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Ambiente de Trabalho

PDM - Programação para Dispositivos Móveis

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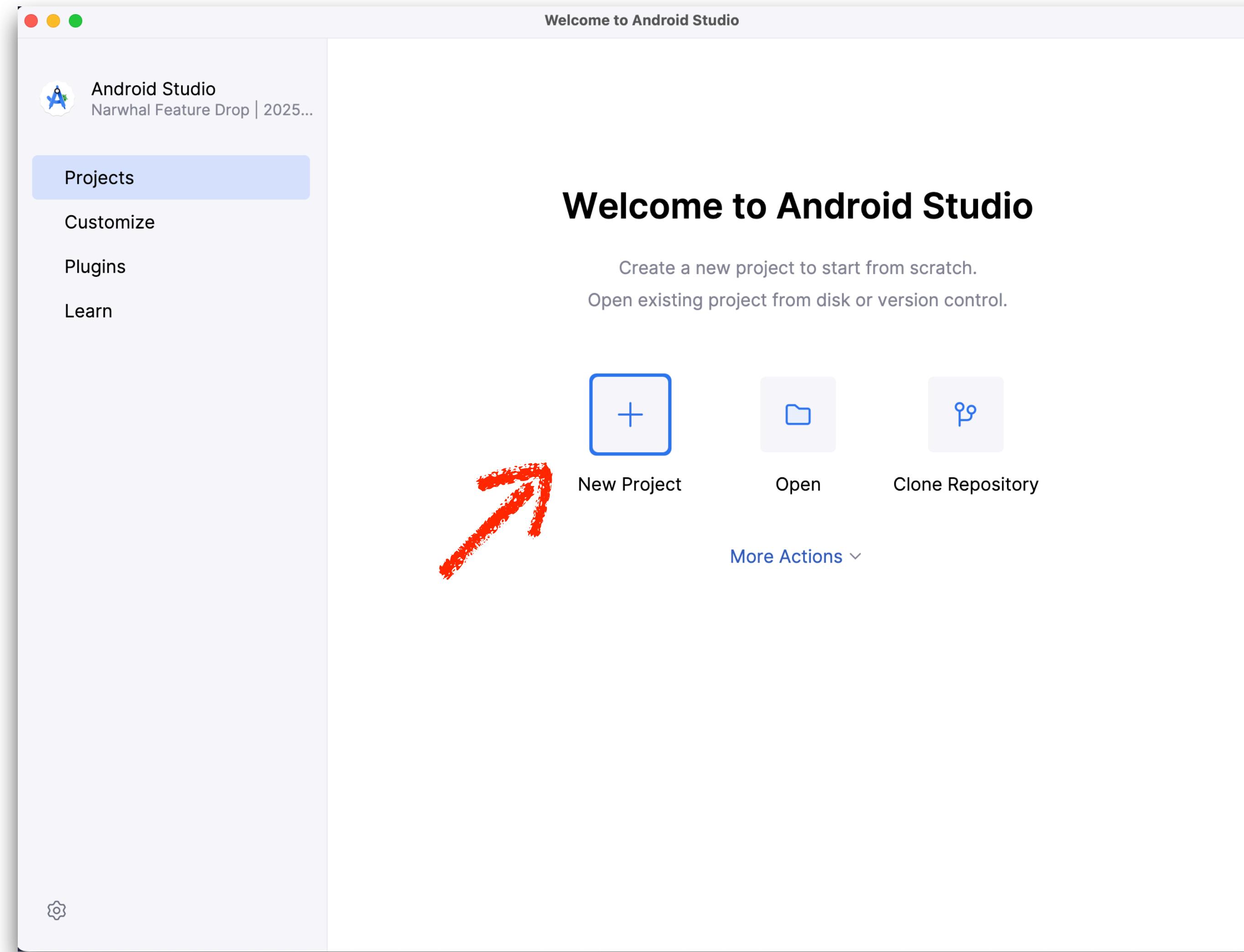
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Ambiente de trabalho

