Android Programing 101 --- Tools (Part1)

Dr. Charles Yu
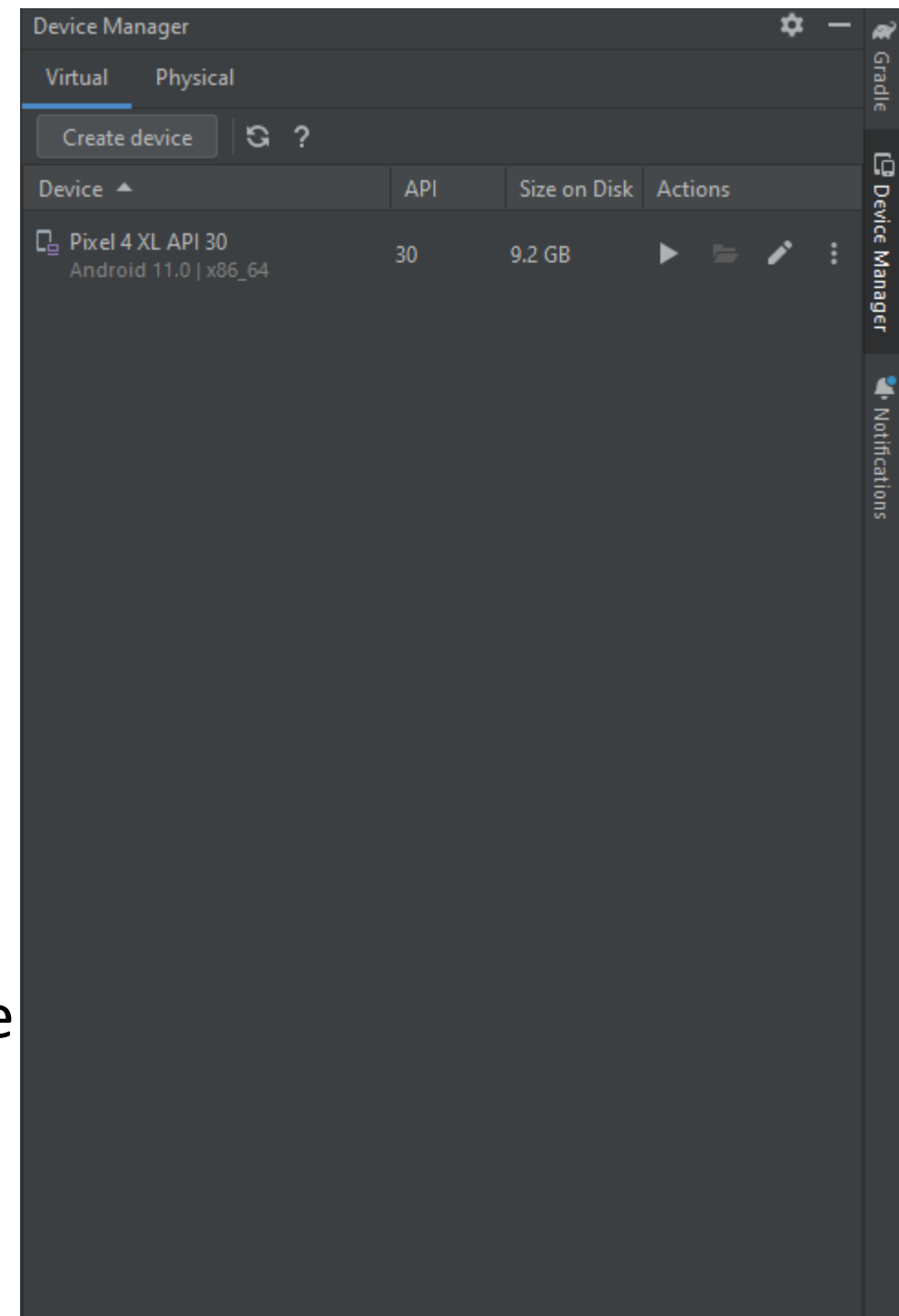
- How to build your own virtual Android device in Android Studio

