



**Minggu 1**

# **Mobile Programming**

*Isa Albanna, S.Si., M.Si*

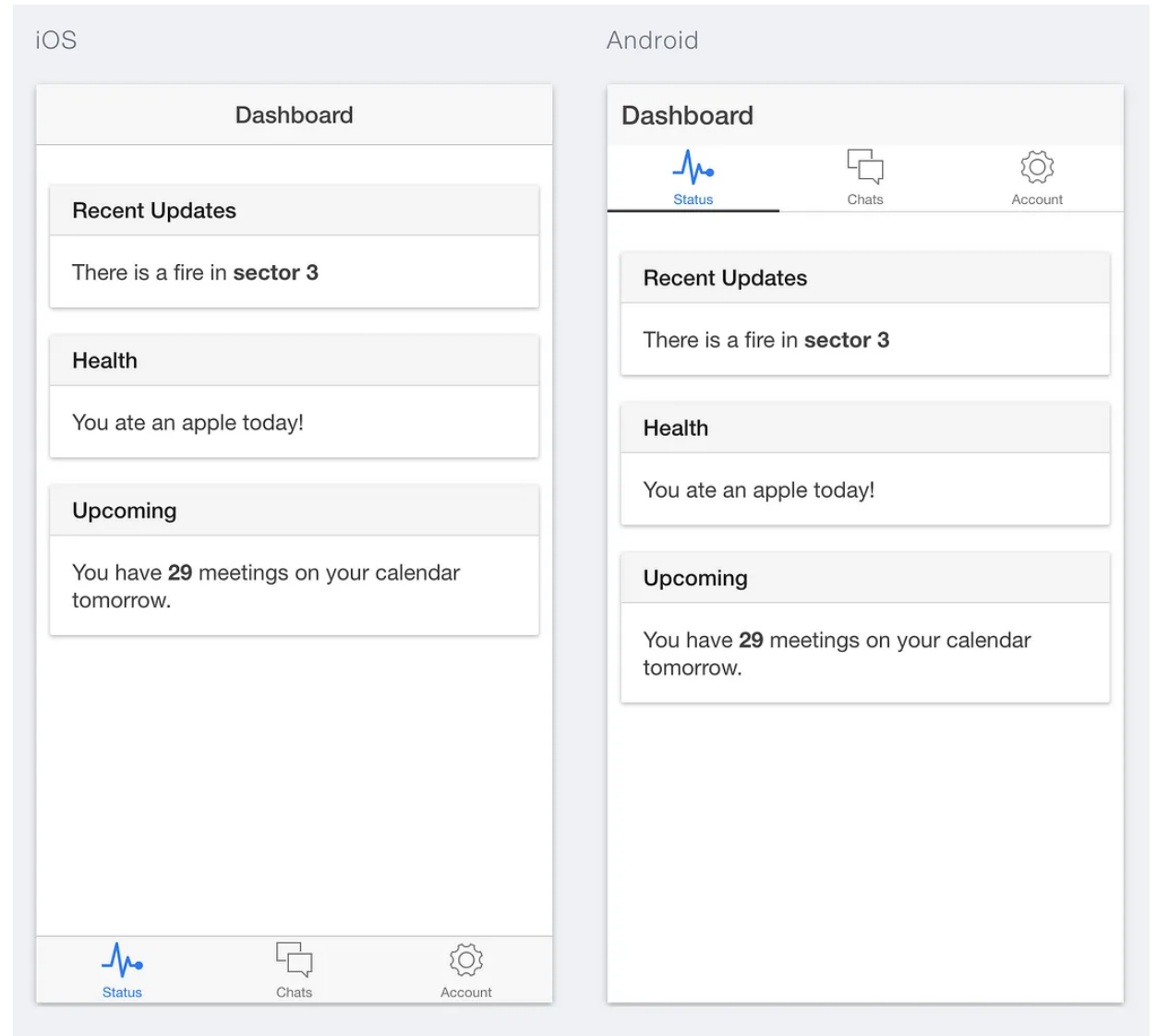
# Metode dalam Mob-Prog



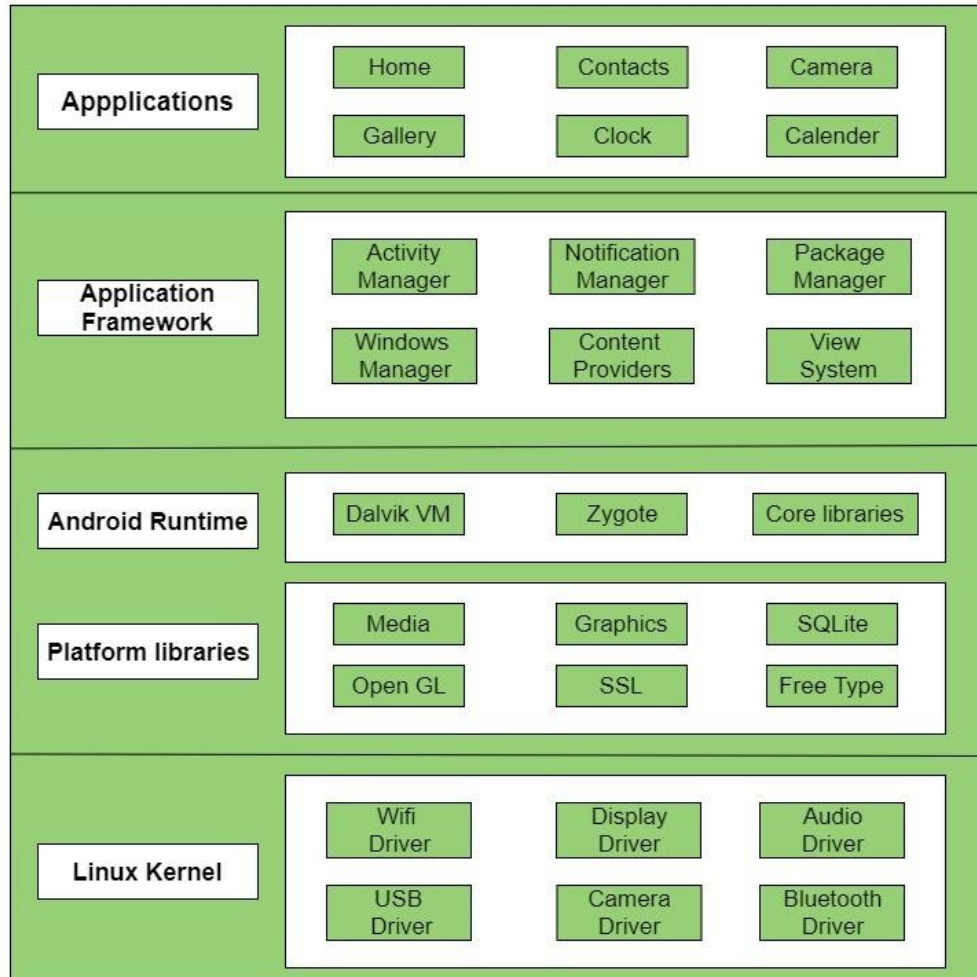
# Tipe Sistem Operasi

<https://www.geeksforgeeks.org/android-architecture/>

<https://www.geeksforgeeks.org/architecture-of-ios-operating-system/>



# Android



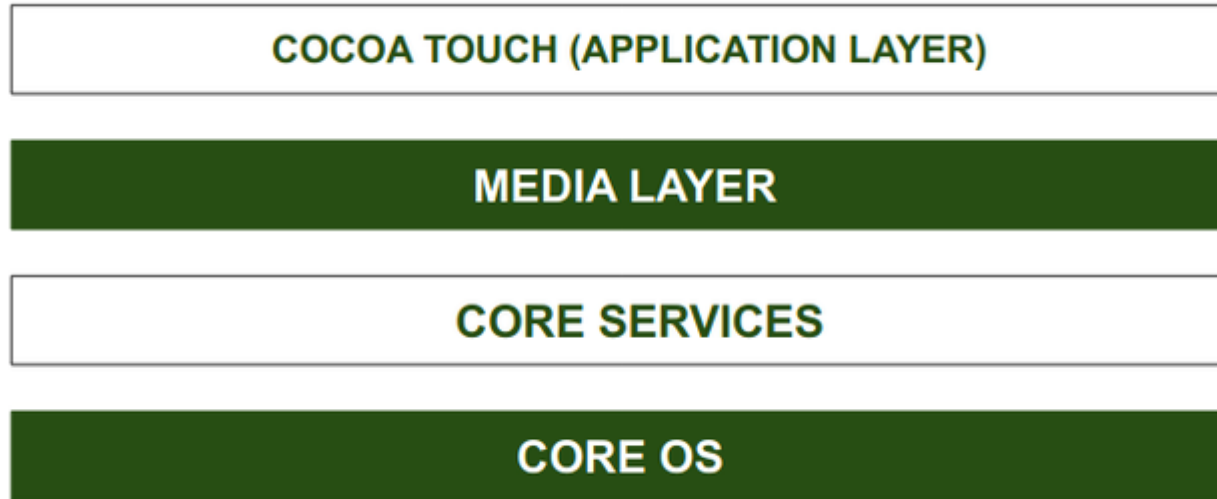
<https://www.geeksforgeeks.org/android-architecture/>

<https://www.androidauthority.com/history-android-os-name-789433/>

```
1 {  
2   "string": "Hi",  
3   "number": 2.5,  
4   "boolean": true,  
5   "null": null,  
6   "object": { "name": "Kyle", "age": 24 },  
7   "array": ["Hello", 5, false, null, { "key": "value", "number": 6 }],  
8   "arrayOfObjects": [  
9     { "name": "Jerry", "age": 28 },  
10    { "name": "Sally", "age": 26 }  
11  ]  
12 }  
13
```

