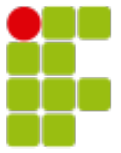


Ambiente de Desenvolvimento Dispositivos Moveis.

Professor Msc Romulo Beninca



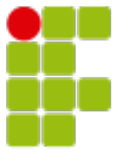
Sumário

- Plataformas de Desenvolvimento para Android.
 - Vantagens na utilização da emulação no linux
- Configuração do Emulador
- Dispositivo Físico
- Estrutura do Projeto
- Console e LogCat

Ambiente de Desenvolvimento

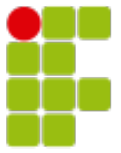
- Android SDK.
- Android Studio

androidstudio



Software

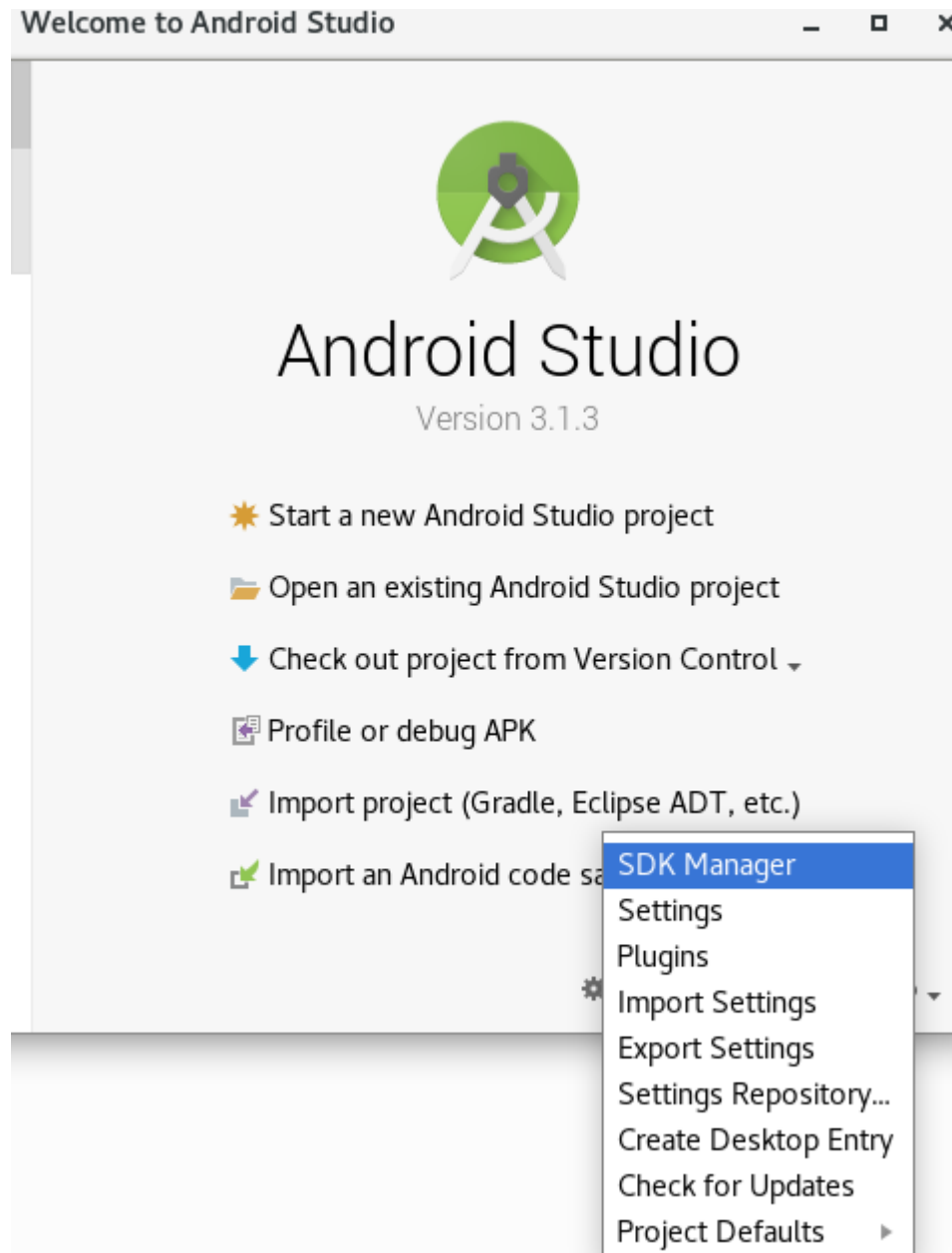
- O que vem no pacote "Android Studio"?
 - Android Studio IDE
 - Android SDK tools
 - A última versão da plataforma Android
 - A última versão do emulador

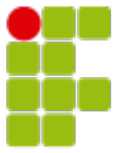


Software

- Como instalar?
 - No linux basta descompactar o arquivo;
 - É recomendado o uso da JDK oferecida pela Oracle:
 - <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
 - Para Ubuntu:
 - **sudo add-apt-repository ppa:webupd8team/java**
 - **sudo apt-get update**
 - **sudo apt-get install oracle-java8-installer**

Configuração do ambiente





SKD Settings

O SDK manager possibilita a configuração da SDK disponível no ambiente.

Location informa o local da instalação da SDK, recomenda-se que não haja espaços.

Default Settings

Appearance & Behavior > System Settings > Android SDK

Manager for the Android SDK and Tools used by Android Studio

Android SDK Location: [Edit](#)

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, Android Studio will automatically check for updates. Check "show package details" to display individual SDK components.

	Name	API Level	Revision	Status
<input type="checkbox"/>	Android API 28	28	4	Not installed
<input checked="" type="checkbox"/>	Android 8.1 (Oreo)	27	3	Installed
<input type="checkbox"/>	Android 8.0 (Oreo)	26	2	Partially installed
<input type="checkbox"/>	Android 7.1.1 (Nougat)	25	3	Partially 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 type="checkbox"/>	Android 5.0 (Lollipop)	21	2	Not installed

SDK Plataforms

Default Settings

Appearance & Behavior > System Settings > Android SDK

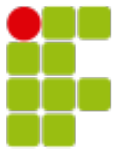
Manager for the Android SDK and Tools used by Android Studio

Android SDK Location: [Edit](#)

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, Android Studio will automatically check for updates. Check "show package details" to display individual SDK components.

