

# Desenvolvimento Para Dispositivos móveis



Prof. Me. Clênio Silva  
E-mail: [clenioeduardo@yahoo.com.br](mailto:clenioeduardo@yahoo.com.br)

# Agenda

- Instalação Android Studio - Windows
- Instalação Android Studio - Linux
- Instalação Android Studio
- Criando Entrada (ícone) para acessar o Android Studio
- Criando um emulador
- Executando primeira aplicação no emulador

# Agenda

- Android Layout - conceitos
- Hierarquia de layout
- Boas práticas
- LinearLayout
- LinearLayout – definindo orientação - vertical
- LinearLayout – definindo orientação - horizontal

# Agenda

- LinearLayout – Alterando altura e largura dos elementos
- LinearLayout – Distribuindo elementos em um layout horizontal

# Instalação Android Studio - Windows

The screenshot shows a web browser window with a Google search for "android studio download". The search results are displayed on the Google homepage. The first result is from android.com, titled "Download Android Studio & App Tools - Android Developers". The second result is from uptodown.com, titled "Baixe Android Studio 2022.1.1.21 para Windows".

android studio download - Pe X

← → ↻

https://www.google.com/search?channel=fs&client=ubuntu&q=android+studio+download 110% ☆

Google

android studio download ✕ 📄 📷 🔍

⚙️ ☰ Fazer login

🔍 Todas 📺 Vídeos 🖼️ Imagens 📰 Notícias 📖 Livros ⋮ Mais Ferramentas

Aproximadamente 751.000.000 resultados (0,28 segundos)

**android.com**  
https://developer.android.com › st... Traduzir esta página

**Download Android Studio & App Tools - Android Developers**

Android Studio provides app builders with an integrated development environment (IDE) optimized for Android apps. **Download Android Studio** today.

[Install Android Studio](#) · [Download and install Android...](#) · [Meet Android Studio](#) · [Test](#)

https://developer.android.com › studio › install

**Instalar o Android Studio | Desenvolvedores Android**

Configure e instale o Android Studio no Windows, macOS ou Linux.

https://developer.android.com › codelabs › basic-andr...

**Fazer o download e instalar o Android Studio**

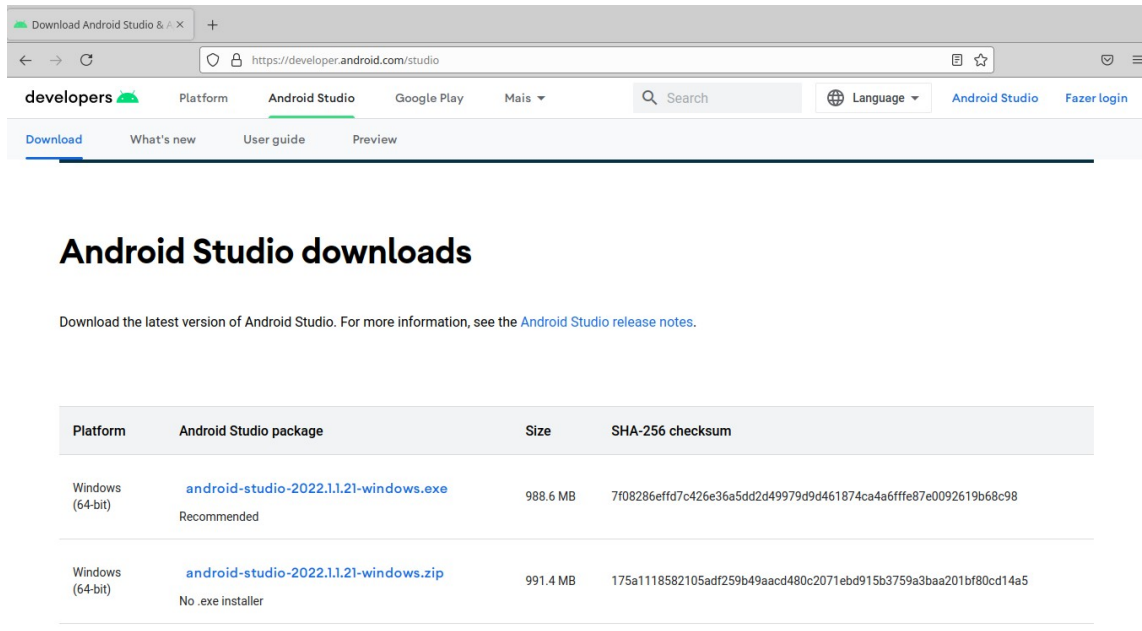
Aprenda a fazer o download e a instalação do Android Studio.

**uptodown.com**  
https://android-studio.br.uptodown.com › download

**Baixe Android Studio 2022.1.1.21 para Windows**

# Instalação Android Studio - Windows

Guia de instalação: <https://developer.android.com/studio/install?hl=pt-br>



The screenshot shows the 'Android Studio downloads' page. It features a navigation bar with links for 'Download', 'What's new', 'User guide', and 'Preview'. The main heading is 'Android Studio downloads', followed by a note to download the latest version and a link to the release notes. Below this is a table with four columns: Platform, Android Studio package, Size, and SHA-256 checksum. Two download options are listed for Windows (64-bit): a recommended .exe package (988.6 MB) and a .zip package with no .exe installer (991.4 MB).

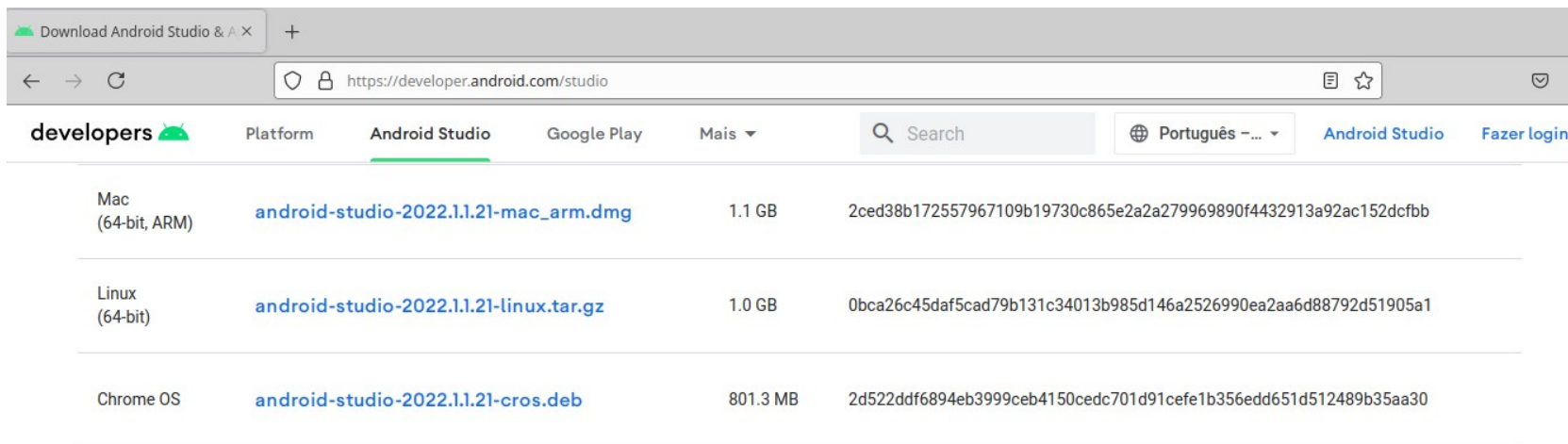
Platform	Android Studio package	Size	SHA-256 checksum
Windows (64-bit)	<a href="#">android-studio-2022.1.1.21-windows.exe</a> Recommended	988.6 MB	7f08286effd7c426e36a5dd2d49979d9d461874ca4a6fffe87e0092619b68c98
Windows (64-bit)	<a href="#">android-studio-2022.1.1.21-windows.zip</a> No .exe installer	991.4 MB	175a1118582105adf259b49aacd480c2071ebd915b3759a3baa201bf80cd14a5

# Instalação Android Studio - Windows

- Se você fez o download de um arquivo .exe (recomendado), clique nele duas vezes para iniciá-lo.
- Se você fez o download de um arquivo .zip:
  - Descompacte o .zip.
  - Copie a pasta android-studio para a pasta Arquivos de Programas.
  - Abra a pasta android-studio > bin.
  - Inicie studio64.exe (para máquinas de 64 bits) ou studio.exe (para máquinas de 32 bits).
  - Siga o assistente de configuração no Android Studio e instale todos os pacotes do SDK recomendados.

# Instalação Android Studio - Linux

Guia de instalação: <https://developer.android.com/studio/install?hl=pt-br>



The screenshot shows a web browser window with the URL <https://developer.android.com/studio>. The page is in Portuguese and displays the 'Android Studio' download section. It lists three download options for Linux (64-bit):

Mac (64-bit, ARM)	<a href="#">android-studio-2022.1.1.21-mac_arm.dmg</a>	1.1 GB	2ced38b172557967109b19730c865e2a2a279969890f4432913a92ac152dcfbb
Linux (64-bit)	<a href="#">android-studio-2022.1.1.21-linux.tar.gz</a>	1.0 GB	0bca26c45daf5cad79b131c34013b985d146a2526990ea2aa6d88792d51905a1
Chrome OS	<a href="#">android-studio-2022.1.1.21-cros.deb</a>	801.3 MB	2d522ddf6894eb3999ceb4150cedc701d91cefe1b356edd651d512489b35aa30

More downloads are available in the [download archives](#). For Android Emulator downloads, see the [Emulator download archives](#).

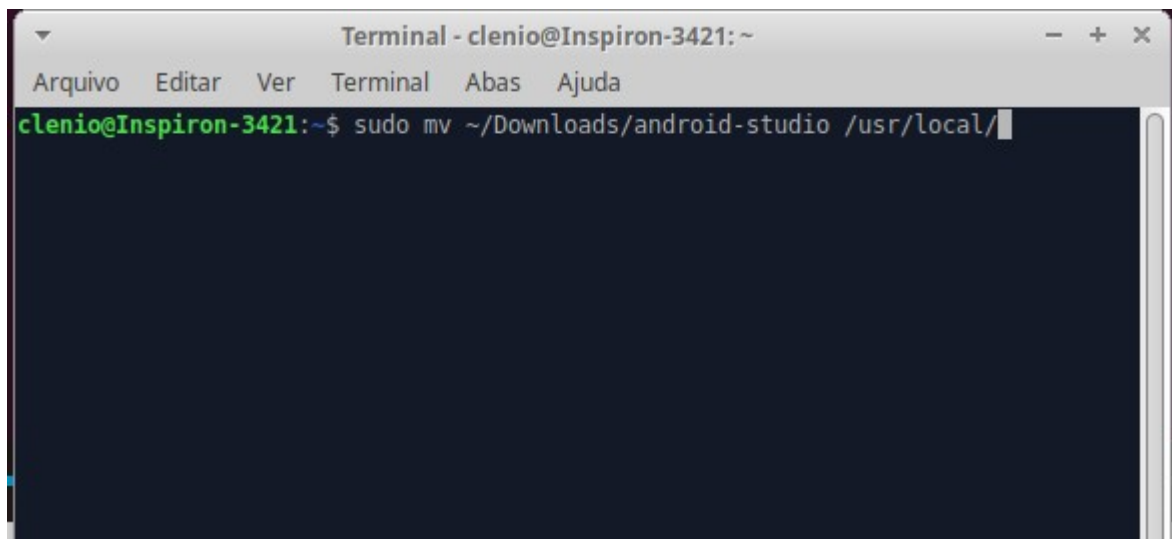


# Instalação Android Studio - Linux

- Instalação das bibliotecas necessárias para instalação do android studio no linux:
  - `sudo apt-get install libc6:i386 libncurses5:i386 libstdc++6:i386 lib32z1 libbz2-1.0:i386`