JSON basis data berupa objek dalam mob-prog

# iOS



<https://www.geeksforgeeks.org/architecture-of-ios-operating-system/>

# Pemrograman Mob-Prog

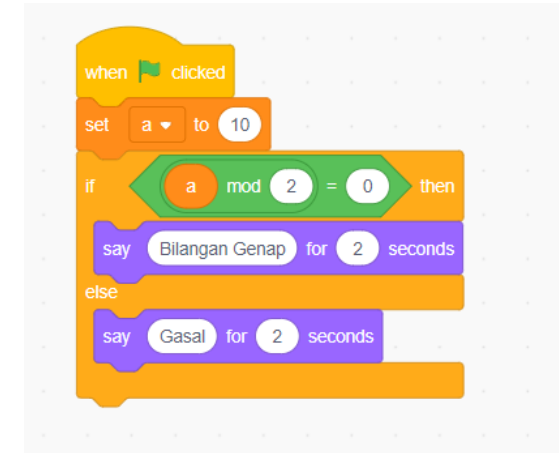
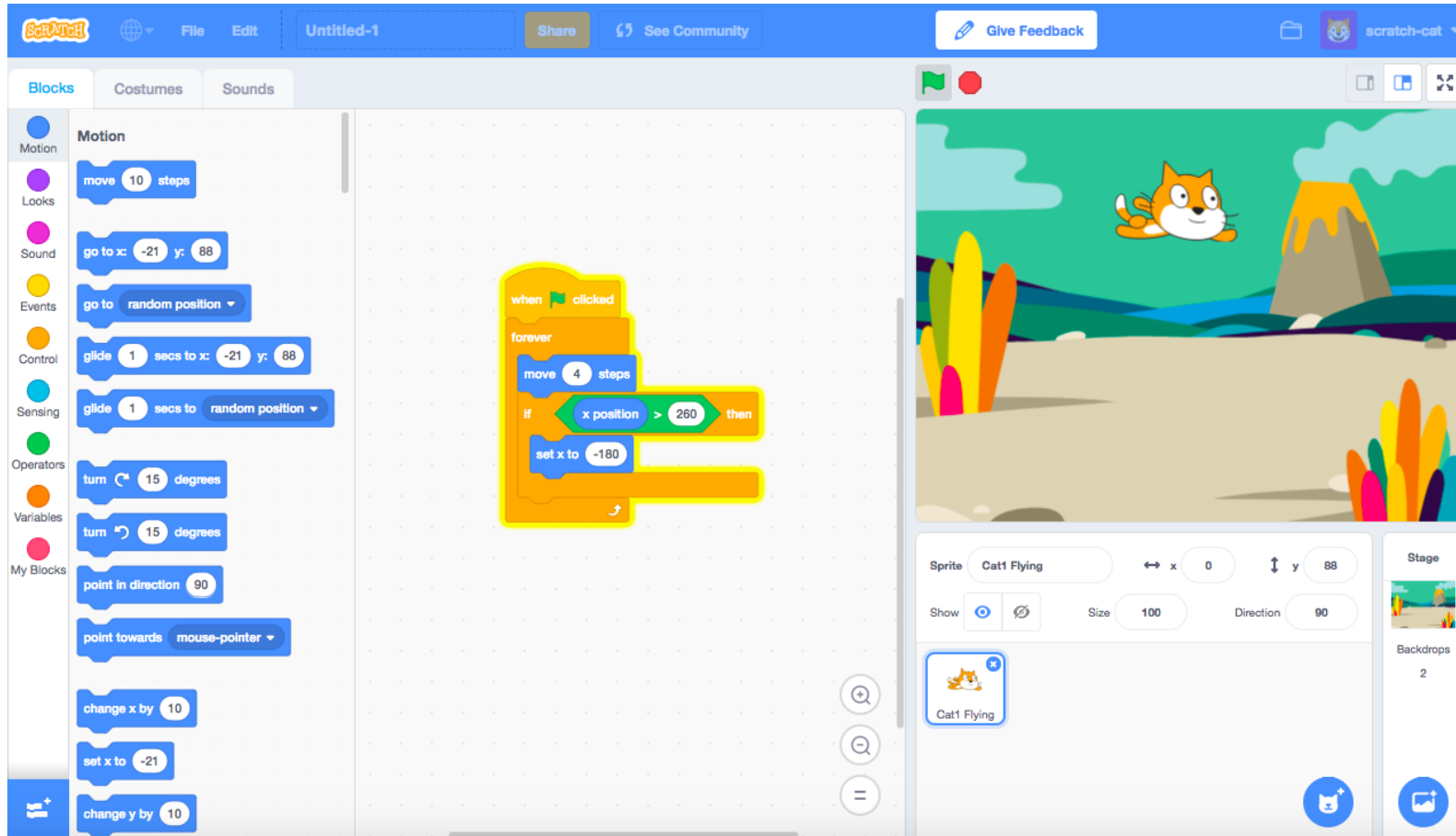
<https://blog.back4app.com/mobile-application-development-tools/>

1. Back4App
2. Firebase
3. Heroku
4. Expo React Native
5. Unity
6. Xamarin
7. Ionic Framework
8. React Native
9. Flutter
10. Xcode

1. Android Studio
2. GitHub
3. GitLab
4. Bitbucket
5. OneSignal
6. Pusher
7. Core Features
8. Mixpanel
9. Core Features
10. Amplitude

1. Core Features
2. Tensor Flow
3. Core Features
4. IBM Watson

# Mob-Prog Base Visual Programming



# Mob-Prog Base Visual Programming

The screenshot shows the MIT App Inventor web interface. At the top, there's a navigation bar with links like Projects, Connect, Build, Settings, and Help. Below this, the project name 'sederhana' is displayed, along with buttons for 'Publish to Gallery', 'Screen1', 'Add Screen ...', and 'Remove Screen'. The main workspace is divided into two panels: 'Blocks' on the left and 'Viewer' on the right. The 'Blocks' panel shows a list of built-in blocks categorized into Control, Logic, Math, Text, Lists, Dictionaries, Colors, Variables, and Procedures. The 'Viewer' panel shows a preview of the app, which is an 'Android App for sederhana'. It features a large download button with a downward arrow and the text 'Download .apk now', a QR code, and a 'Dismiss' button. Below the QR code, there's a note: 'Click the button to download the app, right-click on it to copy a download link, or scan the code with a barcode scanner to install. Note: this link and barcode are only valid for 2 hours. See the FAQ for info on how to share your app with others.' At the bottom of the 'Viewer' panel, there's a 'Show Warnings' button with a warning icon and a count of 0.