Name	API Level	Revision	Status
<input type="checkbox"/> Google Play Intel x86 Atom_64 System Image	28	4	Not installed
▼ Android 8.1 (Oreo)			
<input checked="" type="checkbox"/> Android SDK Platform 27	27	3	Installed
<input checked="" type="checkbox"/> Sources for Android 27	27	1	Installed
<input type="checkbox"/> Android TV Intel x86 Atom System Image	27	4	Not installed
<input checked="" type="checkbox"/> Google APIs Intel x86 Atom System Image	27	6	Installed
<input type="checkbox"/> Google Play Intel x86 Atom System Image	27	3	Not installed
▼ Android 8.0 (Oreo)			
<input checked="" type="checkbox"/> Android SDK Platform 26	26	2	Installed
<input type="checkbox"/> Sources for Android 26	26	1	Not installed
<input type="checkbox"/> Android TV Intel x86 Atom System Image	26	9	Not installed
<input type="checkbox"/> China version of Android Wear Intel x86 Atom System Image	26	4	Not installed
<input type="checkbox"/> Android Wear Intel x86 Atom System Image	26	4	Not installed
<input type="checkbox"/> Google APIs Intel x86 Atom System Image	26	10	Not installed
<input type="checkbox"/> Google APIs Intel x86 Atom_64 System Image	26	10	Not installed
<input type="checkbox"/> Google Play Intel x86 Atom System Image	26	7	Not installed
▼ Android 7.1.1 (Nougat)			
<input checked="" type="checkbox"/> Android SDK Platform 25	25	3	Installed



SDK observações

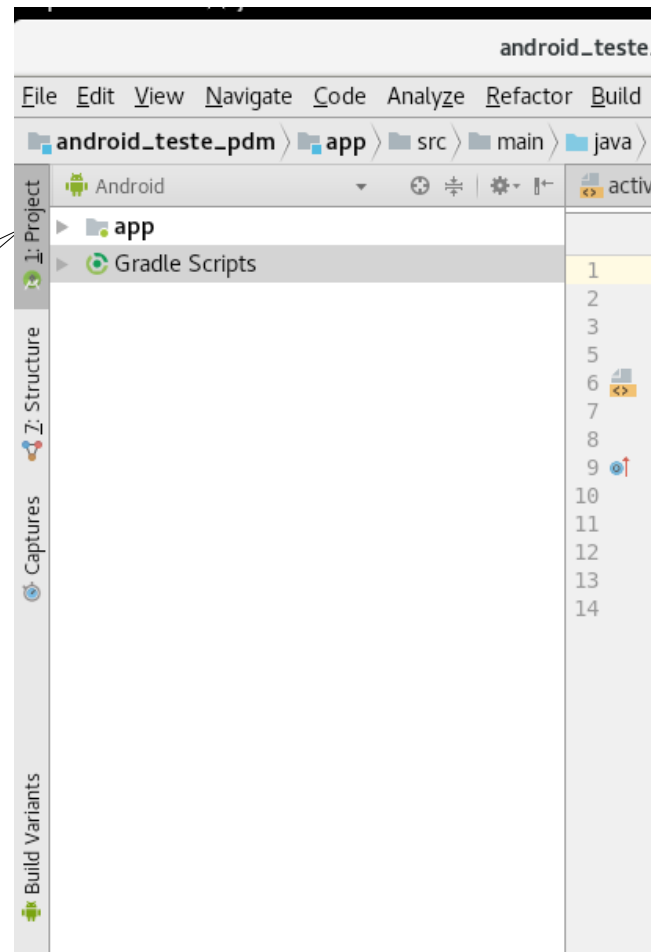
- Cada uma das após requer a instalação de um grande numero de bibliotecas que consomem um grande espaço em disco.

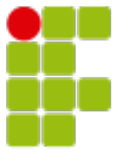
SDK Tools

Software

- Executando pela primeira vez:

Exibir a interface completa..



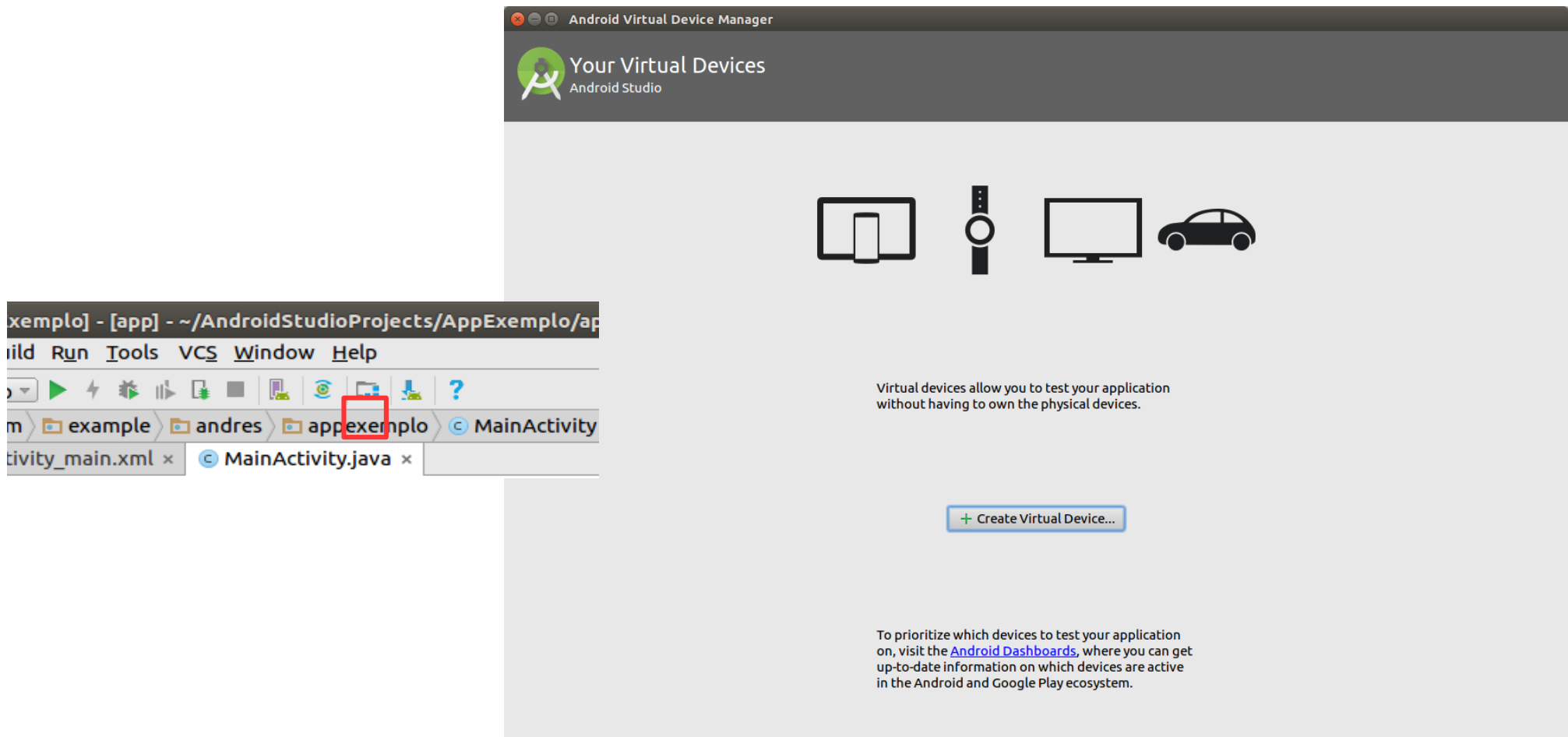


Configuração do Emulador

- O emulador permite a execução e testes de aplicativos Android sem um dispositivo físico
- Sua performance pode ser limitada se comparado à um aparelho real
- Pode-se emular a maioria das configurações:
 - Quantidade de memória, cartão SD, tamanho da tela, etc.
- Alguns recursos podem possuir limitações:
 - Ex: OpenGL ES.

