

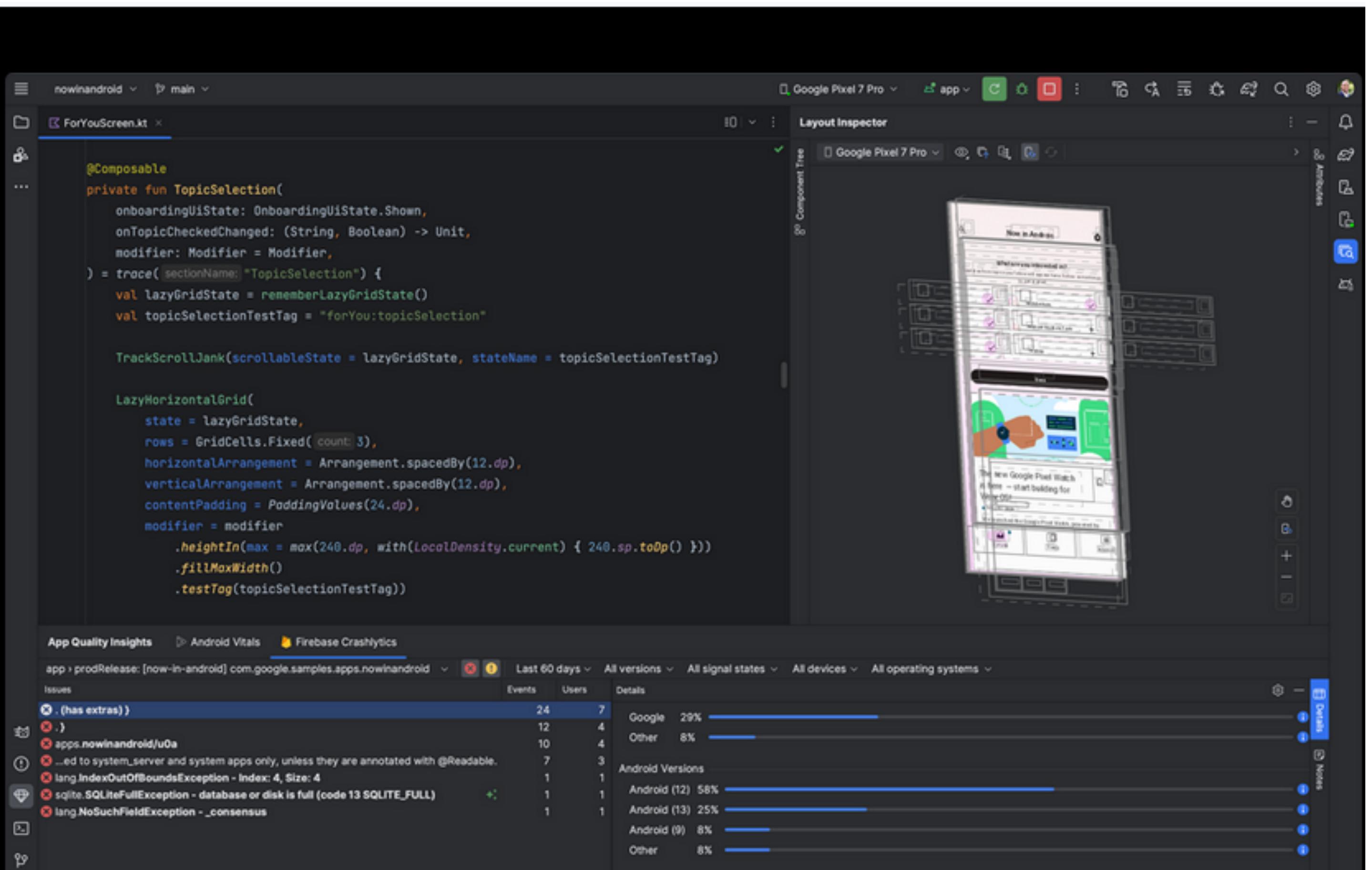
L01 Android Studio

Android Studio