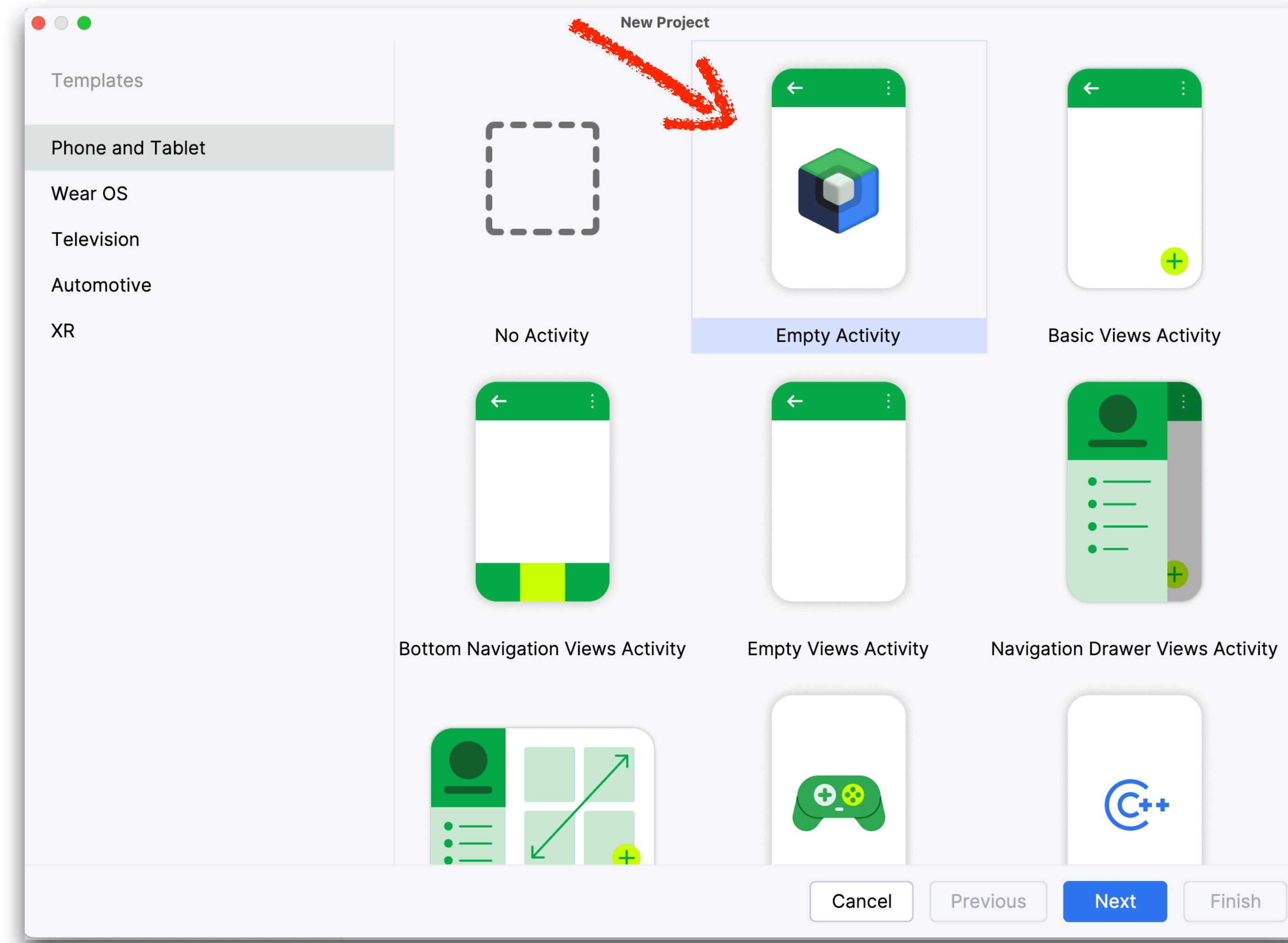
- Android Studio (versão recente): <https://developer.android.com/studio>
- Requisitos:
 - Smartphone Android (real ou emulado)
 - Máquina de desenvolvimento (mínimos segundo a minha experiência)
 - 8 GB de RAM
 - 10 a 20 GB de espaço disponível em disco (idealmente SSD)
 - 1200 x 800 resolução de ecrã