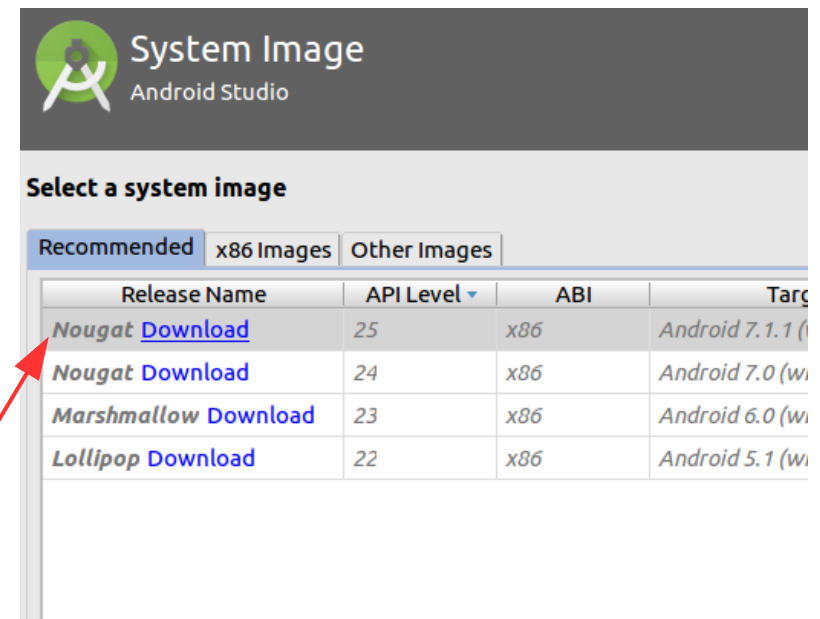
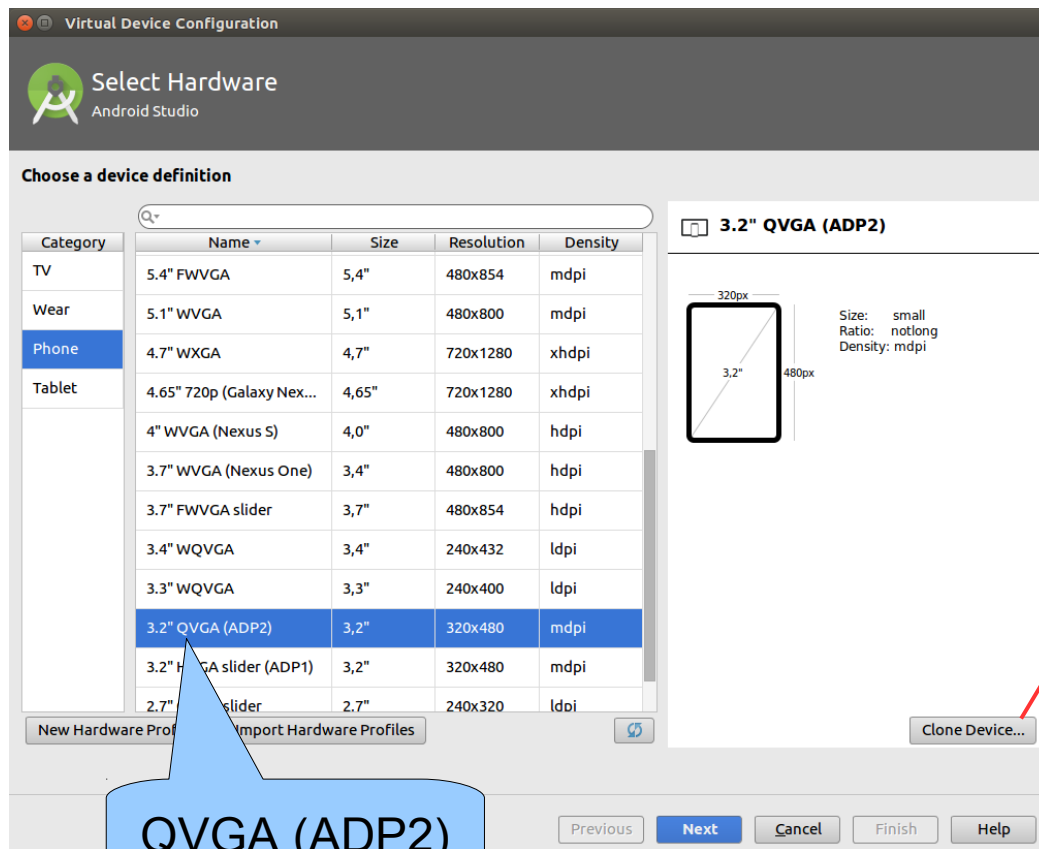
Configuração do Emulador

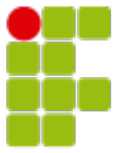
- No Android Studio, acesse o menu "Tools" >> "Android" >> "AVD Manager":



