Android Studio



Pertemuan 2
Mata Kuliah:
Pemrograman Aplikasi Bergerak

Dosen:
Mahisa Ajy Kusuma, S.Kom., MMSI.

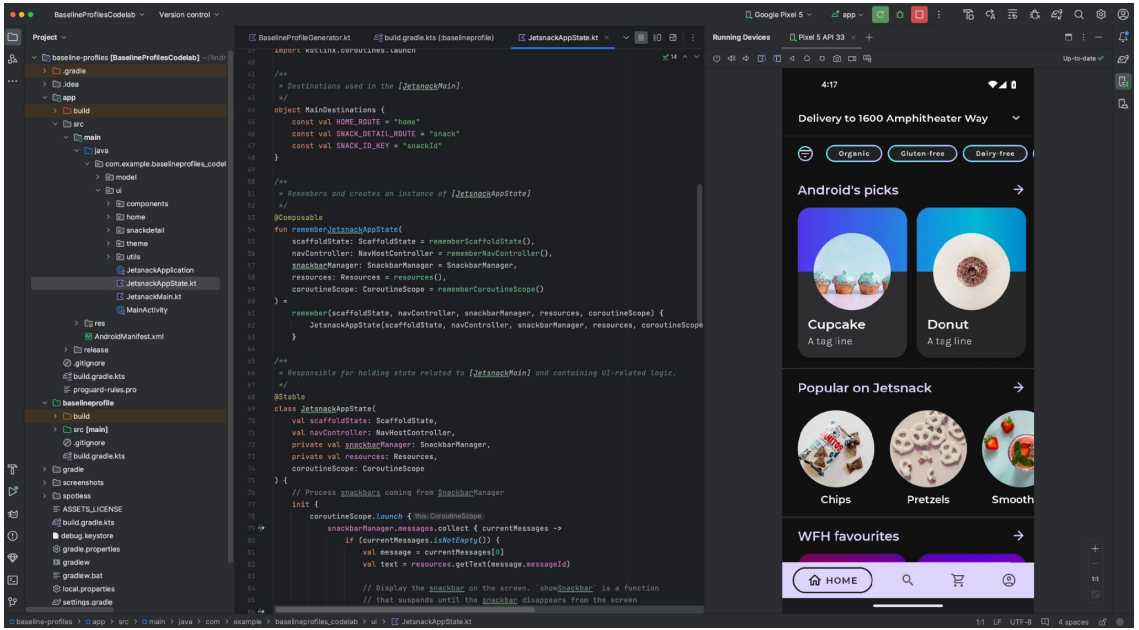
Outline

- Basic android studio dan create project
  - Perkenalan tampilan awal
  - Perkenalan ui android studio
- Run dan Emulator
  - Virtual device
  - Usb debugging
  - Wireless debugging
  - Firebase debugging
- Manifest
- Resource
- Gradle

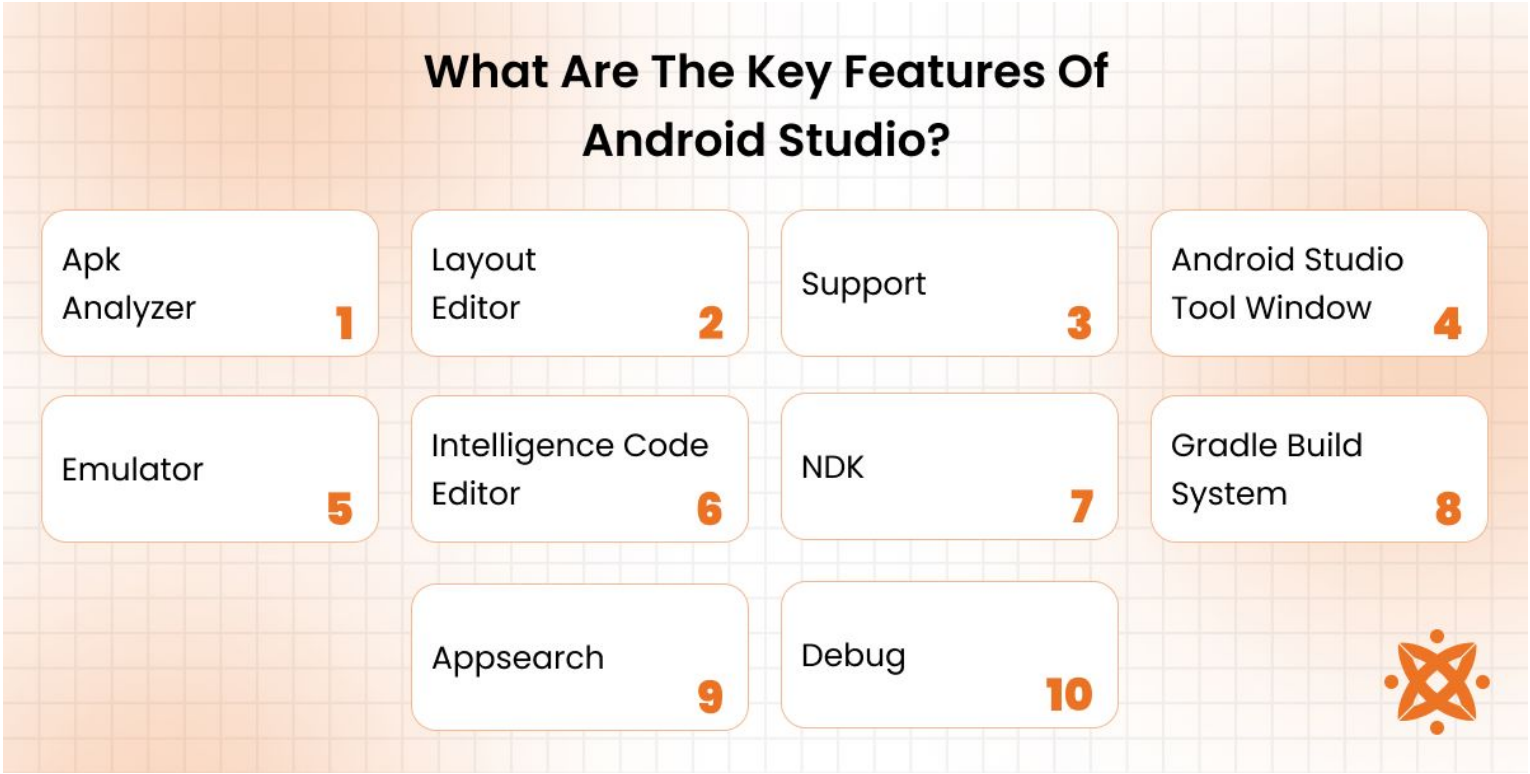
Android Studio

Android Studio

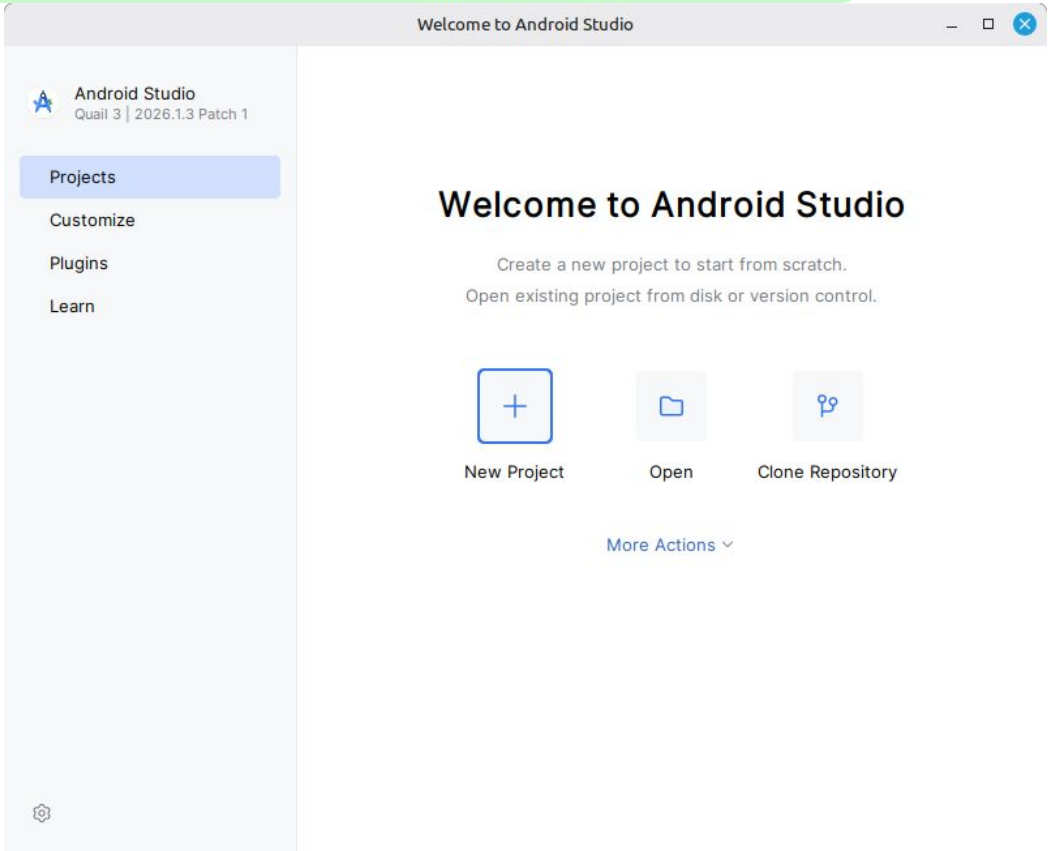
- Official IDE for building Android apps
- Android Studio is an integrated development environment (IDE) built on IntelliJ IDEA that Google designates as the official platform for Android app development.
- Google introduced Android Studio in 2013 to replace Eclipse as the primary Android IDE.



