

LAPORAN PRAKTIKUM MOBILE PROGRAMMING 2

Mobile Programming

(Instalasi Flutter)

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PROGRAM STUDI PENDIDIKAN TEKNOLOGI INFORMASI

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BAB I

PENDAHULAN

1.1. Latar Belakang

Flutter adalah framework open-source yang dikembangkan oleh Google, Flutter dapat digunakan untuk membuat sebuah aplikasi lintas platform yaitu android dan iOS dengan satu basis kode. Sebelum melanjutkan langkah lebih dalam dalam merancang suatu aplikasi, maka di dalam laporan ini akan berisi langkah instalasi Flutter. Laporan dan step dimulai dari instalasi Flutter terlebih dahulu, sehingga saya bisa memahami step by step mulai dari hal yang paling dasar.

1.2. Tujuan

Laporan ini memiliki tujuan untuk mendokumentasikan proses instalasi dan konfigurasi Flutter agar dapat berjalan dengan baik dan agar lebih memahami cara kerja Flutter.

BAB II

ALAT DAN BAHAN

2.1. Alat & bahan

1. Laptop
2. Chrome
3. Jaringan internet

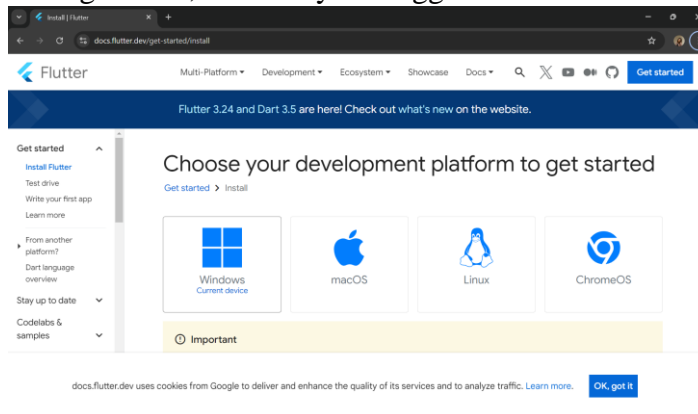
BAB III

PROSEDUR KERJA

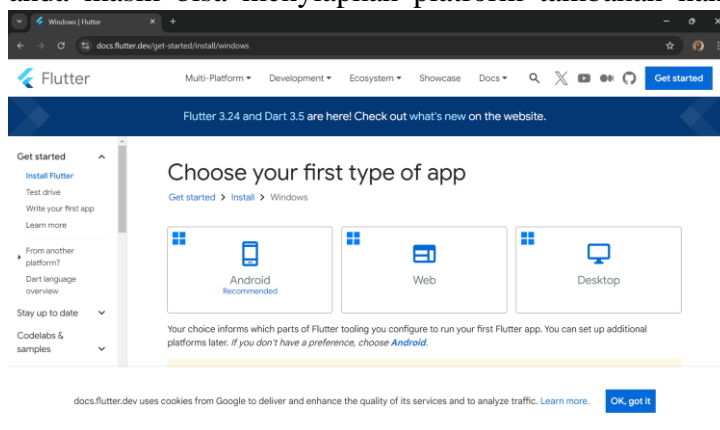
3.1. Langkah Instalasi

1. Instalasi Flutter

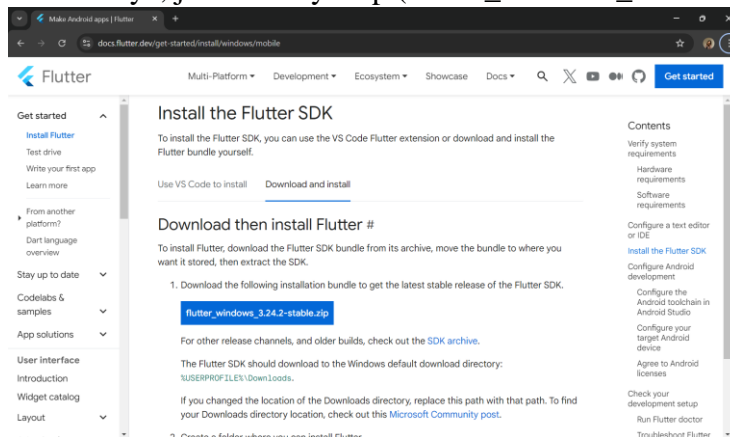
- Lakukan instalasi Flutter melalui link <https://docs.flutter.dev/get-started/install>
- Pilih platform pengembangan yang sesuai dengan operating system yang sedang anda gunakan, disini saya menggunakan Windows maka saya memilih Windows



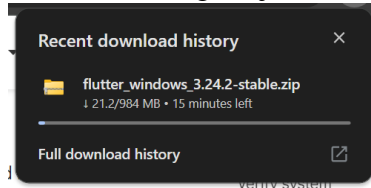
- Step selanjutnya, kita akan dihadapkan oleh pilihan tipe alat Flutter untuk menjalankan aplikasi Flutter pertama kita, dan ini hanya bersifat sementara, karena anda masih bisa menyiapkan platform tambahan nanti. Saya memilih Android



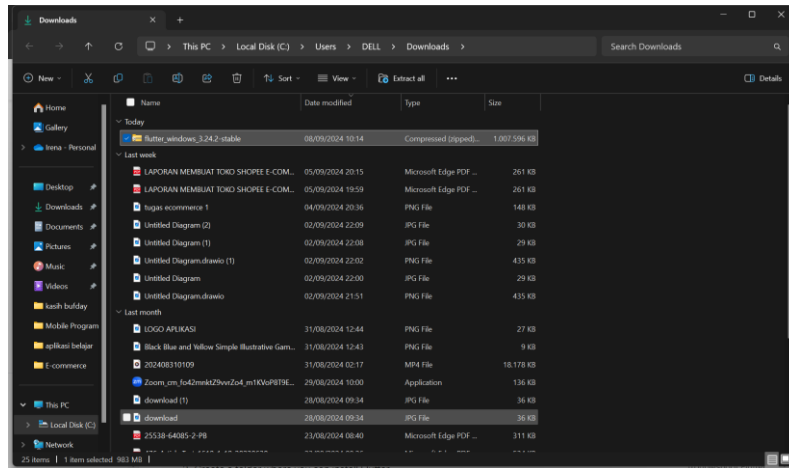
- Selanjutnya, untuk melanjutkan instalasi Flutter, klik kolom biru yang berisi bundel instalasinya, jenis file nya zip (flutter_windows_3.24.2-stable.zip)