How to build your own virtual Android device in Android Studio

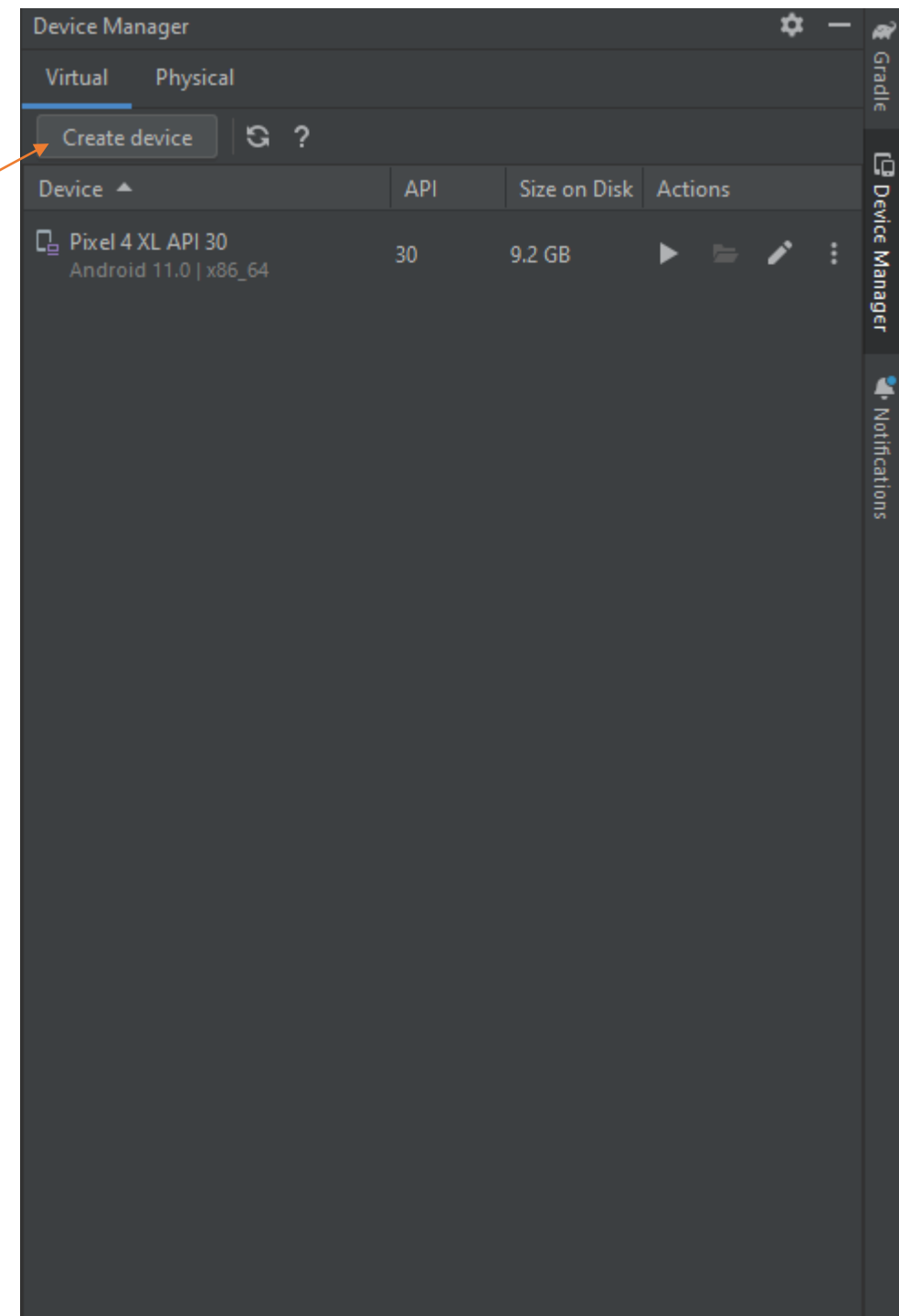• Toolbar (on top of the Android Studio) →