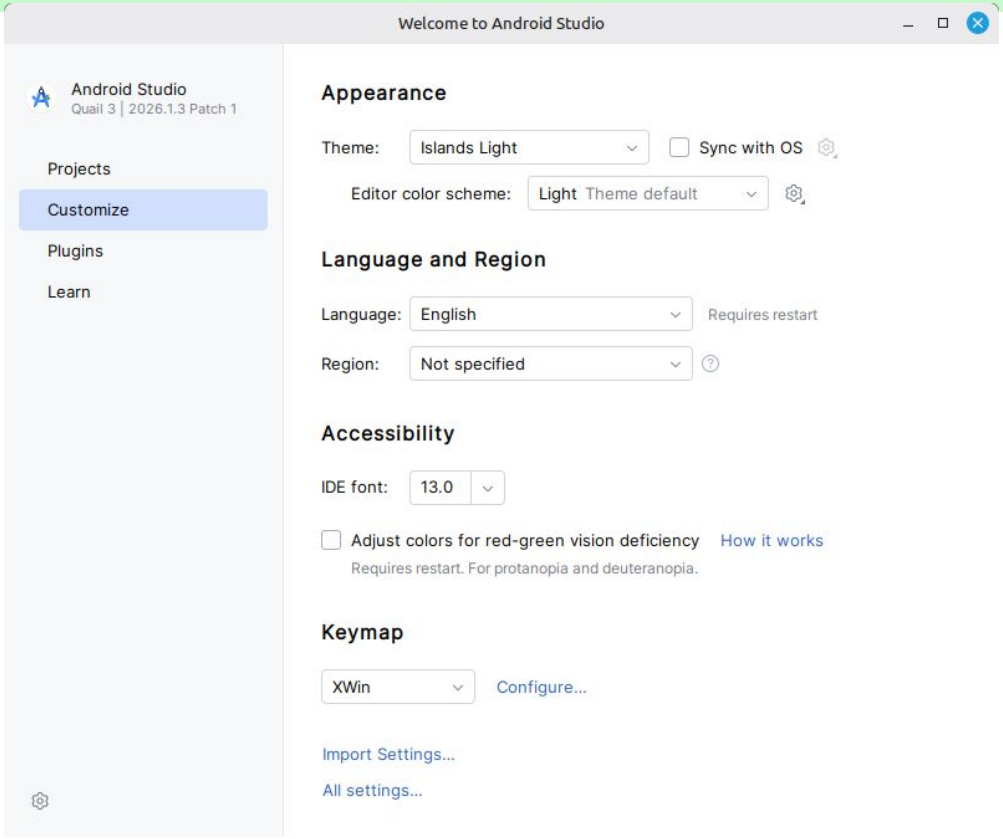
Key Features Of Android Studio

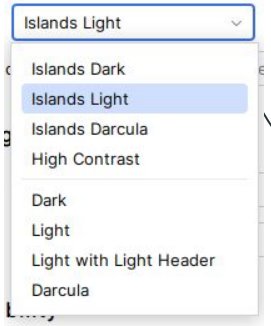


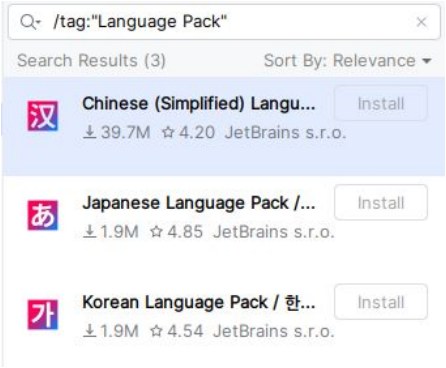
Open Android Studio

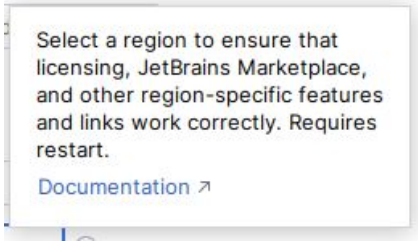


Customize

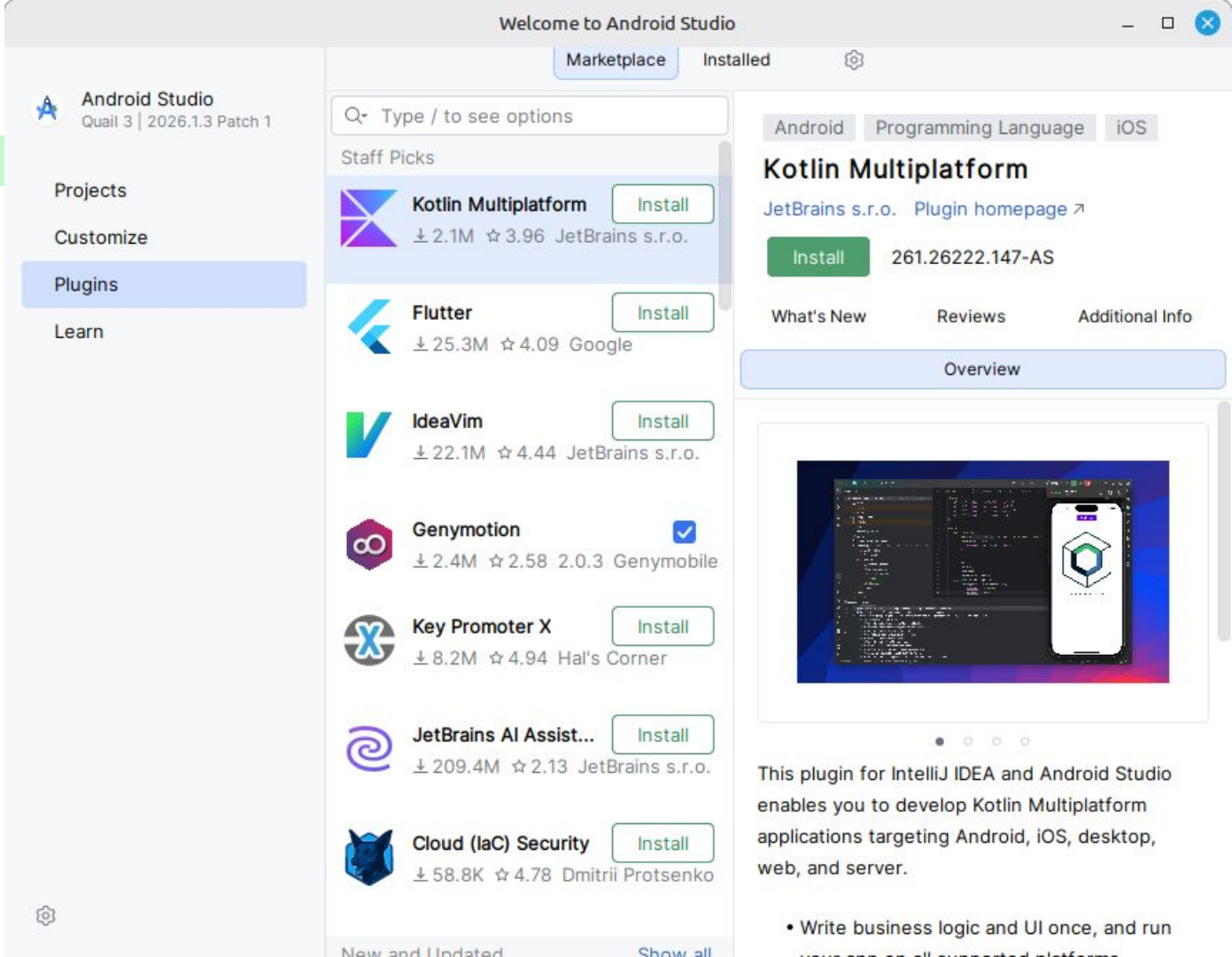

Welcome to Android Studio
Android Studio
Quail 3 | 2026.1.3 Patch 1
Projects
Customize
Plugins
Learn
Appearance
Theme:
Islands Light
Sync with OS
Editor color scheme:
Light Theme default
Language and Region
Language:
English
Requires restart
Region:
Not specified
Accessibility
IDE font:
13.0
Adjust colors for red-green vision deficiency
How it works
Requires restart. For protanopia and deuteranopia.
Keymap
XWin
Configure...
Import Settings...
All settings...


Islands Light
Islands Dark
Islands Light
Islands Darcula
High Contrast
Dark
Light
Light with Light Header
Darcula

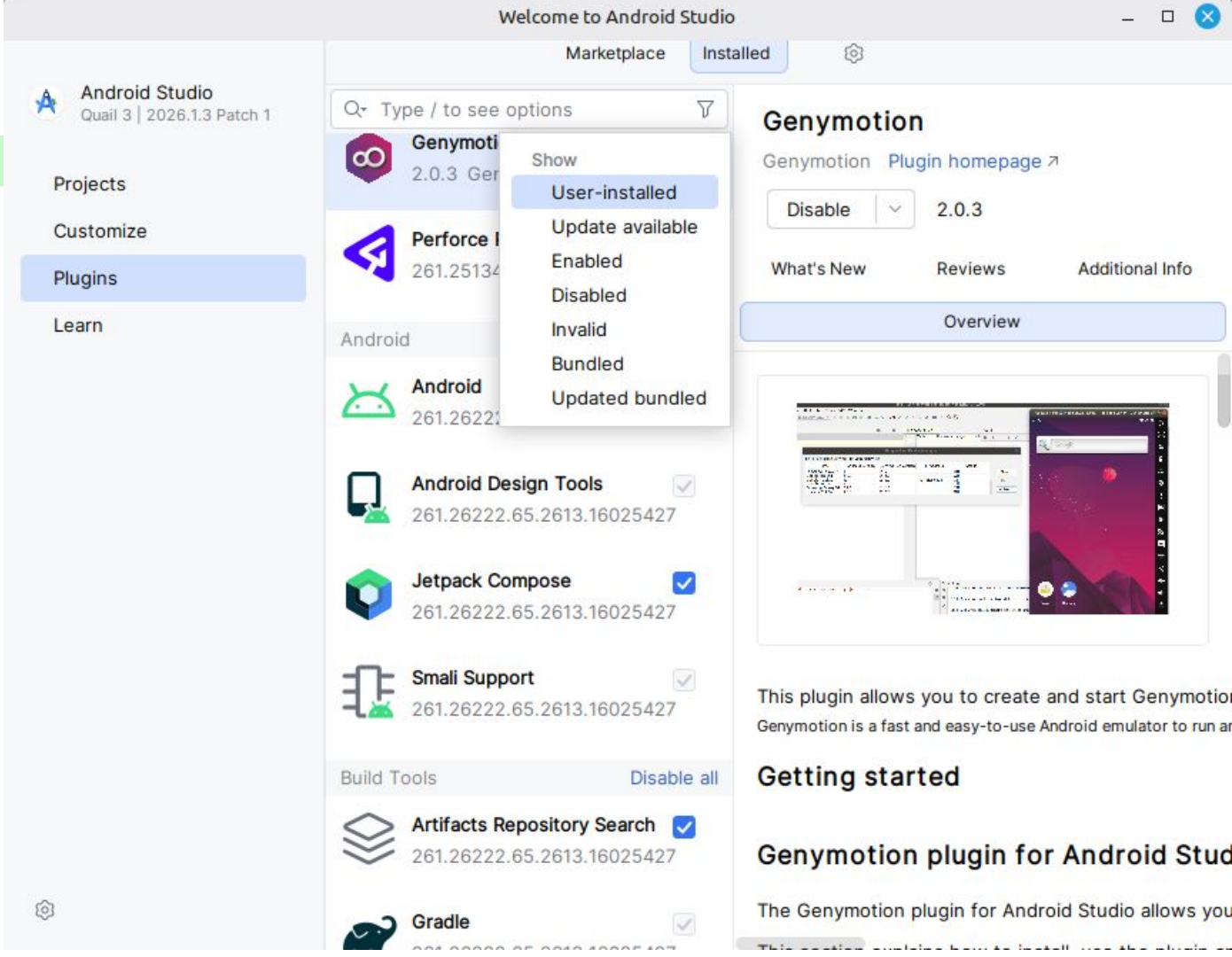

/tag:"Language Pack"
Search Results (3)
Sort By: Relevance
Chinese (Simplified) Langu...
Install
39.7M 4.20 JetBrains s.r.o.
Japanese Language Pack /...
Install
1.9M 4.85 JetBrains s.r.o.
Korean Language Pack / 한...
Install
1.9M 4.54 JetBrains s.r.o.


Select a region to ensure that licensing, JetBrains Marketplace, and other region-specific features and links work correctly. Requires restart.
Documentation ↗

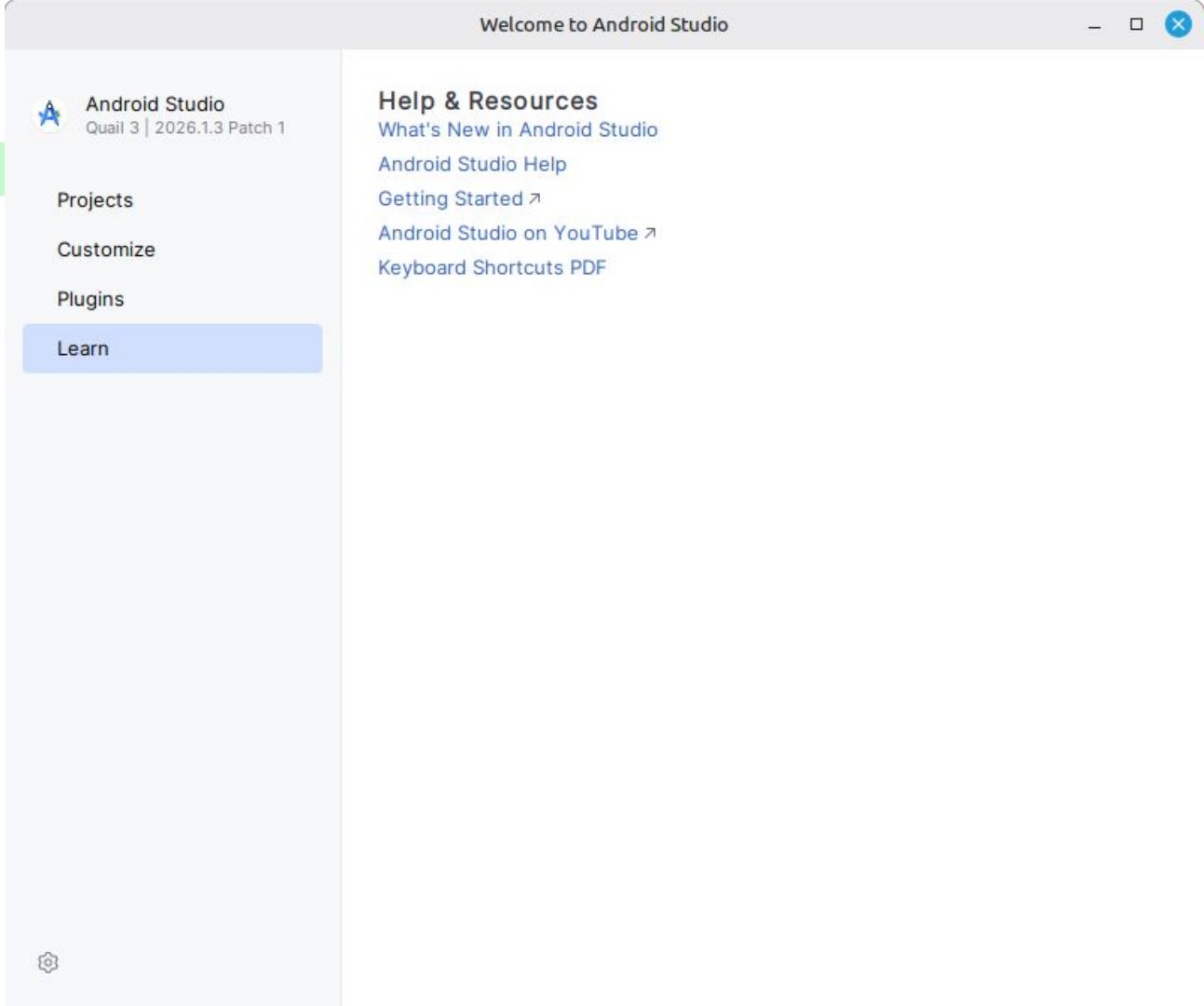
Plugins


Welcome to Android Studio
Marketplace
Installed
Android Studio
Quail 3 | 2026.1.3 Patch 1
Projects
Customize
Plugins
Learn
Type / to see options
Staff Picks
Kotlin Multiplatform
Install
2.1M 3.96 JetBrains s.r.o.
Flutter
Install
25.3M 4.09 Google
IdeaVim
Install
22.1M 4.44 JetBrains s.r.o.
Genymotion
2.4M 2.58 2.0.3 Genymobile
Key Promoter X
Install
8.2M 4.94 Hal's Corner
JetBrains AI Assist...
Install
209.4M 2.13 JetBrains s.r.o.
Cloud (IaC) Security
Install
58.8K 4.78 Dmitrii Protsenko
New and Updated
Show all
Android
Programming Language
iOS
Kotlin Multiplatform
JetBrains s.r.o.
Plugin homepage
Install
261.26222.147-AS
What's New
Reviews
Additional Info
Overview
This plugin for IntelliJ IDEA and Android Studio enables you to develop Kotlin Multiplatform applications targeting Android, iOS, desktop, web, and server.
• Write business logic and UI once, and run

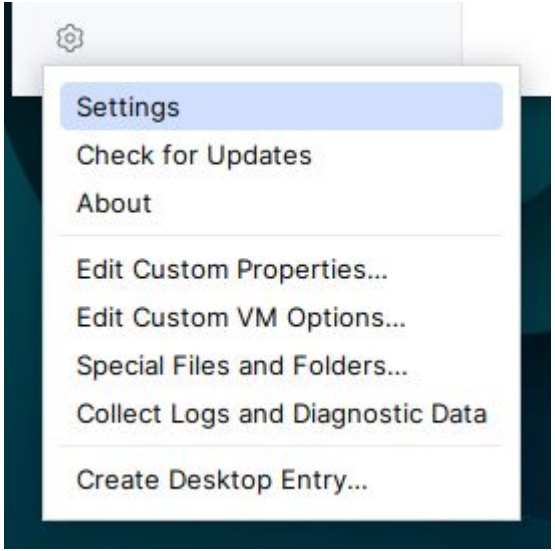
Plugins


Welcome to Android Studio
Marketplace
Installed
Android Studio
Quail 3 | 2026.1.3 Patch 1
Projects
Customize
Plugins
Learn
Type / to see options
Show
User-installed
Update available
Enabled
Disabled
Invalid
Bundled
Updated bundled
Android
Android Design Tools
261.26222.65.2613.16025427
Jetpack Compose
261.26222.65.2613.16025427
Smali Support
261.26222.65.2613.16025427
Build Tools
Disable all
Artifacts Repository Search
261.26222.65.2613.16025427
Gradle
Genymotion
Genymotion
Plugin homepage
Disable
2.0.3
What's New
Reviews
Additional Info
Overview
This plugin allows you to create and start Genymotion
Genymotion is a fast and easy-to-use Android emulator to run ar
Getting started
Genymotion plugin for Android Stud
The Genymotion plugin for Android Studio allows you