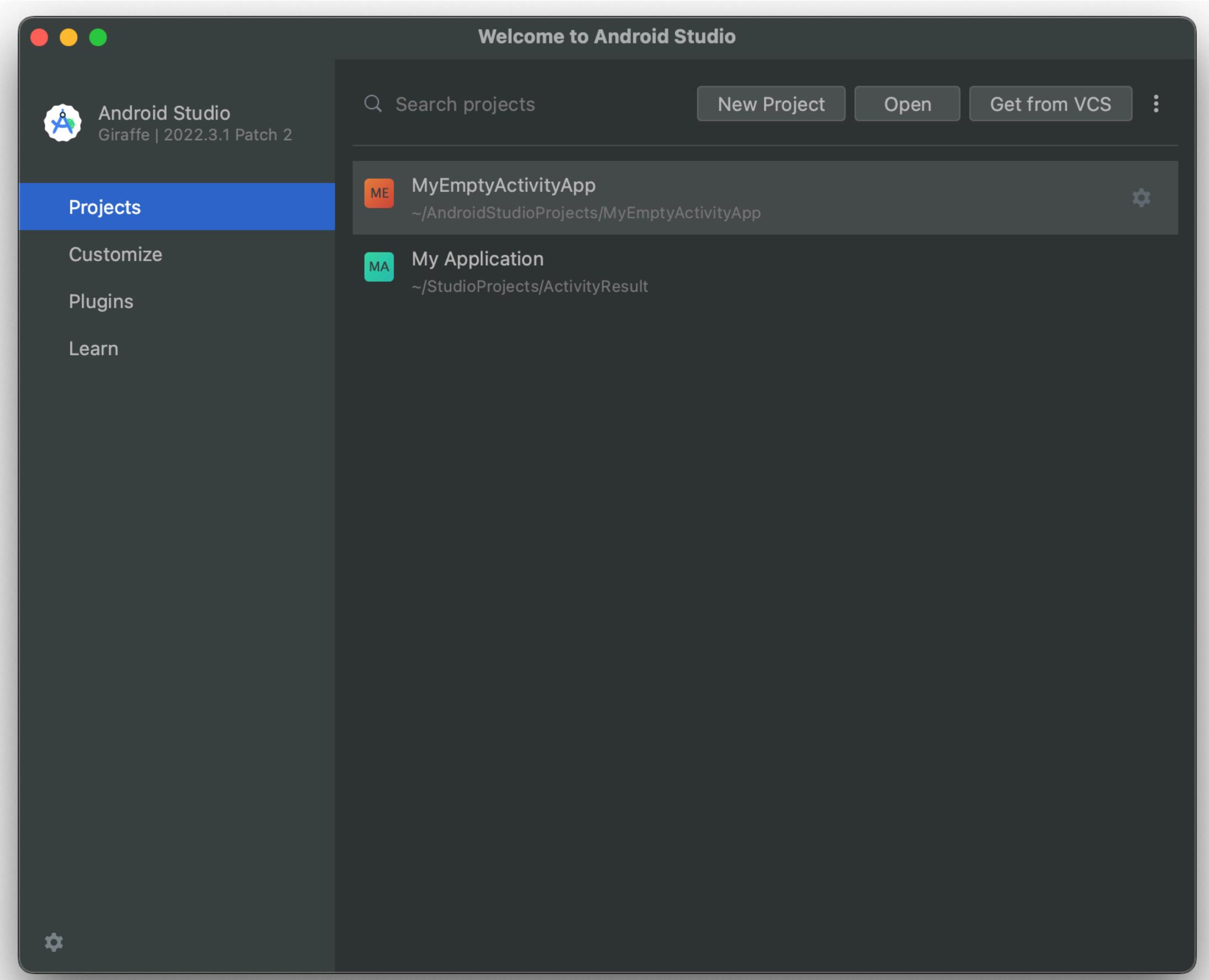
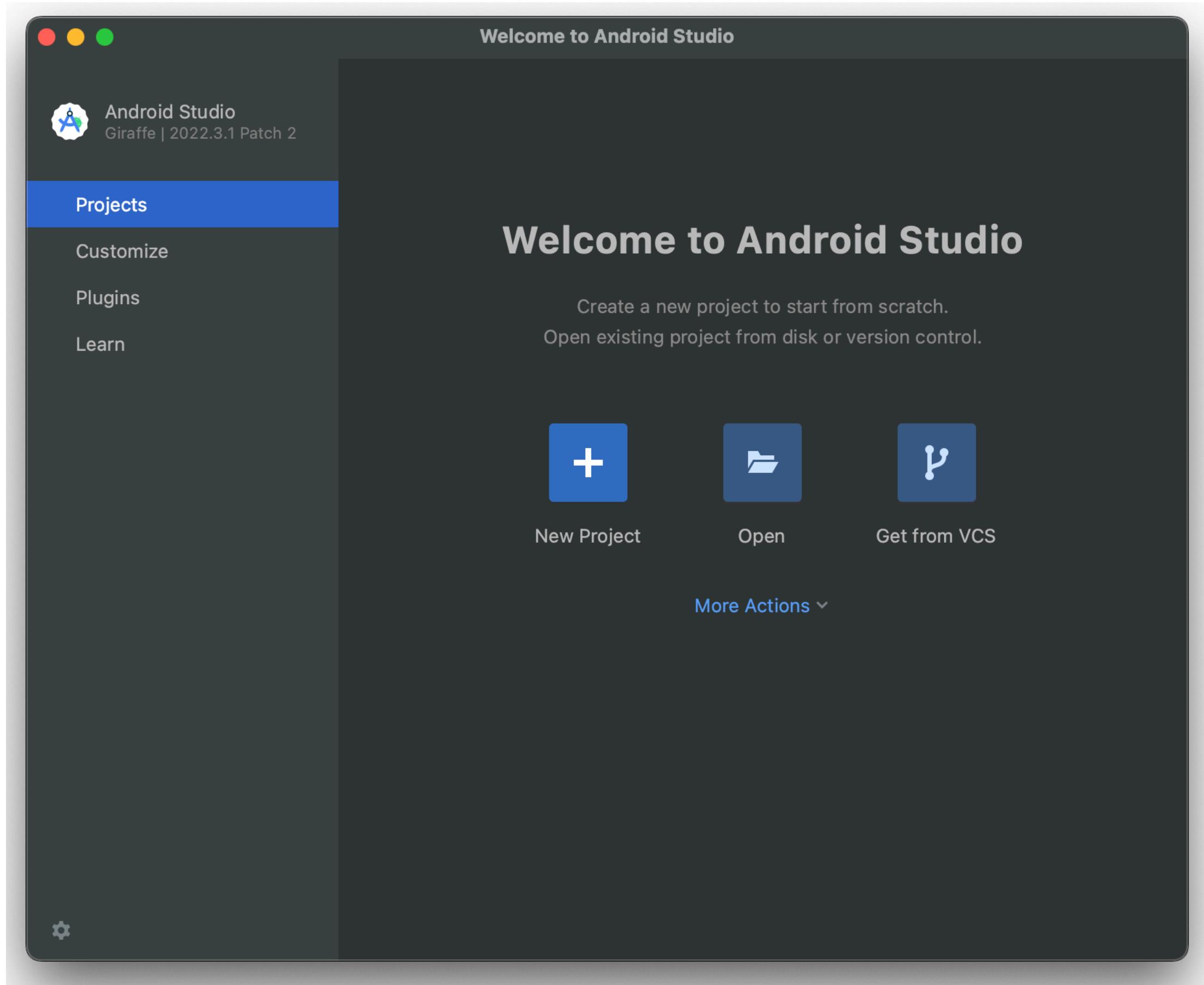
Get the official Integrated Development Environment (IDE) for Android app development.