# Instalação Android Studio - Linux

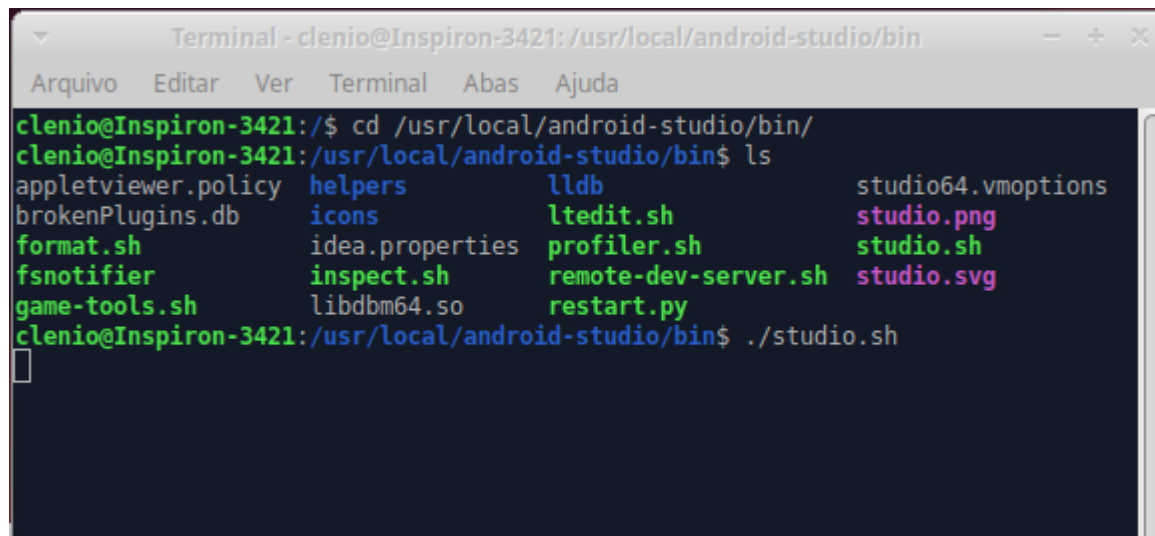
Descompacte o arquivo .zip transferido por download em um local adequado para seus aplicativos, como `/usr/local/` para seu perfil de usuário ou `/opt/` para usuários compartilhados.

A screenshot of a Linux terminal window. The title bar reads "Terminal - clenio@Inspiron-3421: ~". Below the title bar is a menu bar with the options "Arquivo", "Editar", "Ver", "Terminal", "Abas", and "Ajuda". The terminal content shows a green prompt "clenio@Inspiron-3421:~\$" followed by the command "sudo mv ~/Downloads/android-studio /usr/local/" which has been entered and is followed by a cursor. The terminal background is dark blue/black.

```
Terminal - clenio@Inspiron-3421: ~
Arquivo  Editar  Ver    Terminal  Abas  Ajuda
clenio@Inspiron-3421:~$ sudo mv ~/Downloads/android-studio /usr/local/
```

# Instalação Android Studio - Linux

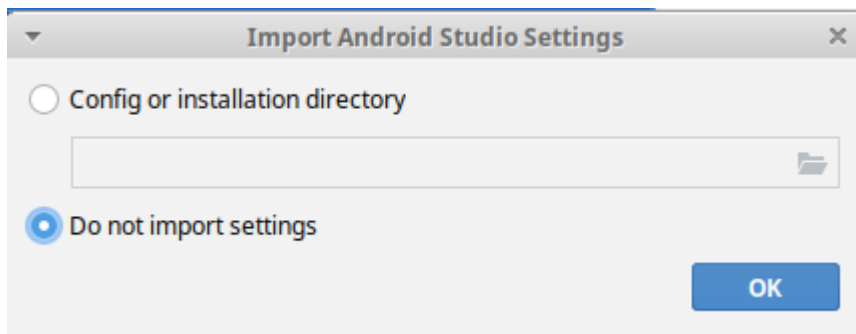
Para iniciar o Android Studio, abra um terminal, navegue até o diretório `android-studio/bin/` e execute `studio.sh`



```
Terminal - clenio@Inspiron-3421: /usr/local/android-studio/bin
Arquivo  Editar  Ver  Terminal  Abas  Ajuda
clenio@Inspiron-3421:/$ cd /usr/local/android-studio/bin/
clenio@Inspiron-3421:/usr/local/android-studio/bin$ ls
appletviewer.policy  helpers          lldb              studio64.voptions
brokenPlugins.db     icons            ltedit.sh         studio.png
format.sh            idea.properties profiler.sh        studio.sh
fsnotifier           inspect.sh       remote-dev-server.sh studio.svg
game-tools.sh        libdbm64.so     restart.py
clenio@Inspiron-3421:/usr/local/android-studio/bin$ ./studio.sh
```

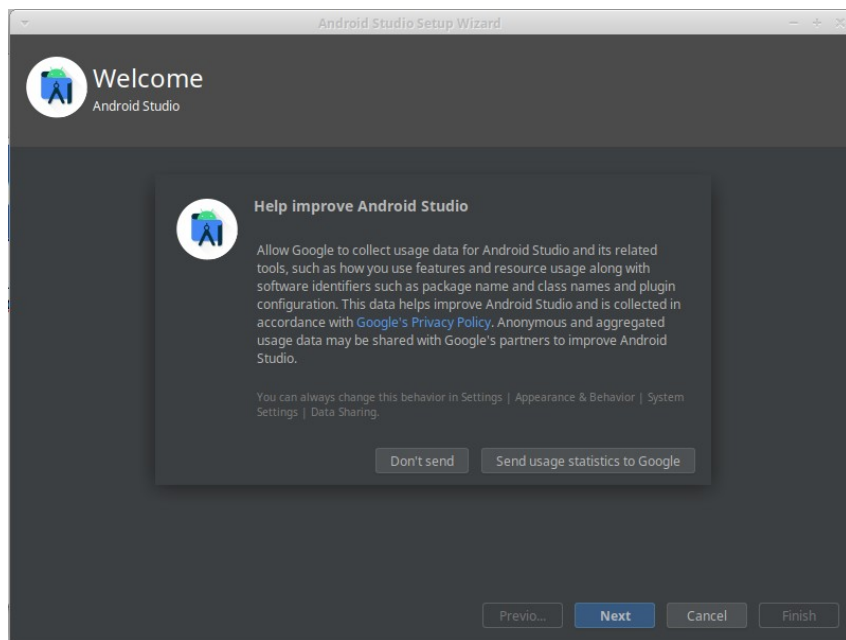
# Instalação Android Studio

Selecione se você quer ou não importar as configurações anteriores do Android Studio e clique em OK.



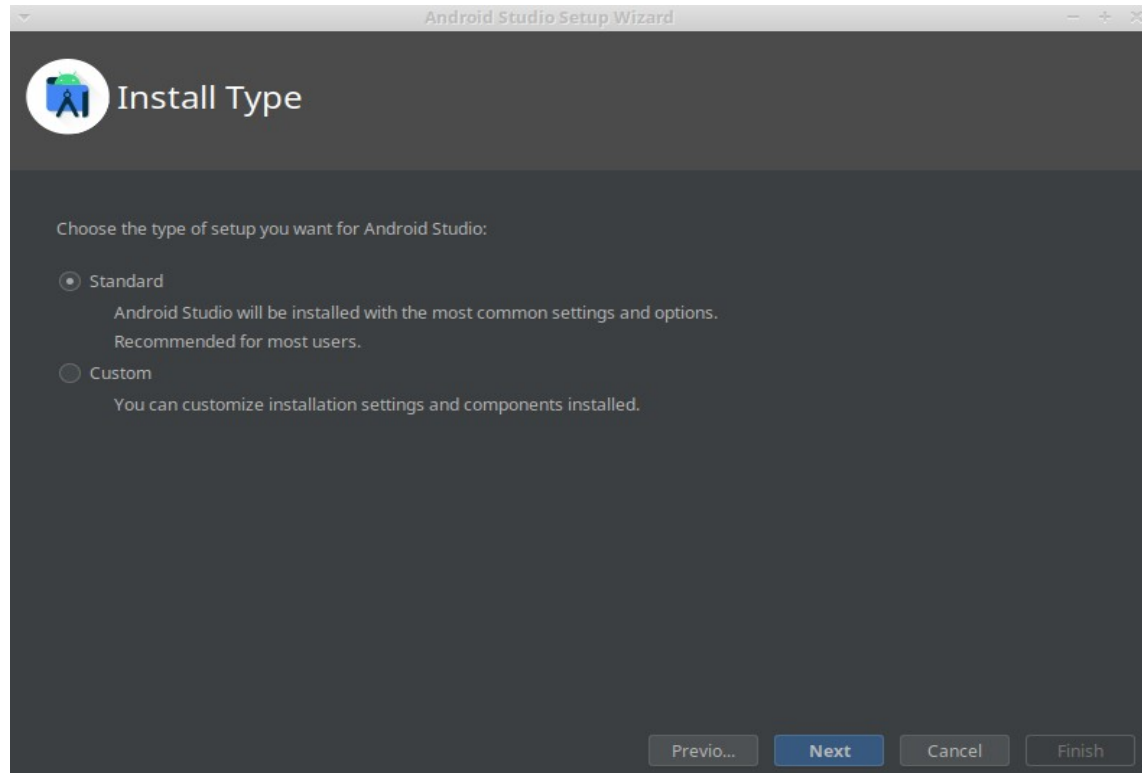
# Instalação Android Studio

Conclua o assistente de configuração do Android Studio, que inclui o download dos componentes do SDK do Android necessários para o desenvolvimento.

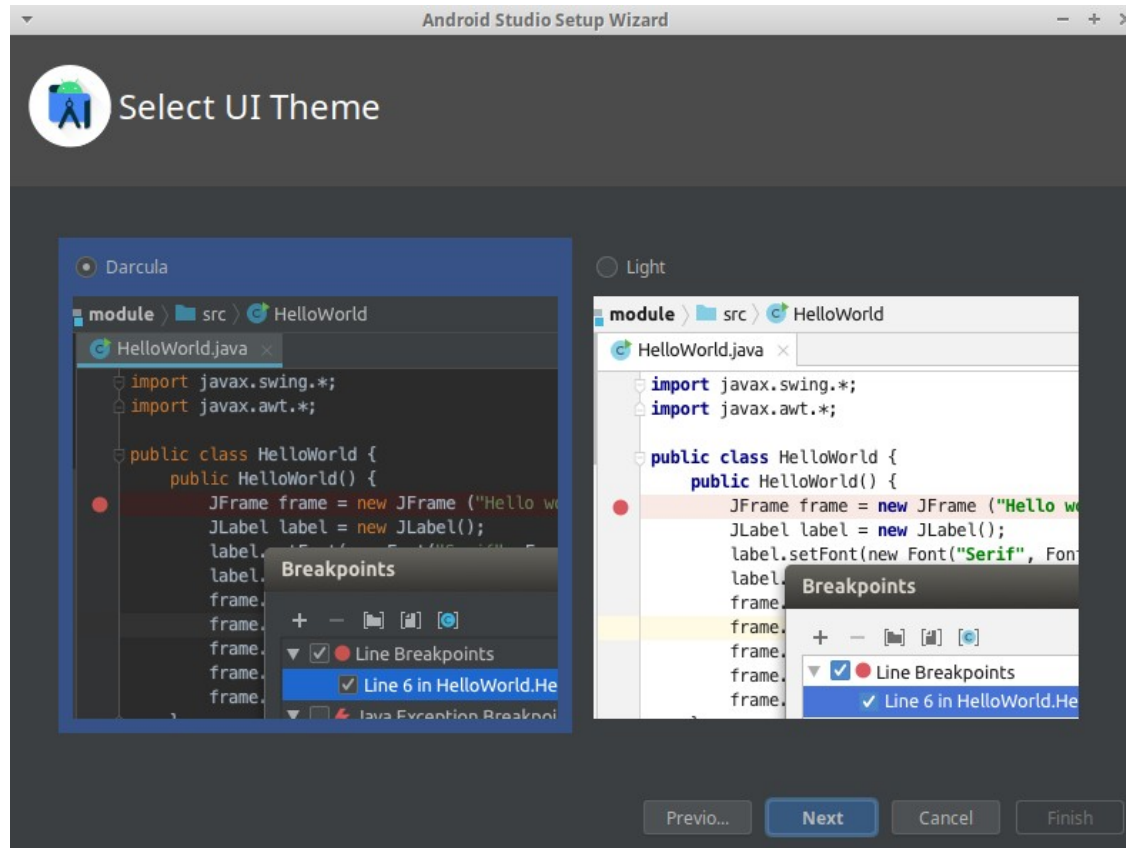


- Marque a opção **Dont send** pois não iremos enviar informações para Google.

