



Mac 개발 환경

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<https://docs.flutter.dev/get-started/install/macos/mobile-ios?tab=download>

<https://www.youtube.com/watch?v=fBz3dIQ-EDM&t=744s>

<https://velog.io/@zosungwoo/Flutter-%EC%9D%98-iPhone으로-직접-앱-실행해보기>

<https://msyu1207.tistory.com/entry/flutter-%EB%85%B8-%EB%A1%9C-%EB%A1%9C-iPhone에서-실행해보기|for-Mac>

<https://code-boki.tistory.com/110>

Hardware requirements

Requirement	Minimum	Recommended
CPU Cores	4	8
Memory in GB	8	16
Display resolution in pixels	WXGA (1366 x 768)	FHD (1920 x 1080)
Free disk space in GB	44.0	70.0



Software requirements

1. Install Flutter

2. Install Xcode

- iOS 개발을 위한 IDE, iOS 앱을 빌드할 때 사용
- Window 사용자들을 Flutter을 사용하더라도 Mac이 없다면 iOS 개발이 불가능

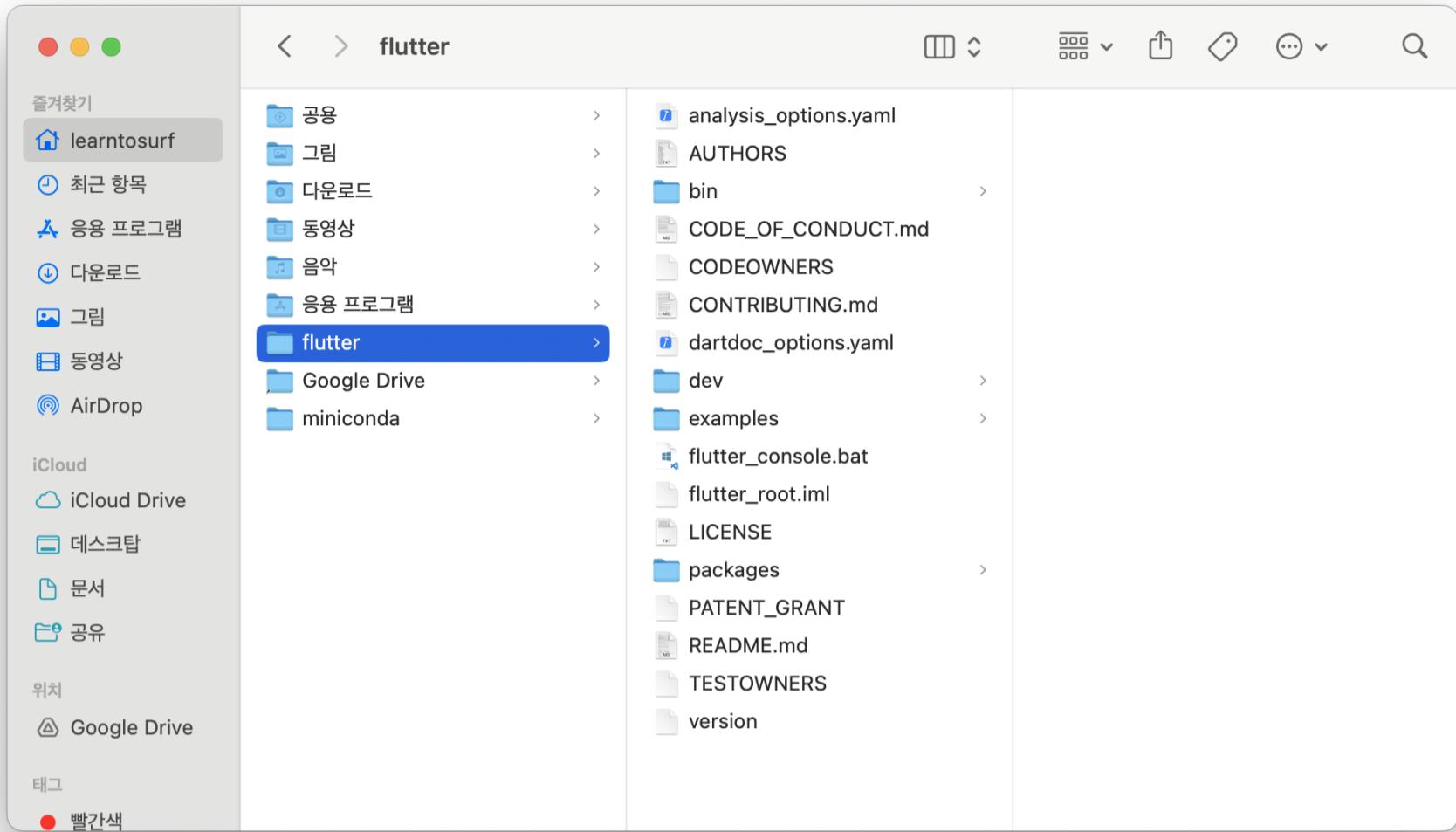
3. Install Rosetta 2

- 실리콘 Mac에는 Rosetta 2를 설치해주어야 함

```
# 로제타 2 설치  
sudo softwareupdate --install-rosetta --agree-to-license
```

4. Install Flutter SDK

- flutter_macos_arm64_3.19.2-stable.zip
- SDK = Software Development Kit



- 최종적으로 Flutter를 실행하기 위해서는 Flutter SDK가 어디에 있는지 Mac에게 알려주어야함
 - Flutter SDK 위치를 지정해주기 위해서 .zshrc 파일을 따로 생성해야함
 - 사용자의 홈 디렉토리에 있는 zsh 셸의 런타임 설정을 위한 숨김 파일
 - Sublime Text 에디터를 사용

```
# Flutter 경로지정 (.zshrc)
export PATH="$PATH:$HOME/flutter/bin"
```

A screenshot of a terminal window titled 'UNREGISTERED'. The window has a single tab with the command 'export PATH="\$PATH:\$HOME/flutter/bin"' typed into it. The cursor is at the end of the line. The status bar at the bottom shows 'Line 1, Column 38' and 'Plain Text'.

```
which flutter
# /Users/learnerstosurf/flutter/bin/flutter
```

```
flutter doctor
```