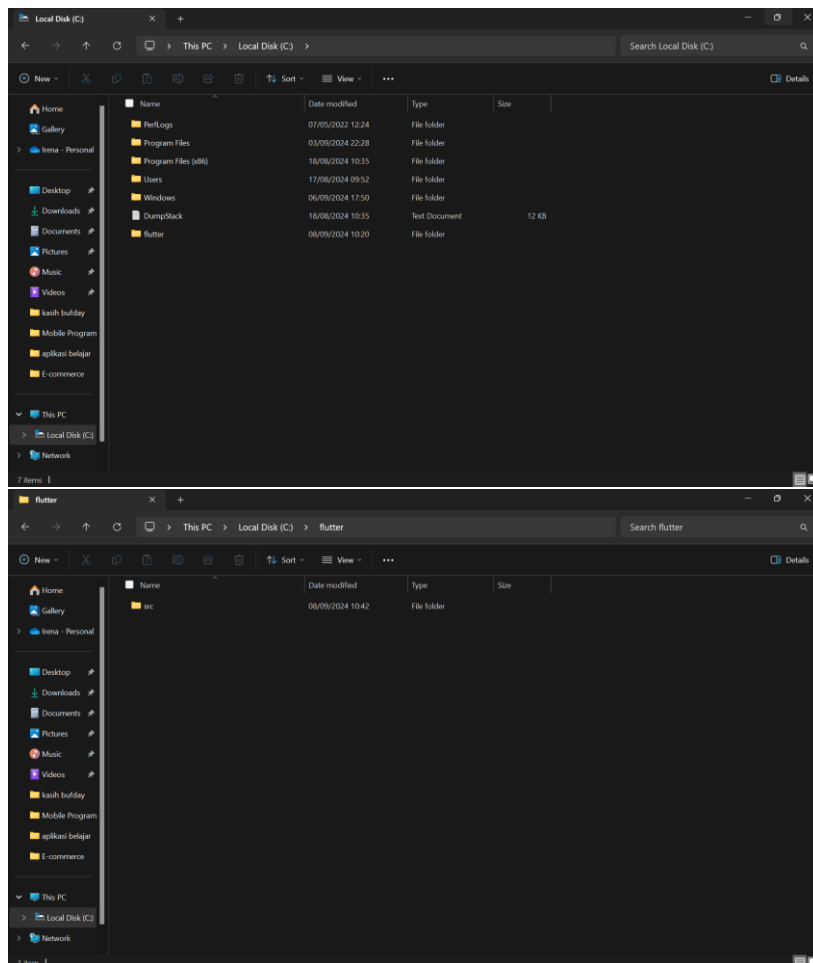
e) Instalasi sedang berjalan, tunggu sampai selesai



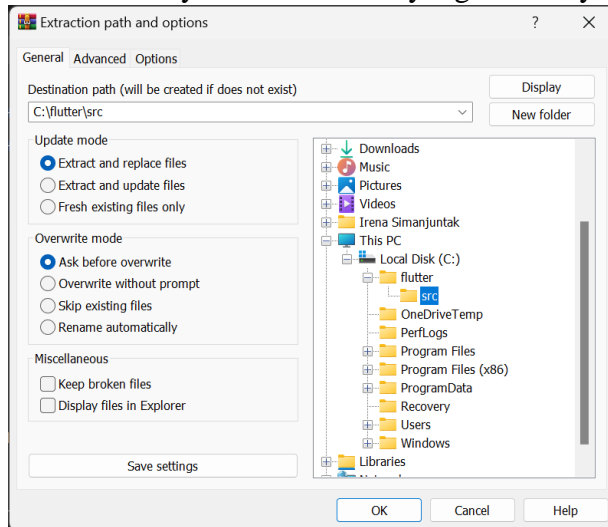
f) Flutter sudah terinstal



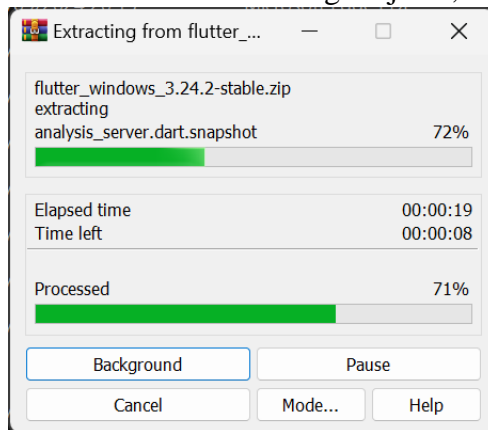
g) Pergi ke Local Disc (c:), lalu buatlah folder baru, dan beri nama 'flutter' dan tambahkan folder baru di dalam folder 'flutter' dan beri nama 'src' untuk melakukan ekstrak file



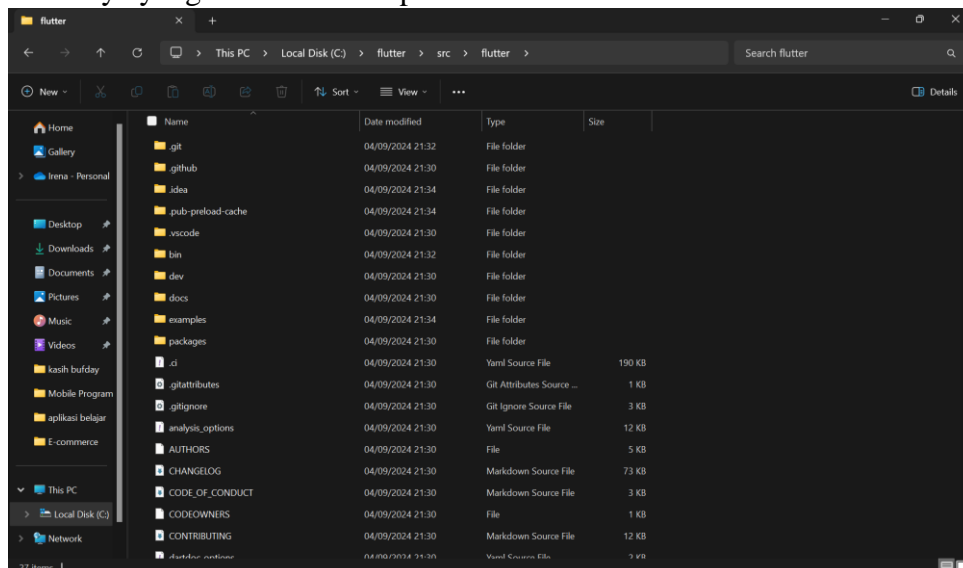
h) Ekstrak file nya ke folder 'src' yang lokasi nya ada di dalam folder 'flutter'



i) Proses ekstrak file sedang berjalan, dan tunggu proses ekstrak file nya selesai