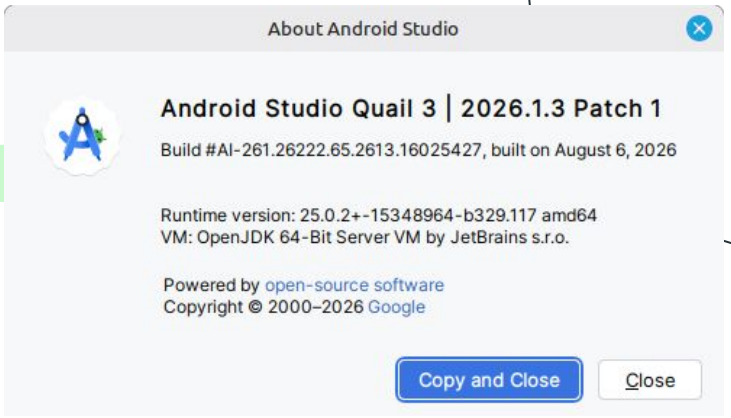
Learn


Welcome to Android Studio
Android Studio
Quail 3 | 2026.1.3 Patch 1
Projects
Customize
Plugins
Learn
Help & Resources
What's New in Android Studio
Android Studio Help
Getting Started
Android Studio on YouTube
Keyboard Shortcuts PDF

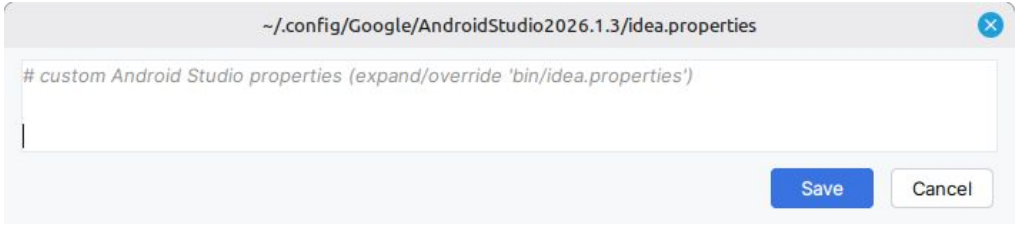
Settings



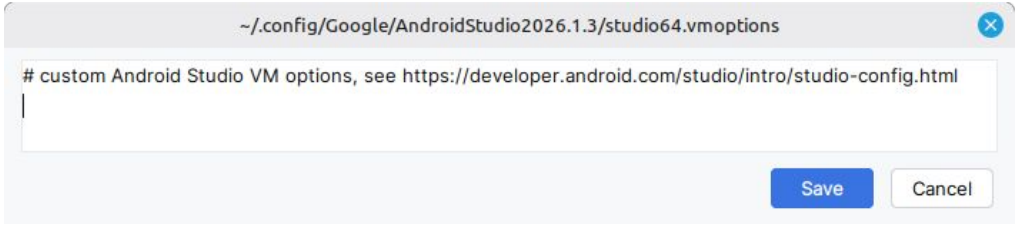
About



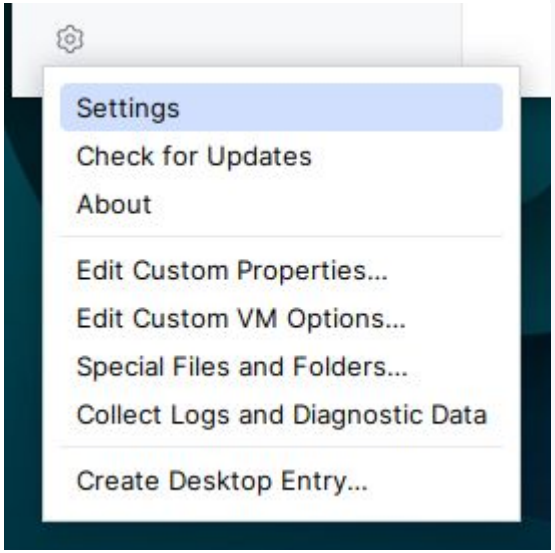
Edit Custom Properties



Edit Custom VM Options



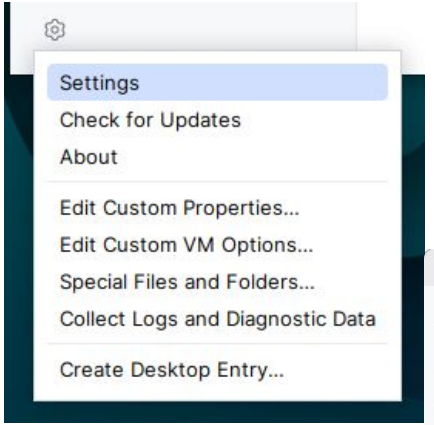
Settings

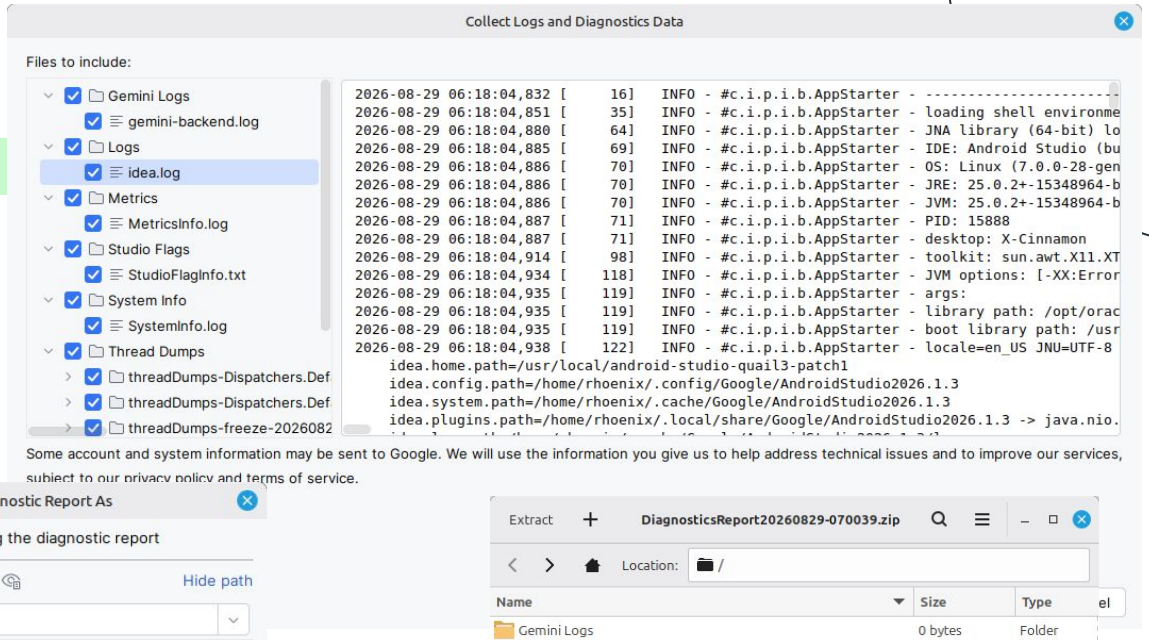


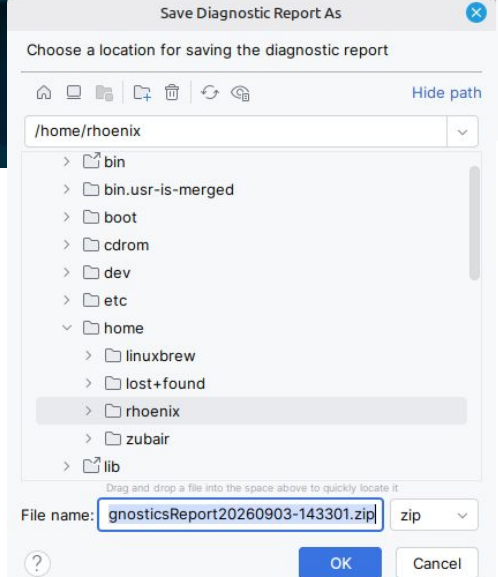
Special Files and Folders

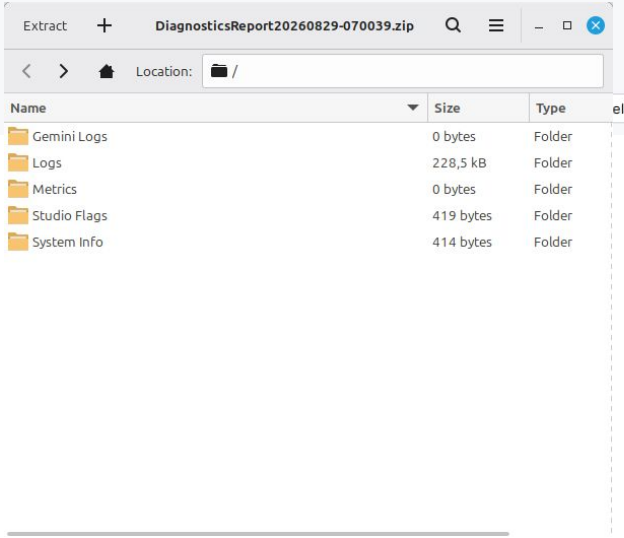
Description	Path
Bin directory	/usr/local/android-studio/bin
Config directory	/home/rhoenix/.config/Google/AndroidStudio2026.1.3
IDE Installation home	/usr/local/android-studio
IDE Runtime	/usr/local/android-studio/jbr
LOGS folder	/home/rhoenix/.cache/Google/AndroidStudio2026.1.3/log
LOGS frontend log	/home/rhoenix/.cache/Google/AndroidStudio2026.1.3/log/idea.log
Lib directory	/usr/local/android-studio/lib
MISC Scratch directory	/home/rhoenix/.config/Google/AndroidStudio2026.1.3
MISC Temp directory	/home/rhoenix/.cache/Google/AndroidStudio2026.1.3/tmp
Options directory	/home/rhoenix/.config/Google/AndroidStudio2026.1.3/options
PLUGINS Main directory	/home/rhoenix/.local/share/Google/AndroidStudio2026.1.3
PLUGINS PreInstalled directory	/usr/local/android-studio/plugins
System directory	/home/rhoenix/.cache/Google/AndroidStudio2026.1.3

Settings

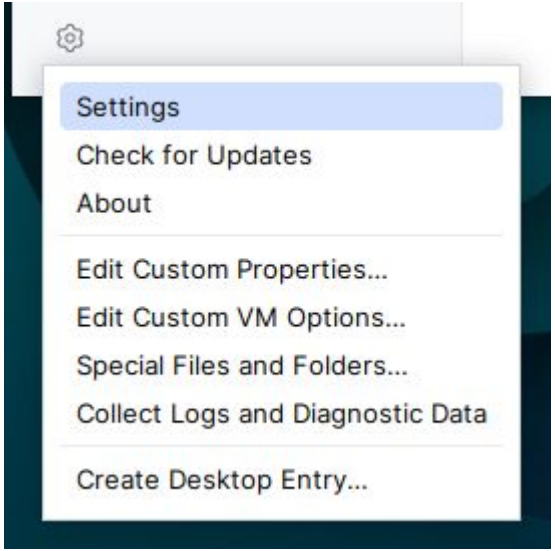

Settings
Check for Updates
About
Edit Custom Properties...
Edit Custom VM Options...
Special Files and Folders...
Collect Logs and Diagnostic Data
Create Desktop Entry...

