Flutter & Uvicorn Installation + Execution Guide

🔧 Flutter Installation on macOS

1. Download Flutter SDK from https://docs.flutter.dev/get-started/install/macos

2. Extract the zip to a desired folder (e.g., ~/development/flutter)

3. Add Flutter to PATH:

> *export PATH="$PATH:`pwd`/flutter/bin"*

4. Run `flutter doctor` to verify setup

🔧 Flutter Installation on Windows

1. Download Flutter SDK from https://docs.flutter.dev/get-started/install/windows

2. Extract to C:\src\flutter (avoid installing in Program Files)

3. Add C:\src\flutter\bin to Environment Variables → PATH

4. Run `flutter doctor` in Command Prompt

🚀 Running a Flutter App

1. Navigate to the Flutter project directory

2. Run `flutter pub get` to fetch dependencies

3. Run `flutter run` to start app on default device

   - Use `flutter devices` to list available devices

   - Use `flutter run -d <deviceId>` for specific devices

🌐 Installing & Running Uvicorn (FastAPI)

1. Install dependencies in a virtual environment:

> *python3 -m venv venv*

> *source venv/bin/activate # macOS/Linux*

```
venv\Scripts\activate   # Windows
```

2. Install FastAPI and Uvicorn:

```
pip install fastapi uvicorn
```

3. Create `main.py` with FastAPI app

4. Run server:

```
uvicorn main:app --reload --host 0.0.0.0 --port 8000
```

Installing and Running iOS and Android Simulators

iOS Simulator Setup (macOS only)
1. 1. Install Xcode from the Mac App Store.
2. 2. Open Xcode and go to Preferences → Components → install a desired iOS Simulator.
3. 3. Accept Xcode license: Run `sudo xcodebuild -license` and follow instructions.
4. 4. Enable command-line tools: Xcode → Preferences → Locations → Command Line Tools.
5. 5. Run `open -a Simulator` to launch the iOS simulator.
6. 6. Run `flutter devices` to ensure the simulator is detected.
7. 7. Run your Flutter app: `flutter run -d <simulator_id>`.

Android Emulator Setup
8. 1. Install Android Studio from https://developer.android.com/studio.
9. 2. Open Android Studio → Tools → Device Manager → Create Virtual Device.
10. 3. Choose a device model and install a recommended system image.
11. 4. Start the emulator and verify using `flutter devices`.
12. 5. Run your Flutter app: `flutter run -d <emulator_id>`.