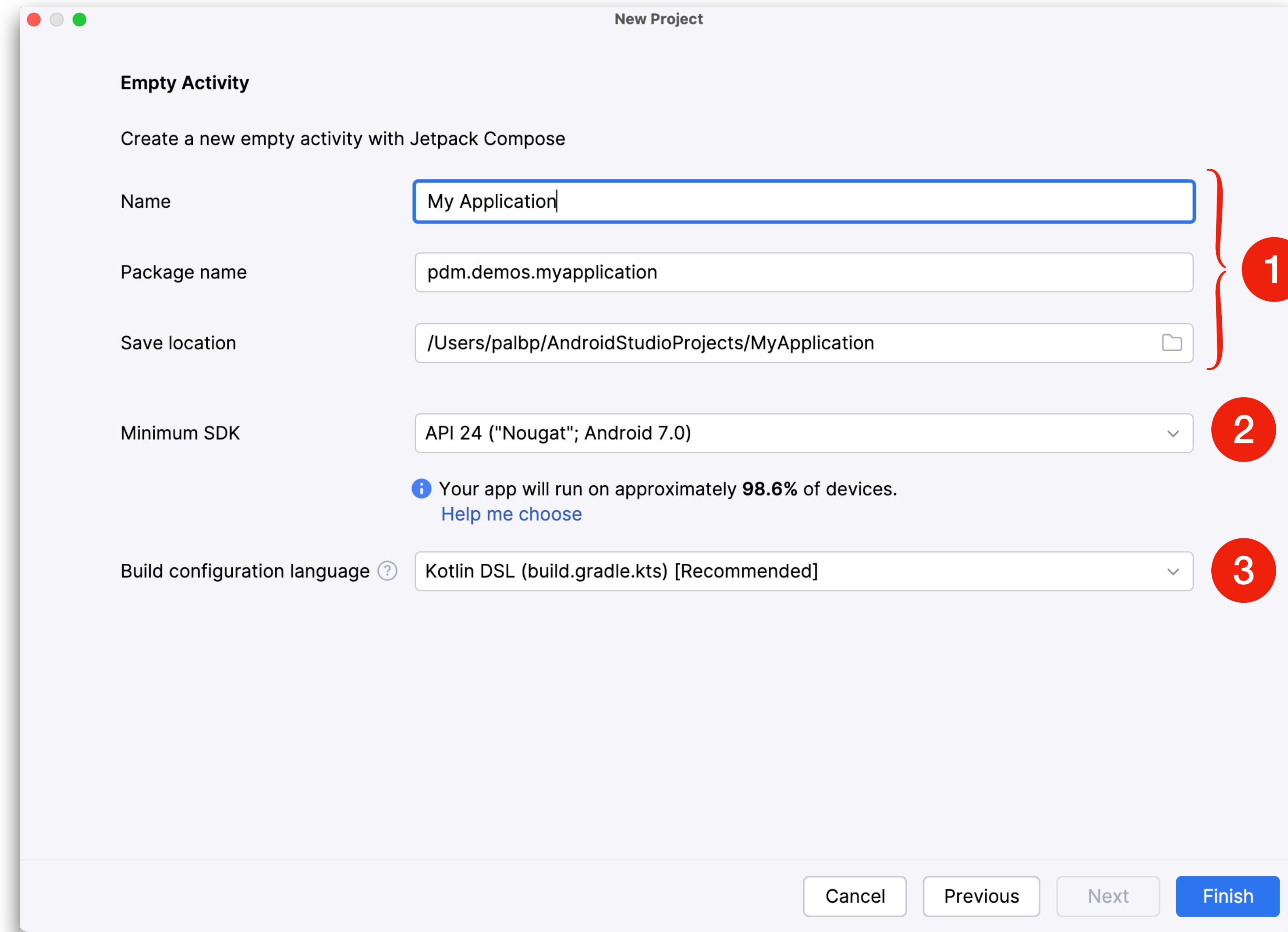
Criação do projecto [1]