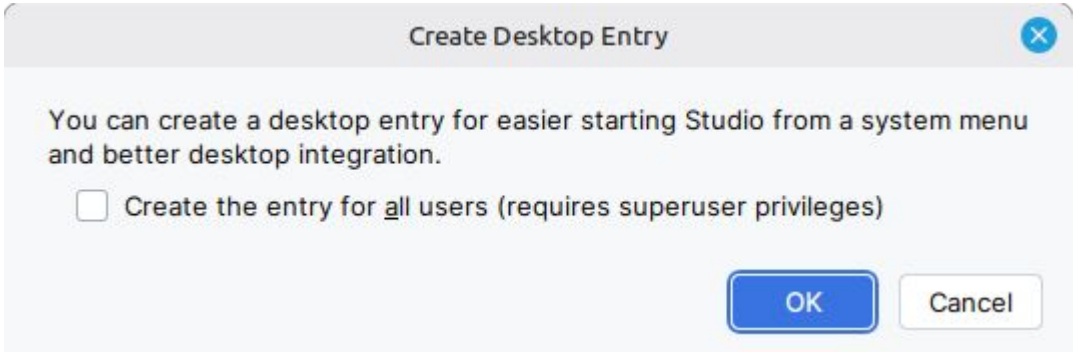

Collect Logs and Diagnostics Data
Files to include:
Gemini Logs
gemini-backend.log
Logs
idea.log
Metrics
MetricsInfo.log
Studio Flags
StudioFlagInfo.txt
System Info
SystemInfo.log
Thread Dumps
threadDumps-Dispatchers.Def
threadDumps-Dispatchers.Def
threadDumps-freeze-2026082
2026-08-29 06:18:04,832 [16] INFO - #c.i.p.i.b.AppStarter -
2026-08-29 06:18:04,851 [35] INFO - #c.i.p.i.b.AppStarter - loading shell environme
2026-08-29 06:18:04,880 [64] INFO - #c.i.p.i.b.AppStarter - JNA library (64-bit) lo
2026-08-29 06:18:04,885 [69] INFO - #c.i.p.i.b.AppStarter - IDE: Android Studio (bu
2026-08-29 06:18:04,886 [70] INFO - #c.i.p.i.b.AppStarter - OS: Linux (7.0.0-28-gen
2026-08-29 06:18:04,886 [70] INFO - #c.i.p.i.b.AppStarter - JRE: 25.0.2+-15348964-b
2026-08-29 06:18:04,886 [70] INFO - #c.i.p.i.b.AppStarter - JVM: 25.0.2+-15348964-b
2026-08-29 06:18:04,887 [71] INFO - #c.i.p.i.b.AppStarter - PID: 15888
2026-08-29 06:18:04,887 [71] INFO - #c.i.p.i.b.AppStarter - desktop: X-Cinnamon
2026-08-29 06:18:04,914 [98] INFO - #c.i.p.i.b.AppStarter - toolkit: sun.awt.X11.XT
2026-08-29 06:18:04,934 [118] INFO - #c.i.p.i.b.AppStarter - JVM options: [-XX:Error
2026-08-29 06:18:04,935 [119] INFO - #c.i.p.i.b.AppStarter - args:
2026-08-29 06:18:04,935 [119] INFO - #c.i.p.i.b.AppStarter - library path: /opt/orac
2026-08-29 06:18:04,935 [119] INFO - #c.i.p.i.b.AppStarter - boot library path: /usr
2026-08-29 06:18:04,938 [122] INFO - #c.i.p.i.b.AppStarter - locale=en_US JNU=UTF-8
idea.home.path=/usr/local/android-studio-quail3-patch1
idea.config.path=/home/rhoenix/.config/Google/AndroidStudio2026.1.3
idea.system.path=/home/rhoenix/.cache/Google/AndroidStudio2026.1.3
idea.plugins.path=/home/rhoenix/.local/share/Google/AndroidStudio2026.1.3 -> java.nio.
Some account and system information may be sent to Google. We will use the information you give us to help address technical issues and to improve our services,
subject to our privacy policy and terms of service.


Save Diagnostic Report As
Choose a location for saving the diagnostic report
Hide path
/home/rhoenix
bin
bin.usr-is-merged
boot
cdrom
dev
etc
home
linuxbrew
lost+found
rhoenix
zubair
lib
Drag and drop a file into the space above to quickly locate it
File name:
gnosticsReport20260903-143301.zip
zip
OK
Cancel

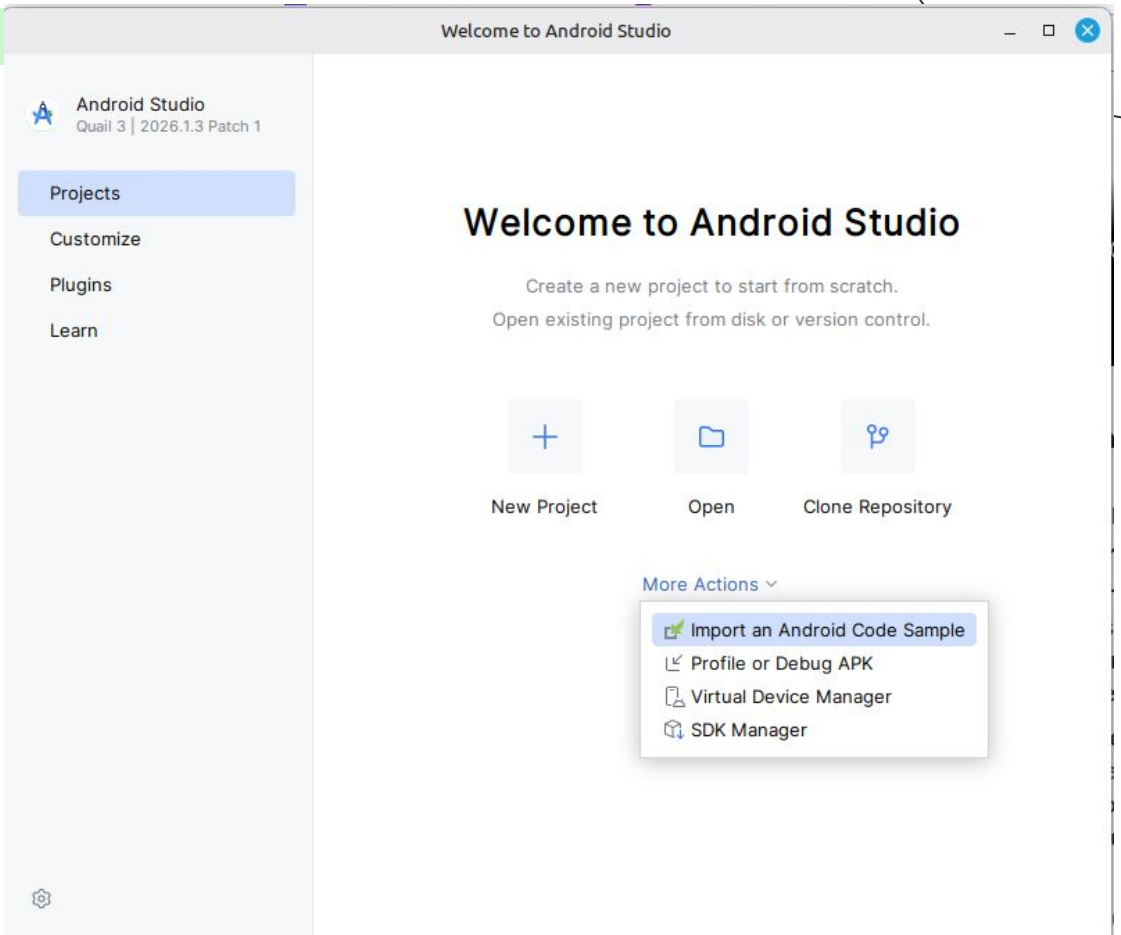

Extract
DiagnosticsReport20260829-070039.zip
Location:
/
Name
Size
Type
Gemini Logs 0 bytes Folder
Logs 228,5 kB Folder
Metrics 0 bytes Folder
Studio Flags 419 bytes Folder
System Info 414 bytes Folder

Settings

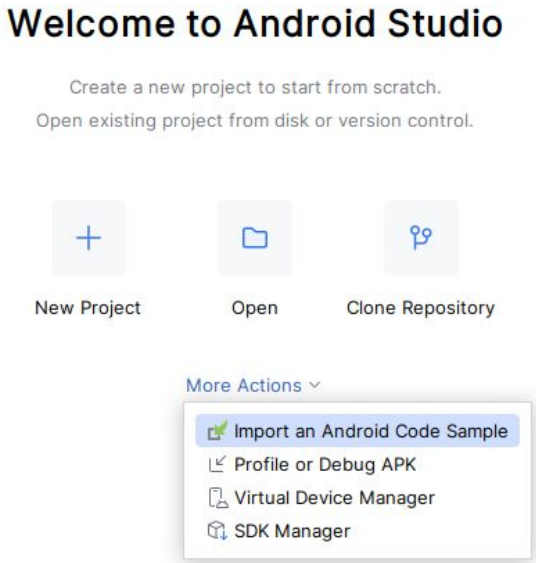

Settings
Check for Updates
About
Edit Custom Properties...
Edit Custom VM Options...
Special Files and Folders...
Collect Logs and Diagnostic Data
Create Desktop Entry...

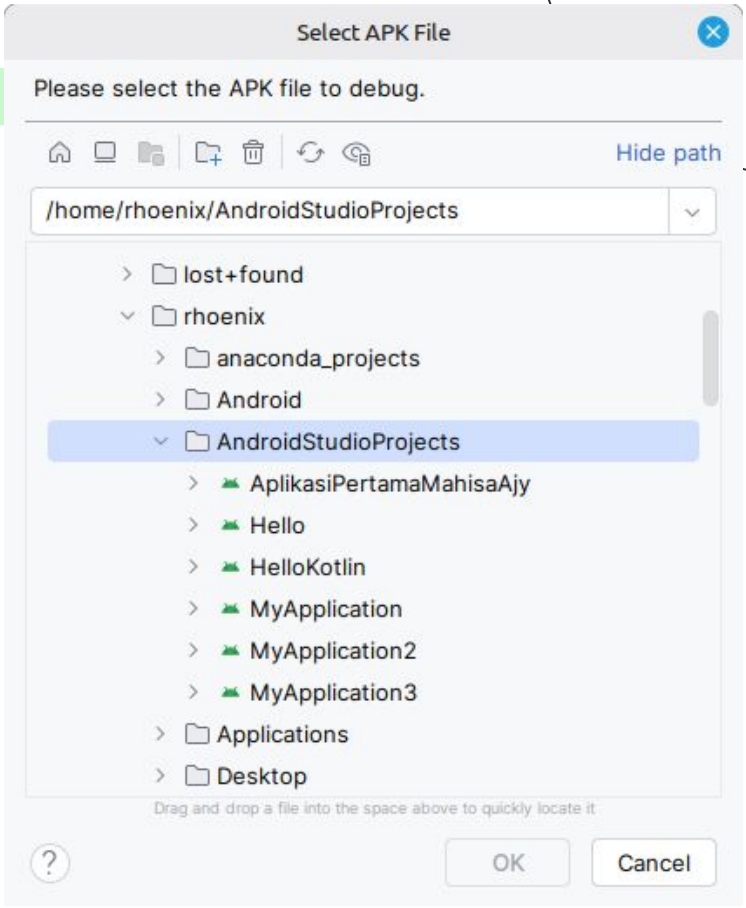

Create Desktop Entry
You can create a desktop entry for easier starting Studio from a system menu and better desktop integration.
Create the entry for all users (requires superuser privileges)
OK
Cancel