Programming



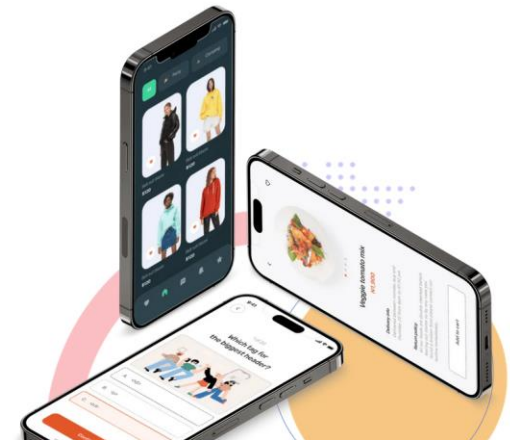
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## Build Custom Mobile Apps No Coding Required

Great ideas are everywhere. Join the millions of Creators bringing their ideas to life.

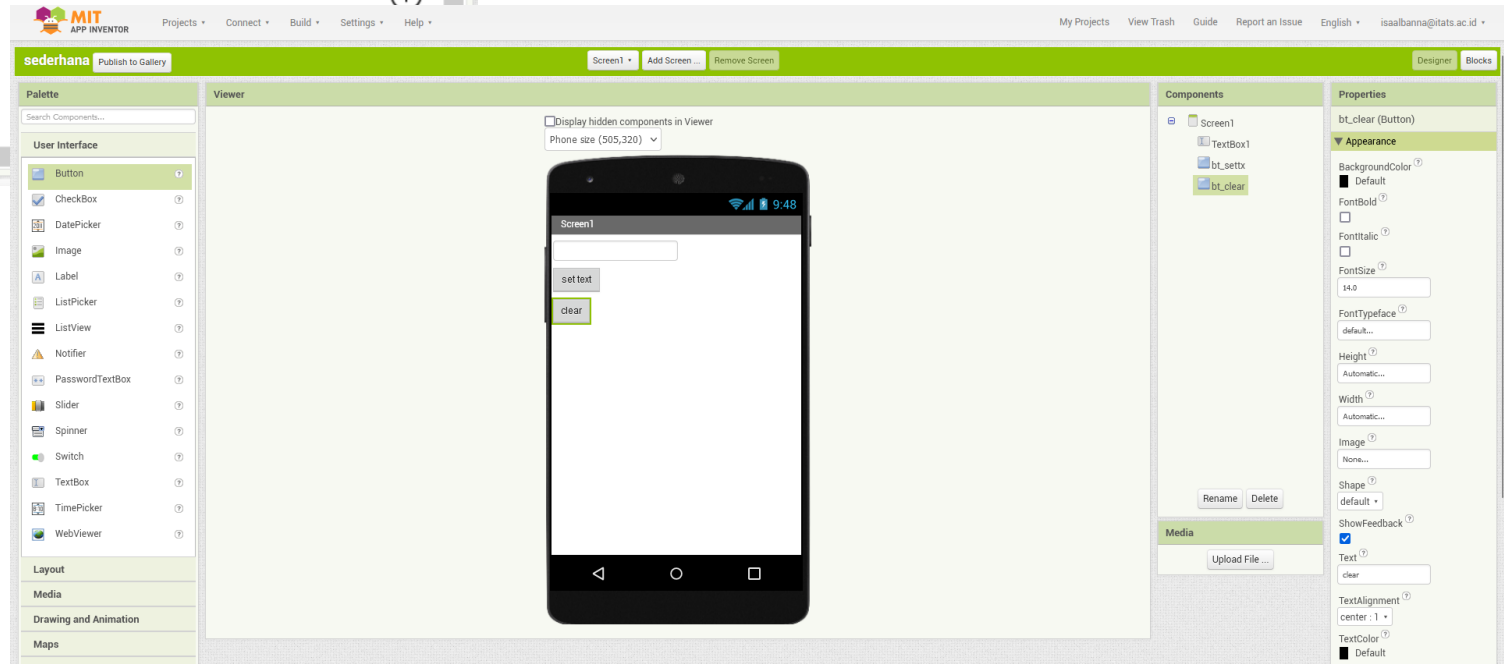
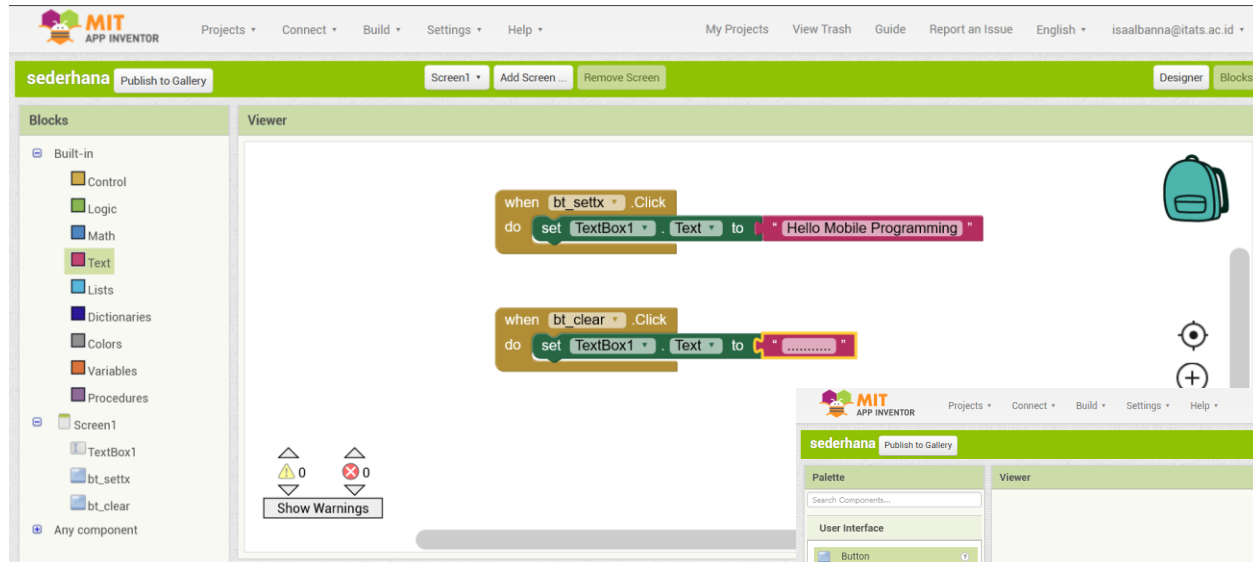
Get Started