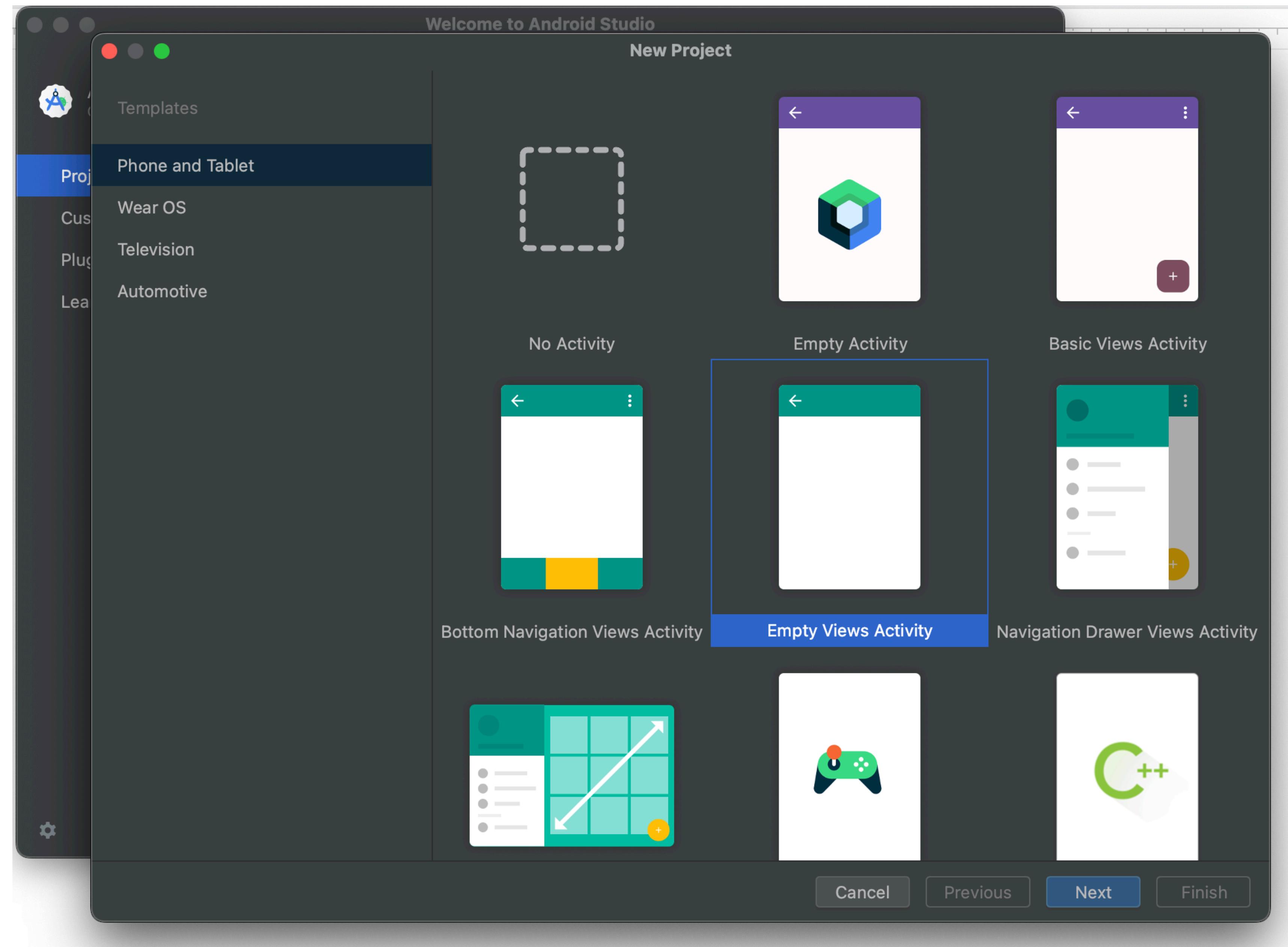
[Download Android Studio Giraffe](#) 