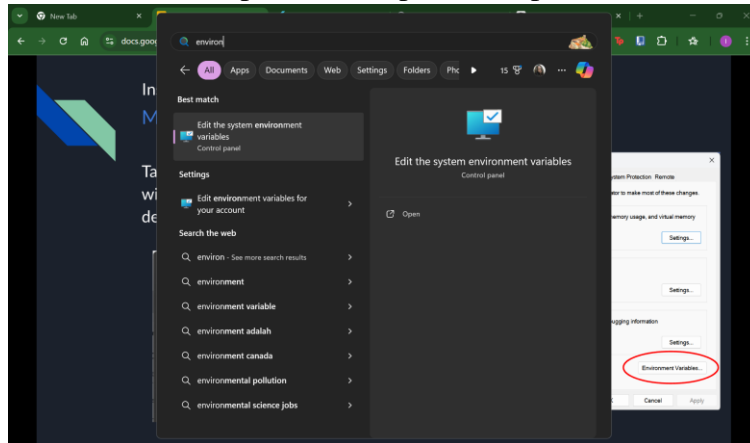
j) Proses ekstrak file telah selesai, berikut ini adalah tampilan folder nya, dan lokasinya yang bisa di lihat di panel atas



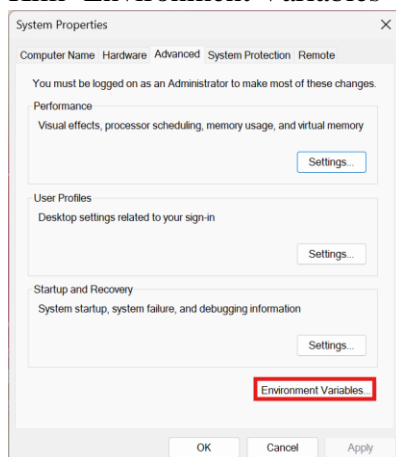
2. Mengakses 'System environment variables'

Program ini berisi nilai 'path' yang fungsinya untuk mempersingkat pemanggilan suatu file untuk dieksekusi atau untuk membuka suatu folder tertentu dalam windows operating system, di dalam kasus ini, System environment variables akan dilakukan penambahan Flutter ke dalam environment Windows

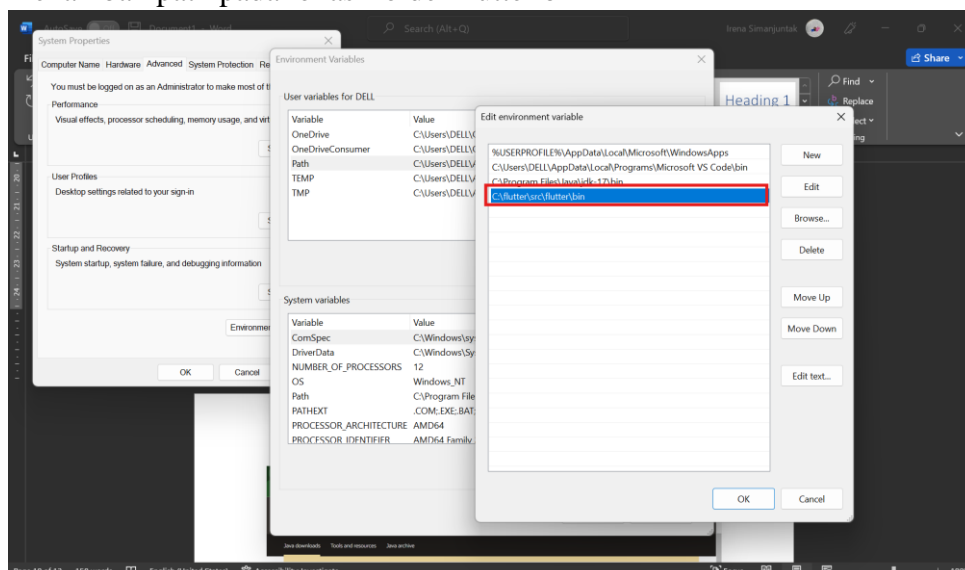
a) Cari environment pada kolom pencarian pada taskbar, dan buka



b) Klik 'Environment Variables'



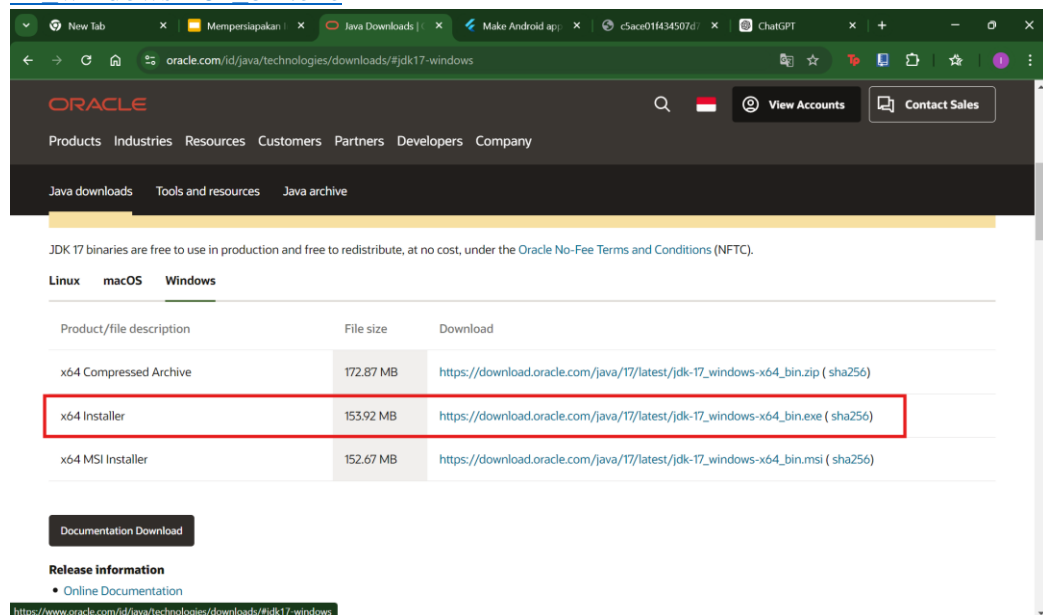
c) Klik pada 'path' dalam System variables. Lalu klik 'new' lalu ketik folder bin untuk menambah path pada lokasi folder flutter bin