Tools →

Device Manager

• Then, you will see this "Device Manager"

on your right pane of Android

• You can see this is my previously build up

Android virtual device

• The reason why we need this is because, we

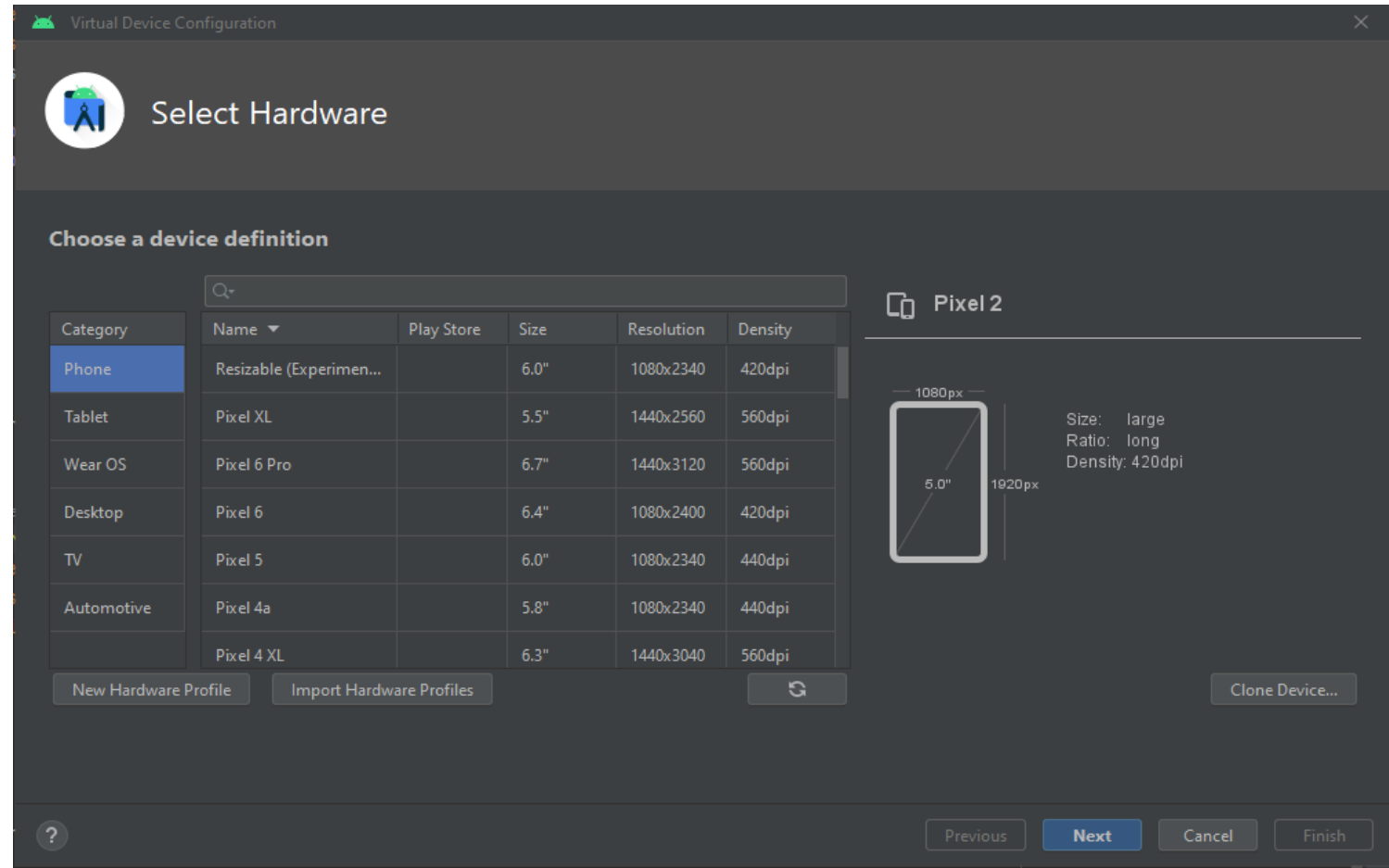need to use this to test our Android Apps