[Read release notes](#) 



<https://developer.android.com/studio>





New Project

Empty Activity

Create a new empty activity with Jetpack Compose

Name

My Application

Package name

com.example.myapplication

Save location

/Users/cristicostea/AndroidStudioProjects/MyApplication



Minimum SDK

API 24 ("Nougat"; Android 7.0)



ⓘ Your app will run on approximately **95.4%** of devices.

[Help me choose](#)

Build configuration language ⓘ

Kotlin DSL (build.gradle.kts) [Recommended]



Cancel

Previous

Next

Finish

My Application – MainActivity.kt [My_Application.app.main]

MyApplication > app > src > main > java > com > example > myapplication > MainActivity.kt

Pixel 3 API 27

Code Split Design Notifications Device Manager Gradle Running Devices Device Explorer

Project Resource Manager Bookmarks Build Variants

Android

app manifests AndroidManifest.xml java com.example.myapplication ui.theme MainActivity.kt com.example.myapplication (androidTest) com.example.myapplication (test) res drawable ic_launcher_background.xml ic_launcher_foreground.xml mipmap values colors.xml strings.xml themes.xml xml Gradle Scripts build.gradle.kts (Project: My_Application) build.gradle.kts (Module :app) proguard-rules.pro (ProGuard Rules for ":app") gradle.properties (Project Properties) gradle-wrapper.properties (Gradle Version) local.properties (SDK Location) settings.gradle.kts (Project Settings)

MainActivity.kt

```
15 class MainActivity : ComponentActivity() {
16     override fun onCreate(savedInstanceState: Bundle?) {
17         super.onCreate(savedInstanceState)
18         setContent {
19             MyApplicationTheme {
20                 // A surface container using the 'background' color from the theme
21                 Surface(
22                     modifier = Modifier.fillMaxSize(),
23                     color = MaterialTheme.colorScheme.background
24                 ) {
25                     Greeting(name = "Android")
26                 }
27             }
28         }
29     }
30 }
31
32 @Composable
33 fun Greeting(name: String, modifier: Modifier = Modifier) {
34     Text(
35         text = "Hello $name!",
36         modifier = modifier
37     )
38 }
39
40 @Preview(showBackground = true)
41 @Composable
42 fun GreetingPreview() {
43     MyApplicationTheme {
44         Greeting(name = "Android")
45     }
46 }
```

Version Control TODO Problems Terminal App Quality Insights App Inspection Logcat Services Build Profiler Layout Inspector

Gradle sync finished in 37 s 930 ms (a minute ago)

SDK Manager

Settings X

Languages & Frameworks > Android SDK

Manager for the Android SDK and Tools used by the IDE

Android SDK Location: D:\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	Revision	Status
<input type="checkbox"/>	Android UpsideDownCakePrivacySandbox Preview	UpsideDownCakePrivacySandbox	2	Not installed
<input checked="" type="checkbox"/>	Android API 34	34	2	Not installed
<input type="checkbox"/>	Android TiramisuPrivacySandbox Preview	TiramisuPrivacySandbox	9	Not installed
<input checked="" type="checkbox"/>	Android 13.0 ("Tiramisu")	33	3	Partially 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	Partially installed
<input checked="" type="checkbox"/>	Android 12.0 ("S")	31	1	Installed
<input type="checkbox"/>	Android 11.0 ("R")	30	3	Installed
<input type="checkbox"/>	Android 10.0 ("Q")	29	5	Not installed
<input type="checkbox"/>	Android 9.0 ("Pie")	28	6	Not installed
<input type="checkbox"/>	Android 8.1 ("Oreo")	27	3	Partially installed
<input type="checkbox"/>	Android 8.0 ("Oreo")	26	2	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 checked="" type="checkbox"/>	Android 5.0 ("Lollipop")	21	2	Installed
<input type="checkbox"/>	Android 4.4W ("KitKat Wear")	20	2	Not installed

Hide Obsolete Packages Show Package Details

?