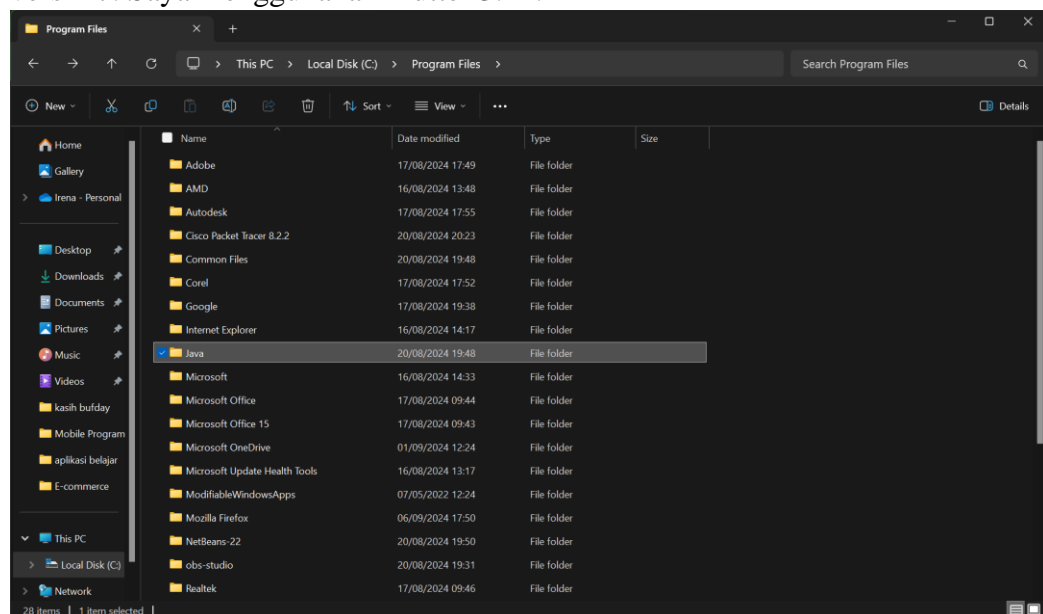
3. Instalasi Java Development Kit (JDK)

JDK berisi alat perangkat lunak yang dapat kita gunakan untuk mengembangkan aplikasi Java.

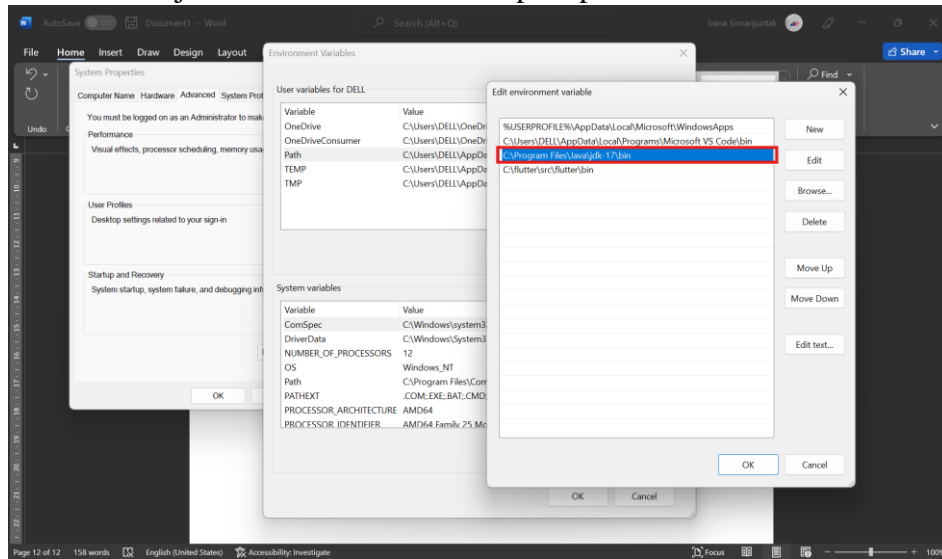
- Install JDK melalui link <https://www.oracle.com/id/java/technologies/downloads/>
- Sebelum melanjutkan instalasi, pilih operating system yang tersedia, dan tentunya harus sesuai dengan operating system perangkat yang digunakan
- Saya menggunakan operating system Windows, maka saya memilih Windows
- Pilih file x64 Installer dengan link 'https://download.oracle.com/java/22/latest/jdk-22_windows-x64_bin.exe'



- Setelah proses instalasi selesai, maka file default nya adalah c:\Program Files\Java\jdk-17. Versi JDK yang di install harus sesuai dengan versi flutter. Jika versi Flutter yang digunakan Flutter 3.24.1 maka JDK yang di install adalah JDK versi 17. Saya menggunakan Flutter 3.24.1



- f) Buka 'System environment variables' lalu buka variable 'path' lalu tambahkan lokasi folder java bin untuk menambah path pada lokasi folder



4. Cek instalasi flutter

- a) Untuk melakukan pengecekan instalasi Flutter, buka command prompt dan ketik "flutter --version". Jika instalasi sudah dilakukan dengan benar maka command prompt akan menampilkan versi flutter yang terinstall, dan tampilannya akan seperti gambar berikut

```
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DELL>flutter --version
Flutter 3.24.2 • channel stable • https://github.com/flutter/flutter.git
Framework • revision 4cf269e36d (4 days ago) • 2024-09-03 14:30:00 -0700
Engine • revision a6bd3f1d1
Tools • Dart 3.5.2 • DevTools 2.37.2

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/to/crash-reporting

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

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

5. Cek kelengkapan dan kapabilitas Flutter

- a) Untuk mengecek kelengkapan dan kapabilitas Flutter, buka command prompt dan ketik 'Flutter doctor'. Tanda centang warna hijau itu menandakan kesiapan dan kelengkapannya sudah baik, sementara tanda silang warna merah menandakan bahwa terdapat alat yang tidak sesuai atau belum lengkap.