Configuração do Emulador

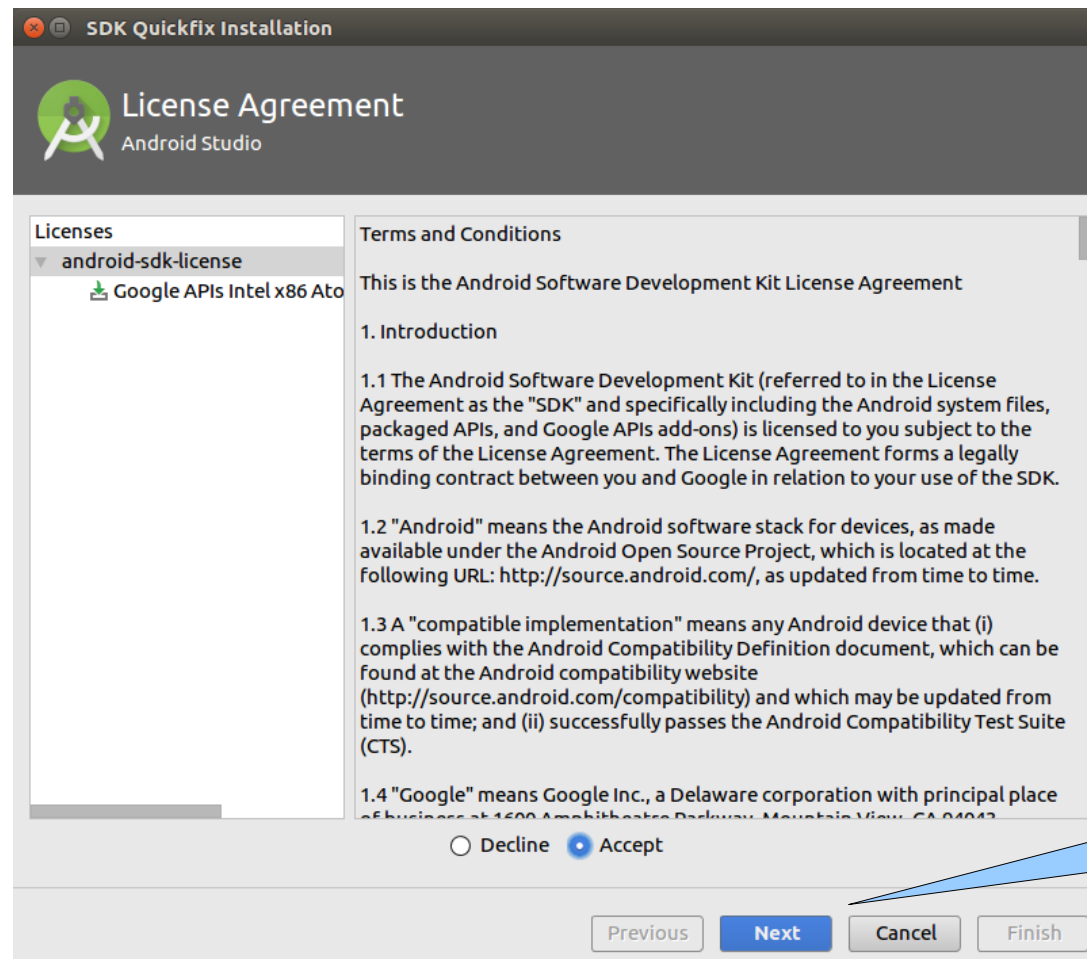
- No Android Studio, acesse o menu "Tools" >> "Android" >> "AVD Manager":





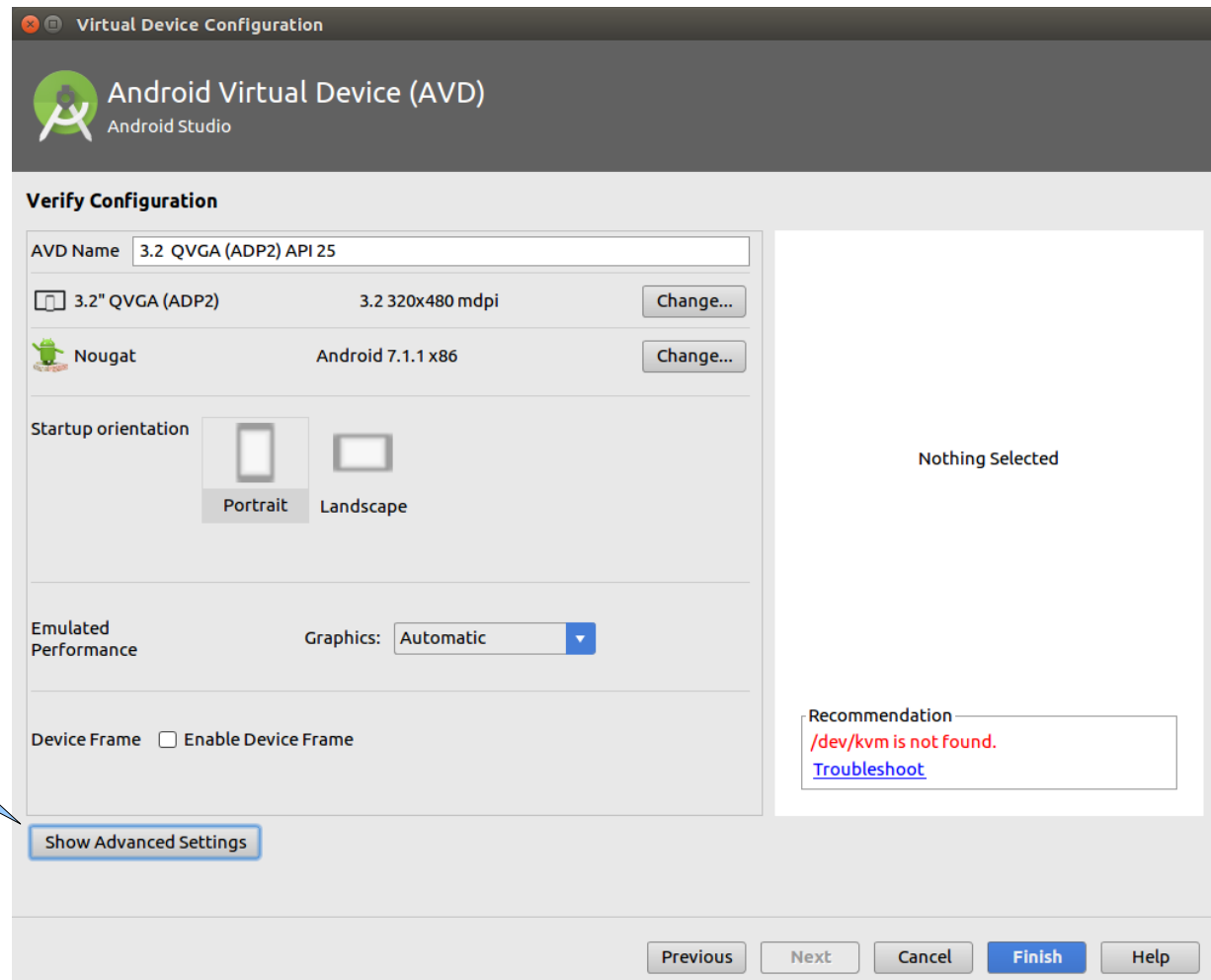
Configuração do Emulador

- No Android Studio, acesse o menu "Tools" >> "Android" >> "AVD Manager":

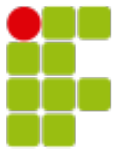


Configuração do Emulador

- No Android Studio, acesse o menu "Tools" >> "Android" >> "AVD Manager":



Nas opções avançadas é possível selecionar detalhes como a quantidade de RAM. 512Mb está ok.