OK Cancel Apply

Android Virtual Device AVD Manager

Virtual Device Configuration

Select Hardware

Choose a device definition

Category	Name	Play Store	Size	Resolution	Density
Phone	Resizable (Experimental)		6,0"	1080x23...	420dpi
Tablet	Pixel XL		5,5"	1440x25...	560dpi
Wear OS	Pixel 7 Pro	►	6,71"	1440x31...	560dpi
Desktop	Pixel 7	►	6,31"	1080x24...	420dpi
TV	Pixel 6a	►	6,13"	1080x24...	420dpi
Automotive	Pixel 6 Pro		6,7"	1440x31...	560dpi
	Pixel 6		6,4"	1080x24...	420dpi
	Pixel 5		6,0"	1080x23...	440dpi
	Pixel 4a		5,8"	1080x23...	440dpi
	Pixel 4 XL		6,3"	1440x30...	560dpi

New Hardware Profile Import Hardware Profiles Clone Device... Previous Next Cancel Finish

Device Manager

Virtual Physical

Create Device ?

Device Actions

Pixel 2 API 31 Android 12.0 Google Play | x86_64 31 1...

Pixel 7 Pro API 34 Android API 34 Google Play | x86_64 34 5...

Gradle Layout Validation Notifications Device Explorer Running Devices

Pixel 7

1080px 2400px

6,31"

Size: large
Ratio: long
Density: 420dpi

Android Virtual Device

Virtual Device Configuration

Android Virtual Device (AVD)

Verify Configuration

AVD Name: Pixel XL API 28
AVD Id: Pixel_XL_API_28

Pixel XL (5.5 1440x2560 560dpi) Change...

Pie (Android 9.0 x86) Change...

Startup orientation: Portrait (selected) Landscape

Camera: Front: Emulated Back: VirtualScene

Network: Speed: Full Latency: None

Emulated Performance: Graphics: Automatic Boot option: Quick boot (selected)
Cold boot Choose from snapshot (no snapshots)

Multi-Core CPU: 4

Memory and Storage: RAM: 1536 MB VM heap: 384 MB Internal Storage: 800 MB SD card: Studio-managed 512 MB External file No SDCard

Device Frame: Enable Device Frame (checked) Custom skin definition: pixel_xl_silver

Keyboard: Enable keyboard input (checked)

Hide Advanced Settings

Nothing Selected

Nothing Selected

?

Previous Next Cancel Finish

Project

Resource Manager

Structure

Bookmarks

Build Variants

Android

activity_main.xml × MainActivity.kt ×

Running Devices: Pixel 3a API 34 extension level 7

Notifications

Device Manager

Gradle

Running Devices

Device Explorer

```
1 package com.example.myapp
2
3 import ...
4
5 class MainActivity : AppCompatActivity() {
6     override fun onCreate(savedInstanceState: Bundle?) {
7         super.onCreate(savedInstanceState)
8         setContentView(R.layout.activity_main)
9     }
10 }
11 }
```

```
package com.example.myapplication

import android.os.Bundle
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.foundation.layout.fillMaxSize
import androidx.compose.material3.MaterialTheme
import androidx.compose.material3.Surface
import androidx.compose.material3.Text
import androidx.compose.runtime.Composable
import androidx.compose.ui.Modifier
import androidx.compose.ui.tooling.preview.Preview
import com.example.myapplication.ui.theme.MyApplicationTheme

class MainActivity : ComponentActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContent {
            MyApplicationTheme {
                // A surface container using the 'background' color from the theme
                Surface(
                    modifier = Modifier.fillMaxSize(),
                    color = MaterialTheme.colorScheme.background
                ) {
                    Greeting("Android")
                }
            }
        }
    }

    @Composable
    fun Greeting(name: String, modifier: Modifier = Modifier) {
        Text(
            text = "Hello $name!",
            modifier = modifier
        )
    }

    @Preview(showBackground = true)
    @Composable
    fun GreetingPreview() {
        MyApplicationTheme {
            Greeting("Android")
        }
    }
}
```

```
package com.example.myapp

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.TextView

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        // Set the text of the TextView to "Hello, World!"
        val textView = findViewById(R.id.text_view_id) as TextView
        textView.text = "Hello, World!"
    }
}
```