```
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

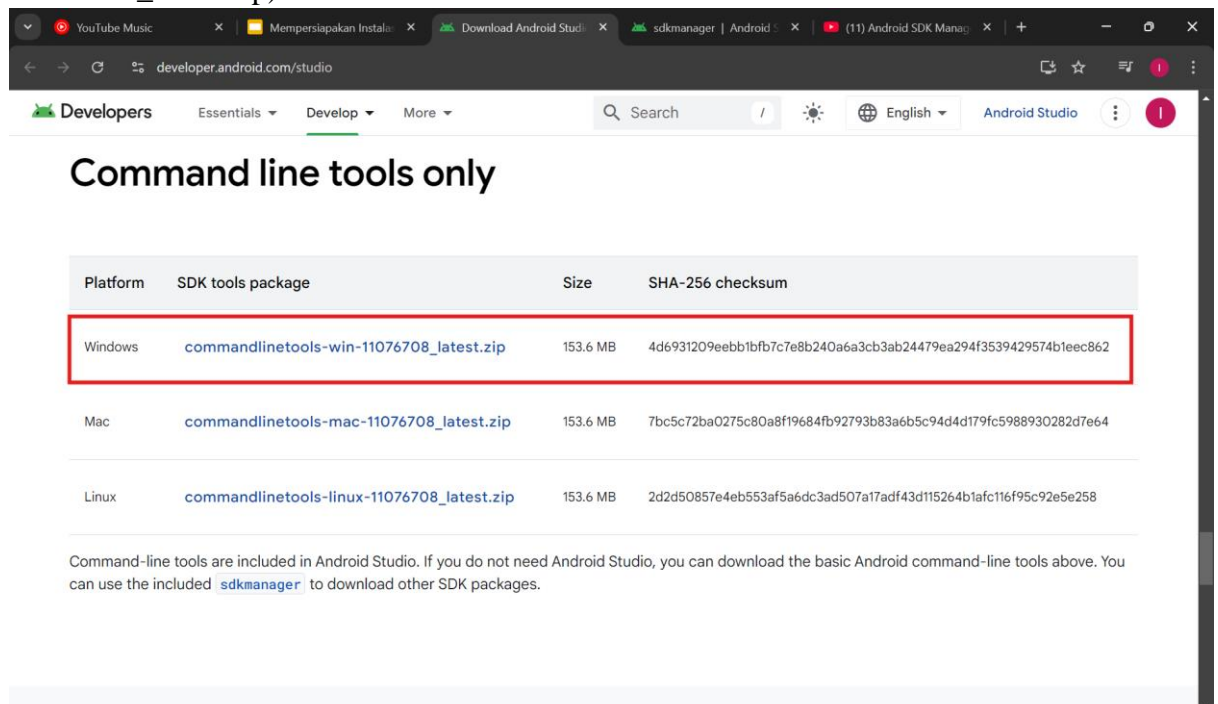
C:\Users\DELL>Flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version 10.0.22631.4037], locale en-ID)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[X] Android toolchain - develop for Android devices
    X 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/to/windows-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.
[✓] Chrome - develop for the web
[X] Visual Studio - develop Windows apps
    X Visual Studio not installed; this is necessary to develop Windows apps.
      Download at https://visualstudio.microsoft.com/downloads/.
      Please install the "Desktop development with C++" workload, including all of its default components
[!] Android Studio (not installed)
[✓] VS Code (version 1.92.2)
[✓] Connected device (3 available)
[!] Network resources
    X A network error occurred while checking "https://cocoapods.org/": The semaphore timeout period has expired.

! Doctor found issues in 4 categories.