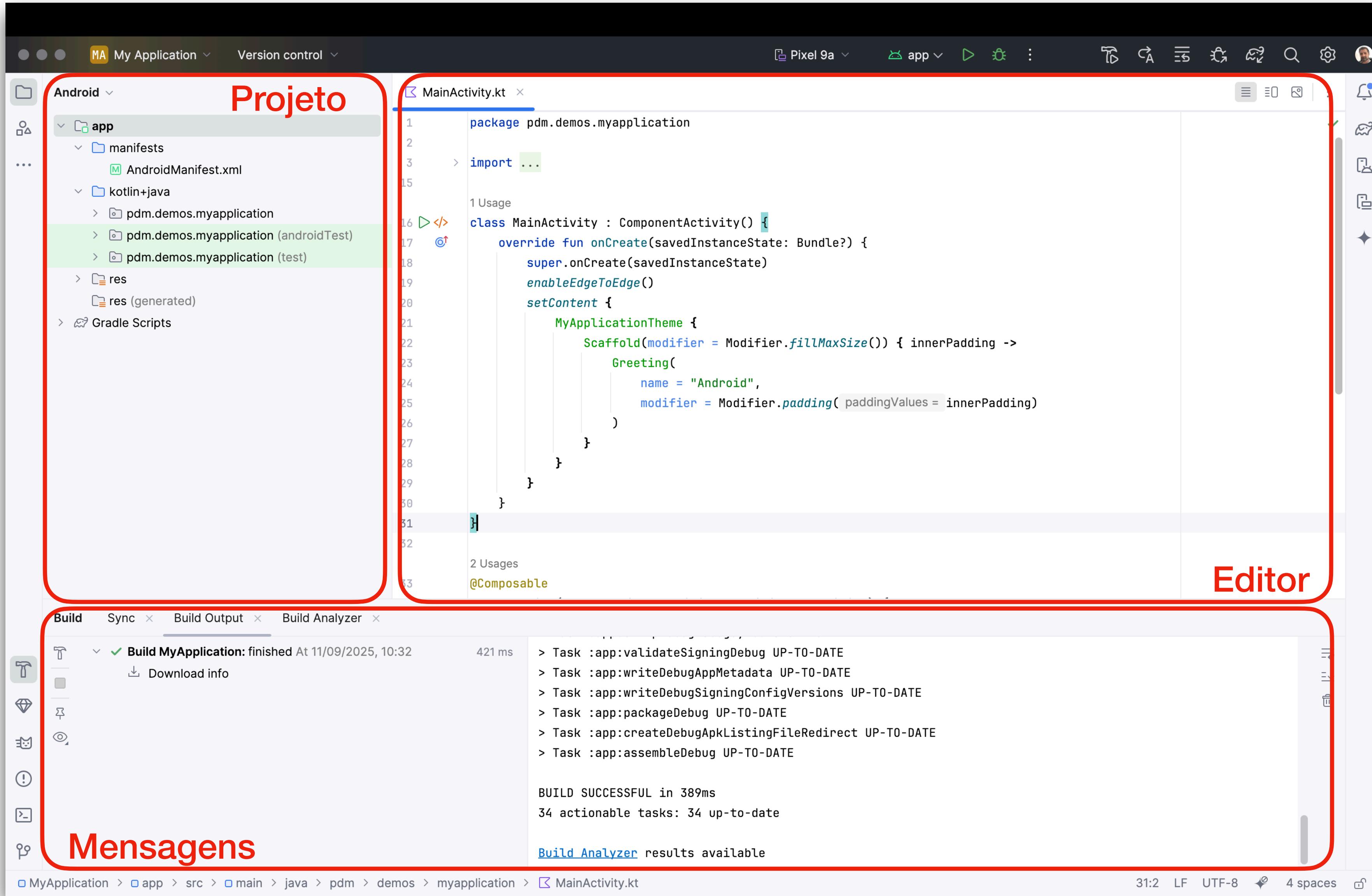
Criação do projecto [2]