More Actions

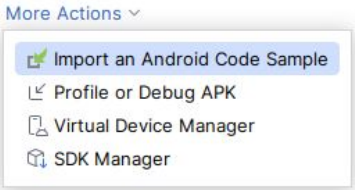


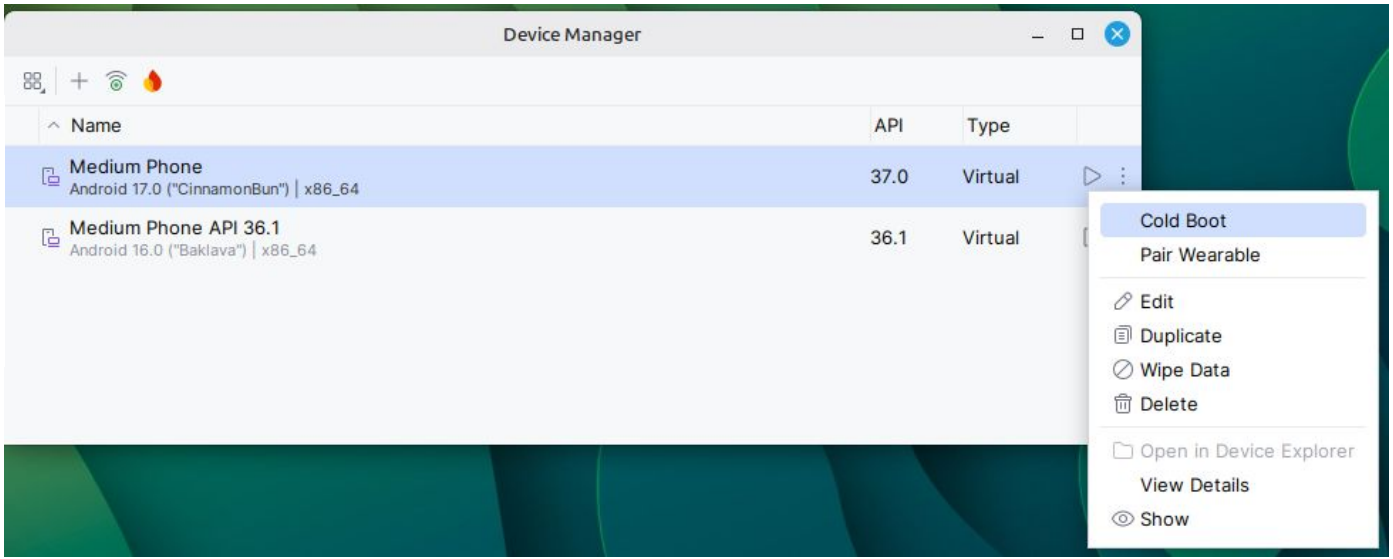
Profile or Debug APK



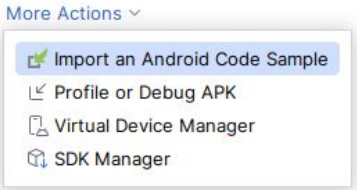


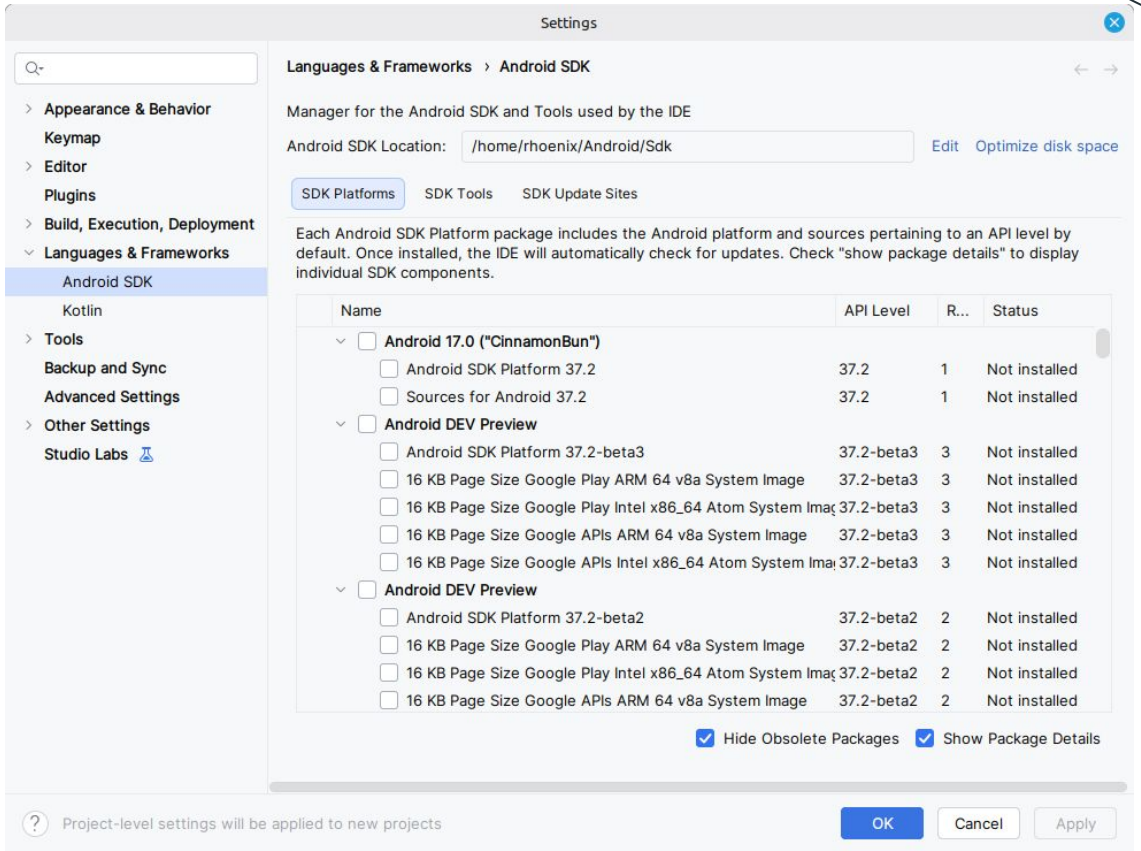
Virtual Device Manager





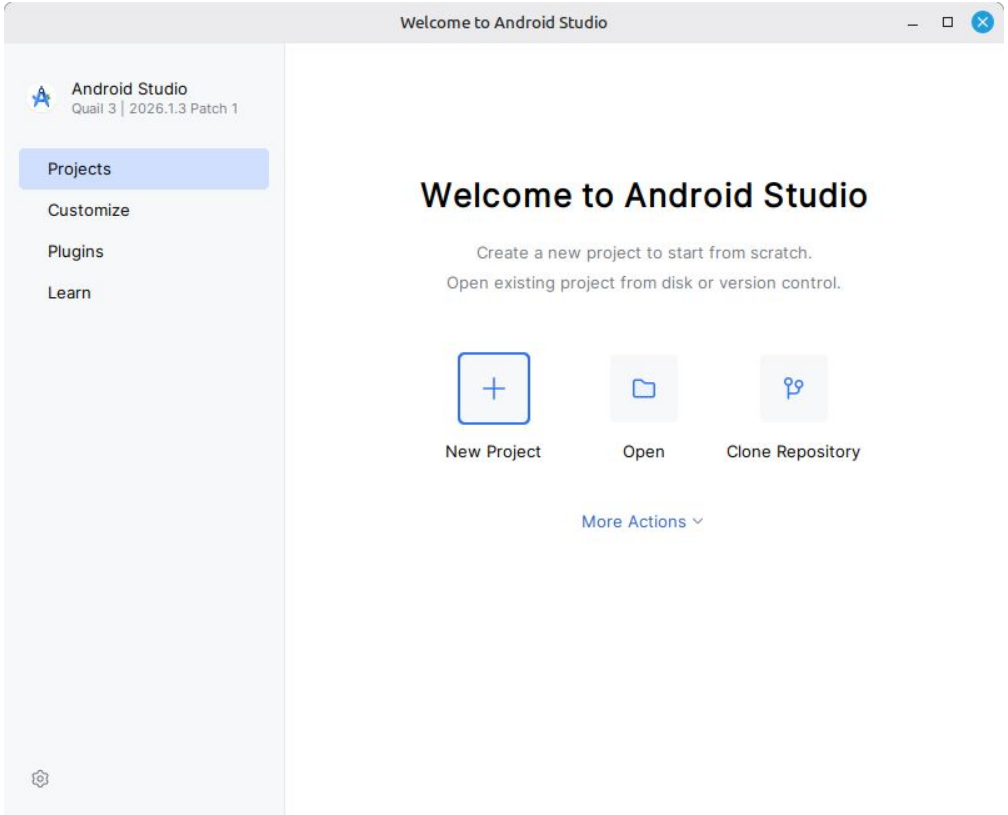
SDK Manager


More Actions
Import an Android Code Sample
Profile or Debug APK
Virtual Device Manager
SDK Manager


Settings
Appearance & Behavior
Keymap
Editor
Plugins
Build, Execution, Deployment
Languages & Frameworks
Android SDK
Kotlin
Tools
Backup and Sync
Advanced Settings
Other Settings
Studio Labs
Languages & Frameworks › Android SDK
Manager for the Android SDK and Tools used by the IDE
Android SDK Location: /home/rhoenix/Android/Sdk
Edit
Optimize disk space
SDK Platforms
SDK Tools
SDK Update Sites
Each Android SDK Platform package includes the Android platform and sources pertaining to an API level by default. Once installed, the IDE will automatically check for updates. Check "show package details" to display individual SDK components.
Name
API Level
R...
Status
Android 17.0 ("CinnamonBun")
Android SDK Platform 37.2 37.2 1 Not installed
Sources for Android 37.2 37.2 1 Not installed
Android DEV Preview
Android SDK Platform 37.2-beta3 37.2-beta3 3 Not installed
16 KB Page Size Google Play ARM 64 v8a System Image 37.2-beta3 3 Not installed
16 KB Page Size Google Play Intel x86_64 Atom System Ima 37.2-beta3 3 Not installed
16 KB Page Size Google APIs ARM 64 v8a System Image 37.2-beta3 3 Not installed
16 KB Page Size Google APIs Intel x86_64 Atom System Ima 37.2-beta3 3 Not installed
Android DEV Preview
Android SDK Platform 37.2-beta2 37.2-beta2 2 Not installed
16 KB Page Size Google Play ARM 64 v8a System Image 37.2-beta2 2 Not installed
16 KB Page Size Google Play Intel x86_64 Atom System Ima 37.2-beta2 2 Not installed
16 KB Page Size Google APIs ARM 64 v8a System Image 37.2-beta2 2 Not installed
Hide Obsolete Packages
Show Package Details
Project-level settings will be applied to new projects
OK
Cancel
Apply