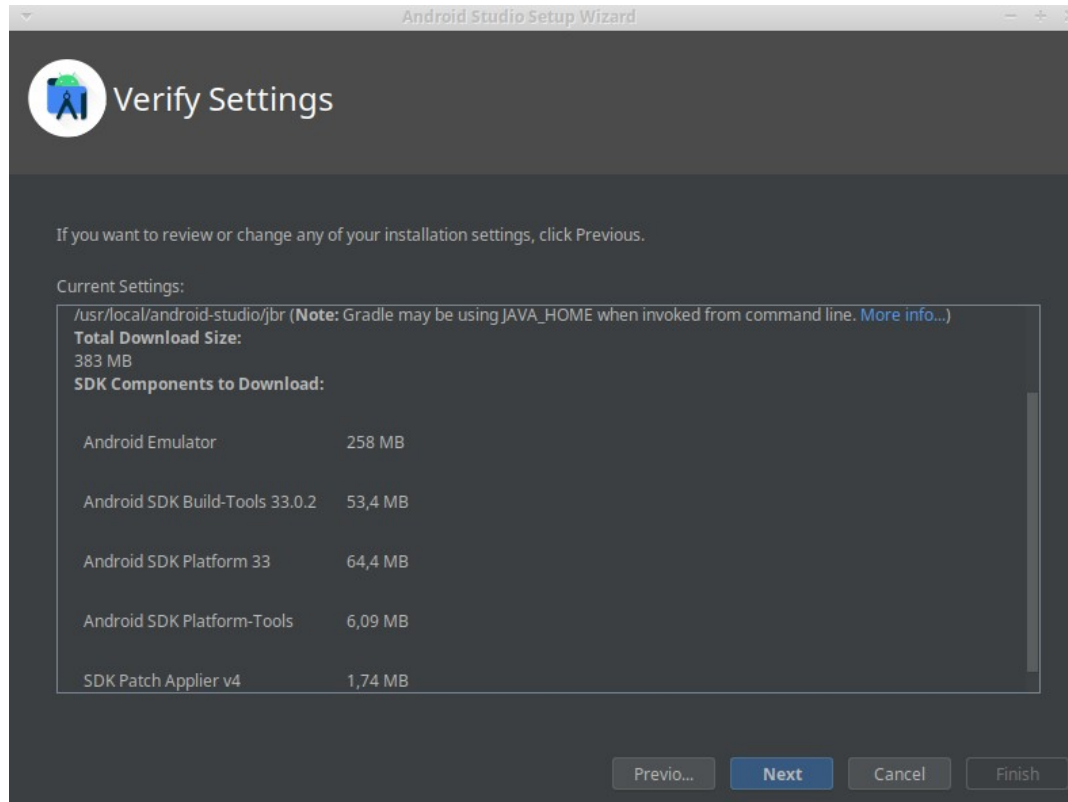
# Instalação Android Studio



# Instalação Android Studio

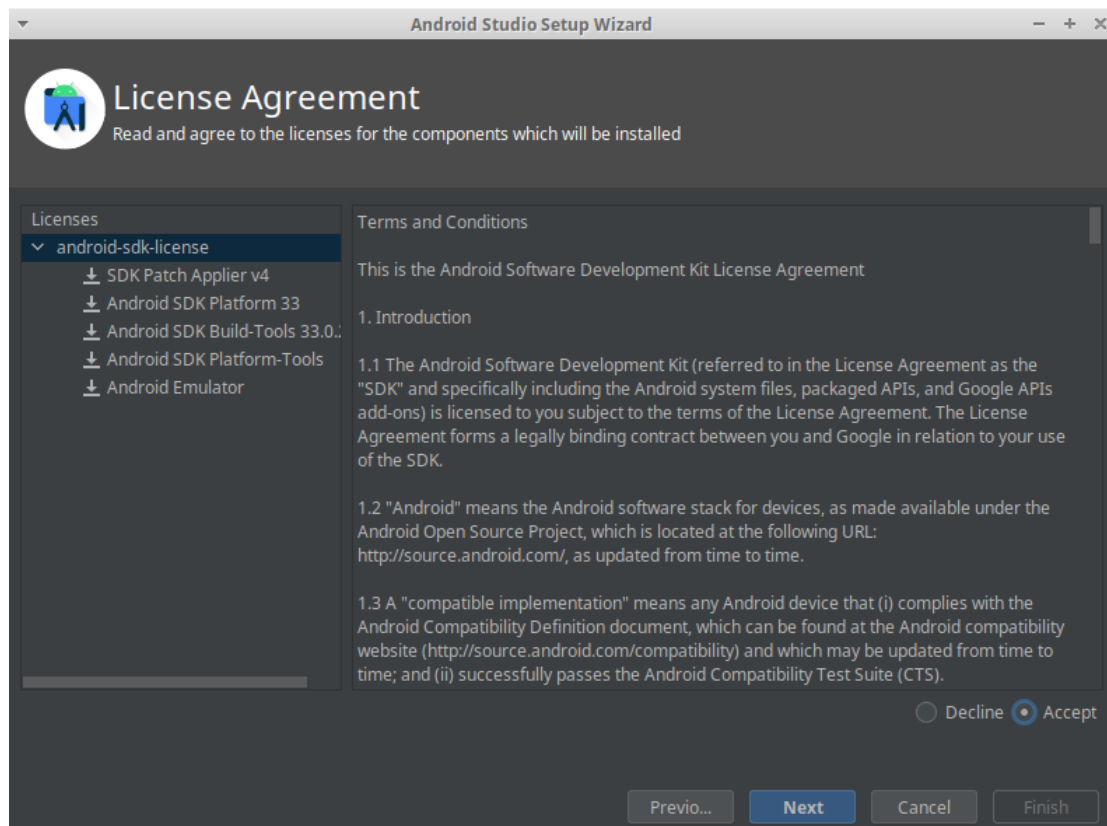


# Instalação Android Studio

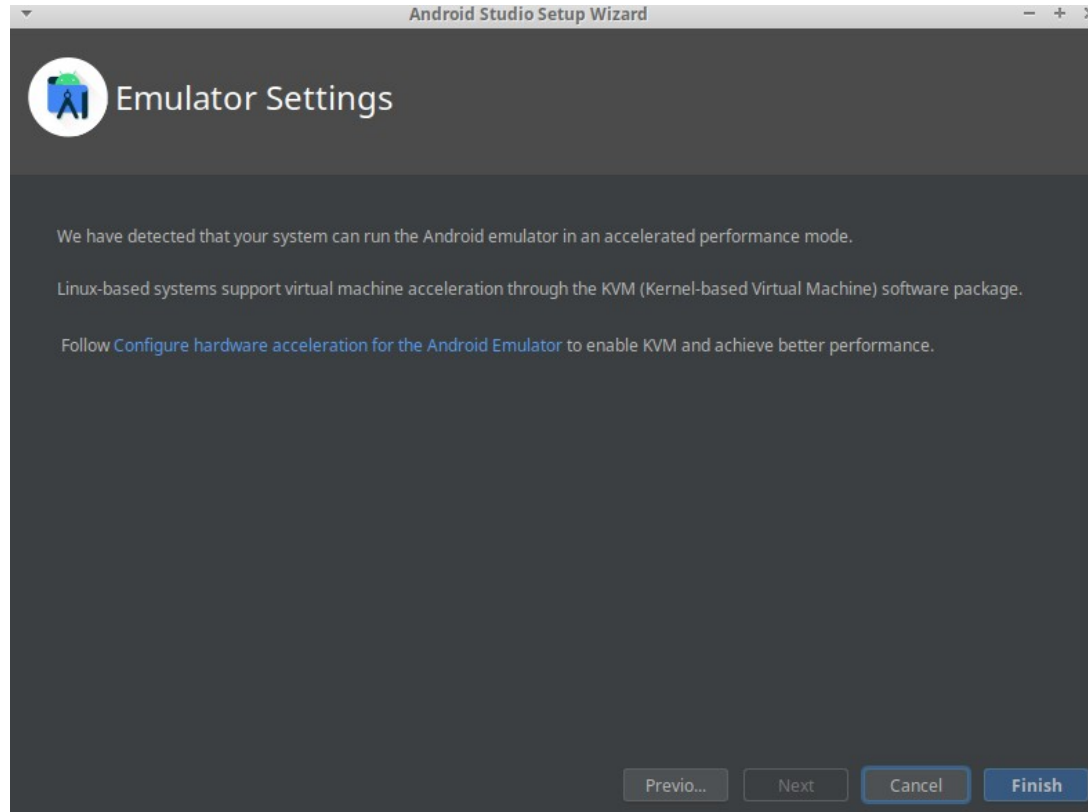




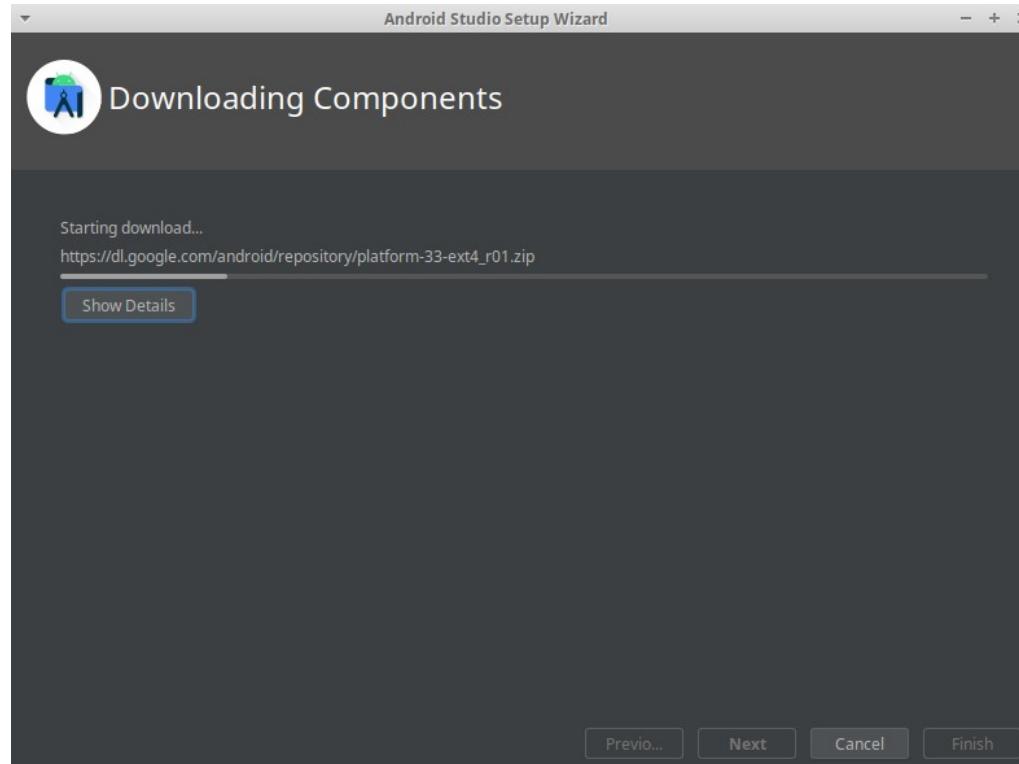
# Instalação Android Studio



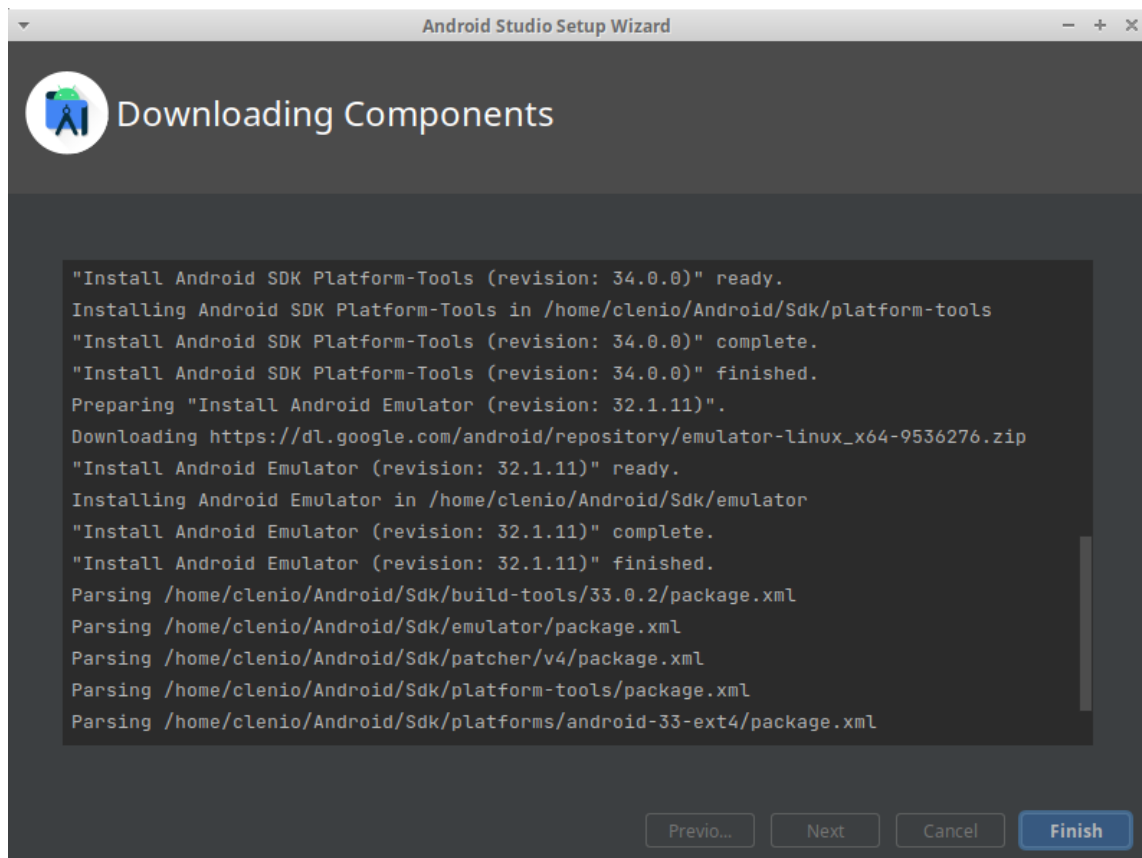
# Instalação Android Studio



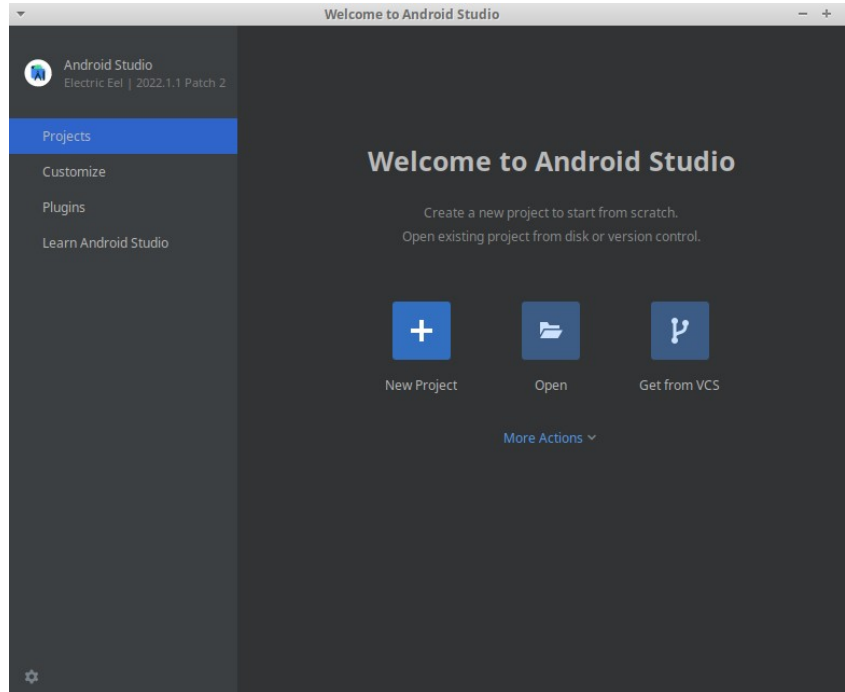
# Instalação Android Studio



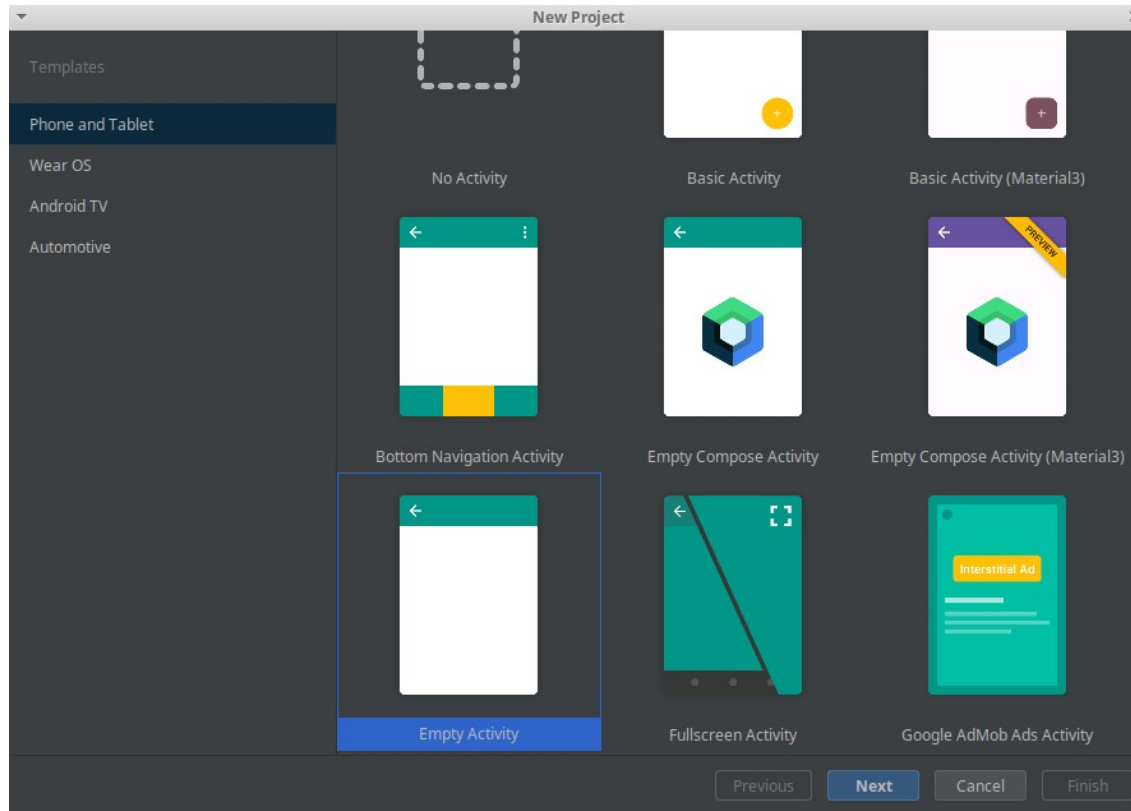
# Instalação Android Studio



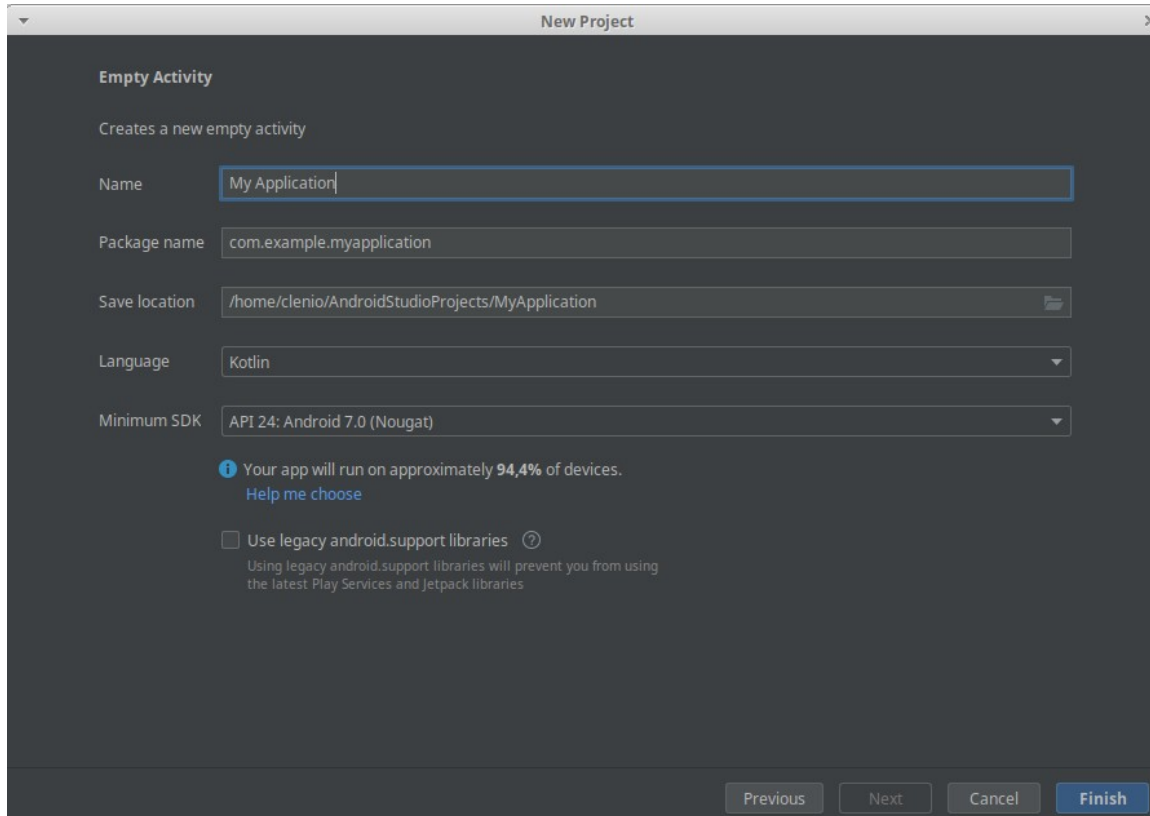
# Criando Entrada (ícone) para acessar o Android Studio



# Criando Entrada (ícone) para acessar o Android Studio



# Criando Entrada (ícone) para acessar o Android Studio



The screenshot shows the 'New Project' dialog box in Android Studio. The dialog has a title bar with a dropdown arrow, the text 'New Project', and a close button. The main content area is titled 'Empty Activity' and includes a subtitle 'Creates a new empty activity'. Below this, there are several input fields: 'Name' (containing 'My Application'), 'Package name' (containing 'com.example.myapplication'), 'Save location' (containing '/home/clelio/AndroidStudioProjects/MyApplication'), 'Language' (a dropdown menu set to 'Kotlin'), and 'Minimum SDK' (a dropdown menu set to 'API 24: Android 7.0 (Nougat)'). Below these fields, there is an information icon and a message: 'Your app will run on approximately 94,4% of devices.' with a link 'Help me choose'. There is also an unchecked checkbox labeled 'Use legacy android.support libraries' with a help icon and a note: 'Using legacy android.support libraries will prevent you from using the latest Play Services and Jetpack libraries'. At the bottom of the dialog, there are four buttons: 'Previous', 'Next', 'Cancel', and 'Finish'.