C:\Users\DELL>
```

6. Download Software Development Kit (SDK) menggunakan command line

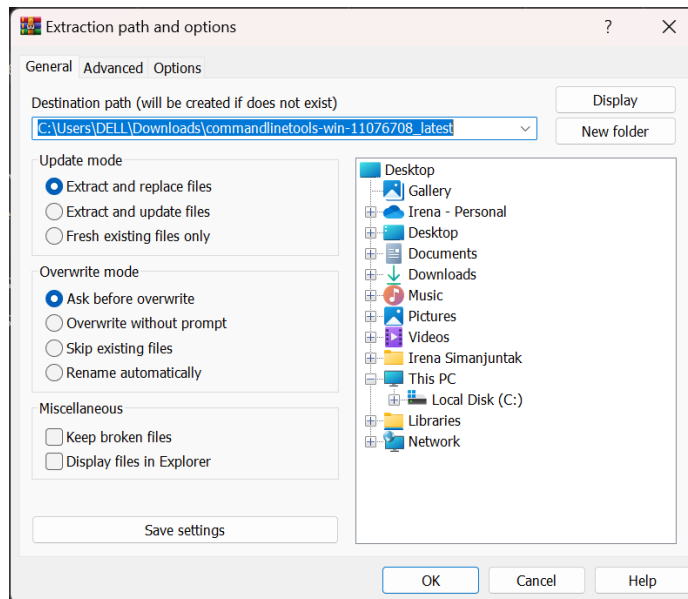
- a) Buka link berikut untuk melakukan instalasi (<https://developer.android.com/studio?hl=id>)
- b) Scroll, lalu pilih platform yang sesuai dengan operating system yang digunakan, disini saya menggunakan operating system Windows, jadi saya klik link dari Windows untuk mendownload zip dari SDK (commandlinetools-win-11076708_latest.zip)



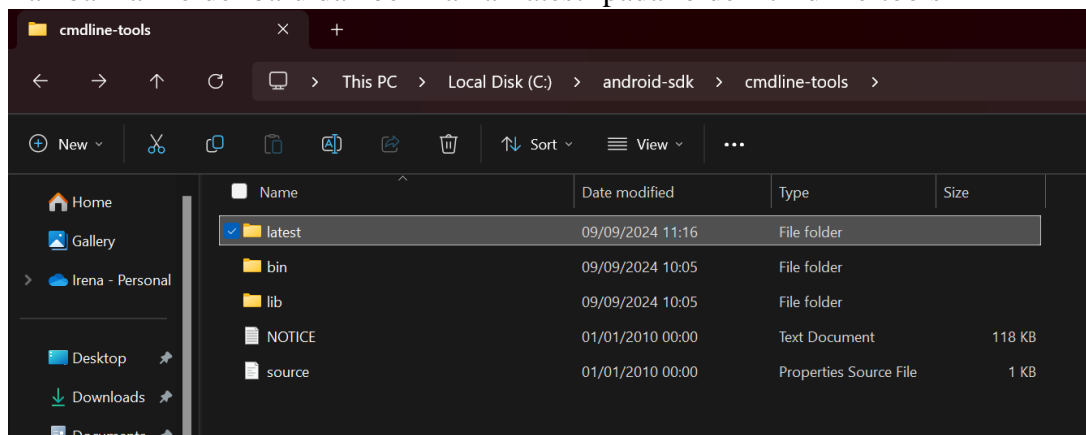
Platform	SDK tools package	Size	SHA-256 checksum
Windows	commandlinetools-win-11076708_latest.zip	153.6 MB	4d6931209eebb1bfb7c7e8b240a6a3cb3ab24479ea294f3539429574b1eec862
Mac	commandlinetools-mac-11076708_latest.zip	153.6 MB	7bc5c72ba0275c80a8f19684fb92793b83a6b5c94d4d179fc5988930282d7e64
Linux	commandlinetools-linux-11076708_latest.zip	153.6 MB	2d2d50857e4eb553af5a6dc3ad507a17adf43d115264b1afc116f95c92e5e258

Command-line tools are included in Android Studio. If you do not need Android Studio, you can download the basic Android command-line tools above. You can use the included [sdkmanager](#) to download other SDK packages.

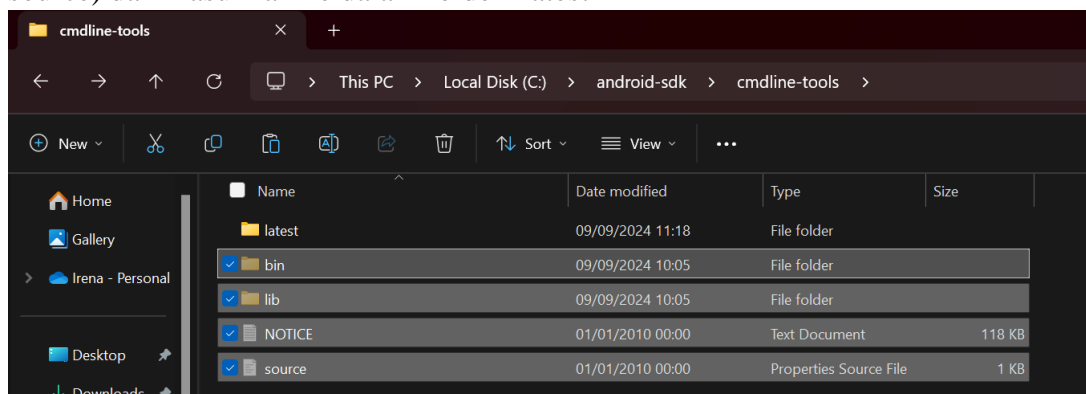
- c) Setelah file zip terinstall, ekstrak file zip SDK kedalam folder android-sdk yang tadi sudah dibuat



- d) Tambahkan folder baru dan beri nama 'latest' pada folder 'cmdline-tools'

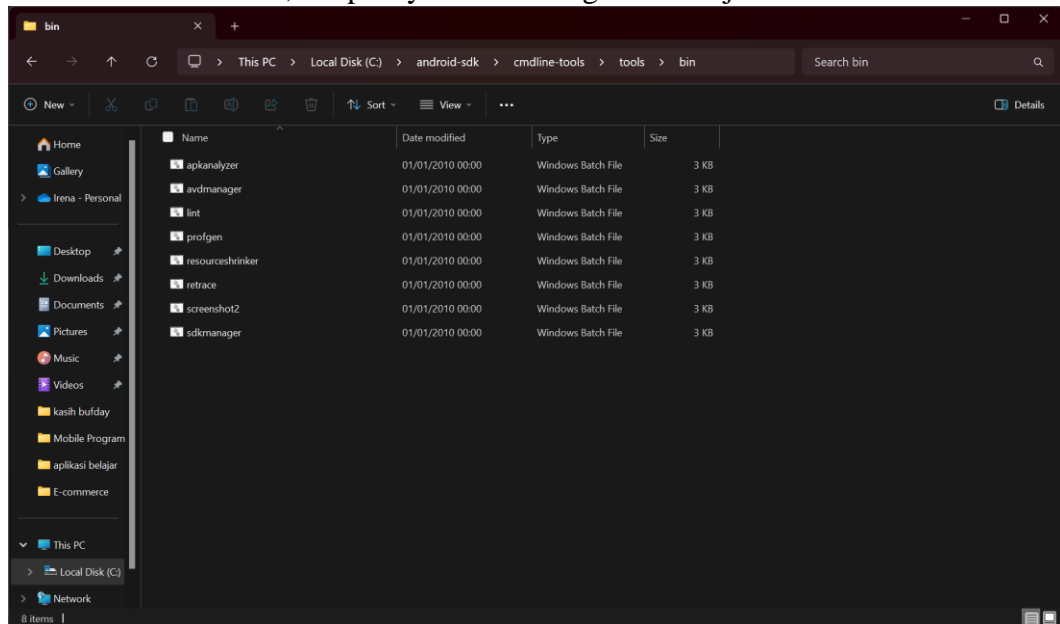


- e) Setelah itu, pindahkan (cut) file yang ada di luar folder 'latest' (bin, lib, NOTICE, source) dan masukkan ke dalam folder 'latest'

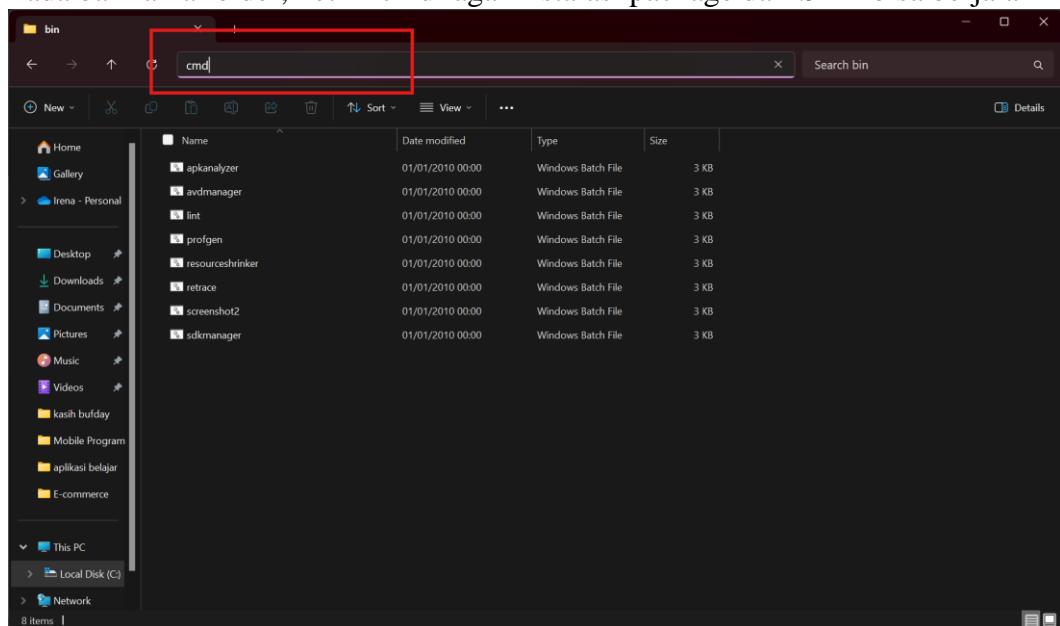


7. Install package

- a) Disini kita akan melakukan install package menggunakan command prompt
- b) Buka folder 'bin' dari folder 'latest'. Disini tertulis file 'tools' karena saya keliru dalam memberi nama, tetapi saya sudah mengubah menjadi folder 'latest'



- c) Pada bar nama folder, ketik 'cmd' agar instalasi package dari SDK bisa berjalan

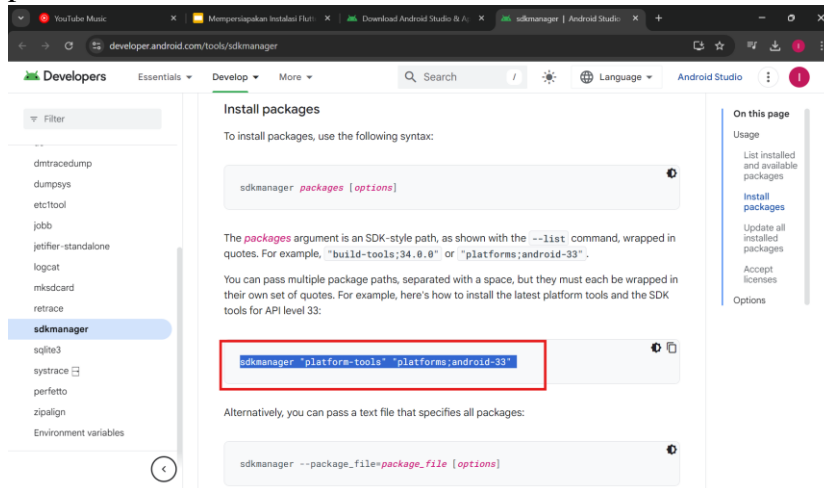


d) Command console terbuka

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\android-sdk\cmdline-tools\tools\bin>
```