- flutter doctor : 개발자가 flutter 앱을 개발하기 위해 필요한 도구와 연결 상태, 설정 등이 제대로 설치되고 구성되어 있는지를 자동으로 확인

```
Last login: Wed Mar 6 21:39:20 on ttys000
[learntosurf@pado-MacBookAir ~ % which flutter
/Users/learntosurf/flutter/bin/flutter
[learntosurf@pado-MacBookAir ~ % flutter doctor

Welcome to Flutter! - https://flutter.dev

The Flutter tool uses Google Analytics to anonymously report feature usage
statistics and basic crash reports. This data is used to help improve
Flutter tools over time.

Flutter tool analytics are not sent on the very first run. To disable
reporting, type 'flutter config --no-analytics'. To display the current
setting, type 'flutter config'. If you opt out of analytics, an opt-out
event will be sent, and then no further information will be sent by the
Flutter tool.

By downloading the Flutter SDK, you agree to the Google Terms of Service.
The Google Privacy Policy describes how data is handled in this service.

Moreover, Flutter includes the Dart SDK, which may send usage metrics and
crash reports to Google.

Read about data we send with crash reports:
https://flutter.dev/docs/reference/crash-reporting

See Google's privacy policy:
https://policies.google.com/privacy

To disable animations in this tool, use
'flutter config --no-cli-animations'.

Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.19.2, on macOS 14.2.1 23C71 darwin-arm64, locale
ko-KR)
[✗] Android toolchain - develop for Android devices
    ✗ 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/docs/get-started/install/macos#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.

[✗] Xcode - develop for iOS and macOS
    ✗ Xcode installation is incomplete; a full installation is necessary for iOS
      and macOS development.
      Download at: https://developer.apple.com/xcode/
      Or install Xcode via the App Store.
      Once installed, run:
      sudo xcode-select --switch /Applications/Xcode.app/Contents/Developer
```

▼ Doctor summary

```
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.19.2, on macOS 14.2.1 23C71 darwin-arm64, locale
ko-KR)
[✗] Android toolchain - develop for Android devices
    ✗ 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/docs/get-started/install/macos#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.

[✗] Xcode - develop for iOS and macOS
    ✗ Xcode installation is incomplete; a full installation is necessary for iOS
      and macOS development.
      Download at: https://developer.apple.com/xcode/
      Or install Xcode via the App Store.
      Once installed, run:
```

```
sudo xcode-select --switch /Applications/Xcode.app/Contents/Developer
sudo xcodebuild -runFirstLaunch
× CocoaPods not installed.
  CocoaPods is used to retrieve the iOS and macOS platform side's plugin
  code that responds to your plugin usage on the Dart side.
  Without CocoaPods, plugins will not work on iOS or macOS.
  For more info, see https://flutter.dev/platform-plugins
To install see
https://guides.cocoapods.org/using/getting-started.html#installation for
instructions.

[✓] Chrome - develop for the web
[!] Android Studio (not installed)
[✓] VS Code (version 1.87.0)
[✓] Connected device (2 available)
[✓] Network resources

! Doctor found issues in 3 categories.

The Flutter CLI developer tool uses Google Analytics to report usage and
diagnostic
data along with package dependencies, and crash reporting to send basic crash
reports. This data is used to help improve the Dart platform, Flutter framework,
and related tools.

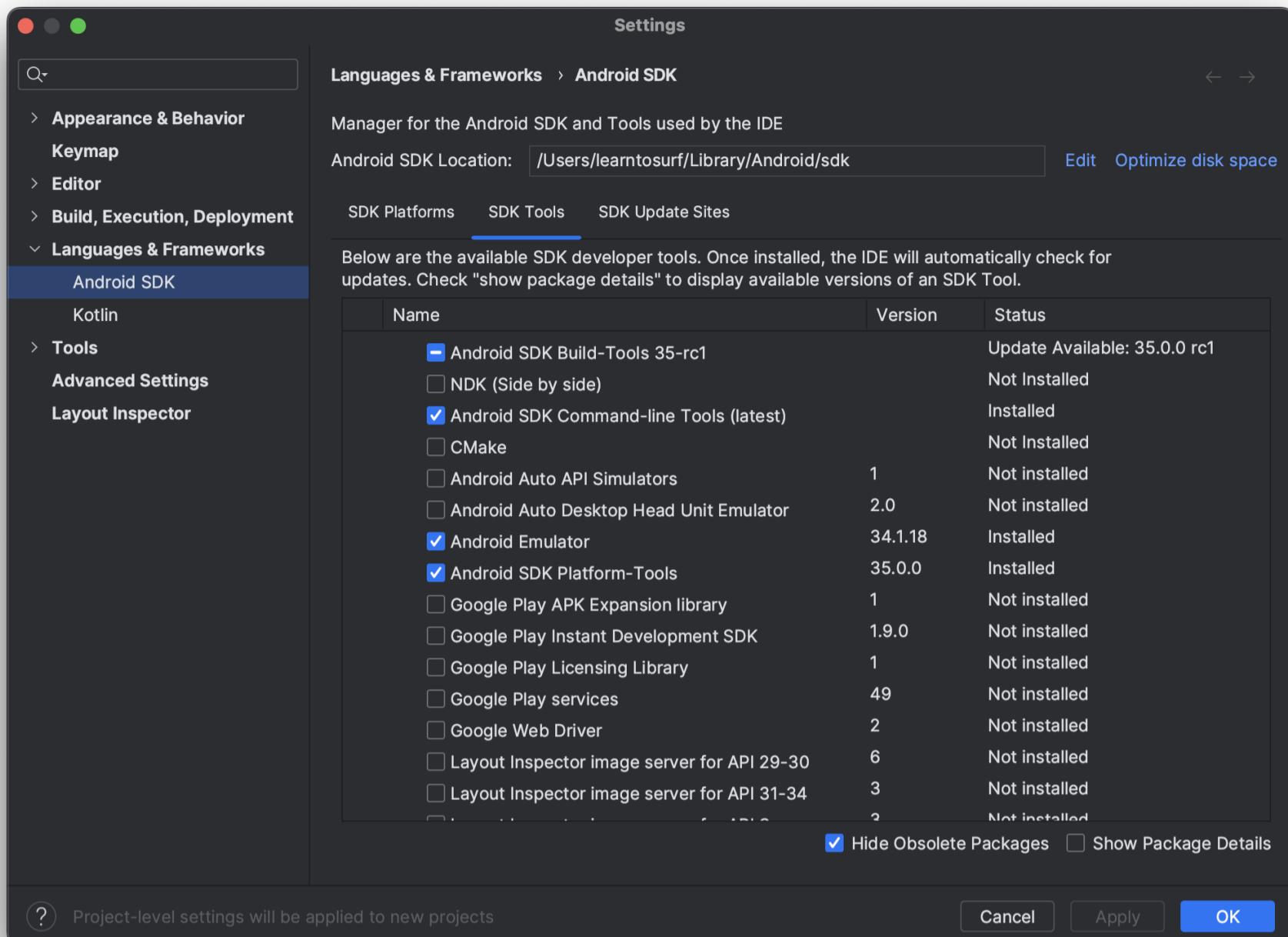
Telemetry is not sent on the very first run. To disable reporting of telemetry,
run this terminal command:

  flutter --disable-analytics

If you opt out of telemetry, an opt-out event will be sent, and then no further
information will be sent. This data is collected in accordance with the Google
Privacy Policy (https://policies.google.com/privacy).
```

