

1. Open Android Studio.
2. Click on AVD Manager (Android Virtual Device Manager) from the toolbar.
3. In AVD Manager, click Create Virtual Device.
4. Choose a device (e.g., Pixel 3) and select the appropriate system image (ensure you have one with the Google Play Store image or choose a system image with the latest Android version).
5. Follow the prompts to create the virtual device.
6. Once the device is created, click the Play button next to the virtual device to start the emulator.

5. Install Android SDK

1. Open Android Studio and go to Preferences (on macOS) or File > Settings (on Windows/Linux).
2. Navigate to SDK Manager.
3. Under SDK Platforms, ensure the latest version of Android is installed.
4. Under SDK Tools, ensure Android SDK Build-Tools and Android Emulator are installed.
5. Click OK to apply any changes.

6. Run the Flutter App on Android Emulator/Device

1. Once the emulator is running or the Android device is connected, run the following command to launch the app:

```
flutter run
```

This will build and run the Flutter app on the emulator or connected Android device.

Running Flutter App on Android Mobile Device:

Follow step 1 to step 6 above, then connect the mobile device to the laptop.

7. Connect the Mobile Device

1. Use a USB cable to connect the Android mobile device to the laptop that is running the Flutter project (flutter_application_1).
2. Make sure Developer Mode and USB Debugging are enabled on the mobile device:

8. Select the Mobile Device in VSCode

1. Open the Flutter project in **VSCode**.
2. In the bottom-right corner of the VSCode window, a device selector will be shown. Click it, and select the connected Android device from the list.

9. Run the Flutter App

1. With the mobile device selected, run the following command in the terminal within VSCode, or click the **Run** button:

```
flutter run
```

This will build and launch the Flutter app on the connected Android mobile device.