e) Copy text 'sdkmanager "platform-tools" "platforms;android-33"' untuk menginstall platform tools terbaru dan tools SDK untuk level API 33



f) Paste teks yang tadi disalin ke command console

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\android-sdk\cmdline-tools\tools\bin>sdkmanager "platform-tools" "platforms;android-33"
```

g) Tambah, dan ketik "build-tools;34.0.0" sesuai dengan yang ada di web sdkmanager, lalu enter

The **packages** argument is an SDK-style path, as shown with the `--list` command, wrapped in quotes. For example, `"build-tools;34.0.0"` or `"platforms;android-33"`.

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\android-sdk\cmdline-tools\tools\bin>sdkmanager "platform-tools" "platforms;android-33" "build-tools;34.0.0"
```

- h) Setelah di enter, maka proses berjalan, dan tampilannya akan seperti ini

```
C:\Windows\System32\cmd.exe

14. General Legal Terms

14.1 The License Agreement constitutes the whole legal agreement between you and Google and governs your use of the SDK (excluding any services which Google may provide to you under a separate written agreement), and completely replaces any prior agreements between you and Google in relation to the SDK.

14.2 You agree that if Google does not exercise or enforce any legal right or remedy which is contained in the License Agreement (or which Google has the benefit of under any applicable law), this will not be taken to be a formal waiver of Google's rights and that those rights or remedies will still be available to Google.

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14.5 EXPORT RESTRICTIONS. THE SDK IS SUBJECT TO UNITED STATES EXPORT LAWS AND REGULATIONS. YOU MUST COMPLY WITH ALL DOMESTIC AND INTERNATIONAL EXPORT LAWS AND REGULATIONS THAT APPLY TO THE SDK. THESE LAWS INCLUDE RESTRICTIONS ON DESTINATIONS, END USERS AND END USE.

14.6 The rights granted in the License Agreement may not be assigned or transferred by either you or Google without the prior written approval of the other party. Neither you nor Google shall be permitted to delegate their responsibilities or obligations under the License Agreement without the prior written approval of the other party.

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January 16, 2019
-----
Accept? (y/N): |
```

- i) Setelah itu ketik 'Y'

```
January 16, 2019
-----
Accept? (y/N): y
[=====] 100% Unzipping... platform-tools/sqlite3
C:\android-sdk\cmdline-tools\tools\bin>
```

- j) Setelah sudah 100% cek folder nya, berikut ini adalah folder lengkap yang menandakan proses sudah selesai

Name	Date modified	Type
.temp	09/09/2024 10:27	File folder
build-tools	09/09/2024 10:25	File folder
cmdline-tools	09/09/2024 10:10	File folder
licenses	09/09/2024 10:25	File folder
platforms	09/09/2024 10:27	File folder
platform-tools	09/09/2024 10:27	File folder