See Pricing →





# Mob-Prog Base Visual Programming



# Framework **Android Studio** dan **Flutter**

**android  
studio**

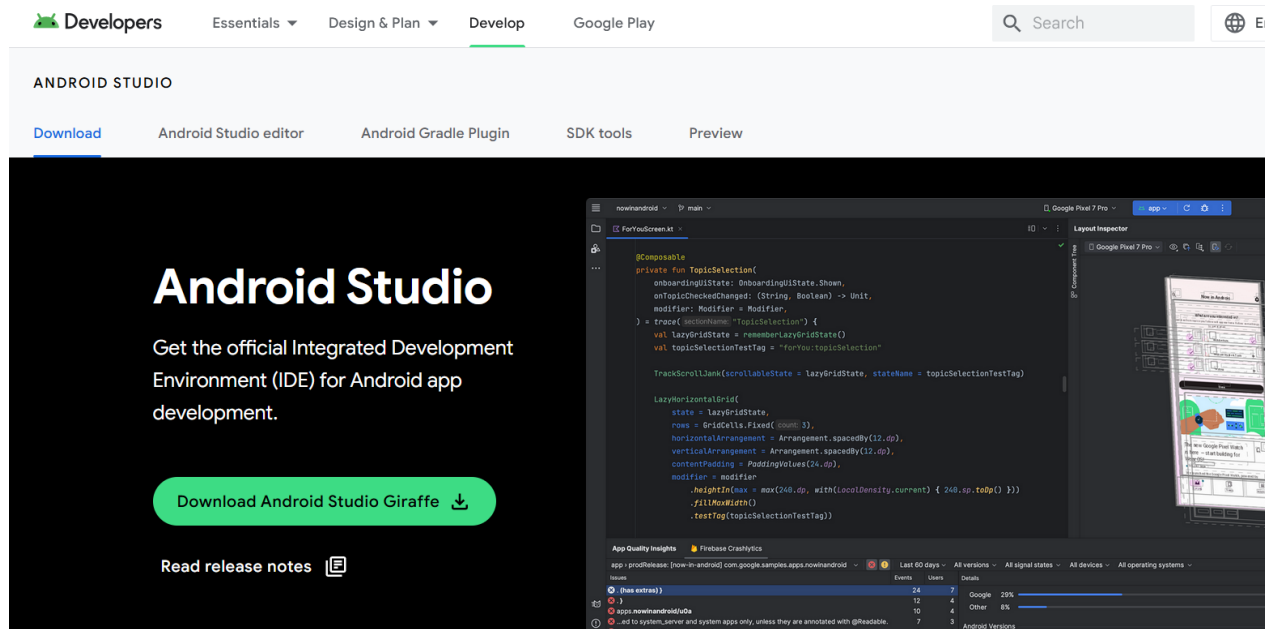


Flutter

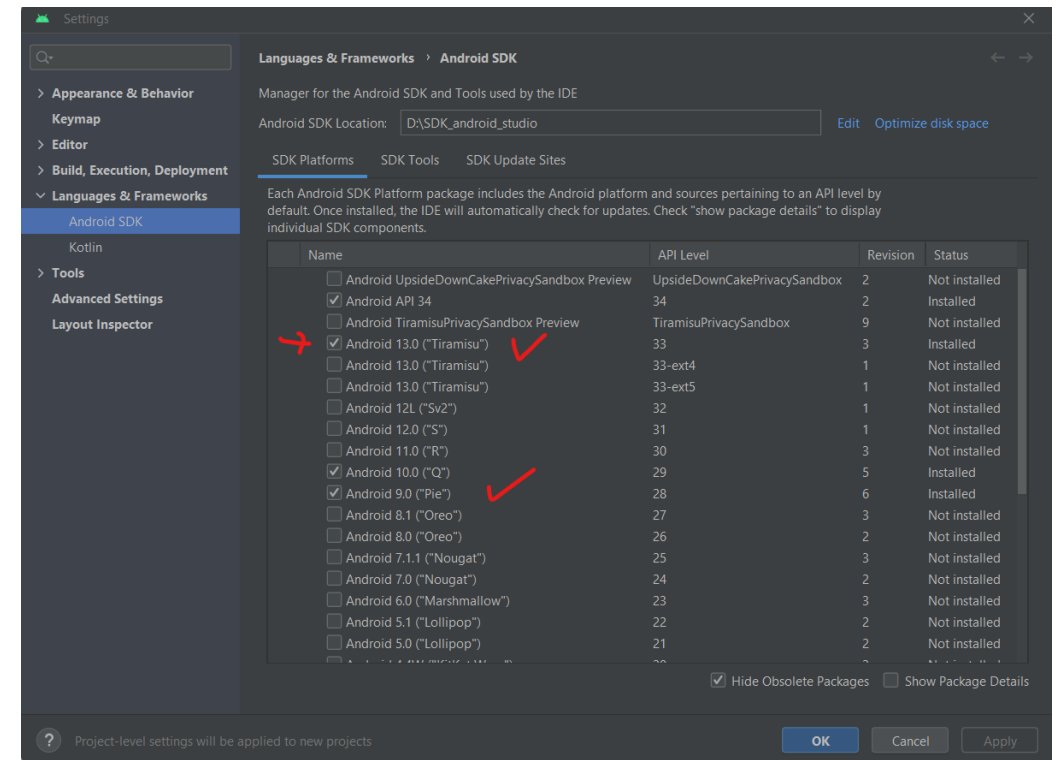
# Tools untuk Android Studio

Langkah-langkah Android Studio:

1. Unduh android studio
2. Unduh SDK-Android Studio



The screenshot shows the official Android Studio website. At the top, there's a navigation bar with 'Developers', 'Essentials', 'Design & Plan', 'Develop', and 'Google Play'. Below this, the 'ANDROID STUDIO' section features a 'Download' button and links to 'Android Studio editor', 'Android Gradle Plugin', 'SDK tools', and 'Preview'. The main content area has a large 'Android Studio' heading, followed by the text 'Get the official Integrated Development Environment (IDE) for Android app development.' and a green 'Download Android Studio Giraffe' button. At the bottom, there's a link to 'Read release notes'.



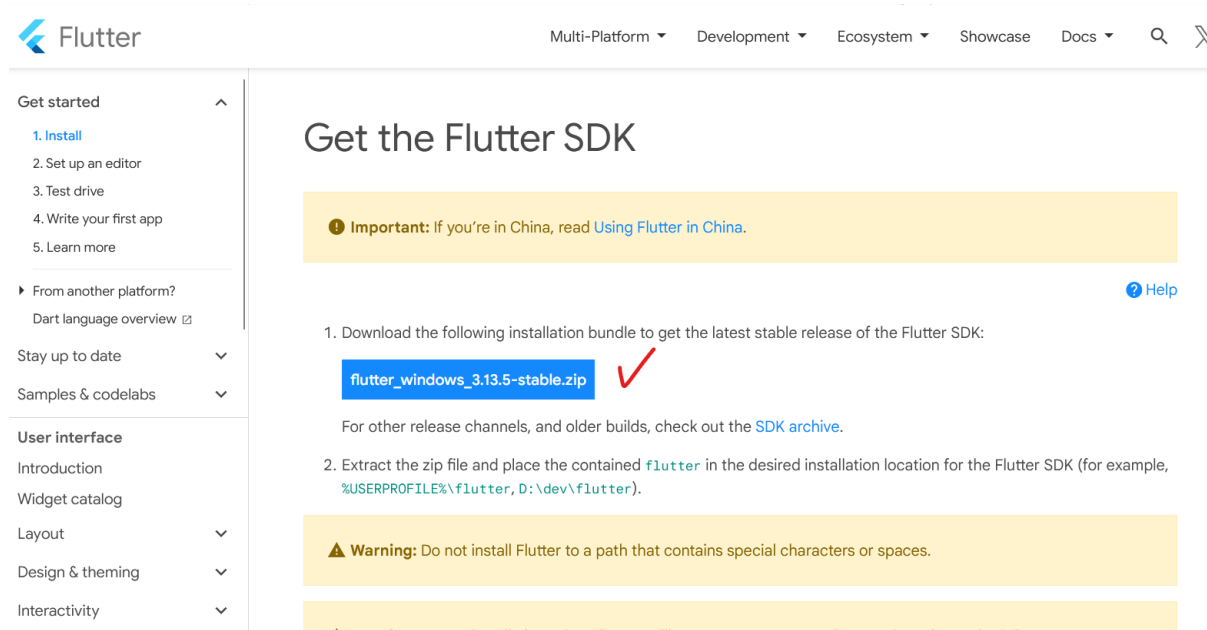
The screenshot shows the 'Settings' dialog in Android Studio, specifically the 'Languages & Frameworks' tab. The 'Android SDK' section is expanded, showing the 'Android SDK' sub-tab. The 'Android SDK Location' is set to 'D:\SDK\_android\_studio'. Below this, there's a table listing installed and available SDK platforms. Red checkmarks and arrows highlight the 'Android 13.0 ("Tiramisu")' and 'Android 10.0 ("Q")' entries.