New Project

Empty Activity

Creates a new empty activity

Name: My Application

Package name: com.example.myapplication

Save location: /home/clelio/AndroidStudioProjects/MyApplication

Language: Kotlin

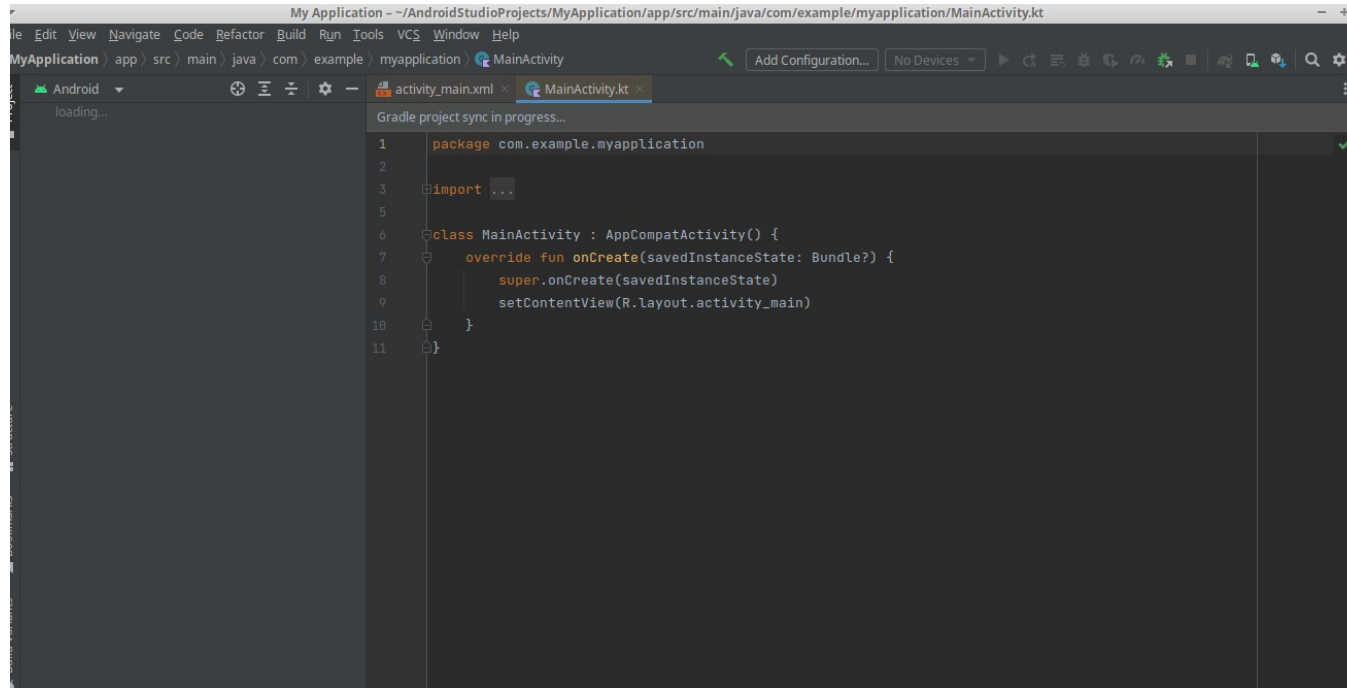
Minimum SDK: API 24: Android 7.0 (Nougat)

! Your app will run on approximately 94,4% of devices.  
[Help me choose](#)

☐ Use legacy android.support libraries ⓘ  
Using legacy android.support libraries will prevent you from using the latest Play Services and Jetpack libraries

Previous Next Cancel Finish

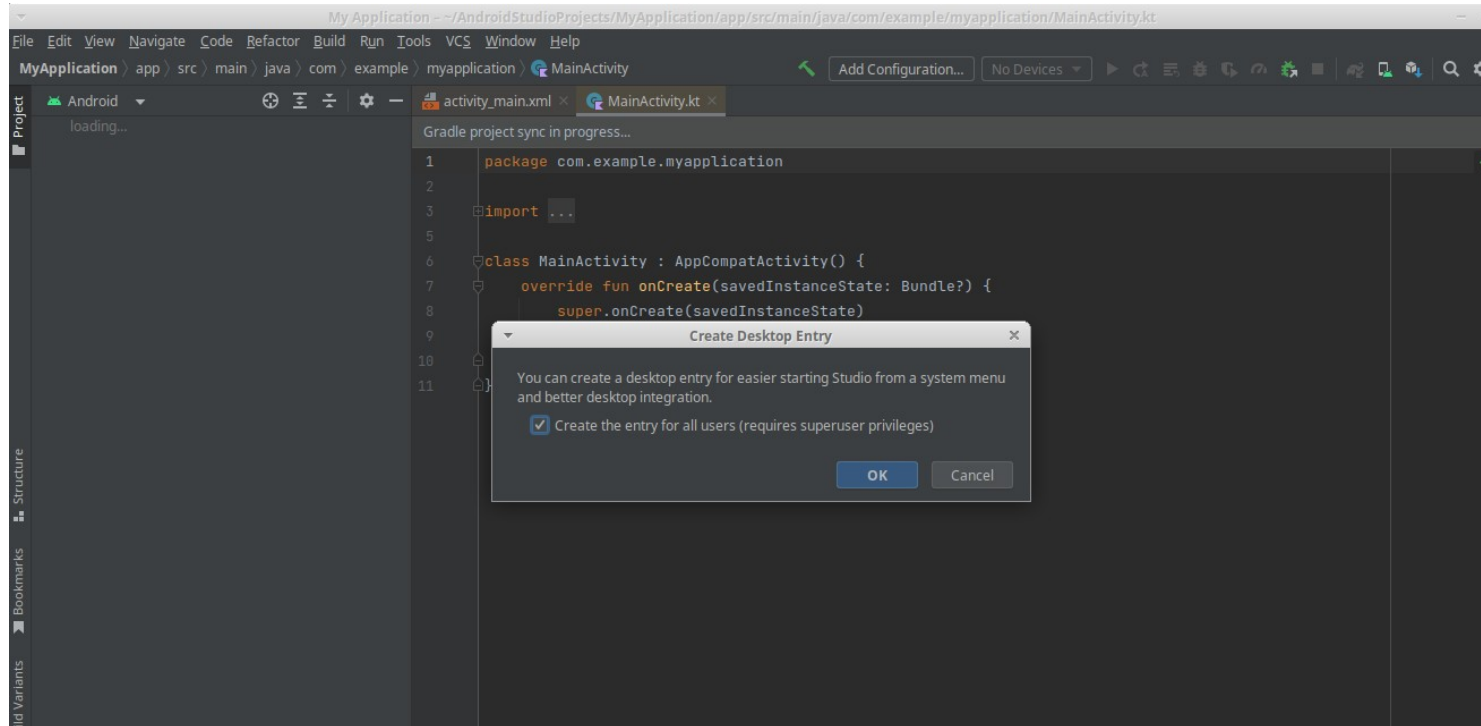
# Criando Entrada (ícone) para acessar o Android Studio



Acessar o menu **Tools** e escolher a opção **Create Desktop Entry**

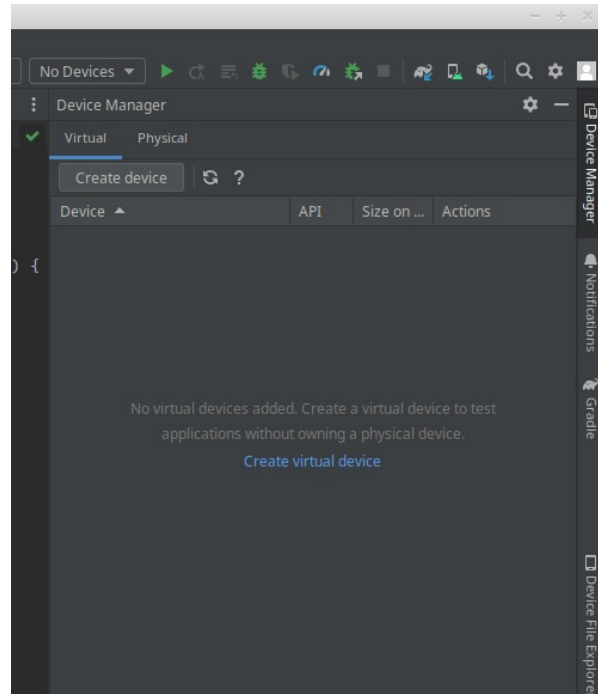
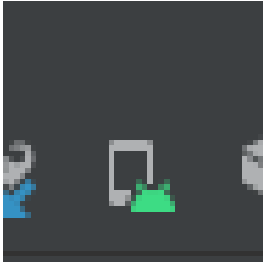


# Criando Entrada (ícone) para acessar o Android Studio

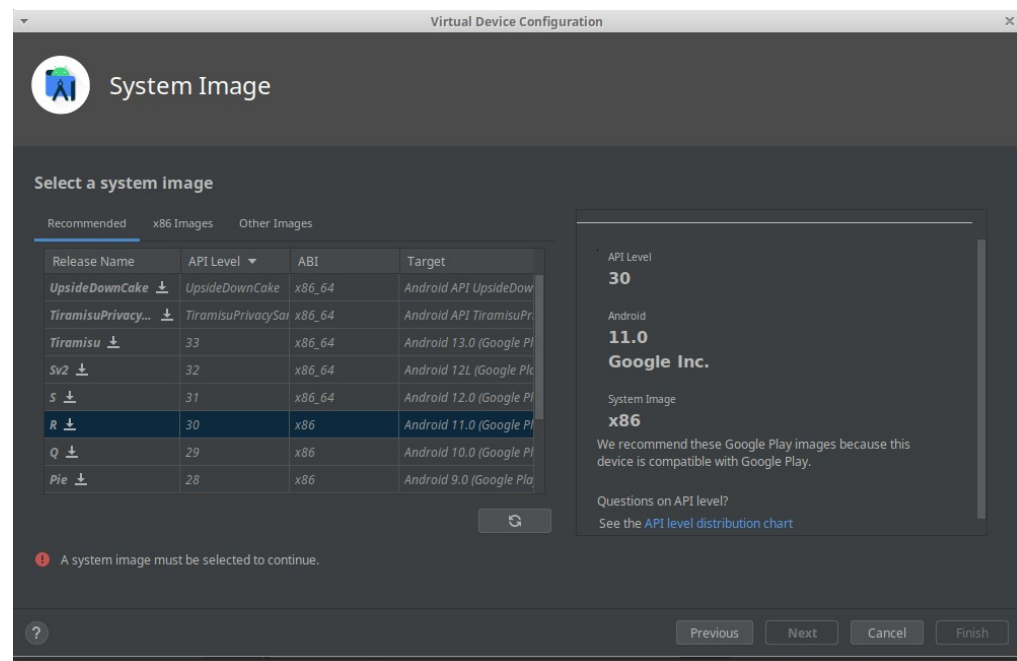
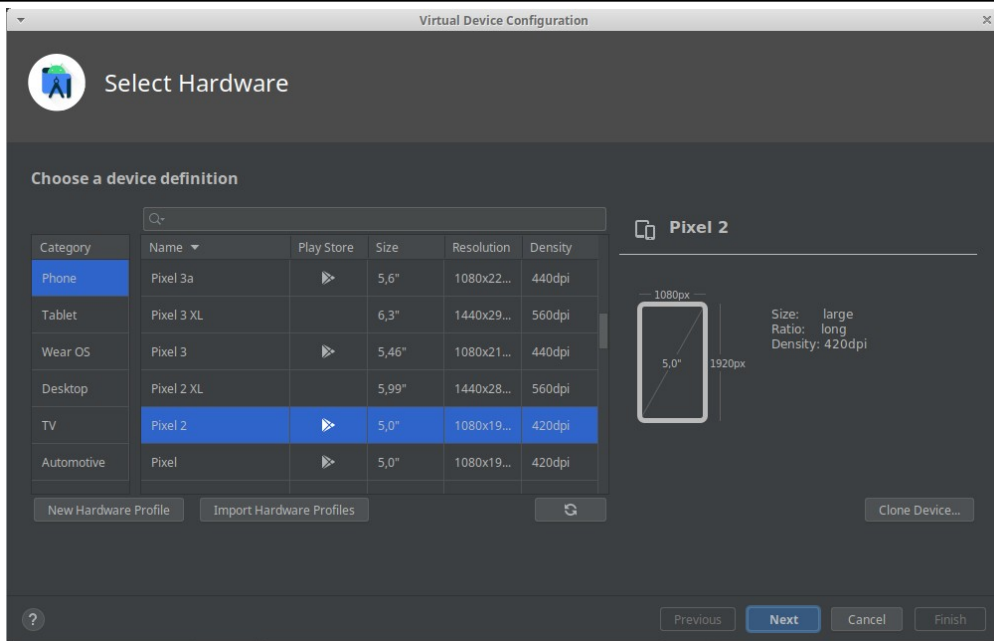


Após selecionar a opção acima apresentada e clicar em ok, adicione a senha de usuário na caixa de dialogo que click em autenticar.