5. Install Android Studio

- xcode는 Flutter의 개발언어인 Dart를 지원하지 않아 iOS 개발에도 Android Studio(or VScode)를 사용



```
learntosurf@pado-MacBookAir ~ % flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.19.2, on macOS 14.2.1 23C71 darwin-arm64, locale ko-KR)
[!] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
    ! Some Android licenses not accepted. To resolve this, run: flutter doctor
      --android-licenses
[✗] Xcode - develop for iOS and macOS
    ✗ Xcode installation is incomplete; a full installation is necessary for iOS and
        macOS development.
        Download at: https://developer.apple.com/xcode/
        Or install Xcode via the App Store.
        Once installed, run:
            sudo xcode-select --switch /Applications/Xcode.app/Contents/Developer
            sudo xcodebuild -runFirstLaunch
    ✗ CocoaPods not installed.
        CocoaPods is used to retrieve the iOS and macOS platform side's plugin code
        that responds to your plugin usage on the Dart side.
        Without CocoaPods, plugins will not work on iOS or macOS.
        For more info, see https://flutter.dev/platform-plugins
        To install see
            https://guides.cocoapods.org/using/getting-started.html#installation for
            instructions.
[✓] Chrome - develop for the web
[✓] Android Studio (version 2023.1)
[✓] VS Code (version 1.87.0)
[✓] Connected device (2 available)
[✓] Network resources

! Doctor found issues in 2 categories.
learntosurf@pado-MacBookAir ~ %
```

flutter doctor --android-licenses

```

[learntosurf@pado-MacBookAir ~ % flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.19.2, on macOS 14.2.1 23C71 darwin-arm64, locale ko-KR)
[✓] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
[✗] Xcode - develop for iOS and macOS
  ✗ Xcode installation is incomplete; a full installation is necessary for iOS and macOS development.
    Download at: https://developer.apple.com/xcode/
    Or install Xcode via the App Store.
    Once installed, run:
      sudo xcode-select --switch /Applications/Xcode.app/Contents/Developer
      sudo xcodebuild -runFirstLaunch
✗ CocoaPods not installed.
  CocoaPods is used to retrieve the iOS and macOS platform side's plugin code that responds to your plugin usage on the Dart side.
  Without CocoaPods, plugins will not work on iOS or macOS.
  For more info, see https://flutter.dev/platform-plugins
  To install see
    https://guides.cocoapods.org/using/getting-started.html#installation for instructions.
[✓] Chrome - develop for the web
[✓] Android Studio (version 2023.1)
[✓] VS Code (version 1.87.0)
[✓] Connected device (2 available)
[✓] Network resources

! Doctor found issues in 1 category.
learntosurf@pado-MacBookAir ~ %

```

6. Install CocoaPods

- iOS 애플리케이션 개발에 사용되는 종속성 관리 도구
- Flutter 프로젝트에서 iOS 앱을 빌드하고 실행할 때, iOS 관련 특정 도구를 필요로 함
- CocoaPods는 Xcode 프로젝트와 통합이 잘 되어있어 Flutter 앱과 네이티브 코드 간의 연동을 쉽게 만들어 줌
- ruby라는 언어로 작성되어 있음
 - Mac OS에는 기본적으로 ruby가 설치되어 있으나 설치되어 있는 버전으로 CocoaPods를 설치하게 되면 M2 칩을 사용하는 실리콘 Mac에서 에러가 다수 발생함
 - 원하는 ruby 버전을 직접 설치하고 관리

```
ruby -v
```

```
# ruby 2.6.10p210 (2022-04-12 revision 67958) [universal.arm64e-darwin23]
```

6-1. Install Homebrew

- Mac OS 사용자를 위한 오픈소스 패키지 관리자
- 다양한 소프트웨어, 라이브러리, 도구들을 쉽게 설치하고 관리할 수 있게 도와 줌
- Homebrew를 설치하면 ruby 버전을 관리할 수 있는 rbenv를 쉽게 설치할 수 있음

```
# Command Line Tools 설치
xcode-select --install
```

```
# Homebrew 설치
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

```

[learntosurf@pado-MacBookAir ~ % /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
==> Checking for `sudo` access (which may request your password)...
[Password:
==> This script will install:
/opt/homebrew/bin/brew
/opt/homebrew/share/doc/homebrew
/opt/homebrew/share/man/man1/brew.1
/opt/homebrew/share/zsh/site-functions/_brew
/opt/homebrew/etc/bash_completion.d/brew
/opt/homebrew

Press RETURN/ENTER to continue or any other key to abort:
==> /usr/bin/sudo /usr/sbin/chown -R learntosurf:admin /opt/homebrew
==> Downloading and installing Homebrew...
remote: Enumerating objects: 1485, done.
remote: Counting objects: 100% (1047/1047), done.
remote: Compressing objects: 100% (338/338), done.
remote: Total 1485 (delta 694), reused 950 (delta 694), pack-reused 438
Receiving objects: 100% (1485/1485), 1.19 MiB | 8.08 MiB/s, done.
Resolving deltas: 100% (819/819), completed with 123 local objects.
From https://github.com/Homebrew/brew
 * [new branch]           build-cask-internal-json-v3 -> origin/build-cask-internal-j
son-v3
 * [new branch]           cask_installed_version_plist -> origin/cask_installed_versi
on_plist
 * [new branch]           dependabot/bundler/Library/Homebrew/json_schemer-2.2.0 -> o
rigin/dependabot/bundler/Library/Homebrew/json_schemer-2.2.0
   6a9c9c00a..d55fa09d1 master      -> origin/master
 * [new branch]           memoize-installed-tap-loading -> origin/memoize-installed-t
ap-loading
 * [new tag]              4.2.10       -> 4.2.10
 * [new tag]              4.2.11       -> 4.2.11
HEAD is now at d55fa09d1 Merge pull request #16827 from Homebrew/dependabot/bundler/
Library/Homebrew/parallel_tests-4.5.2
Updated 2 taps (homebrew/core and homebrew/cask).
Warning: /opt/homebrew/bin is not in your PATH.
  Instructions on how to configure your shell for Homebrew
  can be found in the 'Next steps' section below.
==> Installation successful!