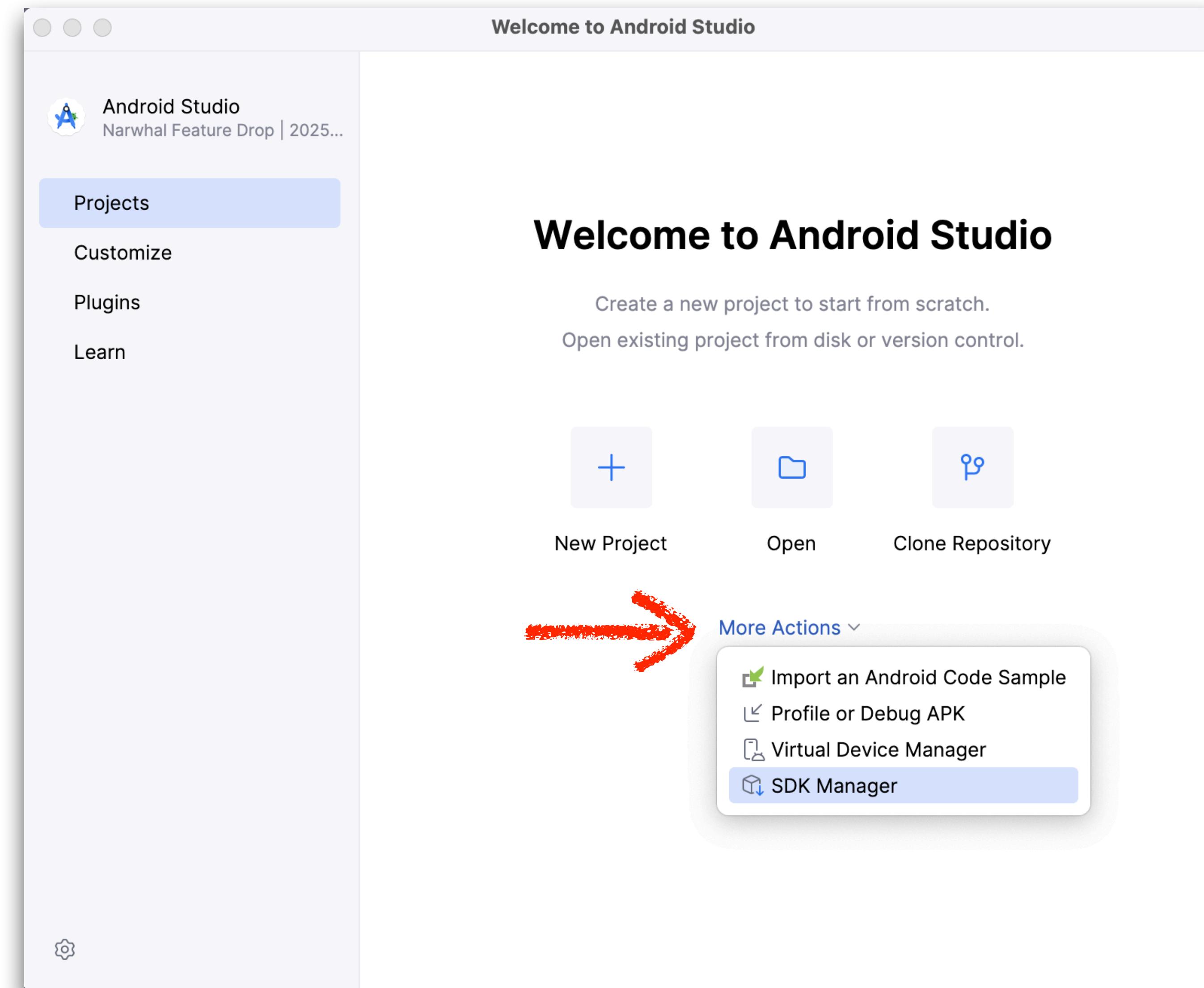
Criação do projecto [3]