How to build your own virtual Android device in Android Studio

- Or you can create your own new device

by clicking this button

- The one Pixel 4 XL is my previously selected
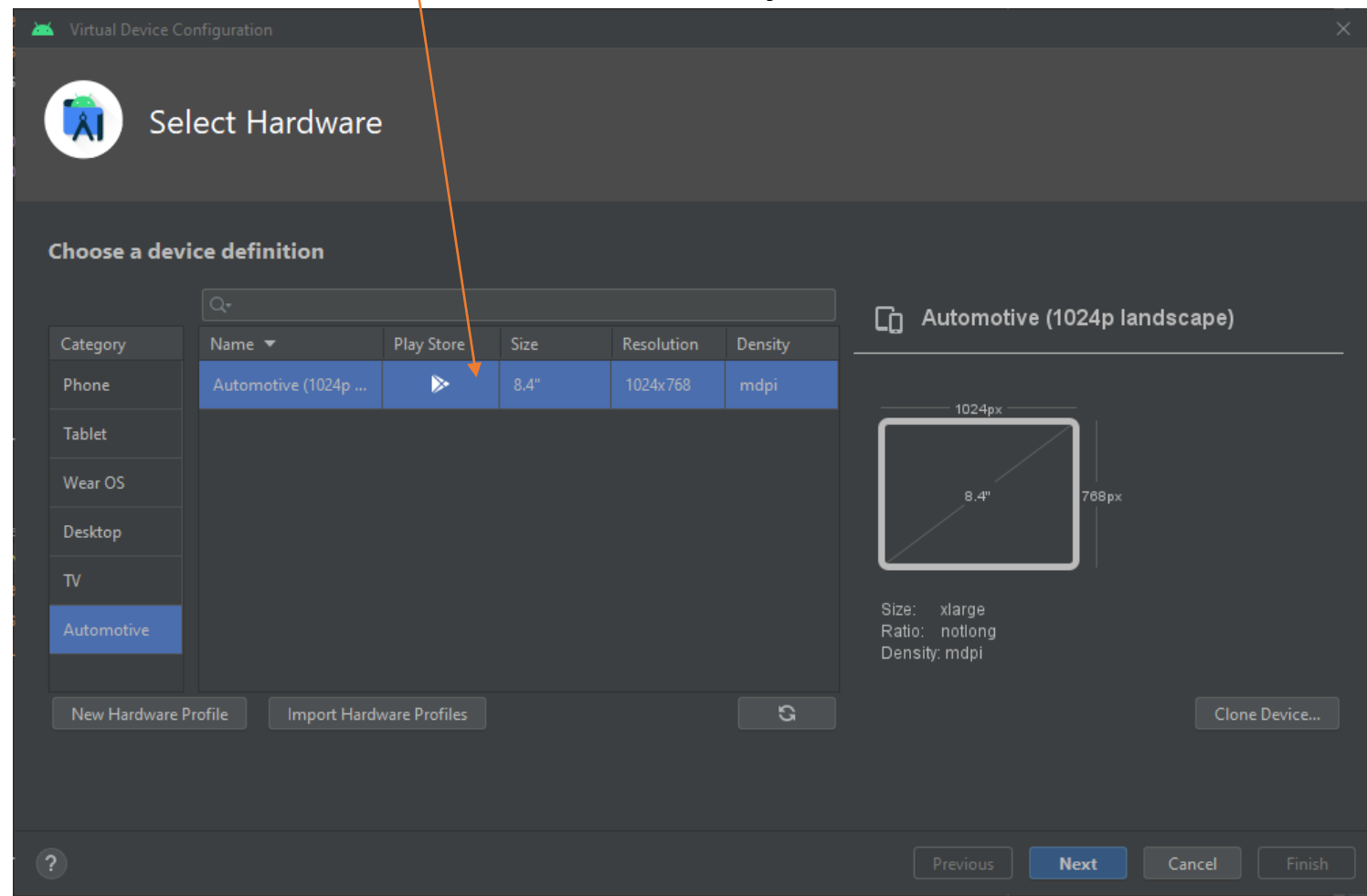
(built) virtual device