==> Homebrew has enabled anonymous aggregate formulae and cask analytics.
Read the analytics documentation (and how to opt-out) here:
https://docs.brew.sh/Analytics
No analytics data has been sent yet (nor will any be during this install run).

==> Homebrew is run entirely by unpaid volunteers. Please consider donating:
https://github.com/Homebrew/brew#donations

==> Next steps:
- Run these two commands in your terminal to add Homebrew to your PATH:
  (echo; echo 'eval "$( /opt/homebrew/bin/brew shellenv )"' ) >> /Users/learntosurf/.zprofile
  eval "$( /opt/homebrew/bin/brew shellenv )"
- Run brew help to get started
- Further documentation:
  https://docs.brew.sh

learntosurf@pado-MacBookAir ~ %

```

```
(echo; echo 'eval "$( /opt/homebrew/bin/brew shellenv )"' ) >> /Users/learntosurf/.zprofile

eval "$( /opt/homebrew/bin/brew shellenv )"
```

```
brew doctor
```

```
# rbenv 설치
brew install rbenv

# rbenv 관련 설정을 ~/.zshrc에 추가
export PATH="$HOME/.rbenv/bin:$PATH"

eval "$(rbenv init - zsh)"
```

```
# 루비 버전 검색
rbenv install -l
```

```
# 루비 설치 명령어
```

```
rbenv install 3.3.0
```

```
rbenv global 3.3.0
```

```
which ruby
```

```
# /Users/learntosurf/.rbenv/shims/ruby
```

```
# nano 에디터 실행
```

```
nano ~/.zshrc
```

```
# nano 에디터 환경변수 설명 명령어
```

```
eval "$(rbenv init -)"
```

```
# .zshrc 파일 새로고침
```

```
source ~/.zshrc
```

```
# CocoaPods 설치
```

```
sudo gem install cocoapods
```

```
gem update --system 3.5.6
```

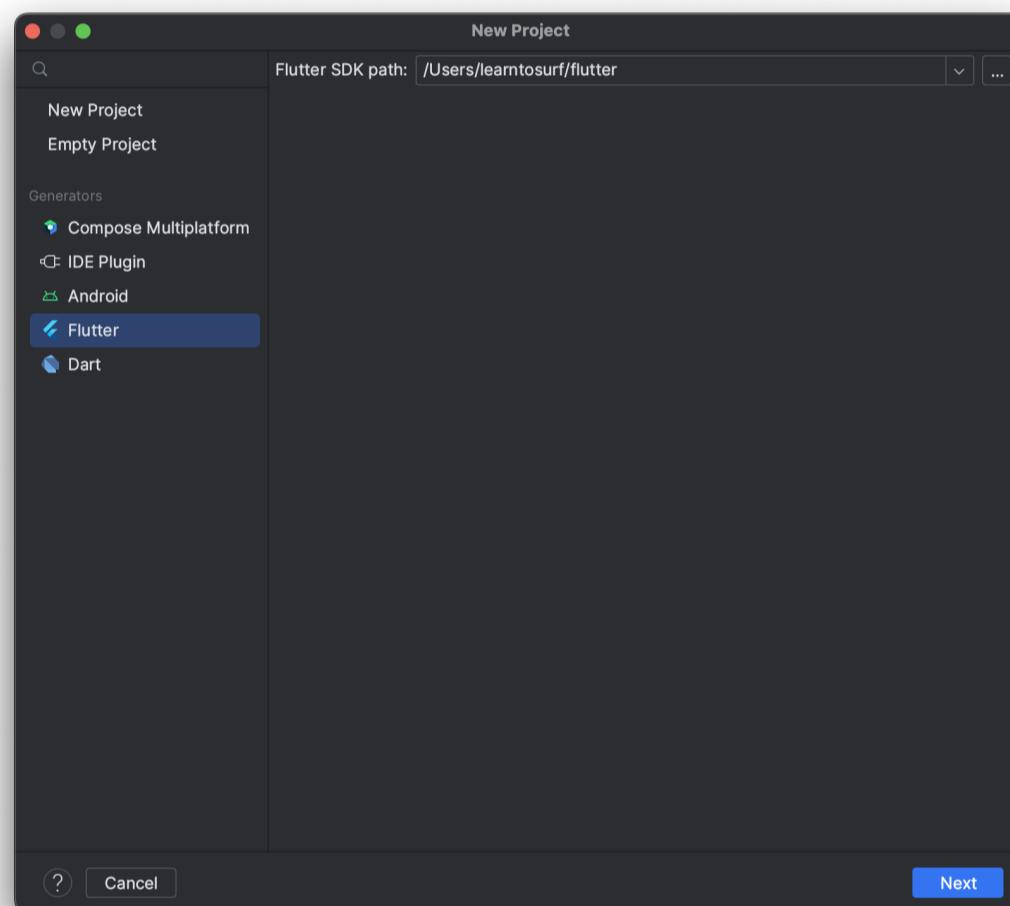
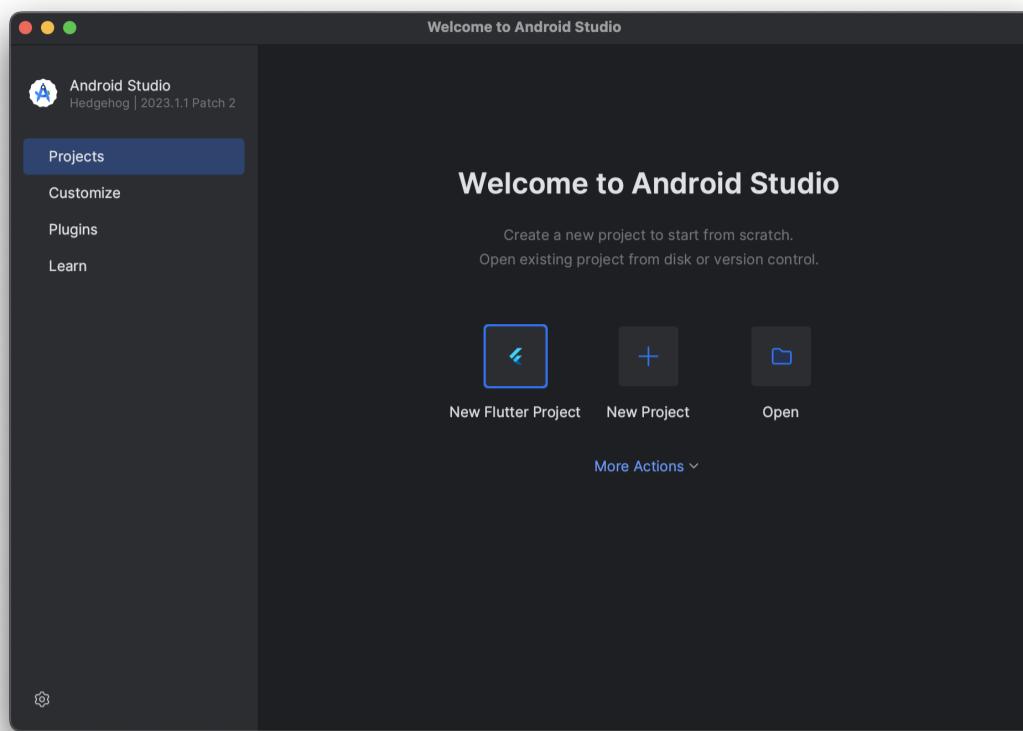
```
[learntosurf@pado-MacBookAir ~ % flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.19.2, on macOS 14.2.1 23C71 darwin-arm64, locale ko-KR)
[✓] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
[!] Xcode - develop for iOS and macOS
  ✘ Xcode installation is incomplete; a full installation is necessary for iOS and macOS development.
    Download at: https://developer.apple.com/xcode/
    Or install Xcode via the App Store.
    Once installed, run:
      sudo xcode-select --switch /Applications/Xcode.app/Contents/Developer
      sudo xcodebuild -runFirstLaunch
[✓] Chrome - develop for the web
[✓] Android Studio (version 2023.1)
[✓] VS Code (version 1.87.0)
[✓] Connected device (2 available)
[✓] Network resources