Dispositivo Físico

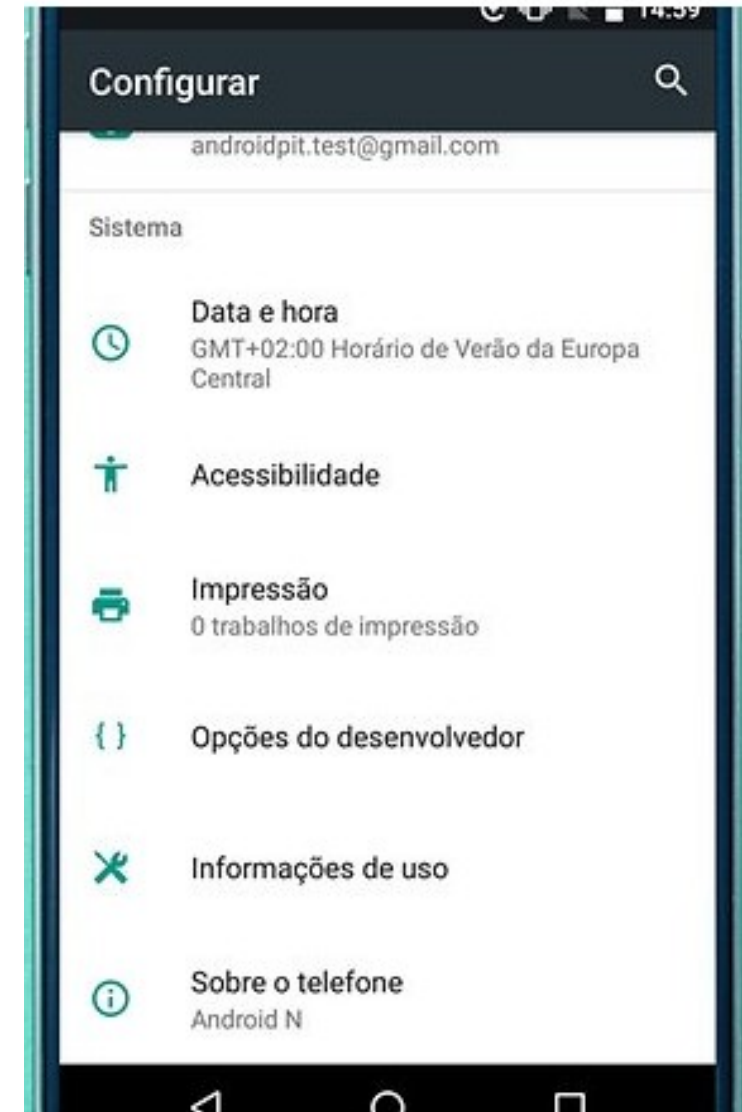
- Configurando o Ubuntu:
 - Conecte o dispositivo via porta USB
 - Localize-o com o comando "**lsusb**"
 - Precisamos apenas do identificador do fabricante (neste caso "**22b8**")

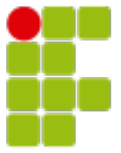
```
Terminal
Arquivo Editar Ver Pesquisar Terminal Ajuda
bash-4.4$ lsusb
Bus 001 Device 002: ID 8087:8001 Intel Corp.
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0
Bus 003 Device 001: ID 1d6b:0003 Linux Foundation 3.0
Bus 002 Device 005: ID 0bda:0129 Realtek Semiconductor
Controller
Bus 002 Device 004: ID 1bcf:2c81 Sunplus Innovatics
Bus 002 Device 002: ID 046d:c52f Logitech, Inc. Unify
Bus 002 Device 040: ID 22b8:2e76 Motorola PCS
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
bash-4.4$ █
```

O identificador de cada dispositivo USB é formado por dois códigos, o ID do fabricante (22b8) e o ID do dispositivo (2e76)

Dispositivo Físico

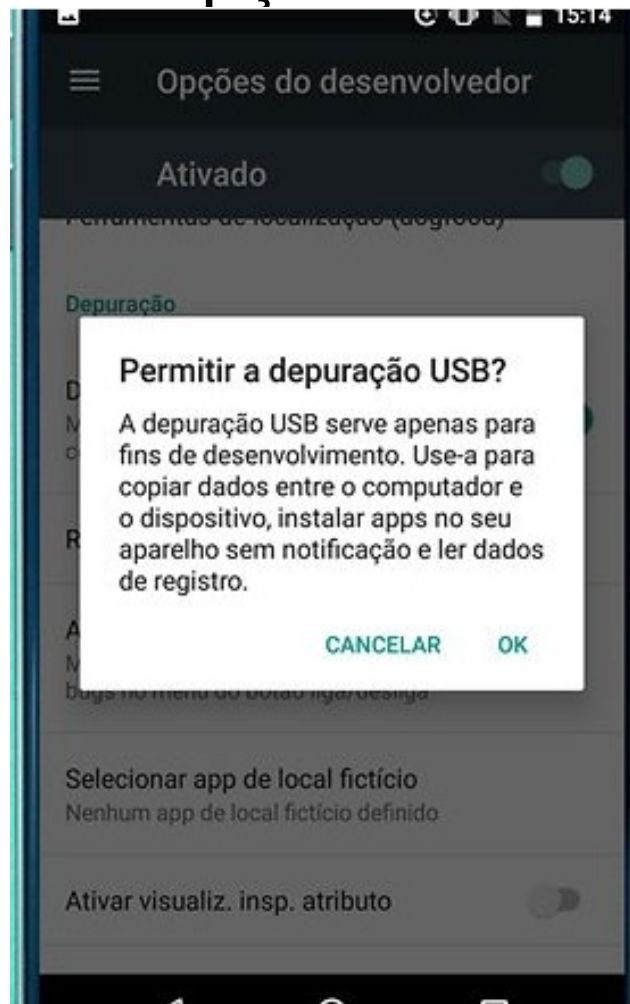
- Configurando o Android:
 - Em alguns dispositivos as opções de desenvolvimento **não são visíveis** por padrão;
 - Neste caso, o desenvolvedor deve ativar estas opções:
 - Configurações >> Sobre o Telefone >> **Clicar 7x o Número da Versão.**