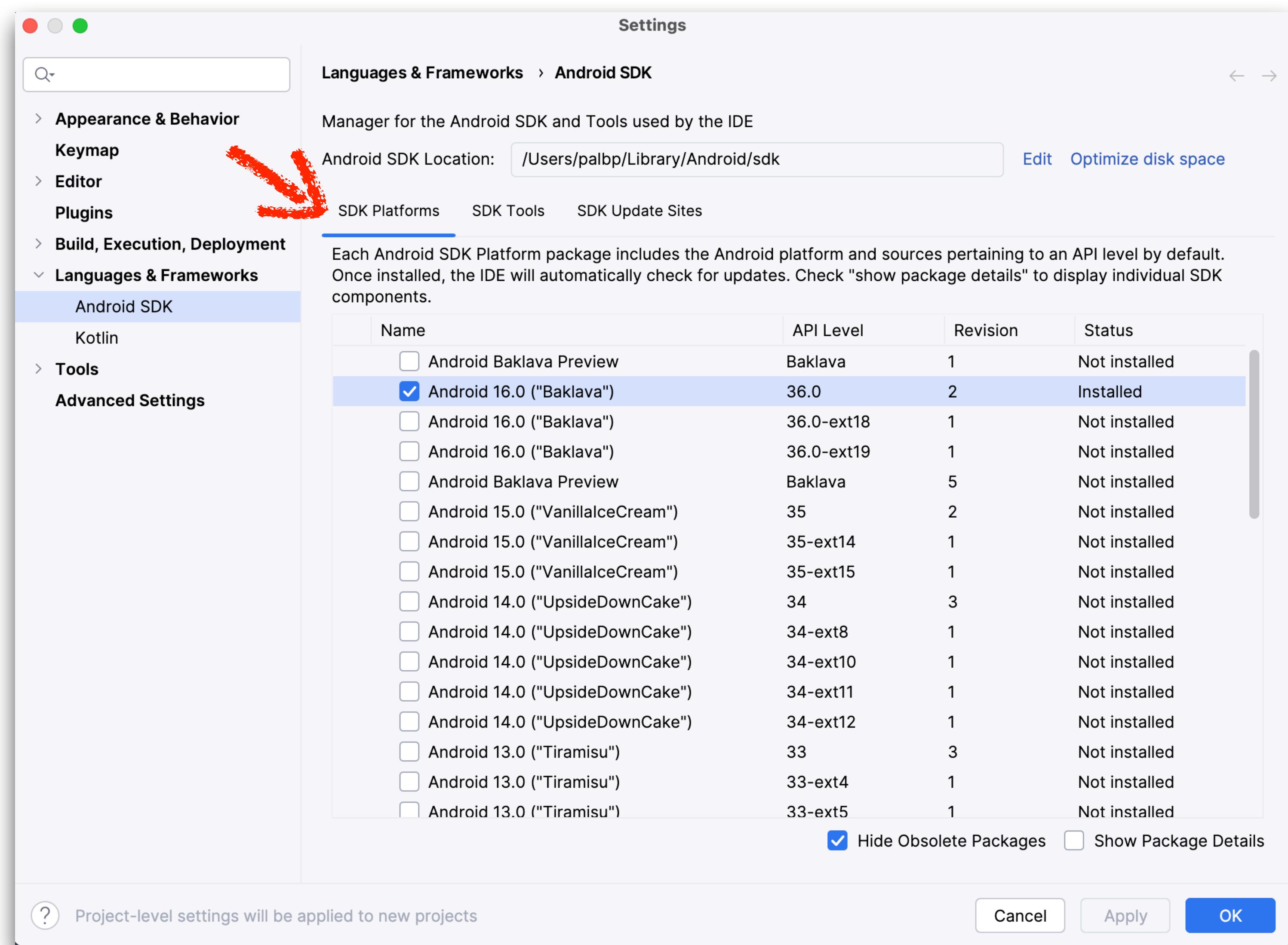
Android Studio (visão geral)