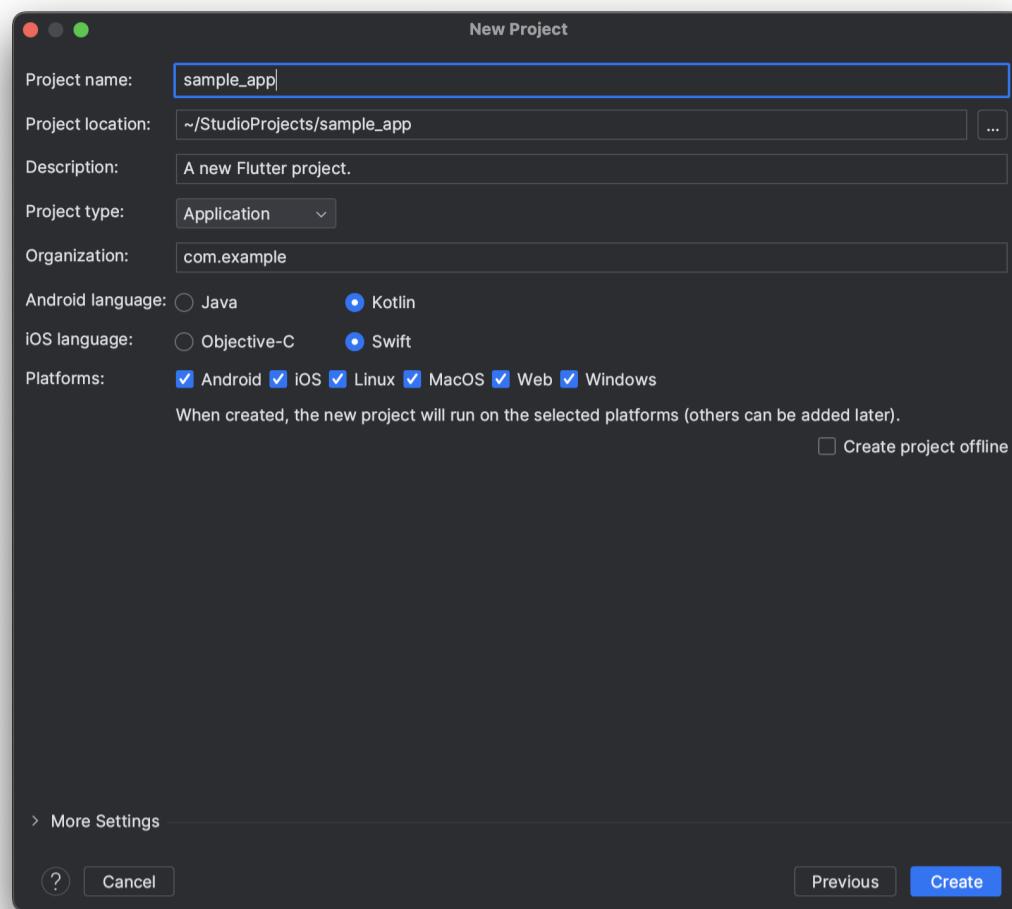
! Doctor found issues in 1 category.
learntosurf@pado-MacBookAir ~ % ]
```

모든 항목에 문제 없음 - 맥 개발 환경 구축 완료

New Flutter Project (Android Studio)

- Android Studio에서 Flutter Plugin 설치 - Restart IDE





- Flutter는 새롭게 프로젝트를 생성하면, 코드 주석이 달린 카운터 앱(Flutter Demo Home Page)이 기본으로 생성됨
- 상단에 <no device selected>를 클릭하여 Simulator을 선택할 수 있음

```

import 'package:flutter/material.dart';

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        // This is the theme of your application.
        //
        // TRY THIS: Try running your application with "flutter run". You'll see
        // the application has a purple toolbar. Then, without quitting the app,
        // try changing the seedColor in the colorScheme below to Colors.green
        // and then invoke "hot reload" (save your changes or press the "hot
        // reload" button in a Flutter-supported IDE, or press "r" if you used
        // the command line to start the app).
        //
        // Notice that the counter didn't reset back to zero; the application
        // state is not lost during the reload. To reset the state, use hot
        // restart instead.
        //
        // This works for code too, not just values: Most code changes can be
        // tested with just a hot reload.
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
      home: const MyHomePage(title: 'Flutter Demo Home Page'),
    );
  }
}

```

lib > main.dart

Sample code

☒ Flutter Demo Home Page

Open iOS Simulator



▼ <no device selected>

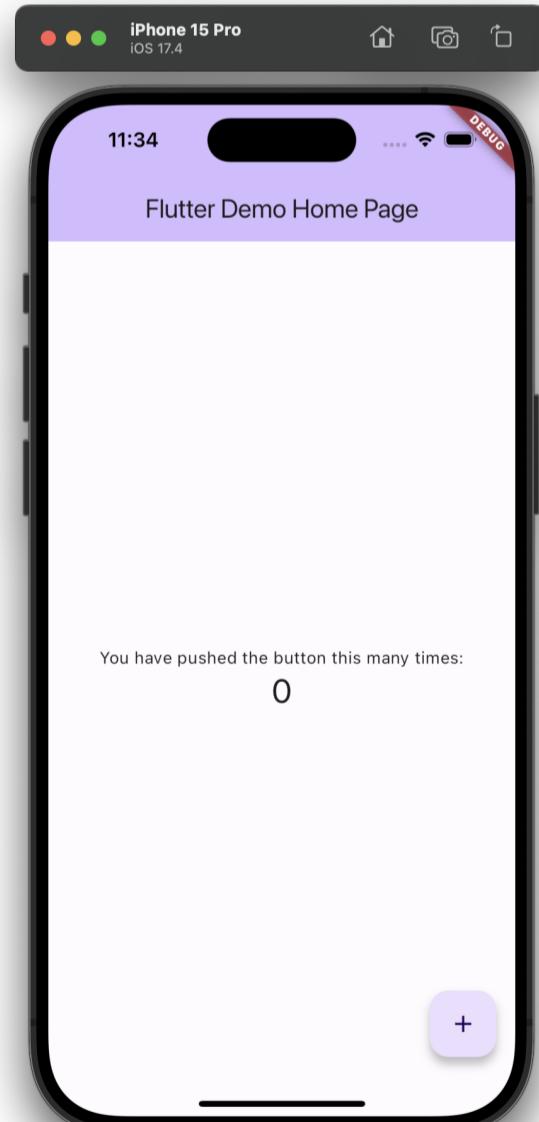
```
xcode-select --install
```