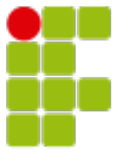




Dispositivo Físico

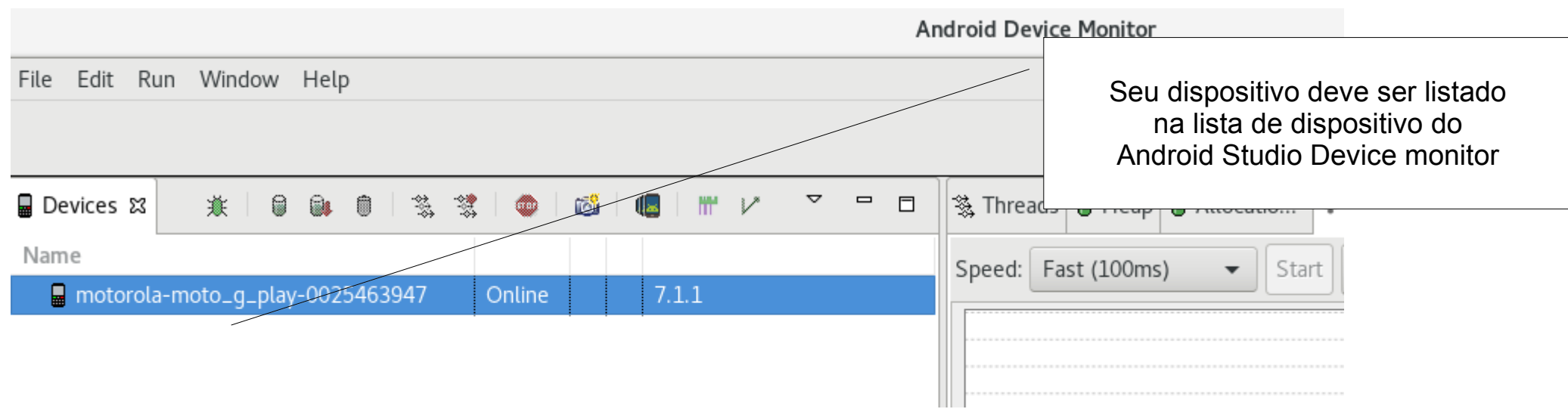
- Configurando o Android:
 - Configurações >> Opções do desenvolvedor

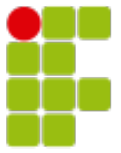




Dispositivo Físico

- Testando a comunicação:
 - Localize a pasta onde foi descompactada a SDK
 - Localize a pasta "{android-studio...}/sdk/tools/"
 - Execute o software de monitoramento:
 - \$./monitor





Hello World

- Com os dispositivos configurados, vamos criar o projeto Hello World. Menu **File >> New Project**.

Application name: App Exemplo

Company domain: andres.example.com

Package name: com.example.andres.appexemplo [Edit](#)

Include C++ support

Project location: /home/andres/AndroidStudioProjects/AppExemplo


Previous Next Cancel Finish

Identificador do pacote do aplicativo, "example" não é aceito para a Google Play!




Hello World


Create New Project


 Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

Phone and Tablet
Minimum SDK 
Lower API levels target more devices, but have fewer features available.
By targeting API 15 and later, your app will run on approximately **97.4%** of the devices that are active on the Google Play Store.
[Help me choose](#)