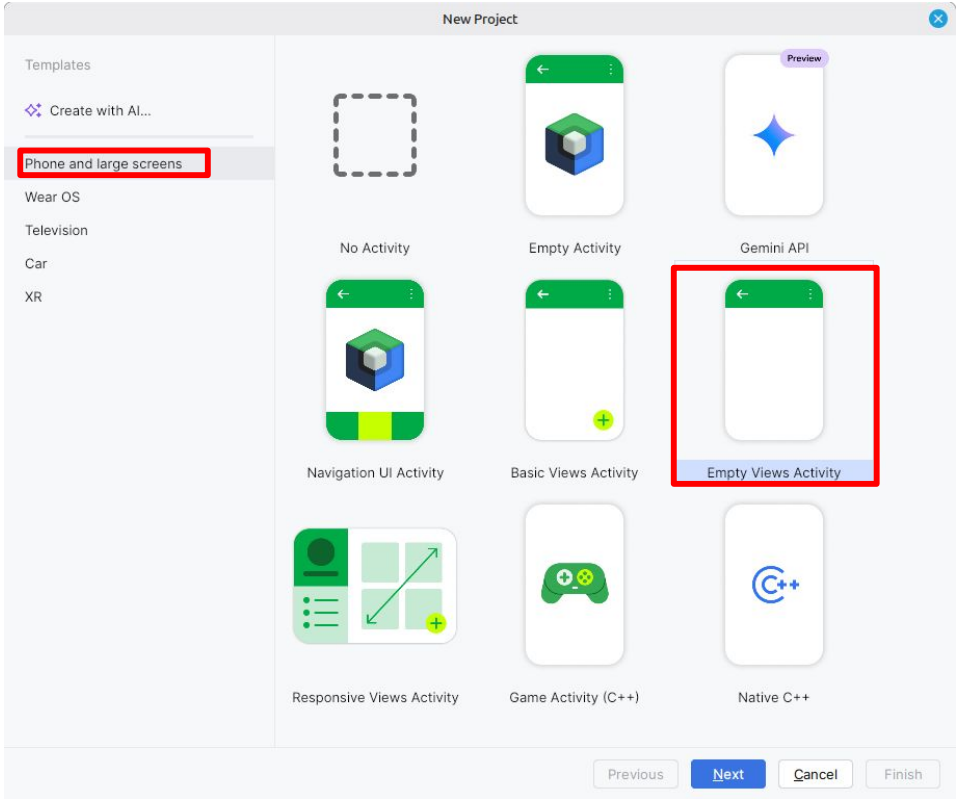
Buat Aplikasi Pertamamu

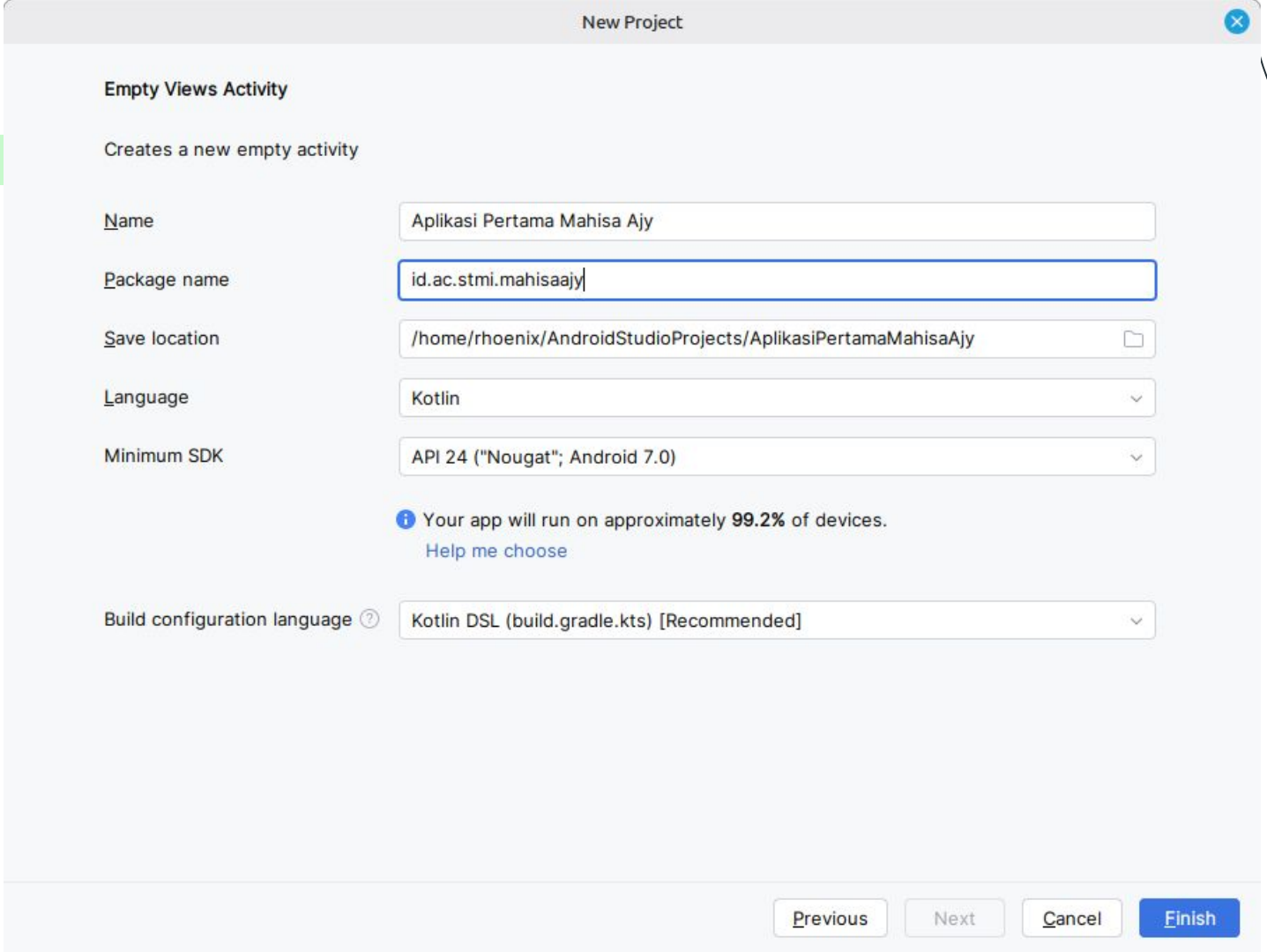
Open Android Studio

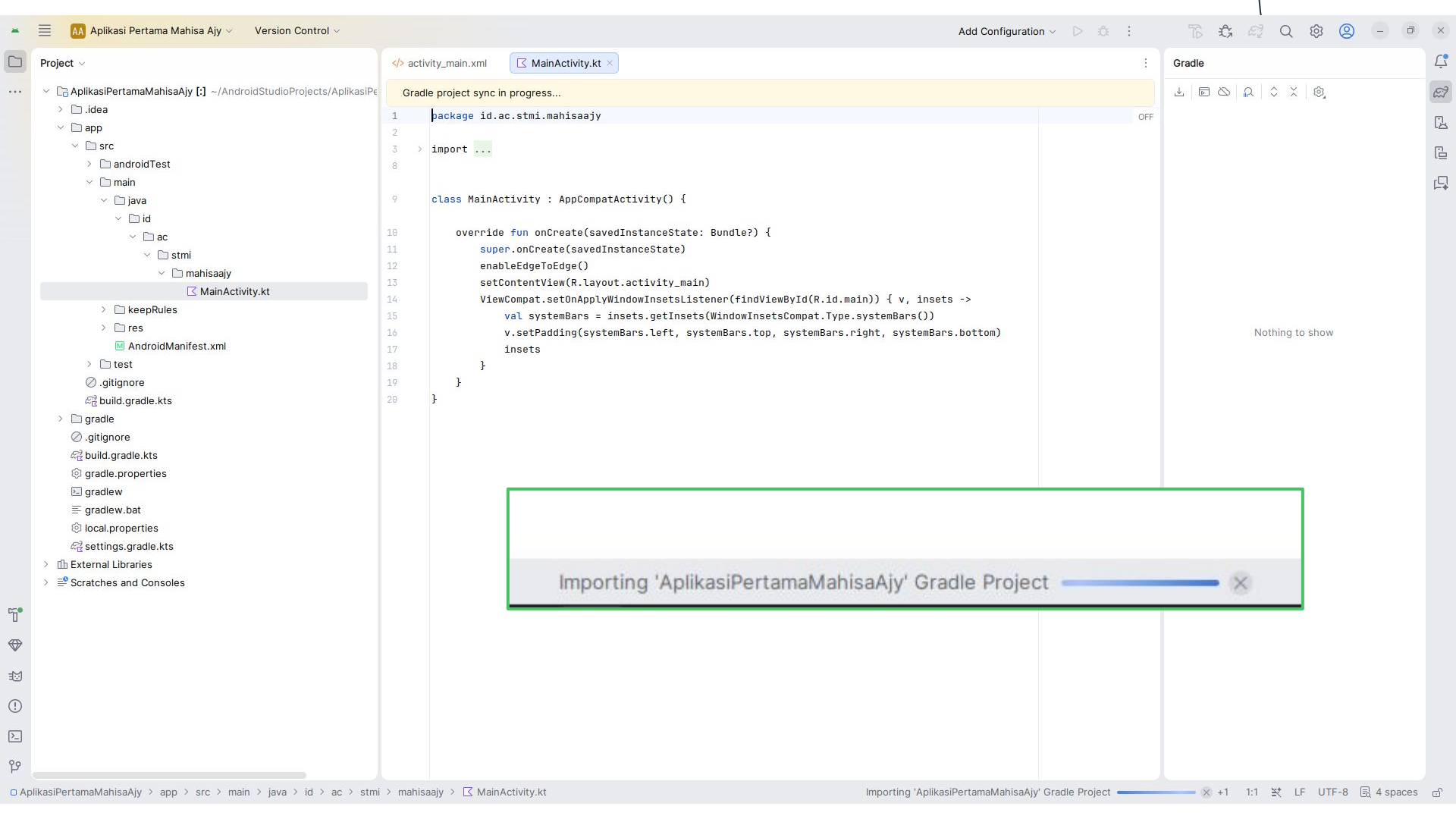


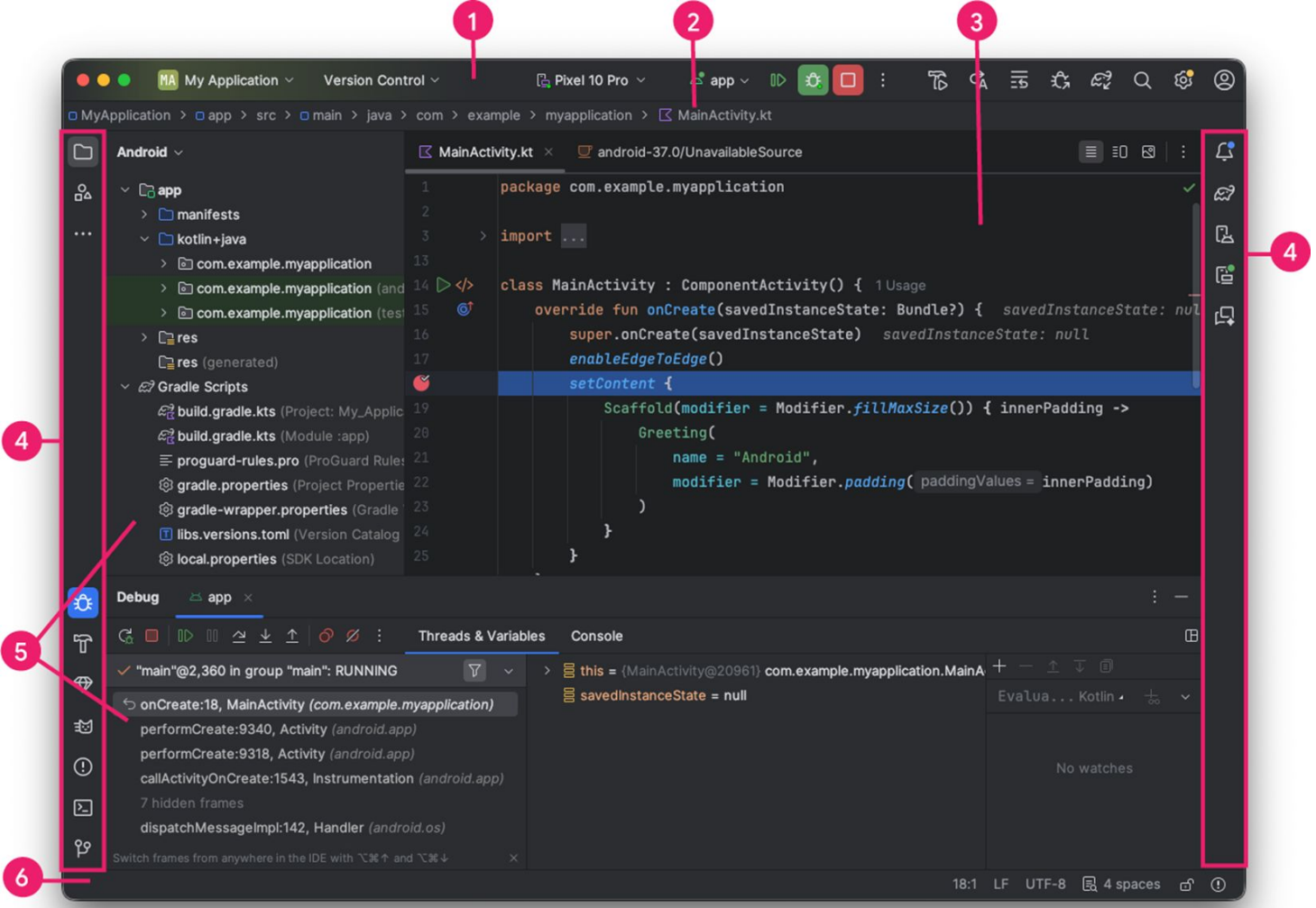
New Project

Buat Aplikasi Pertamamu

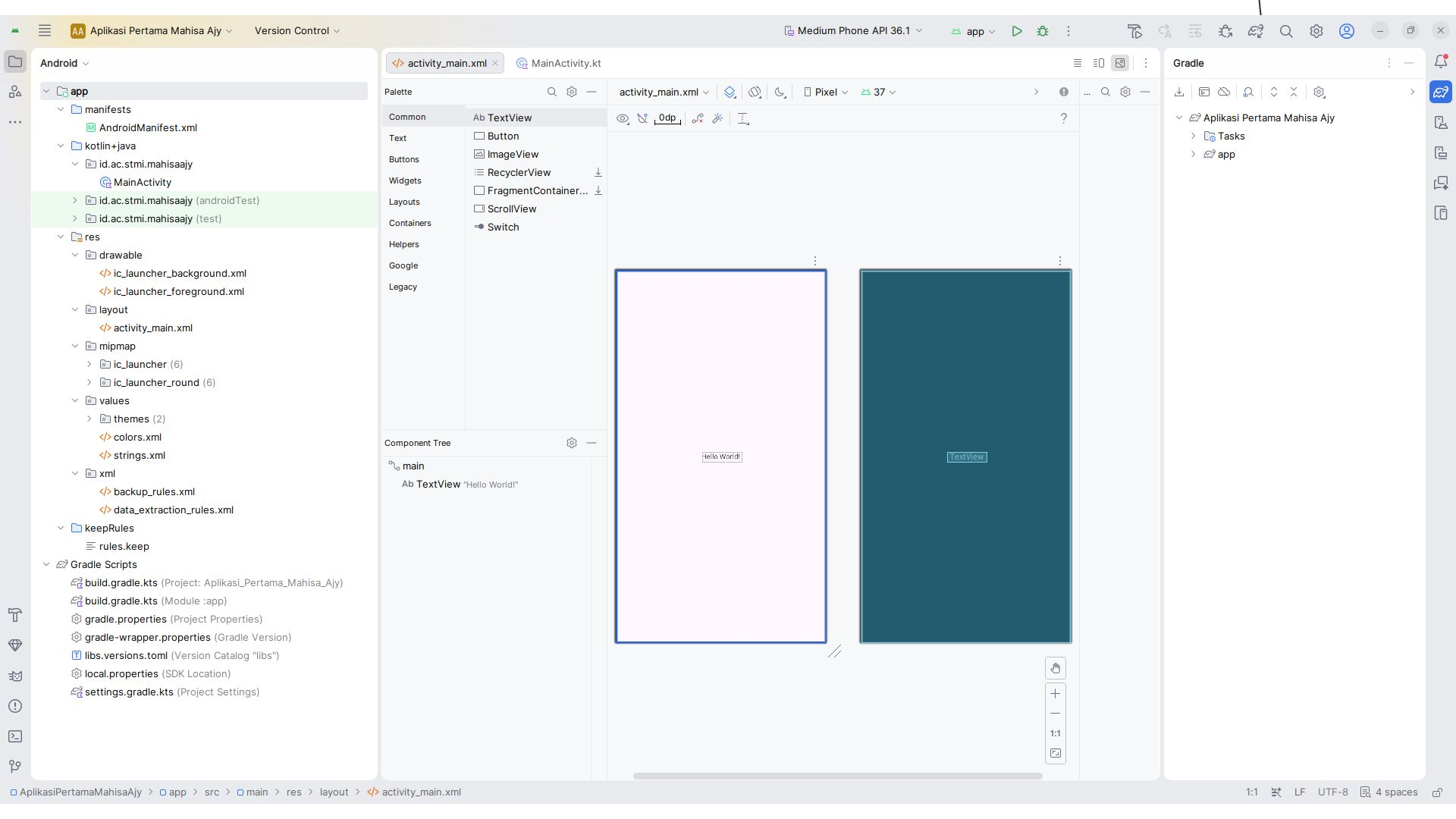



New Project
Empty Views Activity
Creates a new empty activity
Name
Aplikasi Pertama Mahisa Ajy
Package name
id.ac.stmi.mahisaajy
Save location
/home/rhoenix/AndroidStudioProjects/AplikasiPertamaMahisaAjy
Language
Kotlin
Minimum SDK
API 24 ("Nougat"; Android 7.0)
Your app will run on approximately 99.2% of devices.
Help me choose
Build configuration language
Kotlin DSL (build.gradle.kts) [Recommended]
Previous
Next
Cancel
Finish


Aplikasi Pertama Mahisa Ajy
Version Control
Add Configuration
Project
AplikasiPertamaMahisaAjy [:] ~/AndroidStudioProjects/AplikasiPe
.idea
app
src
androidTest
main
java
id
ac
stmi
mahisaajy
MainActivity.kt
keepRules
res
AndroidManifest.xml
test
.gitignore
build.gradle.kts
gradle
.gitignore
build.gradle.kts
gradle.properties
gradlew
gradlew.bat
local.properties
settings.gradle.kts
External Libraries
Scratches and Consoles
activity_main.xml
MainActivity.kt
Gradle project sync in progress...
1 package id.ac.stmi.mahisaajy
3 import ...
9 class MainActivity : AppCompatActivity() {
10 override fun onCreate(savedInstanceState: Bundle?) {
11 super.onCreate(savedInstanceState)
12 enableEdgeToEdge()
13 setContentView(R.layout.activity_main)
14 ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)) { v, insets ->
15 val systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars())
16 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom)
17 insets
18 }
19 }
20 }
OFF
Gradle
Nothing to show
Importing 'AplikasiPertamaMahisaAjy' Gradle Project
AplikasiPertamaMahisaAjy
app
src
main
java
id
ac
stmi
mahisaajy
MainActivity.kt
Importing 'AplikasiPertamaMahisaAjy' Gradle Project
+1
1:1
LF
UTF-8
4 spaces

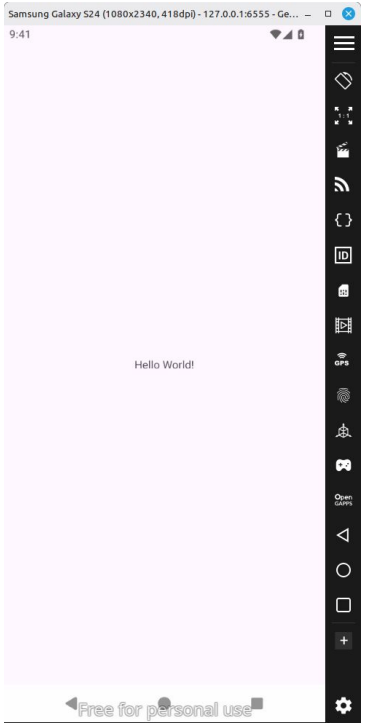


1. Toolbar
2. Navigation Bar
3. Editor Window
4. Tool window bar
5. Tool windows
6. Status bar


Aplikasi Pertama Mahisa Ajy
Version Control
Medium Phone API 36.1
app
Android
app
manifests
AndroidManifest.xml
kotlin+java
id.ac.stmi.mahisaajy
MainActivity
id.ac.stmi.mahisaajy (androidTest)
id.ac.stmi.mahisaajy (test)
res
drawable
ic_launcher_background.xml
ic_launcher_foreground.xml
layout
activity_main.xml
mipmap
ic_launcher (6)
ic_launcher_round (6)
values
themes (2)
colors.xml
strings.xml
xml
backup_rules.xml
data_extraction_rules.xml
keepRules
rules.keep
Gradle Scripts
build.gradle.kts (Project: Aplikasi_Pertama_Mahisa_Ajy)
build.gradle.kts (Module :app)
gradle.properties (Project Properties)
gradle-wrapper.properties (Gradle Version)
libs.versions.toml (Version Catalog "libs")
local.properties (SDK Location)
settings.gradle.kts (Project Settings)
activity_main.xml
MainActivity.kt
Palette
Common
Text
Buttons
Widgets
Layouts
Containers
Helpers
Google
Legacy
TextView
Button
ImageView
RecyclerView
FragmentContainer...
ScrollView
Switch
Component Tree
main
TextView "Hello World!"
Pixel
37
0dp
Hello World!
TextView
1:1
Gradle
Aplikasi Pertama Mahisa Ajy
Tasks
app
AplikasiPertamaMahisaAjy
app
src
main
res
layout
activity_main.xml
1:1
LF
UTF-8
4 spaces