```
sudo xcode-select --switch /Applications/Xcode.app/Contents/Develo
```

```
sudo xcodebuild -runFirstLaunch
```

```
sudo xcodebuild -license
```

The screenshot shows the Android Studio interface. The top navigation bar includes tabs for 'sample_app', 'Version control', 'Pixel_3a_API_34_extension...', 'main.dart', and 'iPhone 15 Pro (mobile)'. The left sidebar displays the project structure under 'sample_app' with various files like .dart_tool, .idea, android, build, ios, lib, linux, macos, test, web, windows, .gitignore, .metadata, analysis_options.yaml, pubspec.lock, pubspec.yaml, README.md, and sample_app.iml. The main code editor window is titled 'main.dart' and contains Dart code for a Flutter application. Below the code editor is the 'Run' tab, which is currently selected, showing 'main.dart (iPhone 15 Pro)' as the target. The bottom section features a 'Console' tab with log output: 'Launching lib/main.dart on iPhone 15 Pro in debug mode...', 'Running Xcode build...', 'Xcode build done. 16.7s', '[ERROR:flutter/shell/platform/darwin/graphics/FlutterDarwinContextMetalImpeller.mm(42)] Using the Impeller rendering backend.', 'Debug service listening on ws://127.0.0.1:54643/aX37pYPD0nk=/ws', and 'Syncing files to device iPhone 15 Pro...'