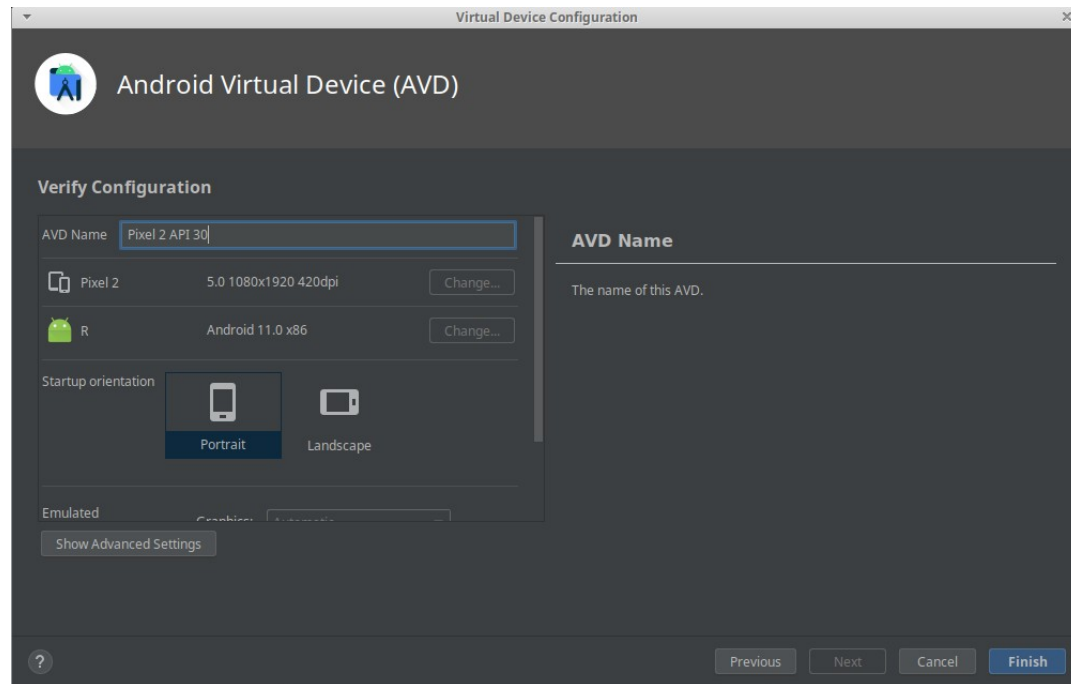
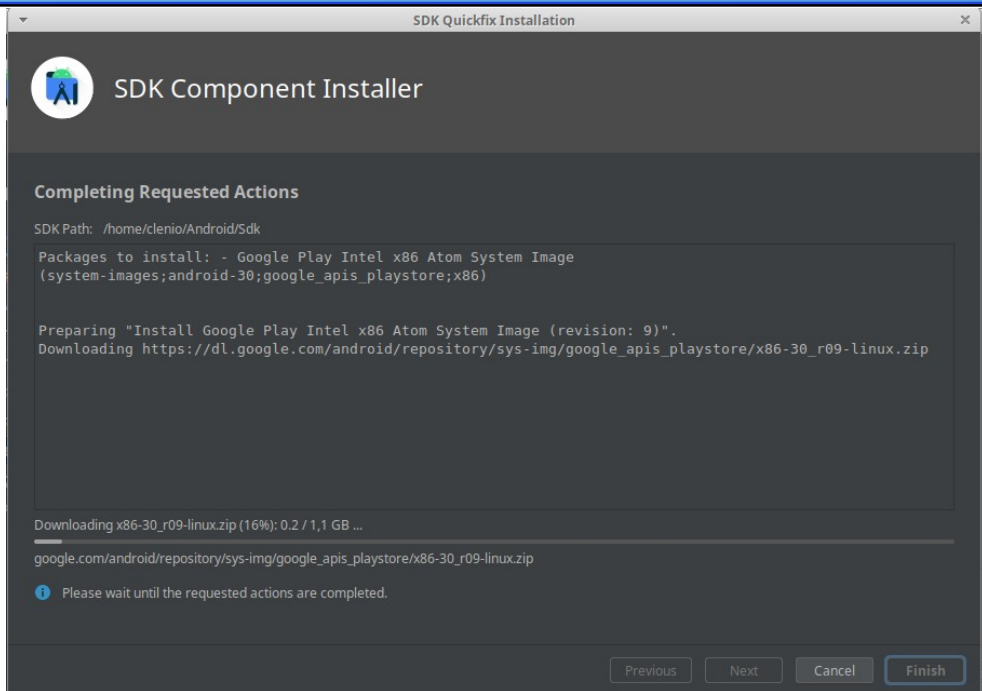
# Criando um emulador



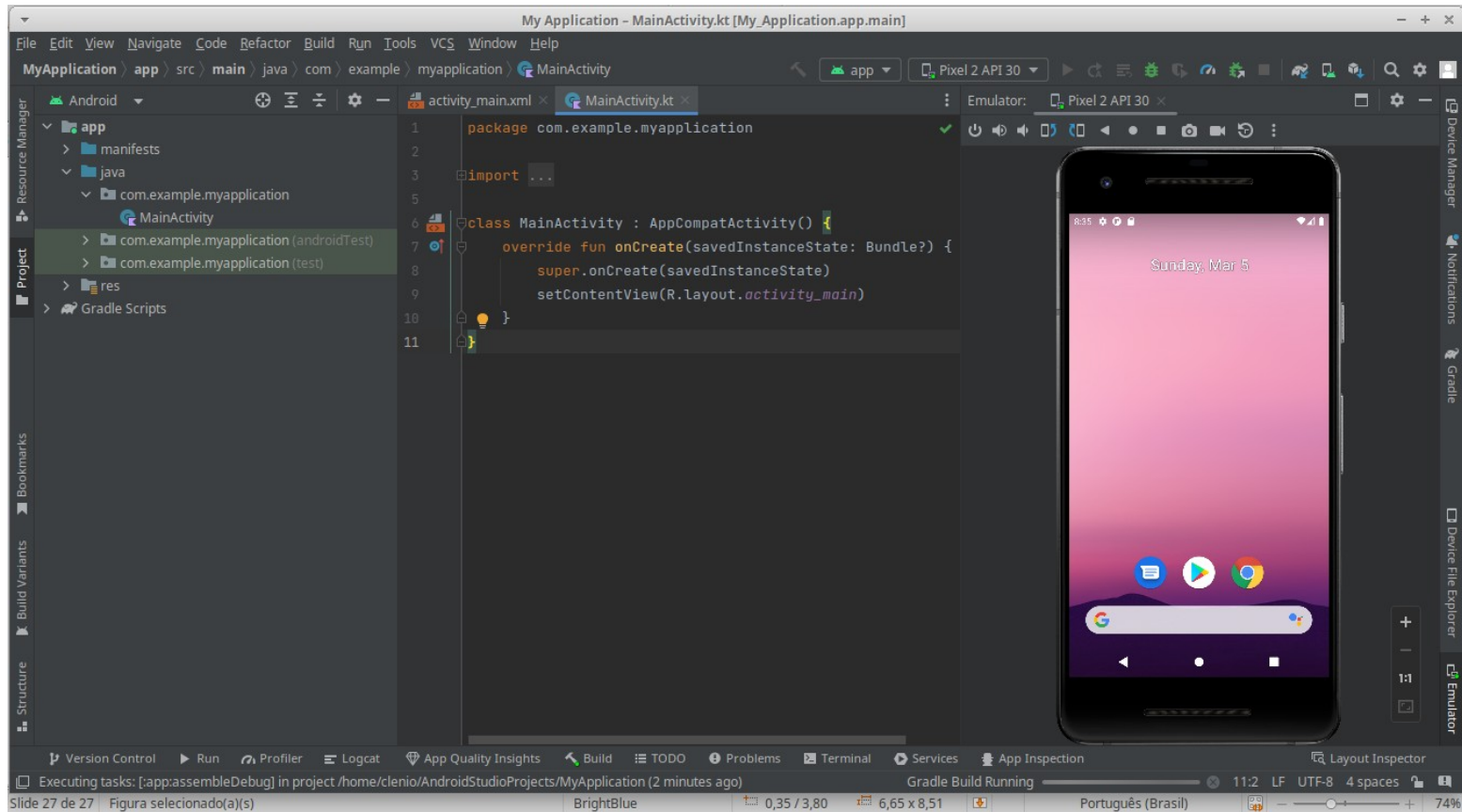
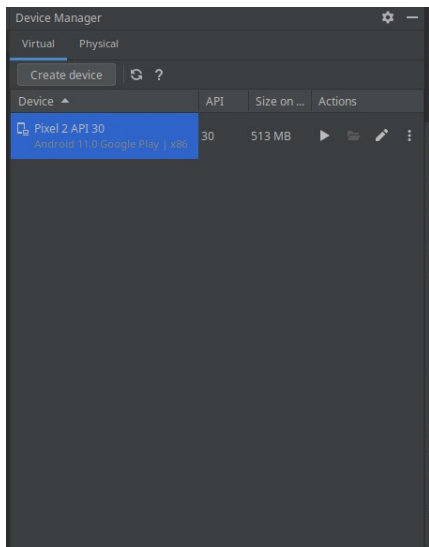
# Criando um emulador