Running Aplikasi Android

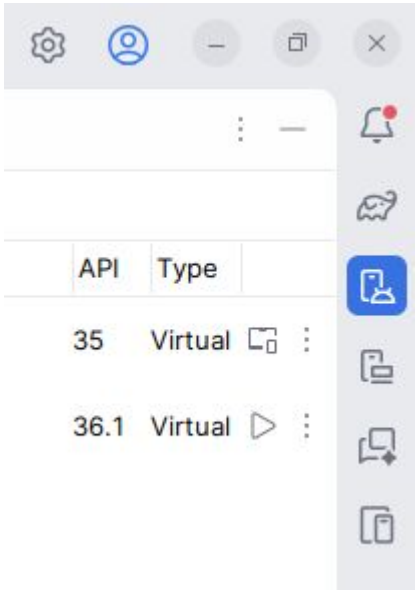
Run Your App



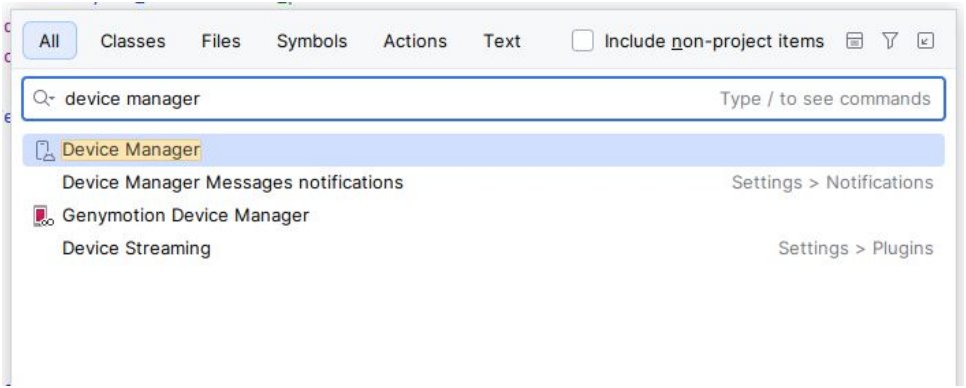
- Android device (phone, tablet)
- Virtual Device from Android Studio
- Emulator on your computer (Genymotion, NOX, Memu, LDPlayer, dll)

Device Manager

Cara 1

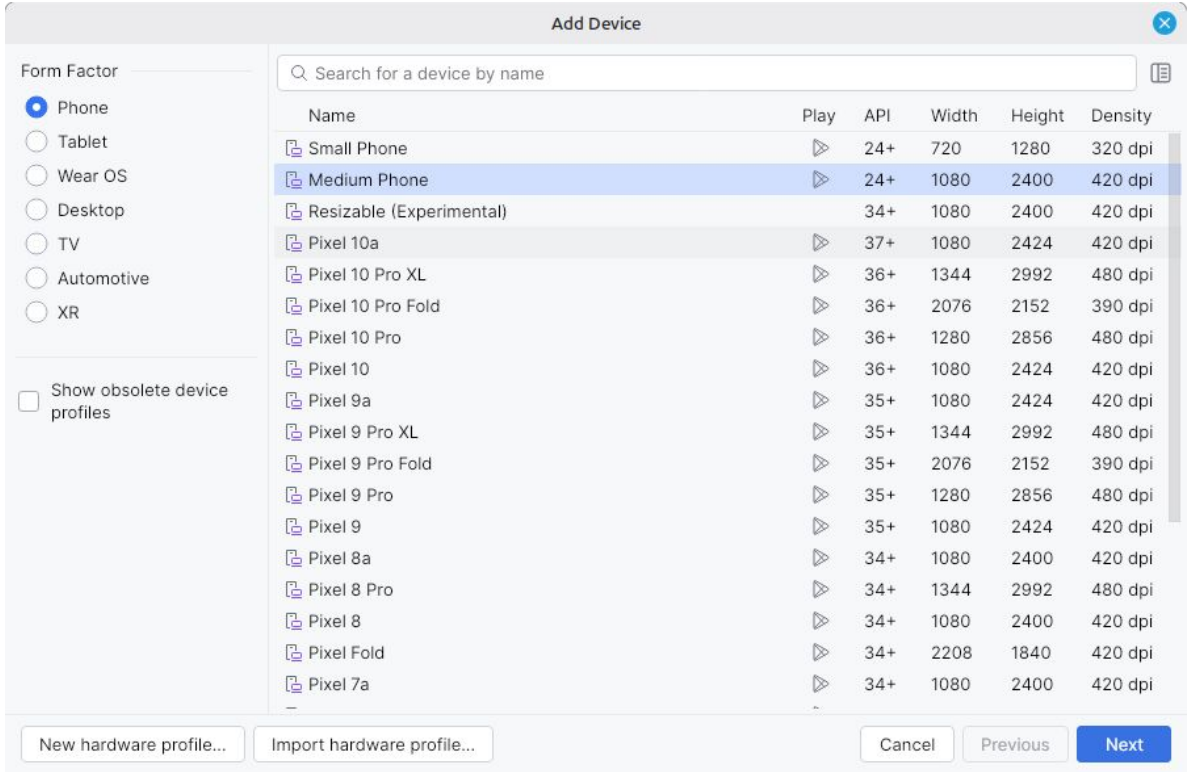


Cara 2
Tekan shift2x



Cara 3
Menu Tools -> Device Manager

Menjalankan di Emulator



Add Device

Configure virtual device

Device | Additional settings

Name

Medium Phone

Select system image

Use the filters to help find the system image that you prefer. The combination of device profile and system image is only an approximation of the equivalent physical hardware.

API

API 37.1 "CinnamonBun"; Android 17.0

Services

Google Play Store

System Image	API
16 KB Page Size Google Play Intel x86_64 Atom System Image	37.1

Show system images with SDK extensions

Show unsupported system images

Medium Phone



2.0 GB system image will be downloaded

Device

OEM	Generic
Supported API Levels	24+

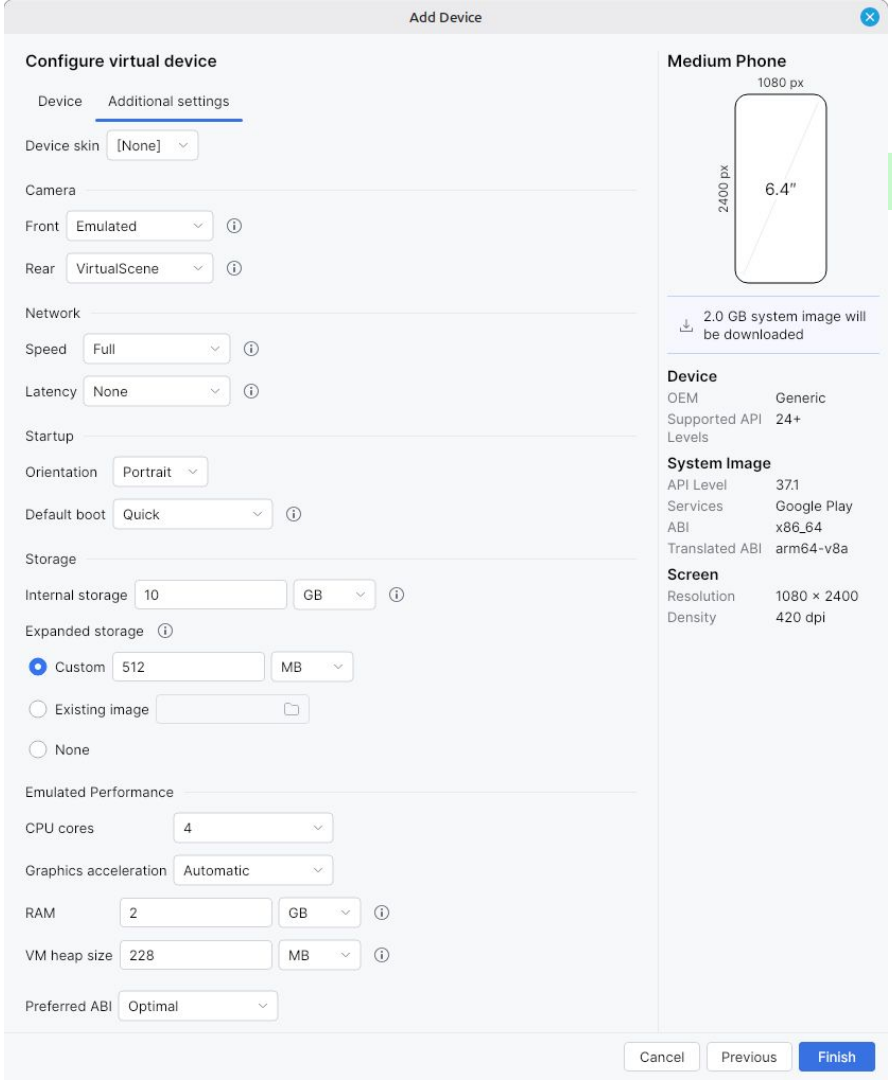
System Image

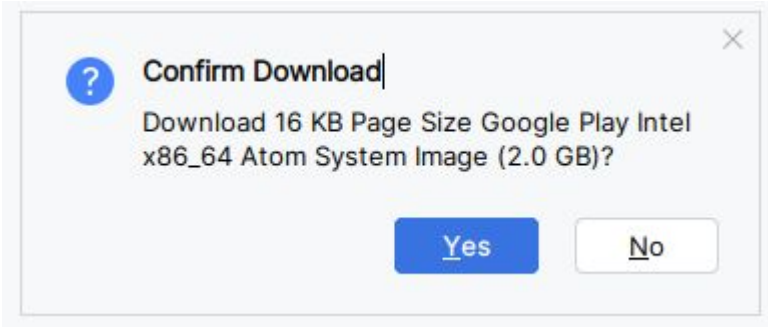
API Level	37.1
Services	Google Play
ABI	x86_64
Translated ABI	arm64-v8a

Screen

Resolution	1080 × 2400
Density	420 dpi

Cancel | Previous | Finish


Add Device
Configure virtual device
Device
Additional settings
Device skin
[None]
Camera
Front
Emulated
Rear
VirtualScene
Network
Speed
Full
Latency
None
Startup
Orientation
Portrait
Default boot
Quick
Storage
Internal storage
10
GB
Expanded storage
Custom
512
MB
Existing image
None
Emulated Performance
CPU cores
4
Graphics acceleration
Automatic
RAM
2
GB
VM heap size
228
MB
Preferred ABI
Optimal
Medium Phone
1080 px
2400 px
6.4″
2.0 GB system image will be downloaded
Device
OEM
Generic
Supported API Levels
24+
System Image
API Level
37.1
Services
Google Play
ABI
x86_64
Translated ABI
arm64-v8a
Screen
Resolution
1080 × 2400
Density
420 dpi
Cancel
Previous
Finish


Confirm Download
Download 16 KB Page Size Google Play Intel x86_64 Atom System Image (2.0 GB)?
Yes
No

SDK Quickfix Installation

SDK Component Installer

Completing Requested Actions

SDK Path: /home/rhoenix/Android/Sdk

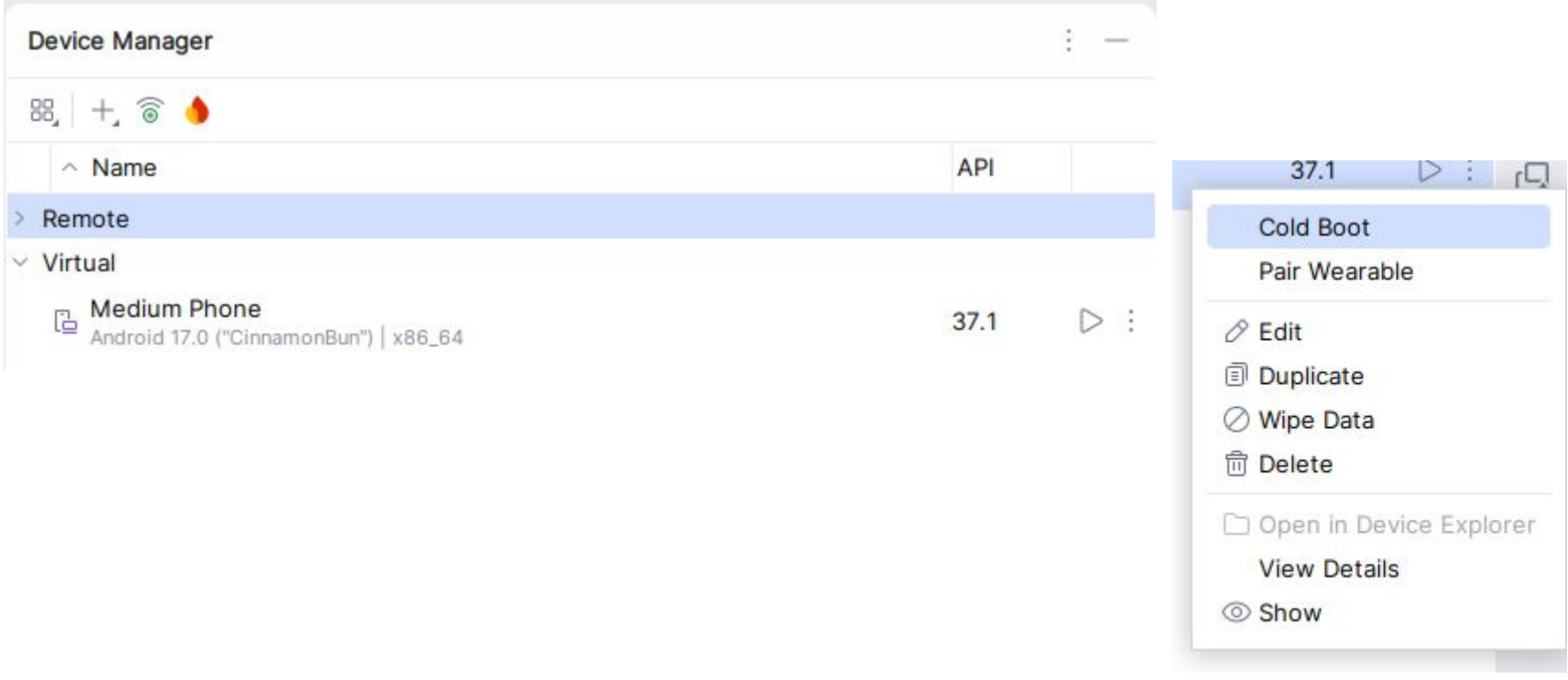
```
Packages to install: - Android Emulator (emulator)
- 16 KB Page Size Google Play Intel x86_64 Atom System Image
(system-images;android-37.1;google_apis_playstore_ps16k;x86_64)


Preparing "Install Android Emulator v.37.1.11".
Downloading https://dl.google.com/android/repository/emulator-linux_x64-15917651.zip
```

Downloading emulator-linux_x64-15917651.zip (62%): 197.5 / 318.5 MB ...