. A message bubble in the console area says 'Flutter supports hot reload! Apply changes to your app in place, instantly.' with a 'Learn more' link. The status bar at the bottom shows 'sample_app > lib > main.dart', '1:1 LF UTF-8 2 spaces', and a file icon.



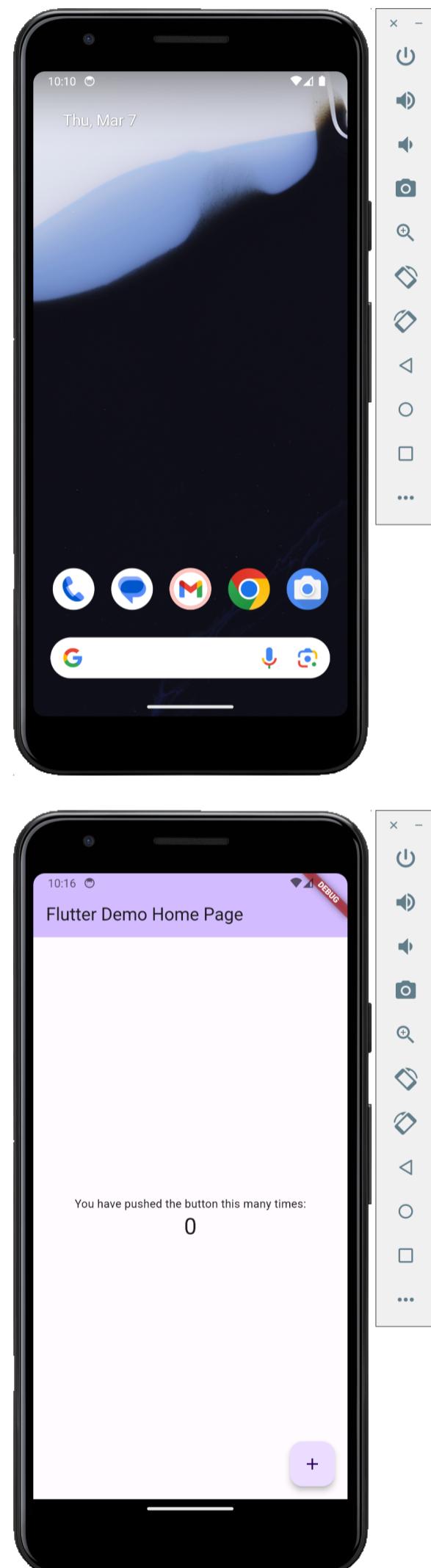
Open Android Emulator

▼ Simulator, Emulator

Simulator vs. Emulator

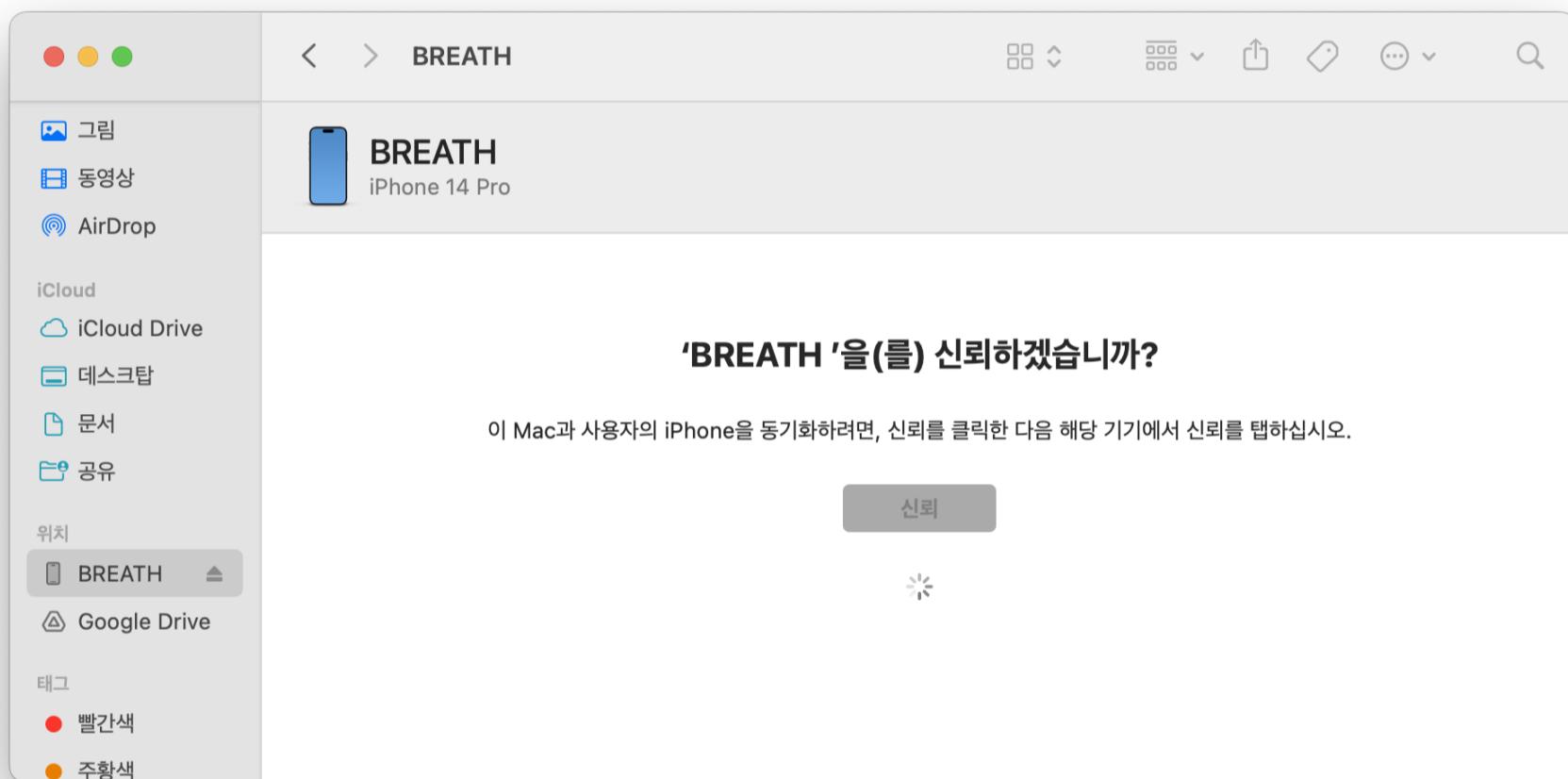
- Simulator : 특정 상황을 따라해서 묘사한 것
- Emulator : 실제 기기를 그대로 모방한 것

실제 기기와 똑같은 Emulator에서 더 많은 기능을 제공하고 실제 테스트와 유사한 효과를 낼 수 있지만, 실제와 같은 환경을 구축하기 위하여 많은 자원과 시간을 쓰는 편

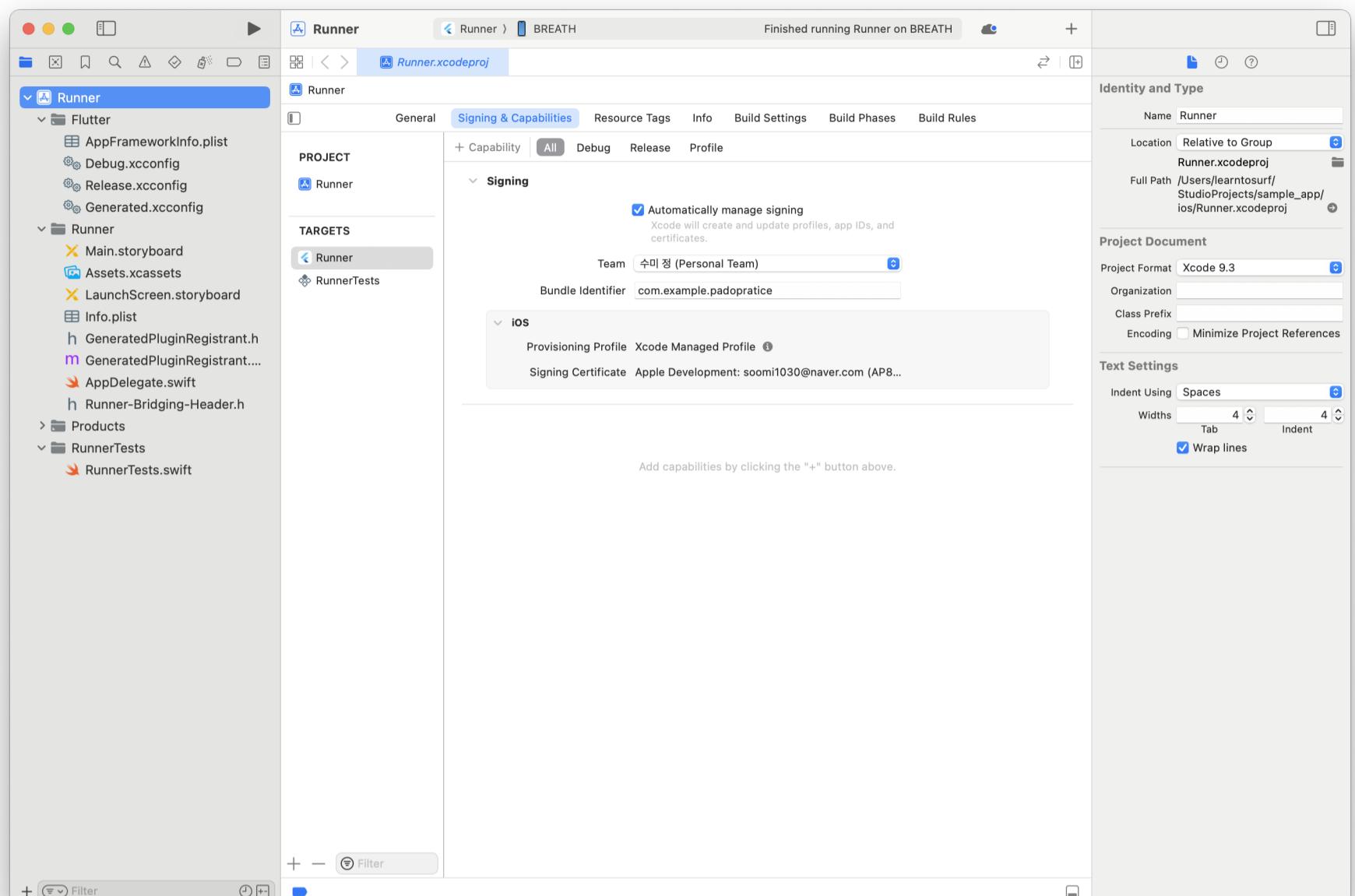


Build and Test the project (iPhone)

- Android Studio의 Flutter 프로젝트 경로에서 터미널을 실행한 뒤 xcode 실행
- Mac과 iPhone을 연결한 뒤 상단 Runner 탭에서 나의 iPhone을 선택 (개발자모드)
- xcode에서 Team 등록
 - Runner > Signing & Capabilities > Team > Add Account (iCloud 계정)
- Bundle Identifier 설정
 - Runner > General > Bundle Identifier
 - application identifier는 com.example라는 기본 값을 사용할 수 없어 유니크한 식별 값을 입력해야 함
- 해당 설정을 저장한 뒤 Product-Build
- 프로젝트 경로의 터미널에서 Flutter를 실행하고 결과 확인
- iPhone Setting > General > VPN and Device Management > Apple Development:~ trust