How to build your own virtual Android device in Android Studio

- It will bring you to this dialog box

- There are many selections

- I want to point out,

it supports wearables, TV,

and even Android powered
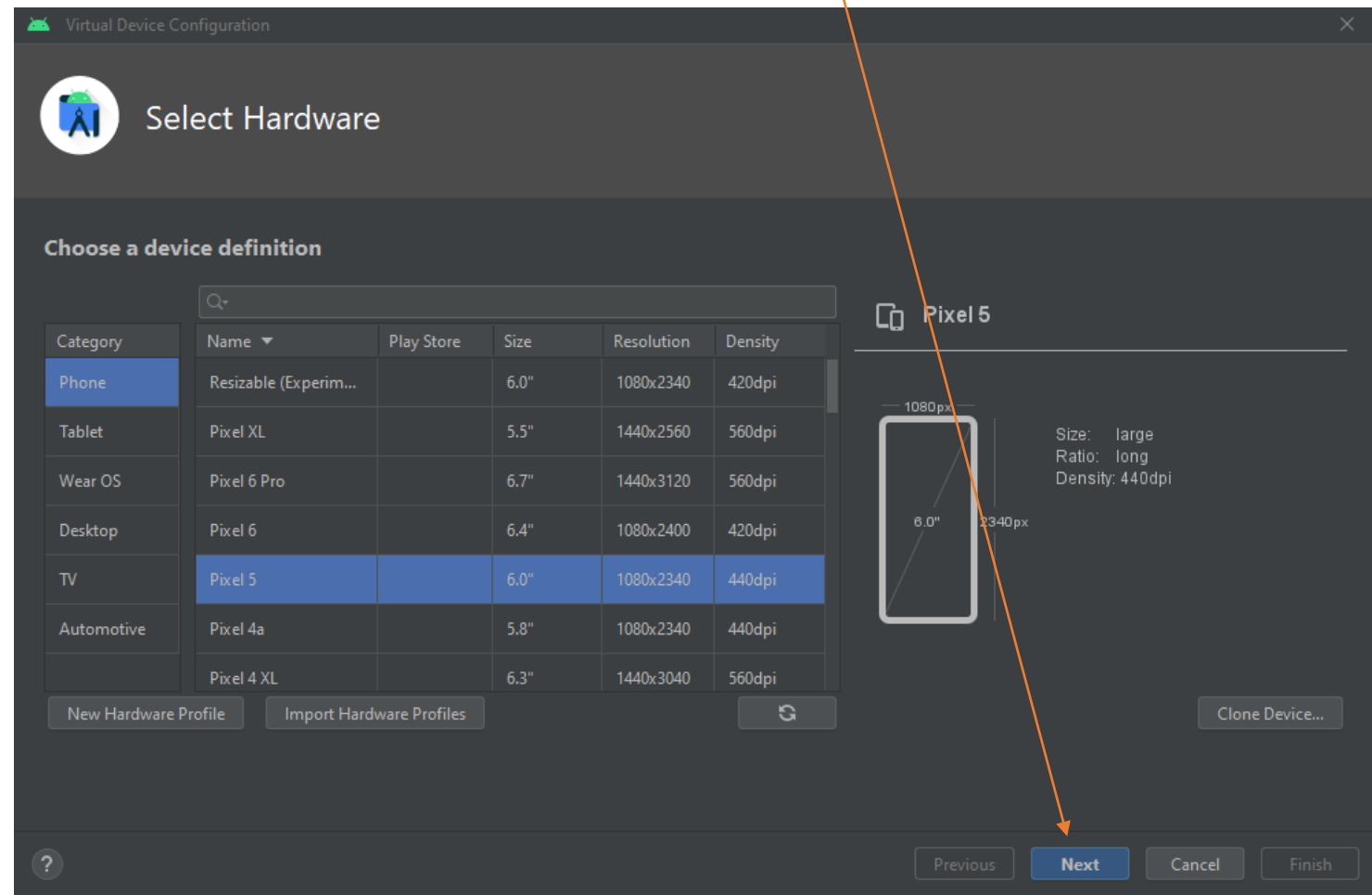
vehicle central panels

(Automotive)

How to build your own virtual Android device in Android Studio

• If you click any of the device and see an icon in the Play Store, that means, it has a built-in Play Store.