Ferramentas



SDK Manager [1]



SDK Manager [2]

Settings

Languages & Frameworks > Android SDK

Manager for the Android SDK and Tools used by the IDE

Android SDK Location: /Users/palpb/Library/Android/sdk [Edit](#) [Optimize disk space](#)

SDK Platforms [Edit](#) [Optimize disk space](#) | SDK Tools [Edit](#) [Optimize disk space](#) | SDK Update Sites [Edit](#) [Optimize disk space](#)

Below are the available SDK developer tools. Once installed, the IDE will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.

Name	Version	Status
Android SDK Build-Tools	Update Available: 36.1.0 rc1	
NDK (Side by side)		Not Installed
Android SDK Command-line Tools (latest)		Not Installed
CMake		Not Installed
Android Auto API Simulators	1	Not installed
Android Auto Desktop Head Unit Emulator	2.0	Not installed
Android Emulator	36.1.9	Installed
Android SDK Platform-Tools	36.0.0	Installed
Android Support Repository	47.0.0	Not installed
Google Play APK Expansion library	1	Not installed
Google Play Instant Development SDK (Deprecated)	1.9.0	Not installed
Google Play Licensing Library	1	Not installed
Google Play services	49	Not installed
Google Repository	58	Not installed
Google Web Driver	2	Not installed
Layout Inspector image server for API 29-30	6	Not installed

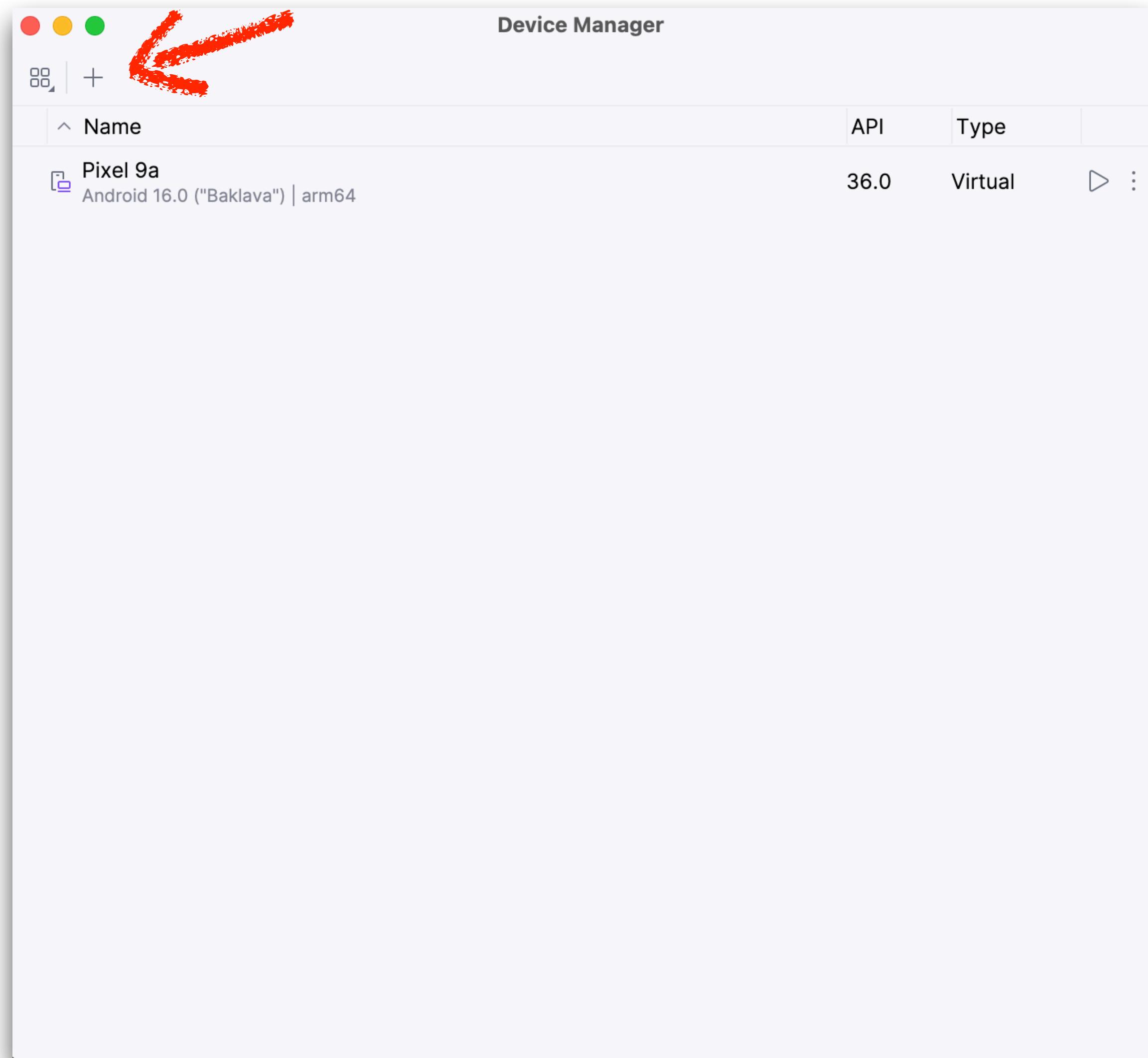
Hide Obsolete Packages Show Package Details