```
# Flutter 프로젝트를 Xcode에서 열기  
open ios/Runner.xcworkspace
```



▼ Failed Registering Bundle Identifier | No profiles for 'com.example.sampleApp' were found

com.example.padopractice

flutter run

https://prod-files-secure.s3.us-west-2.amazonaws.com/fb5bd593-da83-4074-b951-d3fc15f4b957/c7aed696-3aa4-4dcd-a076-de83a0b1629b/RPReplay_Final1709783425.mp4

Add New Button

▼ 수정 코드

```
class _MyHomePageState extends State<MyHomePage> {
    int _counter = 0;

    void _incrementCounter() {
        setState(() {
            _counter++;
        });
    }

    // 카운터를 0으로 초기화하는 메서드 추가
    void _resetCounter() {
        setState(() {
            _counter = 0;
        });
    }
}
```

```

    });

}

@Override
Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
            backgroundColor: Theme.of(context).colorScheme.inversePrimary,
            title: Text(widget.title),
        ),
        body: Center(
            child: Column(
                mainAxisAlignment: MainAxisAlignment.center,
                children: <Widget>[
                    const Text(
                        'You have pushed the button this many times:',
                    ),
                    Text(
                        '$_counter',
                        style: Theme.of(context).textTheme.headlineMedium,
                    ),
                ],
            ),
        ),
        floatingActionButton: Row(
            mainAxisAlignment: MainAxisAlignment.end, // 버튼들을 화면 오른쪽 끝에 배치
            children: <Widget>[
                FloatingActionButton(
                    onPressed: _incrementCounter,
                    tooltip: 'Increment',
                    child: const Icon(Icons.add),
                ),
                const SizedBox(width: 10), // 버튼 사이의 간격
                FloatingActionButton(
                    onPressed: _resetCounter,
                    tooltip: 'Reset',
                    child: const Icon(Icons.refresh), // 초기화 아이콘
                ),
            ],
        ),
    );
}
}

```

▼ 전체 코드 (수정전.ver)

```

import 'package:flutter/material.dart';

void main() {
    runApp(const MyApp());
}

class MyApp extends StatelessWidget {
    const MyApp({super.key});

    @override
    Widget build(BuildContext context) {
        return MaterialApp(

```

```
title: 'Flutter Demo',
theme: ThemeData(
    colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
    useMaterial3: true,
),
home: const MyHomePage(title: 'Flutter Demo Home Page'),
);
}
}

class MyHomePage extends StatefulWidget {
const MyHomePage({super.key, required this.title});

final String title;

@Override
State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
int _counter = 0;

void _incrementCounter() {
    setState(() {
        _counter++;
    });
}

@Override
Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
            backgroundColor: Theme.of(context).colorScheme.inversePrimary,
            title: Text(widget.title),
        ),
        body: Center(
            child: Column(
                mainAxisAlignment: MainAxisAlignment.center,
                children: <Widget>[
                    const Text(
                        'You have pushed the button this many times:',
                    ),
                    Text(
                        '_$_counter',
                        style: Theme.of(context).textTheme.headlineMedium,
                    ),
                ],
            ),
        ),
        floatingActionButton: FloatingActionButton(
            onPressed: _incrementCounter,
            tooltip: 'Increment',
            child: const Icon(Icons.add),
        ),
    );
}
}
```

▼ 전체 코드 (수정후.ver)

```
import 'package:flutter/material.dart';

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
      home: const MyHomePage(title: 'Flutter Demo Home Page'),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key, required this.title});

  final String title;

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  int _counter = 0;

  void _incrementCounter() {
    setState(() {
      _counter++;
    });
  }

  // 카운터를 0으로 초기화하는 메서드 추가
  void _resetCounter() {
    setState(() {
      _counter = 0;
    });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Theme.of(context).colorScheme.inversePrimary,
        title: Text(widget.title),
      ),
      body: Center(
        child: Column(
```

```

    mainAxisAlignment: MainAxisAlignment.center,
    children: <Widget>[
      const Text(
        'You have pushed the button this many times:',
      ),
      Text(
        '$_counter',
        style: Theme.of(context).textTheme.headlineMedium,
      ),
    ],
  ),
),
floatingActionButton: Row(
  mainAxisAlignment: MainAxisAlignment.end, // 버튼들을 화면 오른쪽 끝에 배치
  children: <Widget>[
    FloatingActionButton(
      onPressed: _incrementCounter,
      tooltip: 'Increment',
      child: const Icon(Icons.add),
    ),
    const SizedBox(width: 10), // 버튼 사이의 간격
    FloatingActionButton(
      onPressed: _resetCounter,
      tooltip: 'Reset',
      child: const Icon(Icons.refresh), // 초기화 아이콘
    ),
  ],
),
);
}
}

```

- `_MyHomePageState` 클래스에 카운터를 0으로 초기화하는 메서드를 추가
- Scaffold 내의 floatingActionButton 부분을 수정하여 두개의 버튼을 Row 위젯 안에 배치
- 한 버튼은 카운터를 증가시키고, 다른 버튼은 카운터를 0으로 초기화



https://prod-files-secure.s3.us-west-2.amazonaws.com/fb5bd593-da83-4074-b951-d3fc15f4b957/3e8ed84c-b0d7-40aa-b417-3aabde72a9fe/%E1%84%92%E1%85%AA%E1%84%86%E1%85%A7%E1%86%AB_%E1%84%80%E1%85%B5%E1%84%85%E1%85%A9%E1%86%A8_2024-03-08_%E1%84%8B%E1%85%A9%E1%84%8C%E1%85%A5%E1%86%AB_12.42.21.mov