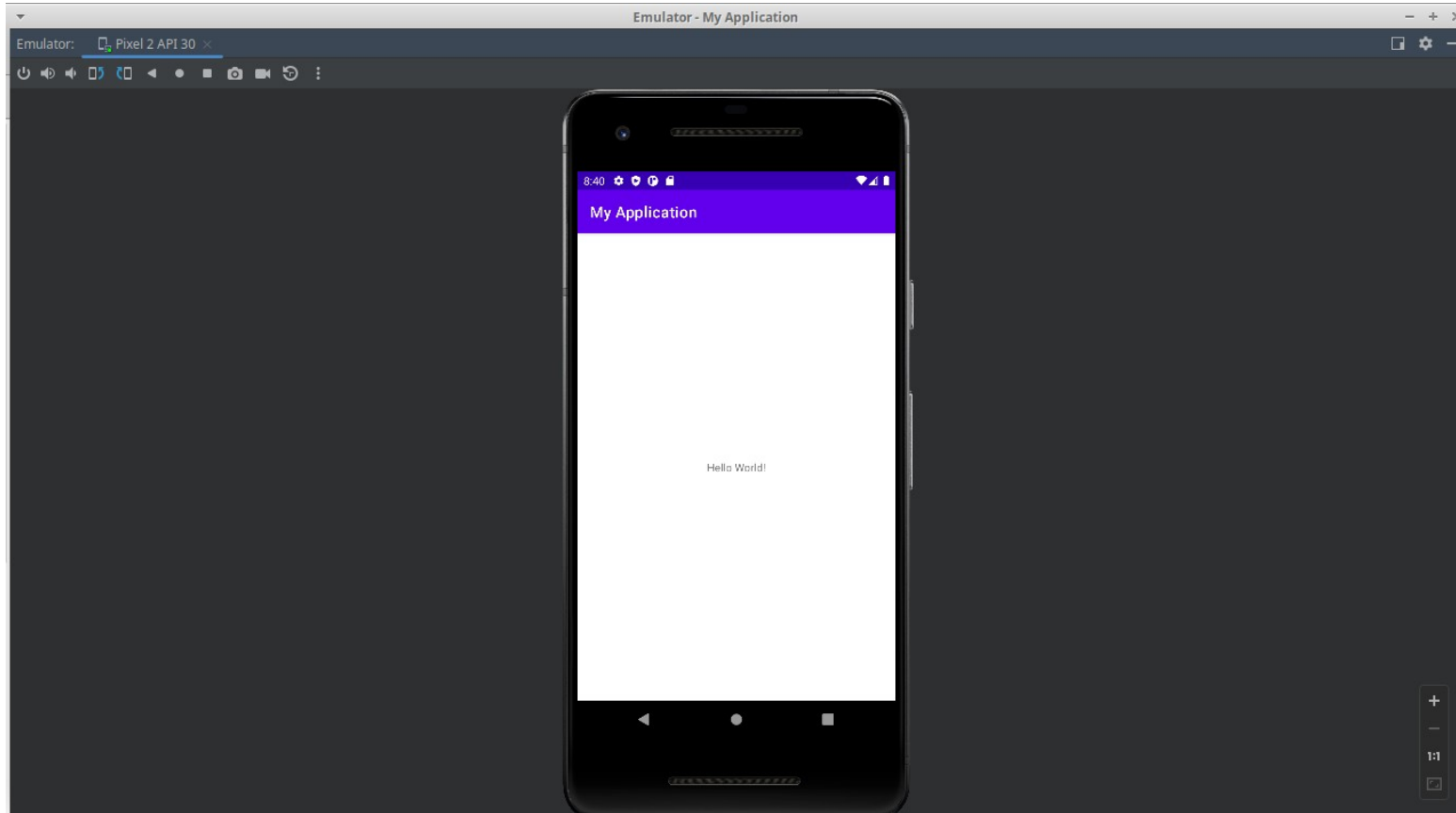
# Criando um emulador



# Criando um emulador



# Executando primeira aplicação no emulador



# Android Layout - conceitos

- Define a estrutura da interface gráfica
  - Como os elementos se comportam e se relacionam
- Todos os elementos dentro do layout respeitam a hierarquia de View e ViewGroup

## View

Geralmente representam elementos na interface que o usuário possa interagir

Button, EditText, Switch, ImageView,  
CheckBox

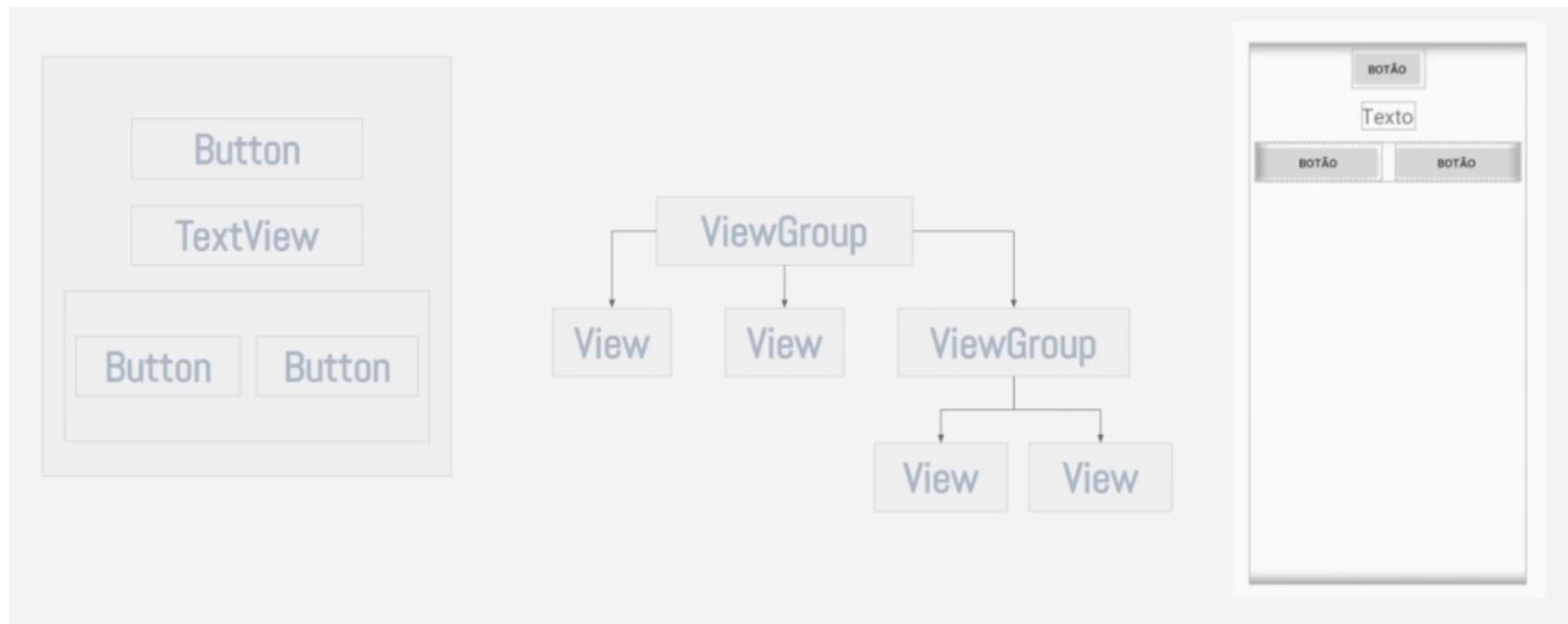
## ViewGroup

Elementos de layout que definem o comportamento de outros elementos. Um agrupador de elementos de interface

LinearLayout, RelativeLayout,  
ConstraintLayout, RecyclerView

- Um elemento de layout pode ser definido via código ou como XML

# Hierarquia de layout





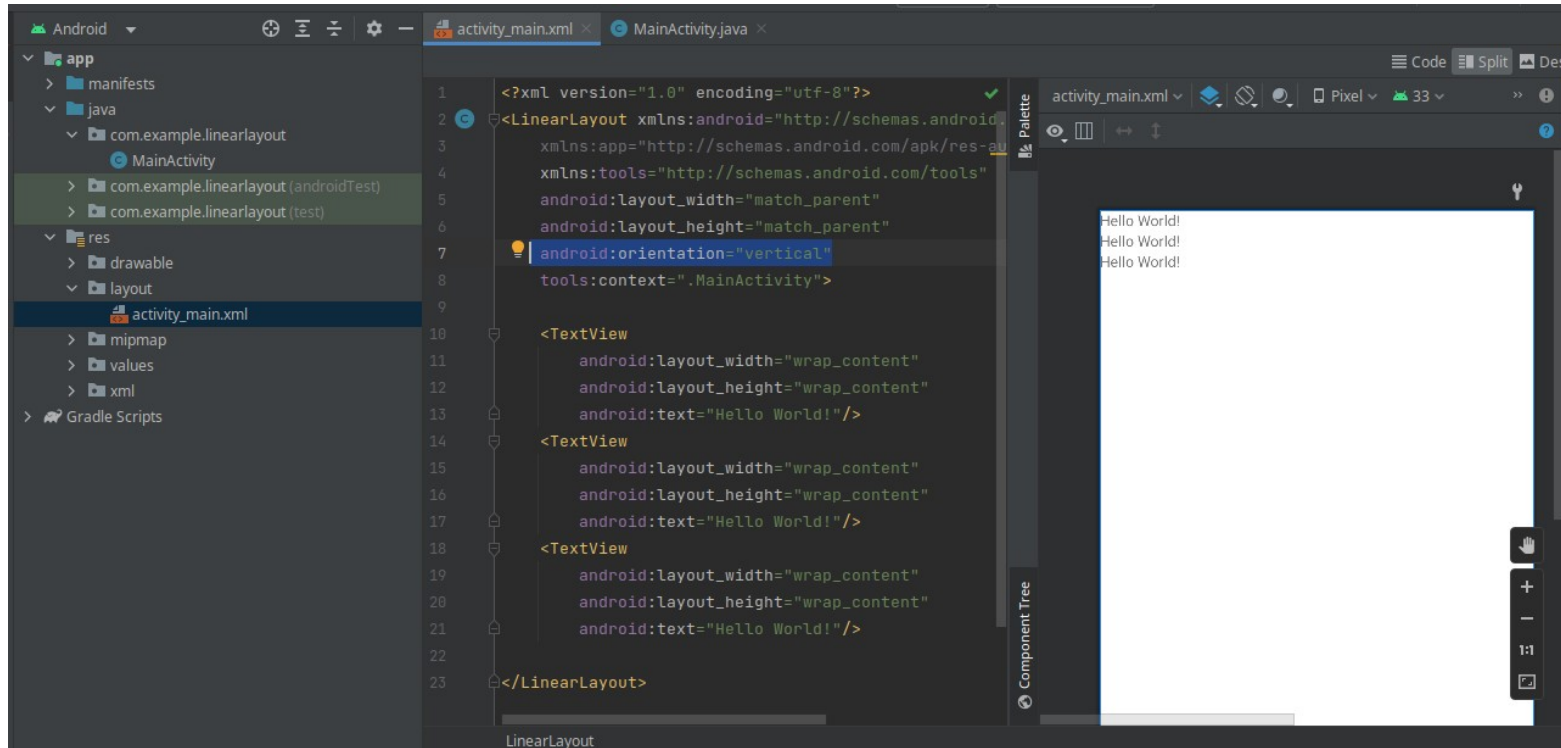
# Boas práticas

- A quantidade de elementos na tela vão consumir mais processamento da aplicação
  - Deve-se criar layout simples e manter a hierarquia plana
- Usar as medidas recomendadas para largura e altura de elementos
  - Tamanho de fonte devem usar a media “sp” (Escala independente de pixels)
  - Tamanho de elementos, margins, paddings, etc devem usar “dp” (Densidade independente de pixels)
- Largura e altura também podem ser definidas relativas ao elemento pai ou próprio elemento