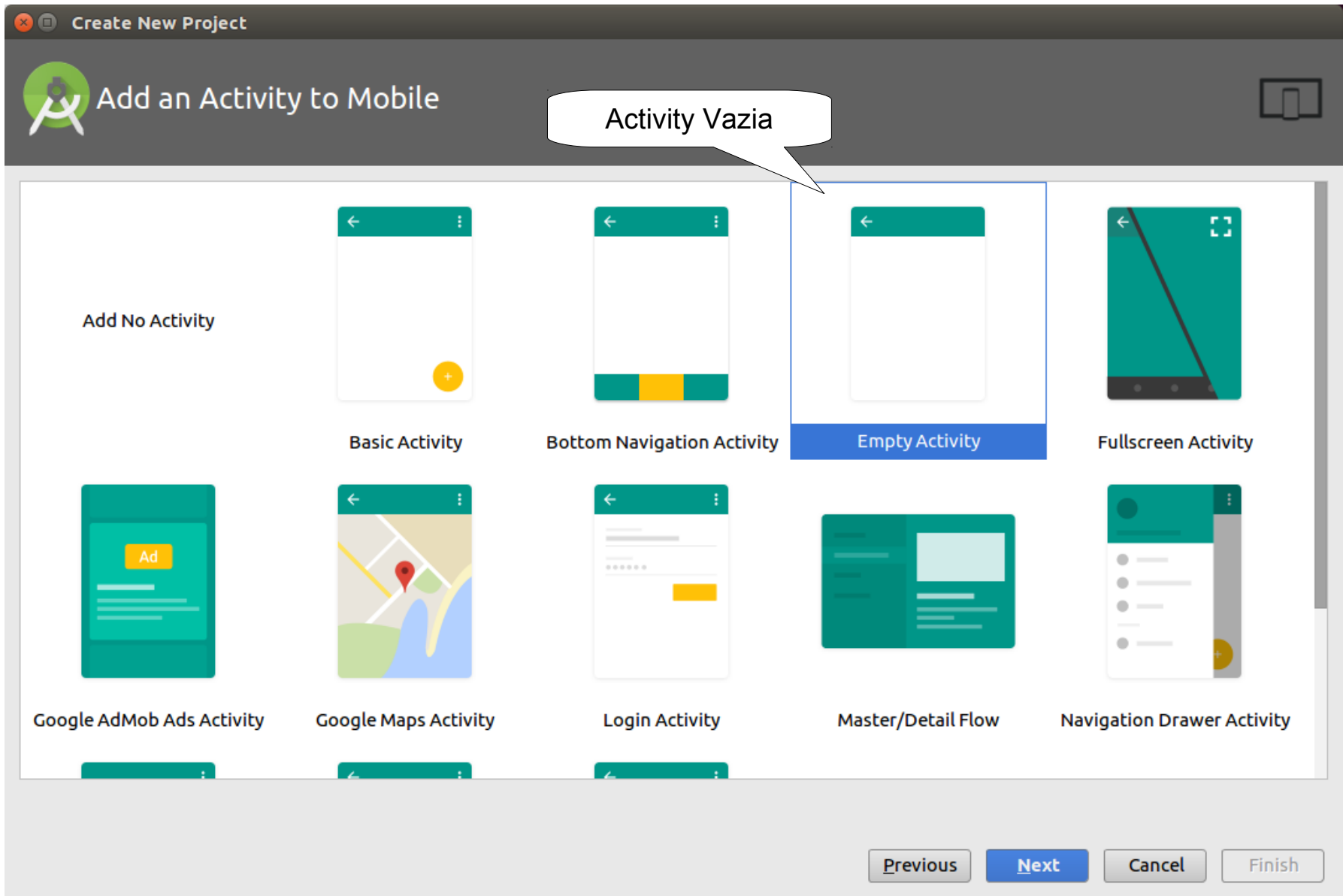
Wear
Minimum SDK 

TV
Minimum SDK 

Android Auto

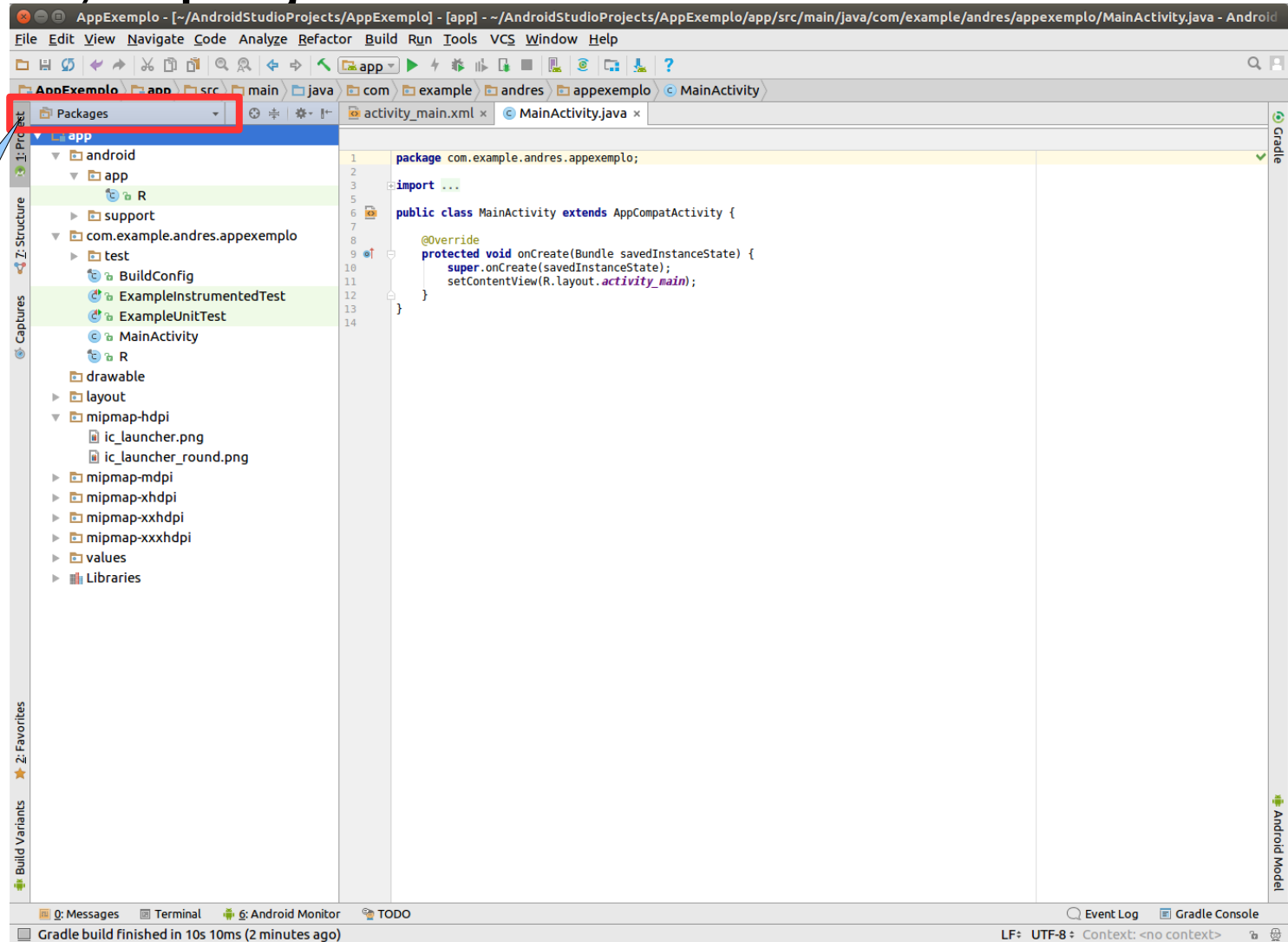
Escolha a plataforma e a SDK

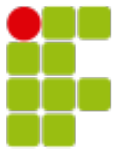
Hello World



Hello World

- Em seguida, o projeto é finalizado:



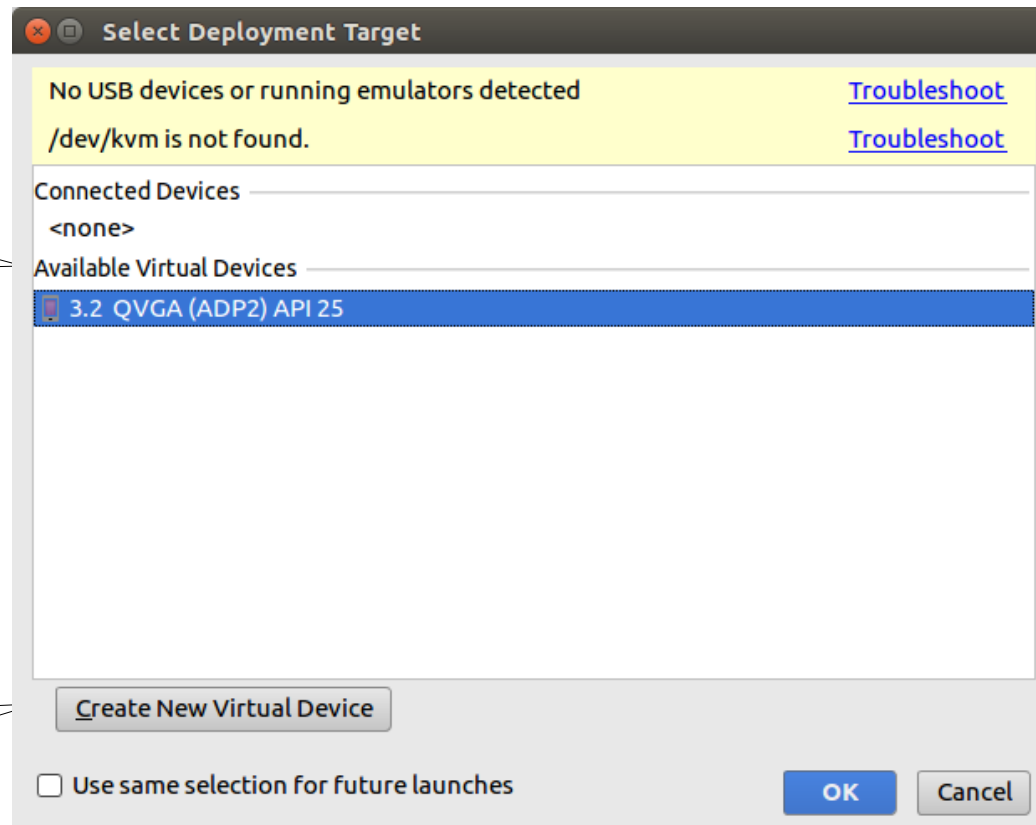


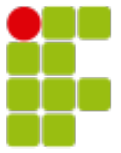
Hello World

- Executando:
 - Na barra de ferramentas, clique no botão "Run" (ou pressione Shift+F10).