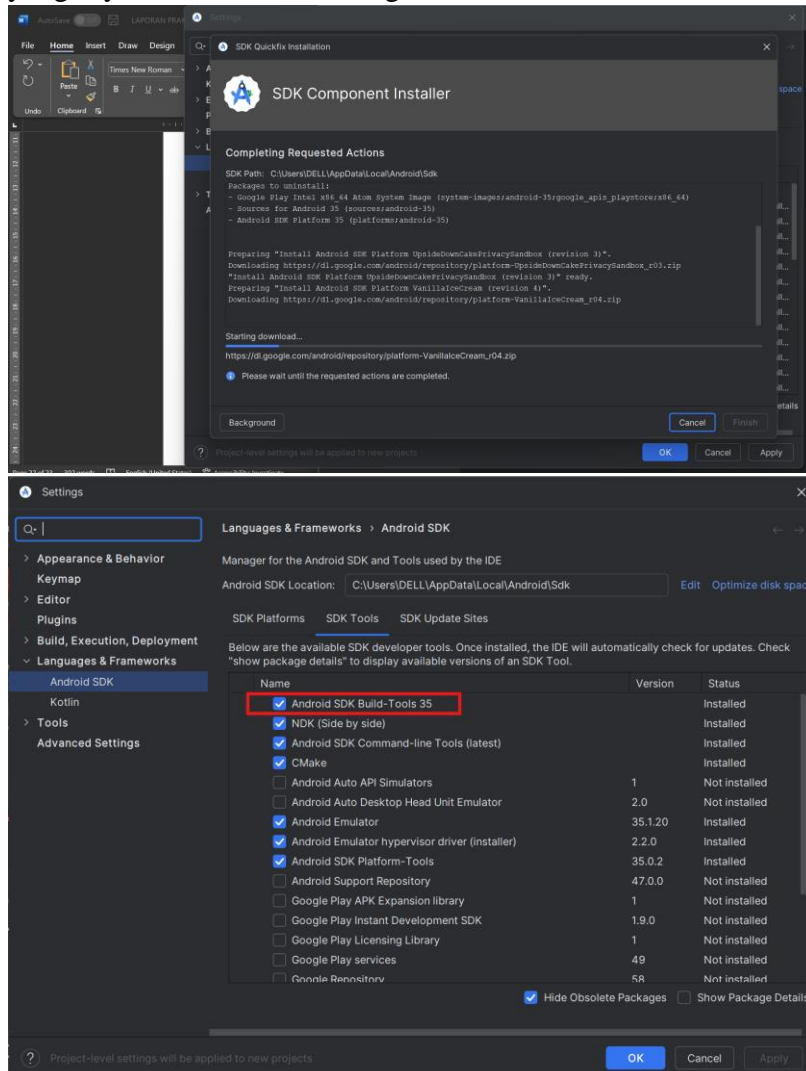
- k) Selanjutnya Kembali ke command console dan ketik command "sdkmanager --list stable" untuk melakukan proses pemindahan folder console ke c:\android-sdk\cmdline-tools\tools\bin

```
C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22631.4837]
(c) Microsoft Corporation. All rights reserved.

C:\android-sdk\cmdline-tools\tools\bin>sdkmanager --list
Loading package information...
Loading local repository...
=====
[=====] 25% Loading local repository=====
[=====] 26% Fetch remote repository=====
[=====] 32% Fetch remote repository=====
[=====] 35% Fetch remote repository=====
[=====] 37% Fetch remote repository=====
[=====] 39% Fetch remote repository=====
[=====] 41% Fetch remote repository=====
[=====] 44% Fetch remote repository=====
[=====] 46% Fetch remote repository=====
[=====] 47% Fetch remote repository=====
[=====] 49% Fetch remote repository=====
[=====] 51% Fetch remote repository=====
[=====] 53% Fetch remote repository=====
[=====] 55% Fetch remote repository=====
[=====] 56% Fetch remote repository=====
[=====] 58% Fetch remote repository=====
[=====] 59% Fetch remote repository=====
[=====] 60% Fetch remote repository=====
[=====] 63% Fetch remote repository=====
[=====] 65% Fetch remote repository=====
[=====] 67% Fetch remote repository=====
[=====] 69% Fetch remote repository=====
[=====] 72% Fetch remote repository=====
[=====] 74% Fetch remote repository=====
[=====] 75% Fetch remote repository=====
[=====] 75% Computing updates.=====
[=====] 100% Computing updates...
Installed packages:
=====
Path | Version | Description | Location
-----|-----|-----|-----
build-tools;34.0.0 | 34.0.0 | Android SDK Build-Tools 34 | build-tools\34.0.0
platform-tools | 35.0.2 | Android SDK Platform-Tools | platform-tools
platforms;android-33 | 33 | Android SDK Platform 33 | platforms\android-33
Available Packages:
Path
```


- b) Karena bagian cmdline-tools saya hilang, maka saya melakukan instalasi di android studio (mencentang bagian Android SDK Build-Tools 35). ini perbaikan download yang saya lakukan untuk mengatasi masalah “cmdline-tools component is missing”



- c) Ini adalah hasilnya, saya sudah mengatasi permasalahan pada “cmdline-tools component is missing”

```
C:\Users\DELL>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version
10.0.22631.4037], locale en-ID)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version
35.0.0)
    ! Some Android licenses not accepted. To resolve this, run: flutter doctor
    --android-licenses
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.11.2)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[✓] Connected device (3 available)
[✓] Network resources

! Doctor found issues in 1 category.
C:\Users\DELL>
```

- d) Selanjutnya berikut ini adalah untuk, melakukan perbaikan pada isu “some Android licenses not accepted”. Ketik ‘flutter doctor --android-licenses’ untuk mengatasinya

```
C:\Users\DELL>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version 10.0.22631.4037], locale en-ID)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.0)
[!] Some Android licenses not accepted. To resolve this, run: flutter doctor --android-licenses
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.11.2)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[✓] Connected device (3 available)
[✓] Network resources

! Doctor found issues in 1 category.

C:\Users\DELL>flutter doctor --android-licenses
[=====] 100% Computing updates...
6 of 7 SDK package licenses not accepted.
Review licenses that have not been accepted (y/N)? y

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Accept? (y/N): y
All SDK package licenses accepted

C:\Users\DELL>
```

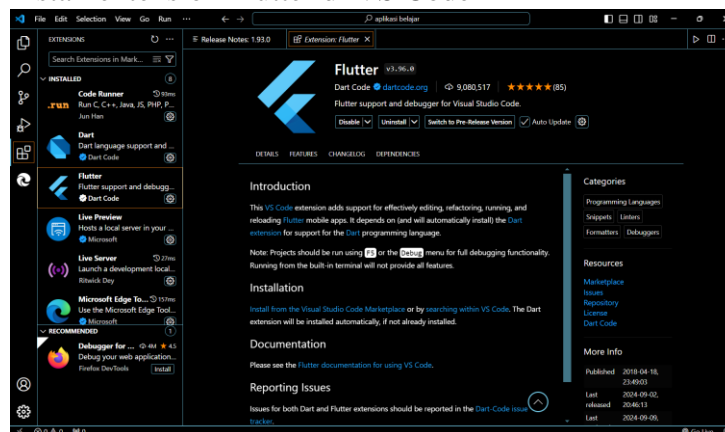
- e) Lakukan pengecekan kelengkapan lagi dengan mengetik ‘flutter doctor’. Disini saya sudah lengkap semua, dan selesai.

```
C:\Users\DELL>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.24.2, on Microsoft Windows [Version 10.0.22631.4037], locale en-ID)
[✓] Windows Version (Installed version of Windows is version 10 or higher)
[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.0)
[✓] Chrome - develop for the web
[✓] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.11.2)
[✓] Android Studio (version 2024.1)
[✓] VS Code (version 1.92.2)
[✓] Connected device (3 available)
[✓] Network resources

No issues found!

C:\Users\DELL>
```

9. Install extension Flutter di VS Code



BAB IV

KESIMPULAN

4.1.Kendala ketika instalasi

Saya lama untuk bisa memahami step dengan benar, sehingga beberapa step sering keliru dan terlewat. Tetapi saya bisa mengatasinya dengan baik sehingga semua step sudah berhasil saya lakukan. Saya juga mulai belajar untuk lebih teliti dalam mengikuti setiap instruksi agar kesalahan serupa tidak terulang di kemudian hari. Dengan evaluasi diri, saya merasa semakin efektif dalam menyelesaikan tugas dengan hasil yang lebih optimal.