• If you have a Gmail, you can just login and download any of the free Apps in the Play Store (not including the ones need $$)
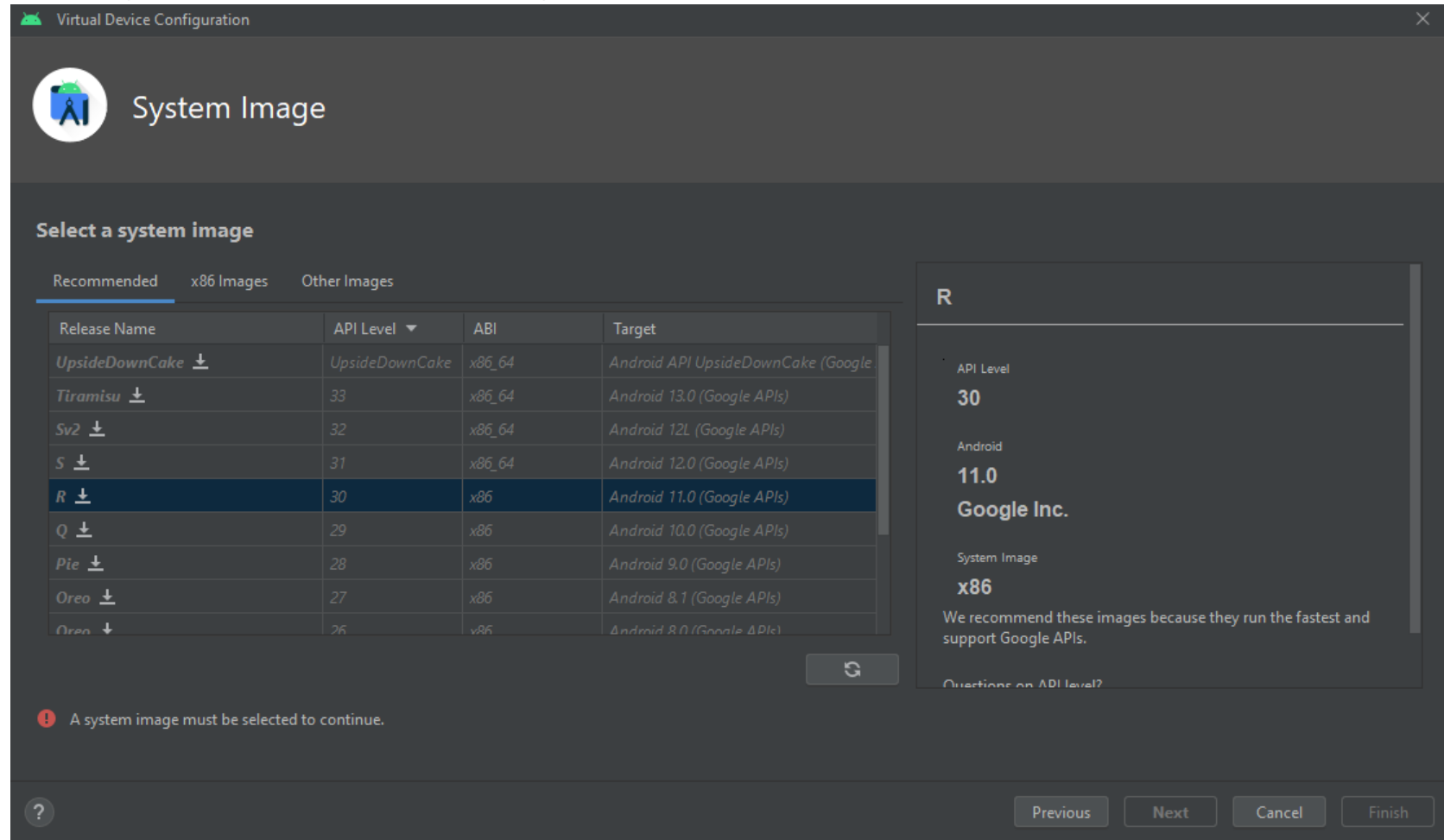
How to build your own virtual Android device in Android Studio