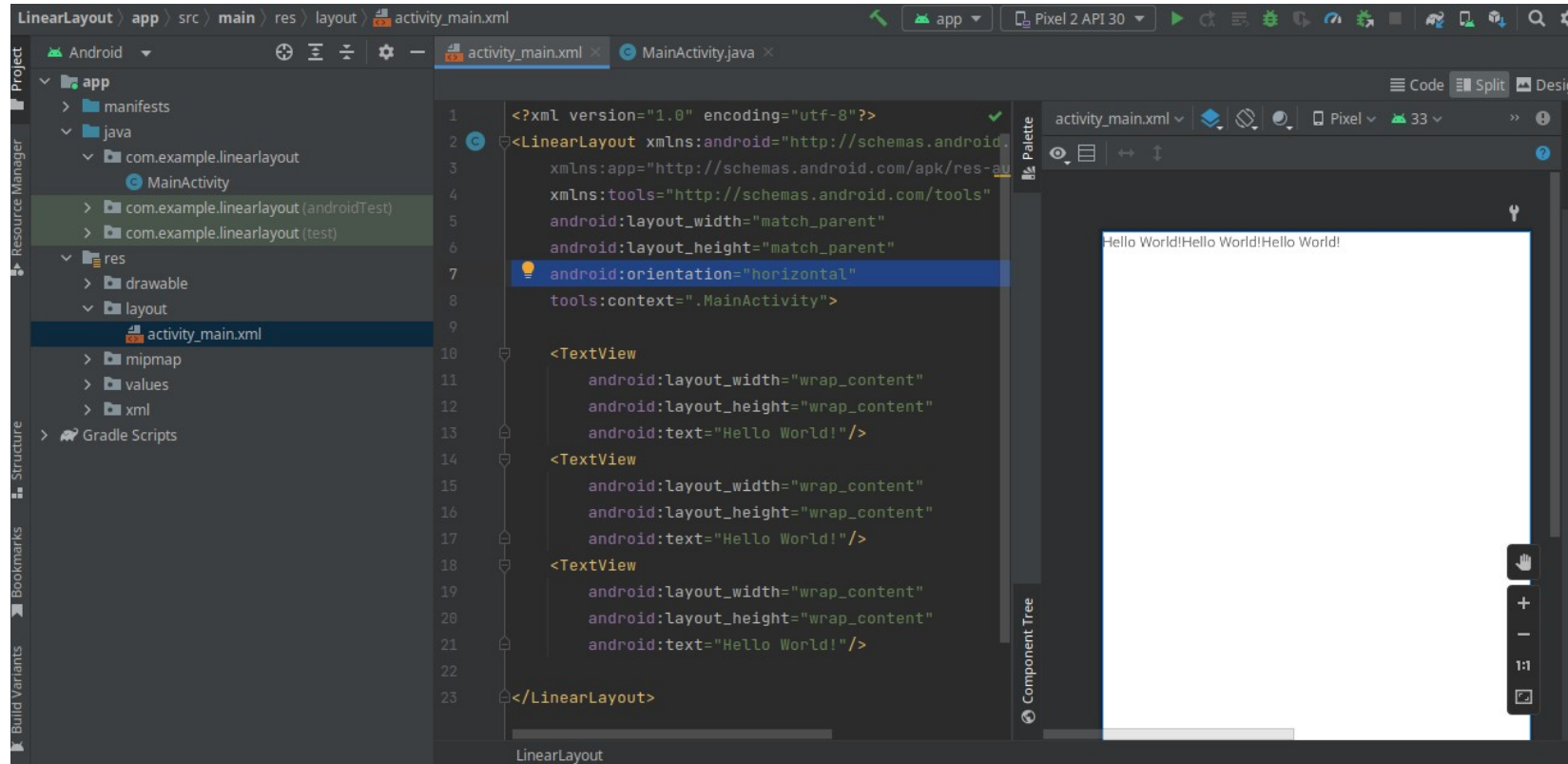
# LinearLayout

- Crie um novo projeto:
  - Project Template = **Empty Activity** (Projeto em branco sem configurações)
  - Name = **LinearLAyout**
  - Language = **Java**

# LinearLayout – definindo orientação - vertical

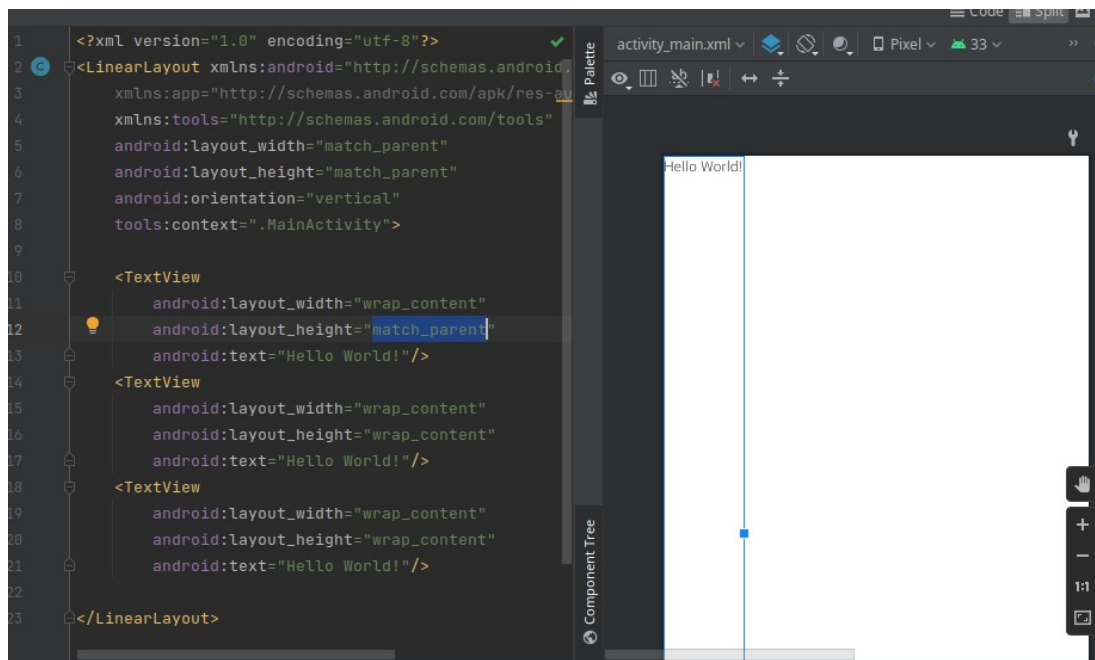


# LinearLayout – definindo orientação - horizontal



# LinearLayout – Alterando altura e largura dos elementos

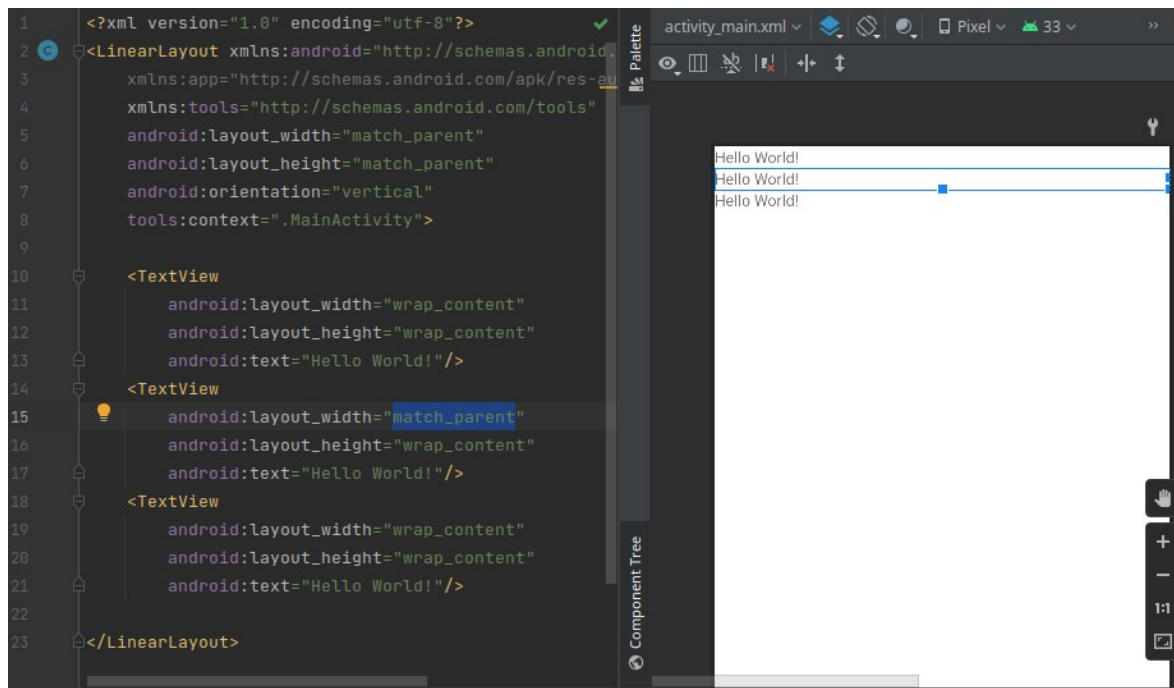
- `match_parent`: ocupa o tamanho do elemento pai
- `wrap_content`: ocupa o tamanho necessário



`android:layout_width="wrap_content"`  
`android:layout_height="match_parent"`

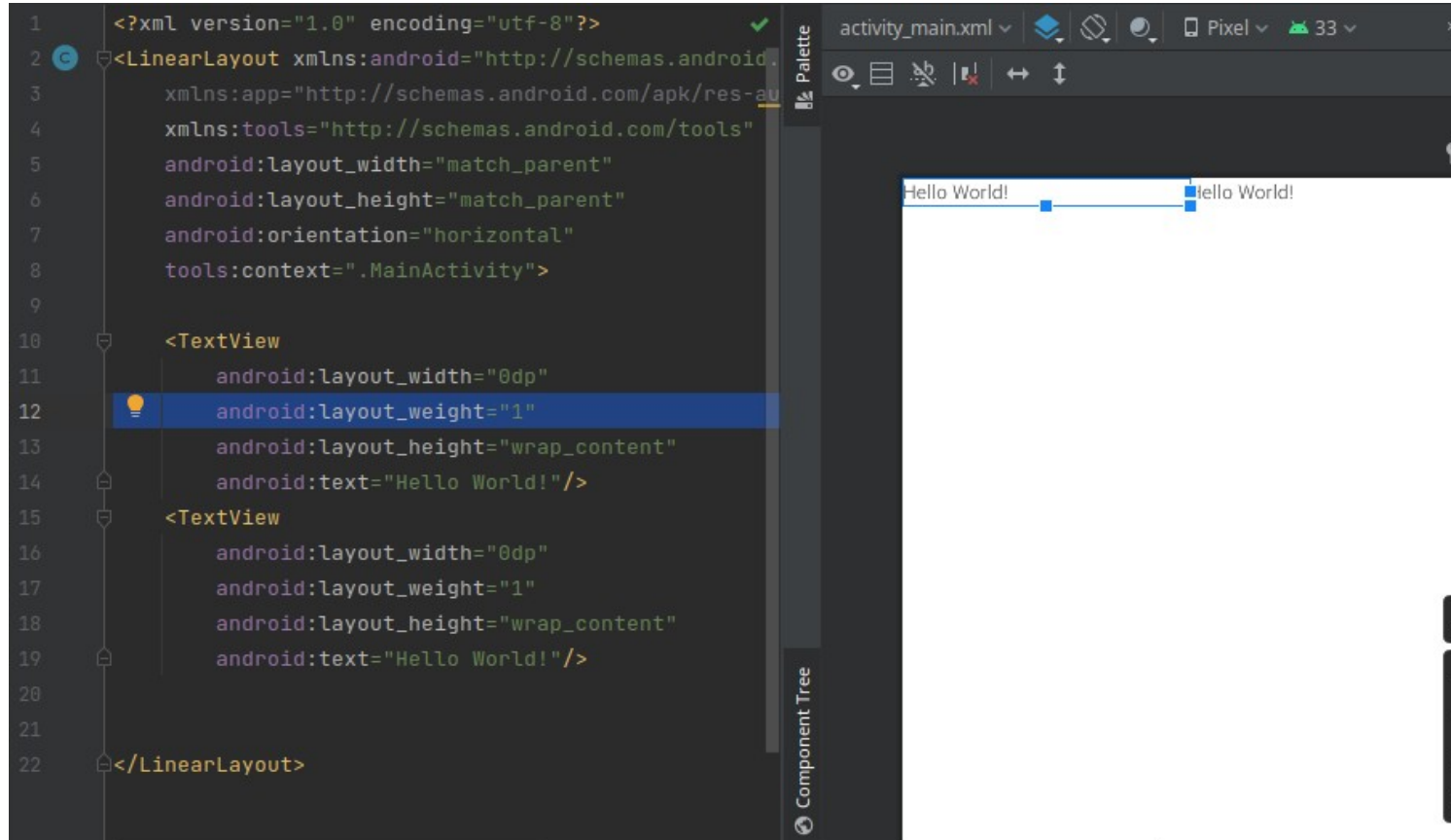
# LinearLayout – Alterando altura e largura dos elementos

- `match_parent`: ocupa o tamanho do elemento pai
- `wrap_content`: ocupa o tamanho necessário



**`android:layout_width="match_parent"`**  
**`android:layout_height="wrap_content"`**

# LinearLayout – Distribuindo elementos em um layout horizontal



# Referências

LECHETA, Ricardo. R. Google Android: aprenda a criar aplicações para dispositivos móveis com Android SDK. 5ª ed. São Paulo, SP: Novatec, 2016.