Project-level settings will be applied to new projects

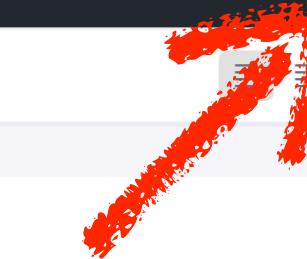
Cancel Apply OK



AVD Manager



Verificação do Ambiente [1]



The screenshot shows the Android Studio interface with the following details:

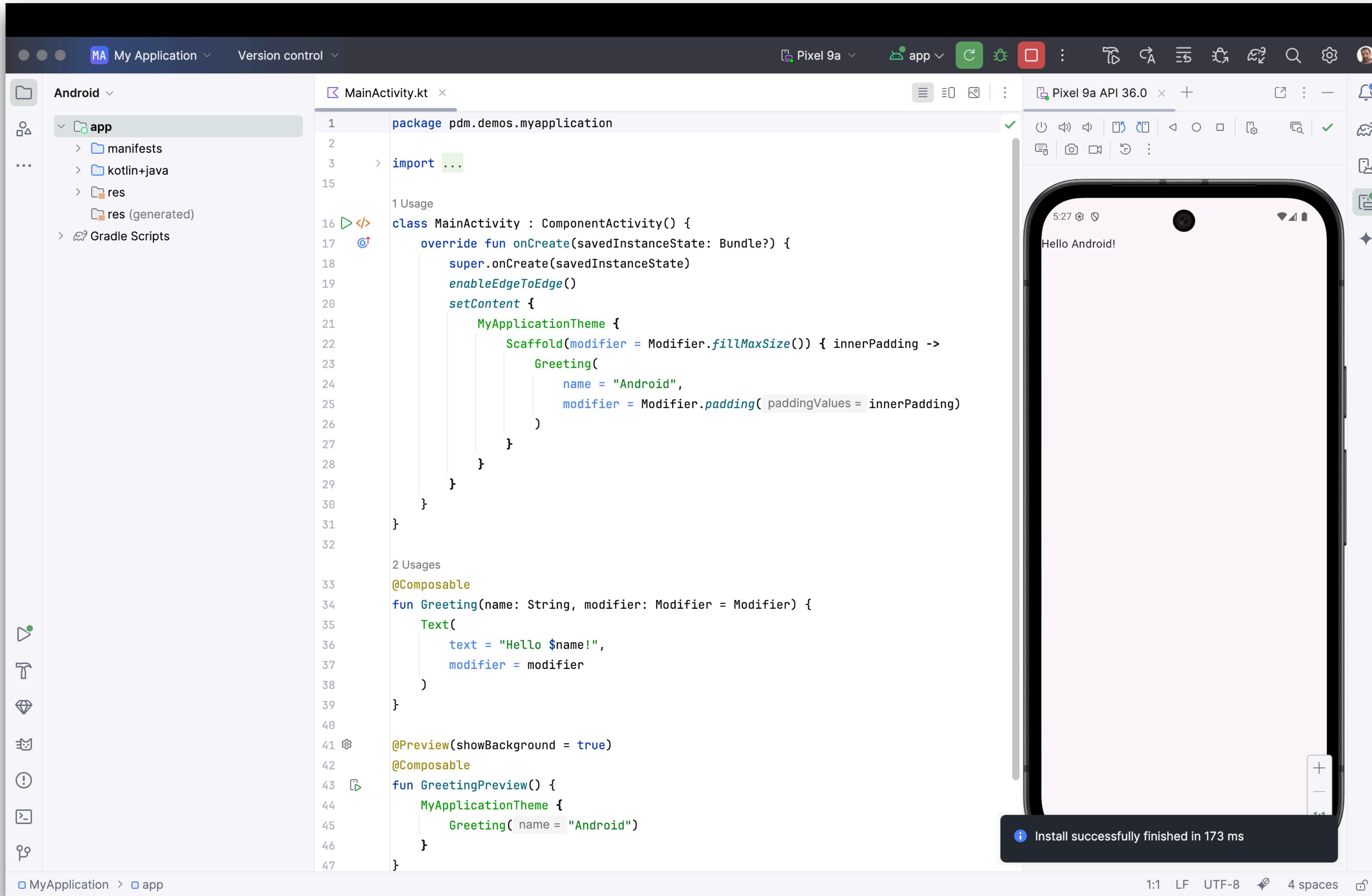
- Title Bar:** MA My Application, Version control.
- Toolbar:** Pixel 9a, app, navigation icons.
- Side Navigation:** Android, app (selected), manifests, kotlin+java, res, Gradle Scripts.
- Main Editor:** MainActivity.kt code:

```
1 package pdm.demos.myapplication
2
3 import ...
4
5 class MainActivity : ComponentActivity() {
6     override fun onCreate(savedInstanceState: Bundle?) {
7         super.onCreate(savedInstanceState)
8         enableEdgeToEdge()
9         setContent {
10             MyApplicationTheme {
11                 Scaffold(modifier = Modifier.fillMaxSize()) { innerPadding ->
12                     Greeting(
13                         name = "Android",
14                         modifier = Modifier.padding(paddingValues = innerPadding)
15                     )
16                 }
17             }
18         }
19     }
20 }
21
22 @Composable
23 fun Greeting(name: String, modifier: Modifier = Modifier) {
24     Text(
25         text = "Hello $name!",
26         modifier = modifier
27     )
28 }
29
30 @Preview(showBackground = true)
31 @Composable
32 fun GreetingPreview() {
33     MyApplicationTheme {
34         Greeting(name = "Android")
35     }
36 }
```

- Right Panel:** Running Devices section, which includes a diagram of a physical device connected via USB and a virtual device. It also contains instructions for mirroring and launching devices.
- Bottom Right:** A large green Android head icon.
- Bottom:** Status bar showing 1:1 LF UTF-8 4 spaces.

Ferramentas

Verificação do Ambiente (2)



The screenshot shows the Android Studio interface. The code editor displays `MainActivity.kt` with the following content:

```
1 package pdm.demos.myapplication
2
3 import ...
15
16 class MainActivity : ComponentActivity() {
17     override fun onCreate(savedInstanceState: Bundle?) {
18         super.onCreate(savedInstanceState)
19         enableEdgeToEdge()
20         setContent {
21             MyApplicationTheme {
22                 Scaffold(modifier = Modifier.fillMaxSize()) { innerPadding ->
23                     Greeting(
24                         name = "Android",
25                         modifier = Modifier.padding( paddingValues = innerPadding)
26                     )
27                 }
28             }
29         }
30     }
31 }
32
33 @Composable
34 fun Greeting(name: String, modifier: Modifier = Modifier) {
35     Text(
36         text = "Hello $name!",
37         modifier = modifier
38     )
39 }
40
41 @Preview(showBackground = true)
42 @Composable
43 fun GreetingPreview() {
44     MyApplicationTheme {
45         Greeting( name = "Android")
46     }
47 }
```

The right side of the interface shows a Pixel 9a API 36.0 emulator displaying the text "Hello Android!". A notification at the bottom right of the screen states "Install successfully finished in 173 ms".





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