- For example, we can choose a Pixel 5 and hit the next.
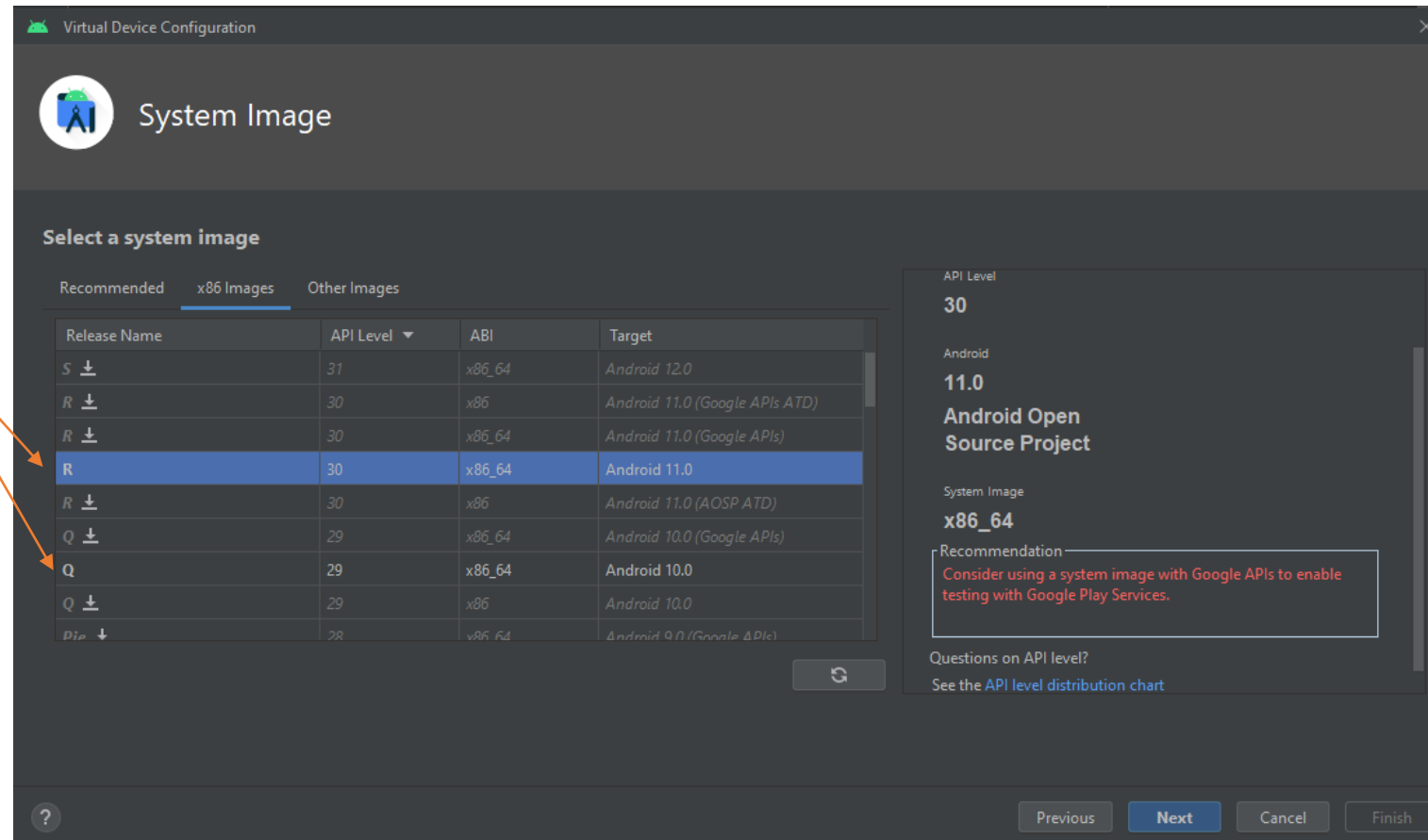- Now, choose the version of

system image (OS)

How to build your own virtual Android device in Android Studio

- The Android Studio gives you short description.