Project

Android

- app
 - manifests
 - AndroidManifest.xml
 - java
 - com.example.myapp
 - MainActivity
 - res
 - drawable
 - layout
 - activity_main.xml
 - mipmap
 - values
 - colors.xml
 - strings.xml
 - themes (2)
 - xml
 - res (generated)
- Gradle Scripts
 - build.gradle.kts (Project: MyApp)
 - build.gradle.kts (Module :app)
 - proguard-rules.pro (ProGuard Rules for ":app")
 - gradle.properties (Project Properties)
 - gradle-wrapper.properties (Gradle Version)
 - local.properties (SDK Location)
 - settings.gradle.kts (Project Settings)

Resource Manager

Bookmarks

Build Variants

activity_main.xml x MainActivity.kt x

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Project

app
 manifests
 AndroidManifest.xml
 java
 com.example.myapp
 MainActivity.kt
 res
 drawable
 layout
 activity_main.xml
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 gradle-wrapper.properties (Gradle Version)
 local.properties (SDK Location)
 settings.gradle.kts (Project Settings)

Resource Manager

Structure

Bookmarks

Build Variants

activity_main.xml > MainActivity.kt

Code Split Design

Notifications

Device Manager

Gradle

Layout Validation

Running Devices

Device Explorer

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      tools:context=".MainActivity">
8
9      <TextView
10         android:layout_width="wrap_content"
11         android:layout_height="wrap_content"
12         android:text="Hello World!"
13         app:layout_constraintBottom_toBottomOf="parent"
14         app:layout_constraintEnd_toEndOf="parent"
15         app:layout_constraintStart_toStartOf="parent"
16         app:layout_constraintTop_toTopOf="parent" />
17
18  </androidx.constraintlayout.widget.ConstraintLayout>
```

MyApp – activity_main.xml [MyApp.app.main]

MyApp > app > src > main > res > layout > activity_main.xml

MainActivity.kt x activity_main.xml x

Code Split Design

Running Devices: Pixel 3 API 27

Notifications Device Manager Gradle Layout Validation Running Devices Device Explorer

Project Resource Manager Structure Bookmarks Build Variants

Run: app

Version Control Run TODO Problems Terminal App Quality Insights App Inspection Logcat Services Build Profiler Layout Inspector

Hardcoded string "Hello, World!", should use '@string' resource

1 <?xml version="1.0" encoding="utf-8"?>

2 <LinearLayout

3 xmlns:android="http://schemas.android.com/apk/res/android"

4 xmlns:app="http://schemas.android.com/apk/res-auto"

5 xmlns:tools="http://schemas.android.com/tools"

6 android:layout_width="match_parent"

7 android:layout_height="match_parent"

8 android:orientation="vertical"

9 android:gravity="center"

10 tools:context=".MainActivity">

11

12 <TextView

13 android:id="@+id/text_view_id"

14 android:layout_width="wrap_content"

15 android:layout_height="wrap_content"

16 android:text="Hello, World!"

17 android:textSize="24sp"/>

18 </LinearLayout>

LinearLayout > TextView

11:50

Hello, World!

<https://developer.android.com/get-started/overview>

<https://code.tutsplus.com/the-simplest-android-app-hello-world--cms-35175t>