Seus dispositivos

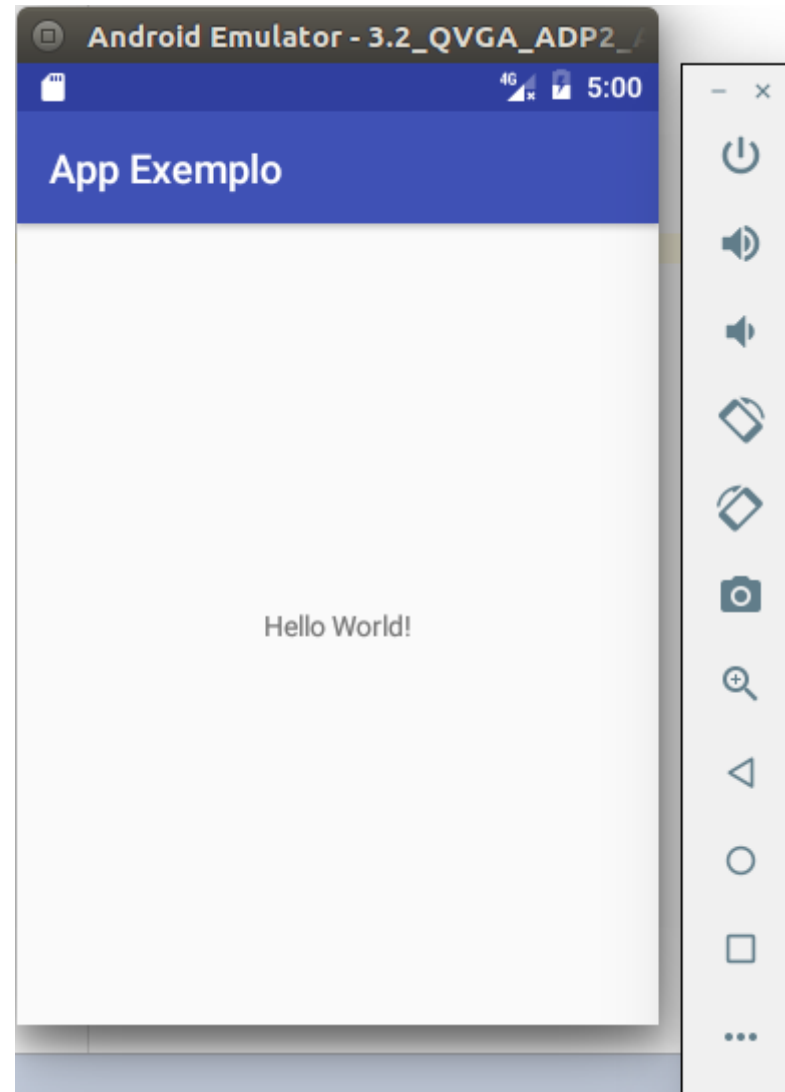
Ou criar um novo AVD caso ainda não tenha feito.





Hello World

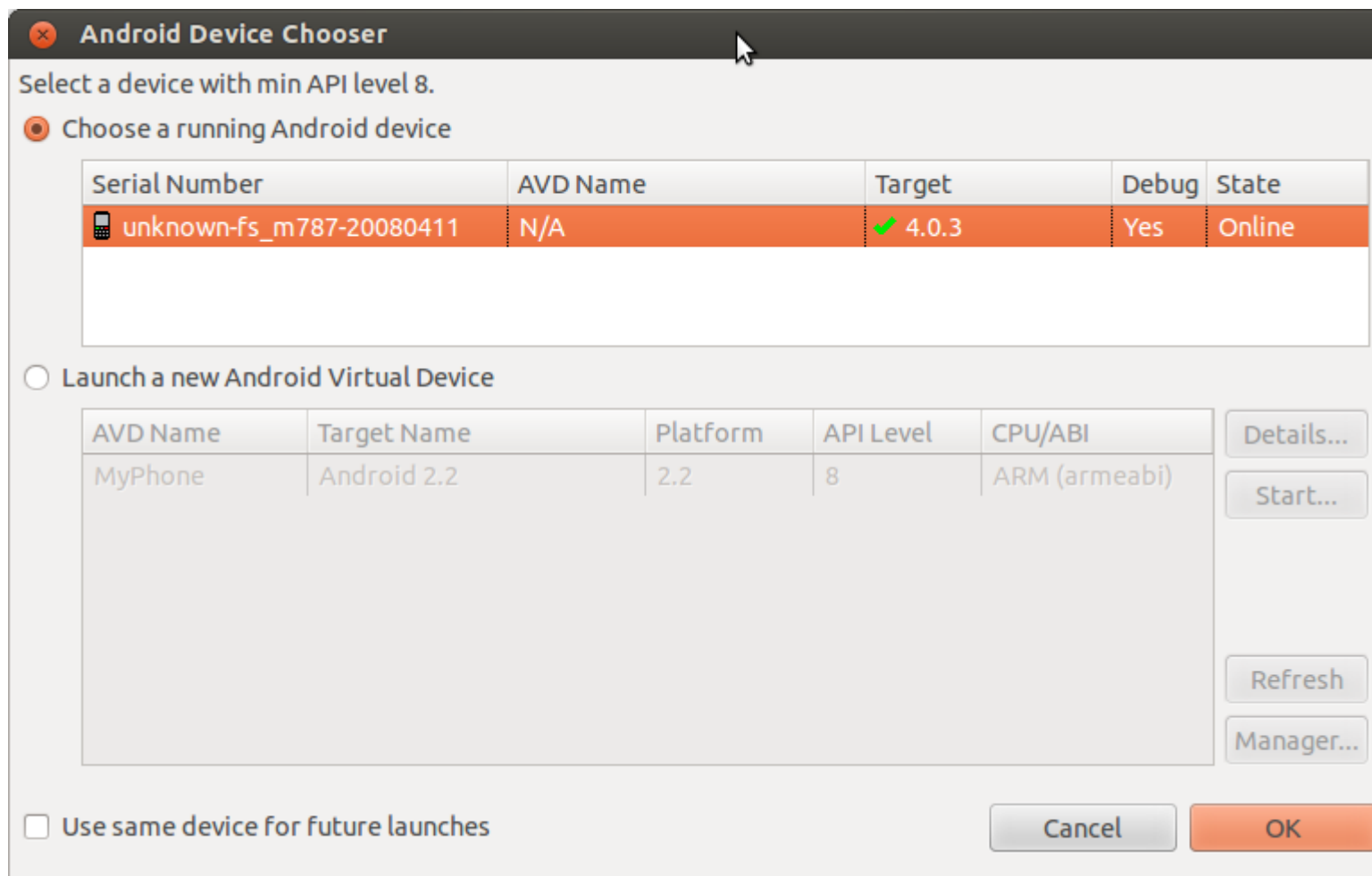
- Executando: AVD



Nota: é comum que o AVD demore para iniciar, o SO inteiro é carregado na primeira execução. Para otimizar o tempo indica-se manter sua janela aberta durante o processo de desenvolvimento.

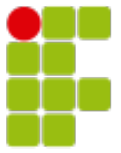
Hello World

- Executando: Dispositivo Físico



Hello World

- Executando: Dispositivo Físico



Referências

- Lecheta, R. Google Android: Aprenda a criar aplicações para dispositivos móveis. 3a Ed. Novatec, 2013.
- <http://developer.android.com/>