Name	API Level	Revision	Status
<input type="checkbox"/> Android UpsideDownCakePrivacySandbox Preview	UpsideDownCakePrivacySandbox	2	Not installed
<input checked="" type="checkbox"/> Android API 34	34	2	Installed
<input type="checkbox"/> Android TiramisuPrivacySandbox Preview	TiramisuPrivacySandbox	9	Not installed
<input checked="" type="checkbox"/> Android 13.0 ("Tiramisu")	33	3	Installed
<input type="checkbox"/> Android 13.0 ("Tiramisu")	33-ext4	1	Not installed
<input type="checkbox"/> Android 13.0 ("Tiramisu")	33-ext5	1	Not installed
<input type="checkbox"/> Android 12L ("Sv2")	32	1	Not installed
<input type="checkbox"/> Android 12.0 ("S")	31	1	Not installed
<input type="checkbox"/> Android 11.0 ("R")	30	3	Not installed
<input checked="" type="checkbox"/> Android 10.0 ("Q")	29	5	Installed
<input checked="" type="checkbox"/> Android 9.0 ("Pie")	28	6	Installed
<input type="checkbox"/> Android 8.1 ("Oreo")	27	3	Not installed
<input type="checkbox"/> Android 8.0 ("Oreo")	26	2	Not installed
<input type="checkbox"/> Android 7.1.1 ("Nougat")	25	3	Not installed
<input type="checkbox"/> Android 7.0 ("Nougat")	24	2	Not installed
<input type="checkbox"/> Android 6.0 ("Marshmallow")	23	3	Not installed
<input type="checkbox"/> Android 5.1 ("Lollipop")	22	2	Not installed
<input type="checkbox"/> Android 5.0 ("Lollipop")	21	2	Not installed