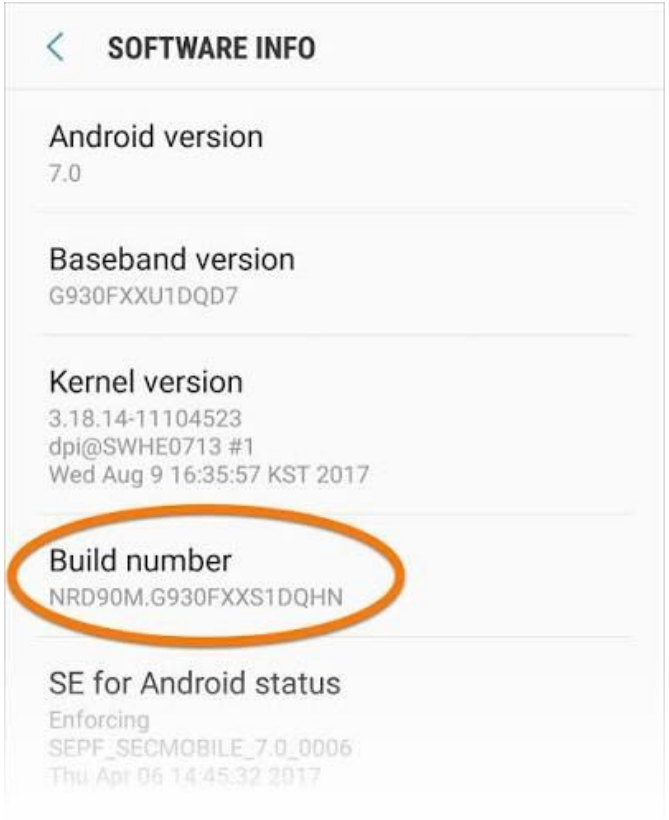
https://dl.google.com/android/repository/emulator-linux_x64-15917651.zip

Please wait until the requested actions are completed.

Cancel Finish


Device Manager
Name
API
Remote
Virtual
Medium Phone
Android 17.0 ("CinnamonBun") | x86_64
37.1
37.1
Cold Boot
Pair Wearable
Edit
Duplicate
Wipe Data
Delete
Open in Device Explorer
View Details
Show

Run apps on a hardware device





Android Device Streaming (Firebase)

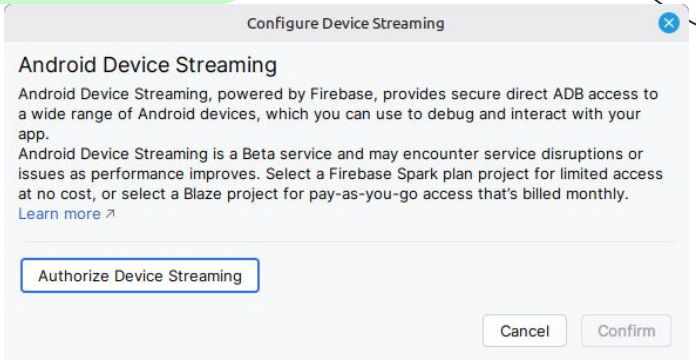
Navigate to View > Tool Windows > Device Manager and click the Firebase button near the top of the window.

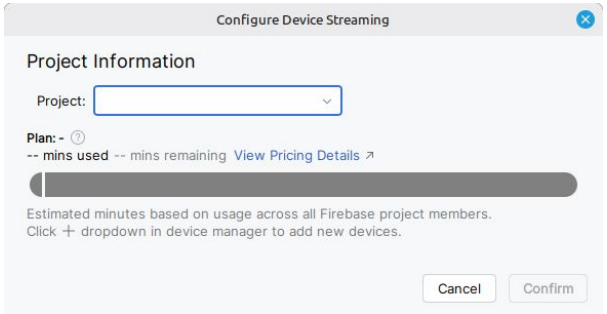
https://developer.android.com/studio/run/android-device-streaming

rincian biayanya:

30 menit pertama per bulan: Gratis / $0 (baik di paket Spark maupun Blaze).

Menit ke-31 dan seterusnya (khusus paket Blaze): $0.15 per menit (sekitar Rp2.300–Rp2.400/menit, tergantung kurs dolar).

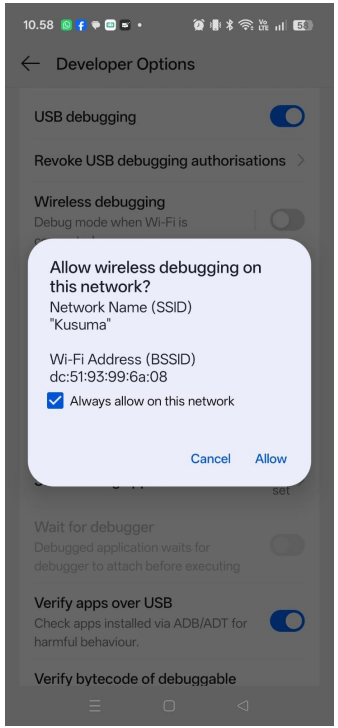


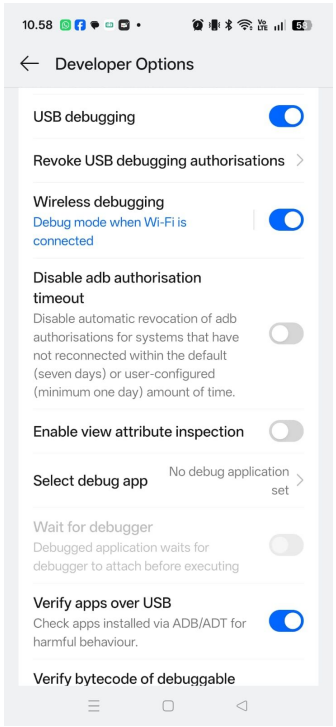


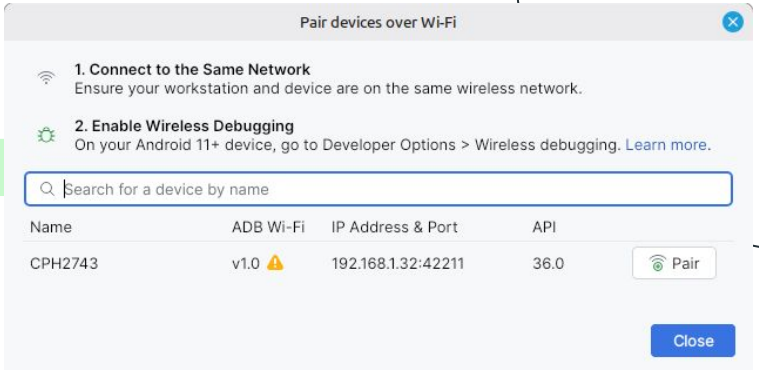
Video

Pair Devices over Wi-Fi

https://developer.android.com/studio/run/device#wireless









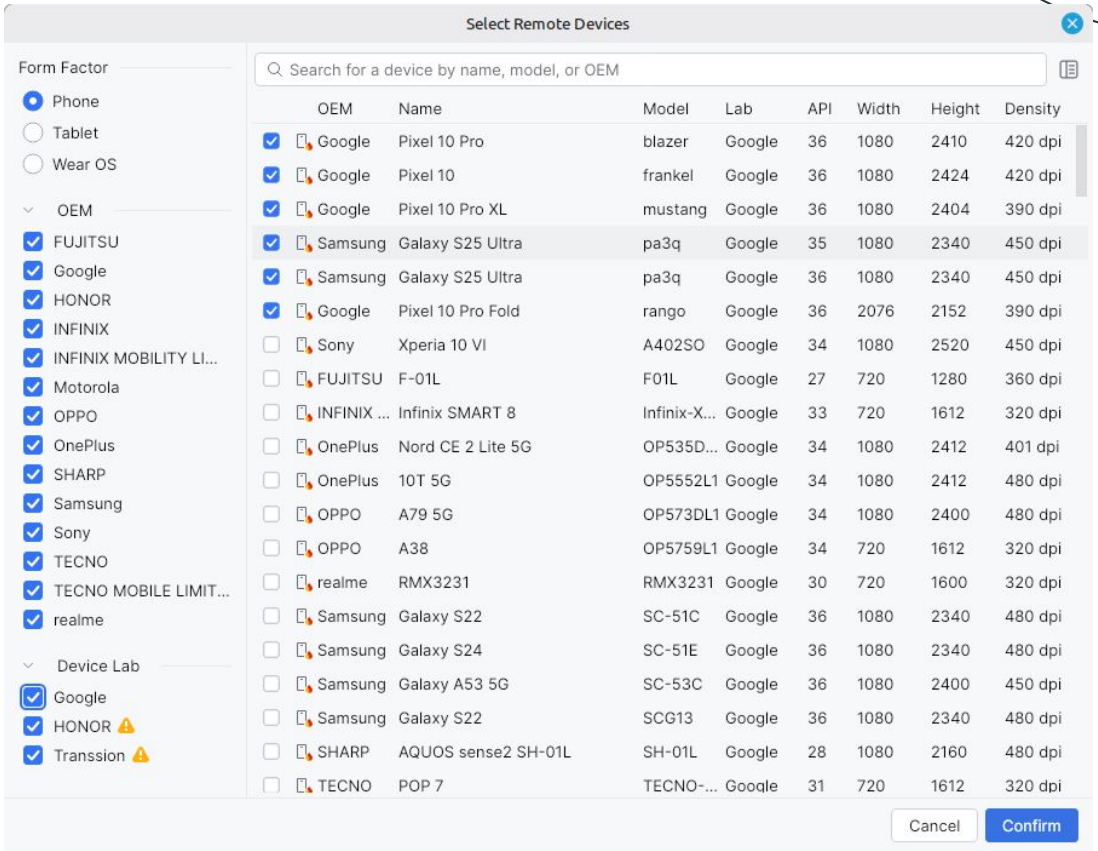
Select Remote Devices

Perangkat OEM

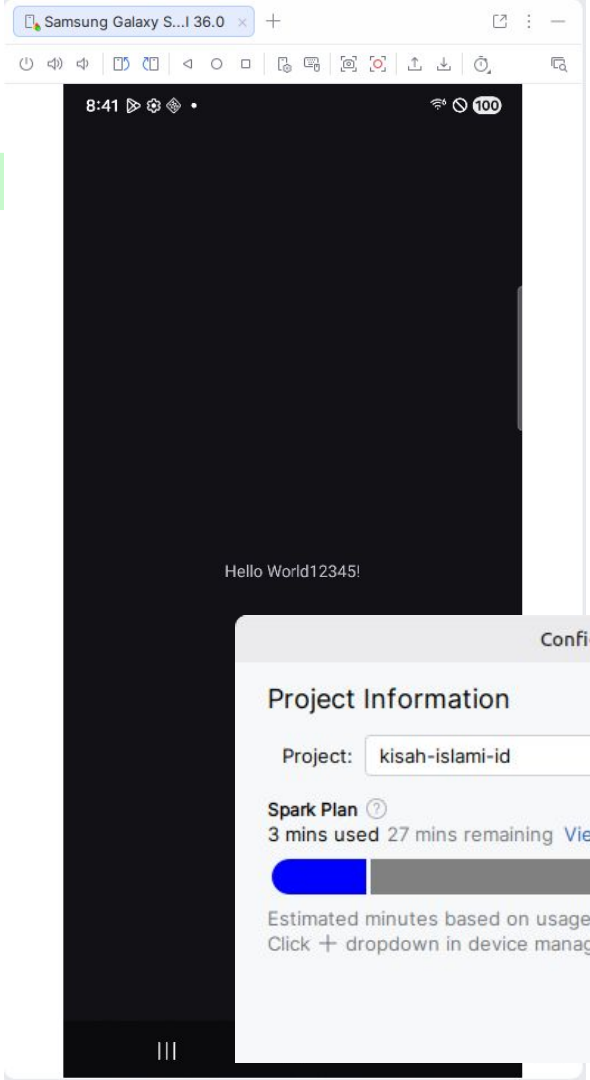
Definisi: Perangkat fisik resmi yang disediakan langsung melalui kemitraan Google dengan produsen ponsel (seperti Samsung, Xiaomi, Google Pixel, Oppo, dll.).

Device Lab (Google Cloud Device Lab)

Definisi: Perangkat fisik yang dimiliki, dikelola, dan ditempatkan langsung di data center milik Google (Google Firebase Test Lab).







Configure Device Streaming

Project Information

Project: kisah-islami-id

Spark Plan

3 mins used 27 mins remaining View Pricing Details ↗

Estimated minutes based on usage across all Firebase project members.
Click + dropdown in device manager to add new devices.

Cancel Confirm

Referensi

- https://kotlinlang.org/education/
- https://developer.android.com/teach?hl=id
- https://developer.android.com/codelabs/basic-android-kotlin-compose-first-program
- https://www.intelivita.com/blog/android-studio/