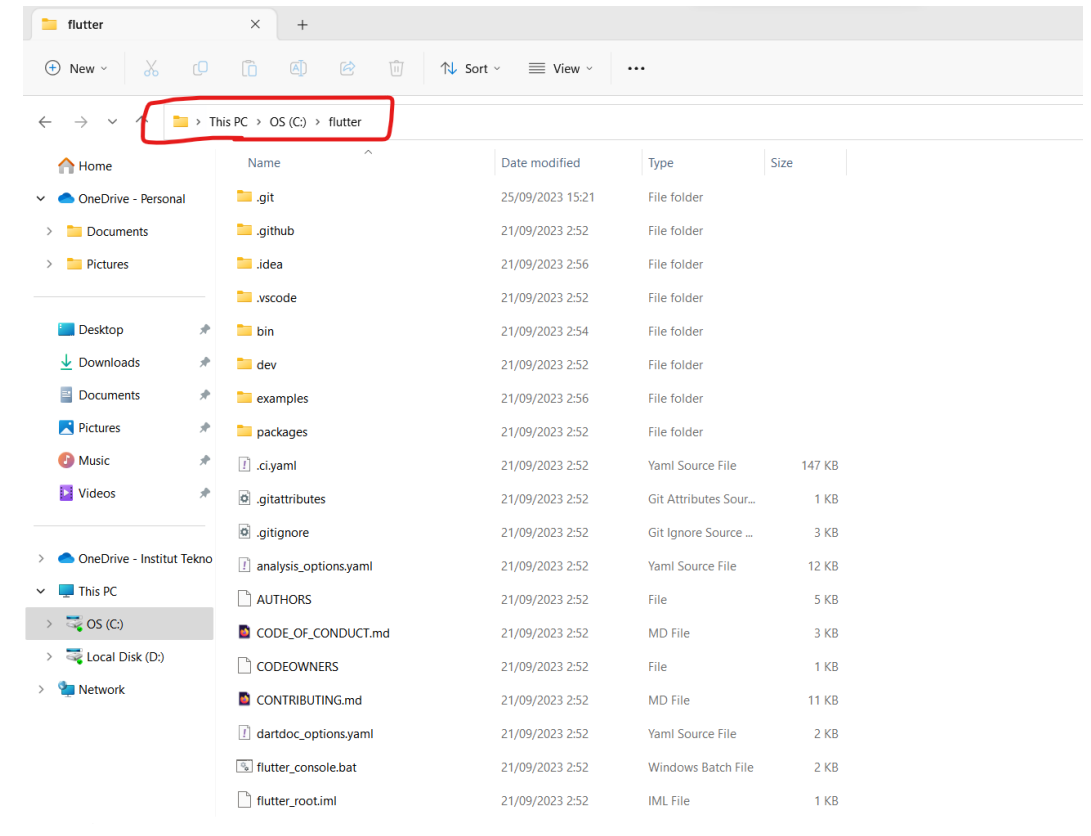
# Tools untuk Flutter

## Langkah-langkah Flutter:

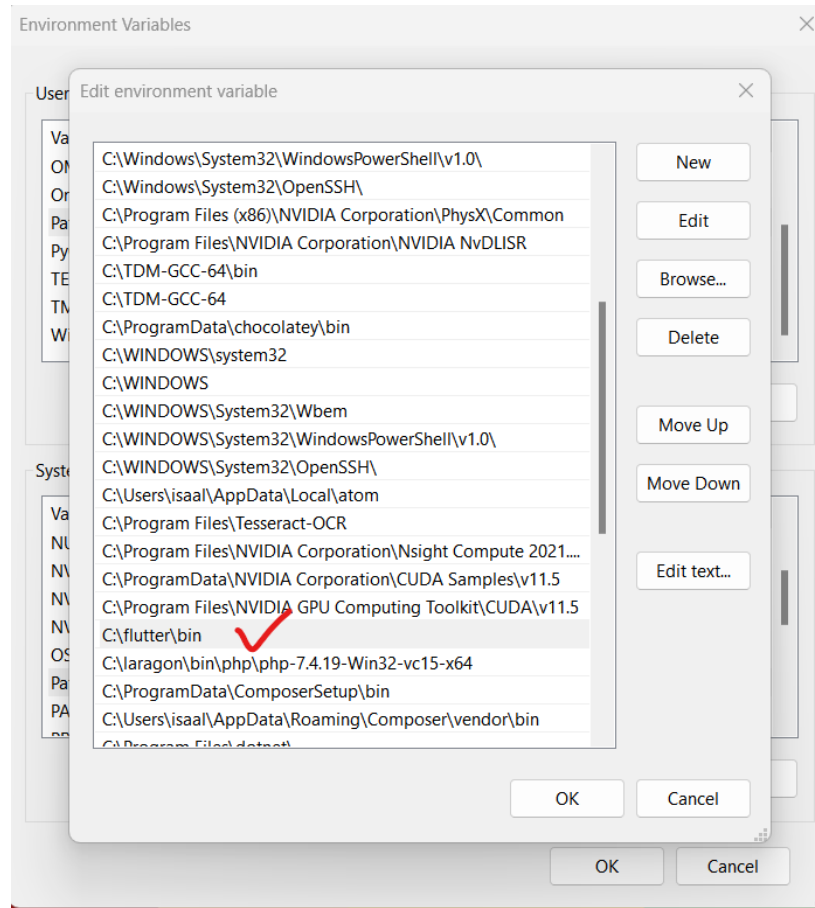
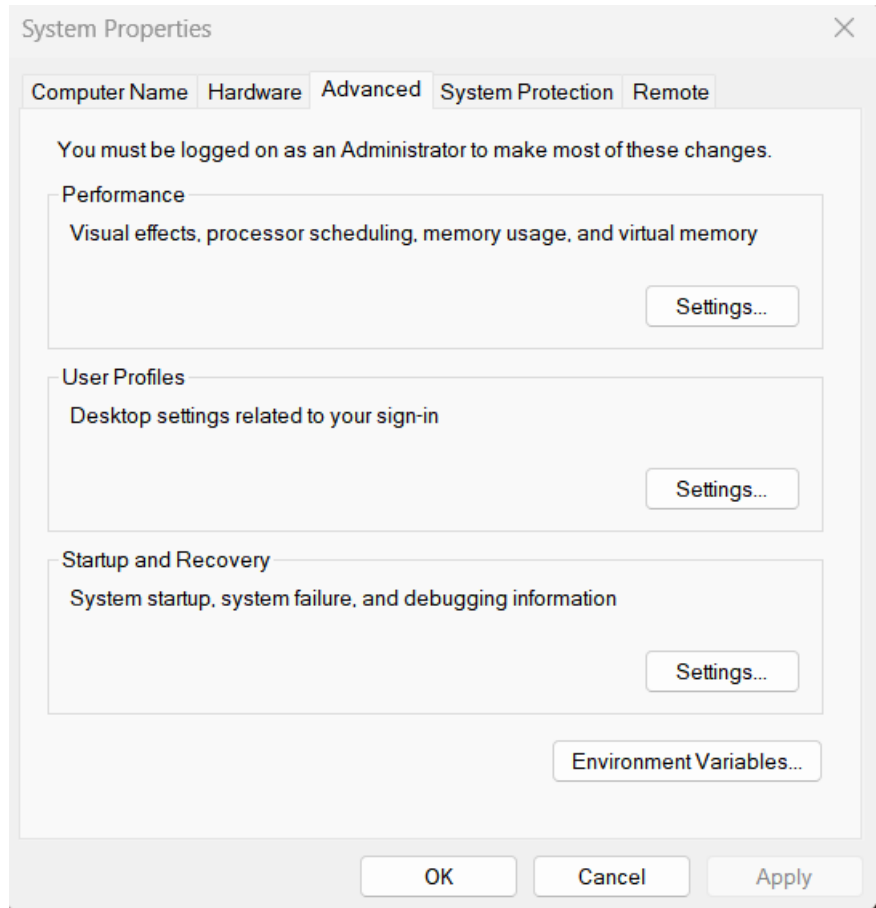
1. Unduh Visual Studio Code (IDE)
2. Unduh Flutter SDK



The screenshot shows the Flutter website's 'Get the Flutter SDK' page. The left sidebar contains navigation links: 'Get started' (with sub-links '1. Install', '2. Set up an editor', '3. Test drive', '4. Write your first app', '5. Learn more'), 'From another platform?' (with 'Dart language overview'), 'Stay up to date', 'Samples & codelabs', 'User interface' (with sub-links 'Introduction', 'Widget catalog', 'Layout', 'Design & theming', 'Interactivity'), and 'Multi-Platform', 'Development', 'Ecosystem', 'Showcase', 'Docs'. The main content area is titled 'Get the Flutter SDK' and includes an important note: 'Important: If you're in China, read Using Flutter in China.' Below this, it lists two steps: 1. Download the following installation bundle to get the latest stable release of the Flutter SDK: 'flutter\_windows\_3.13.5-stable.zip' (highlighted with a red checkmark). 2. Extract the zip file and place the contained flutter in the desired installation location for the Flutter SDK (for example, %USERPROFILE%\flutter, D:\dev\flutter). A warning box states: 'Warning: Do not install Flutter to a path that contains special characters or spaces.'



# Setting System Properties Windows



# Setting System Properties Windows

```
Administrator: Command Prompt - flutter doctor
Microsoft Windows [Version 10.0.22621.2283]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\System32>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.13.5, on Microsoft Windows [Version 10.0.22621.2283], locale en-ID)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[✓] Android toolchain - develop for Android devices (Android SDK version 32.0.0)
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.3.4)
[✓] Android Studio (version 2021.3)
[✓] Android Studio (version 2022.3)
[✓] VS Code, 64-bit edition (version 1.82.2)
[✓] Connected device (4 available)
[✓] Network resources

• No issues found!

C:\Windows\System32>
```