- For those images with download icons, that means, it needs our downloads (not existing in your Android Studio so far)
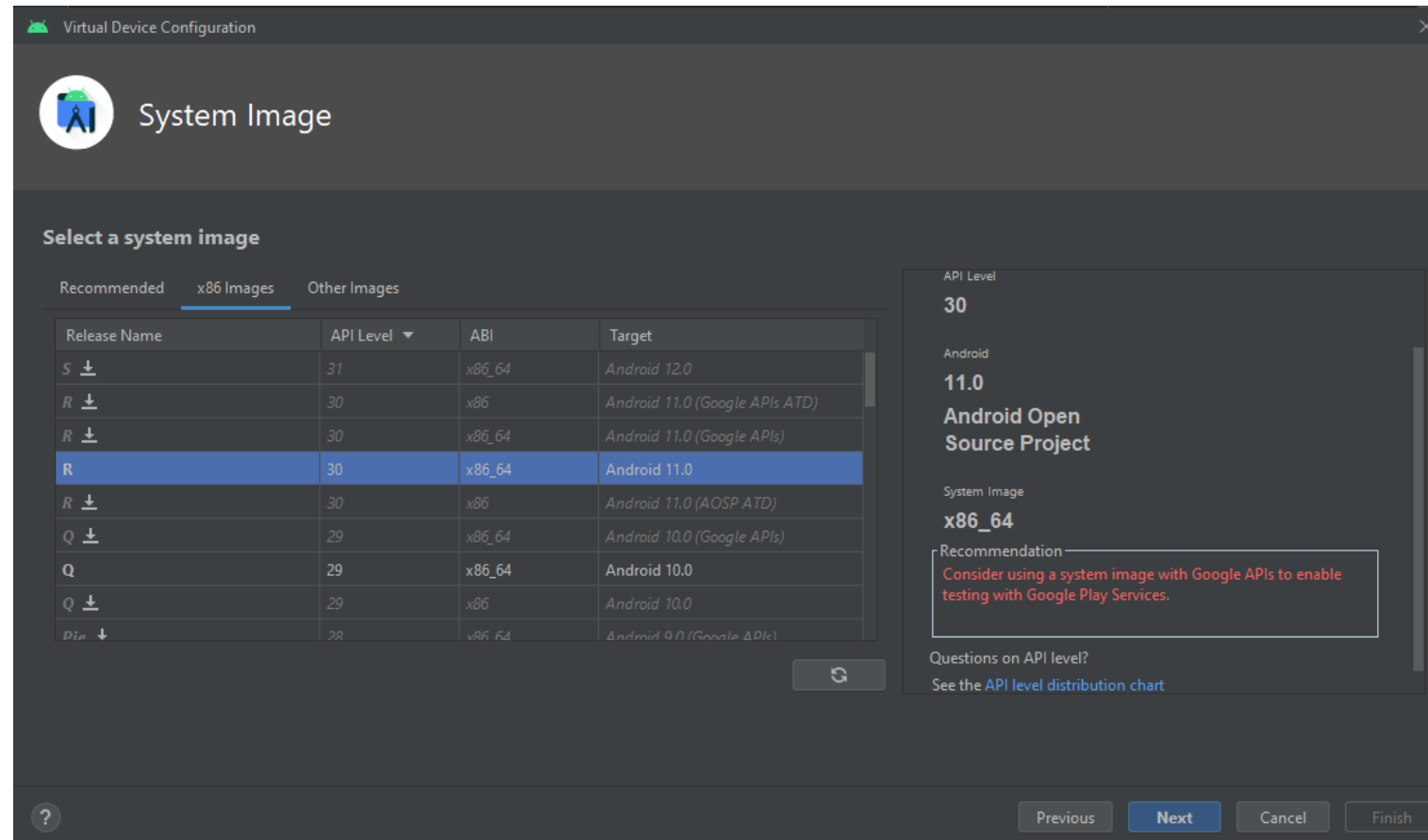
How to build your own virtual Android device in Android Studio

- One more thing, since this laptop is x86_64 powered machine, the Android studio will suggest you better to use x86_64 or x86 series system images

- If we can hit this tab,

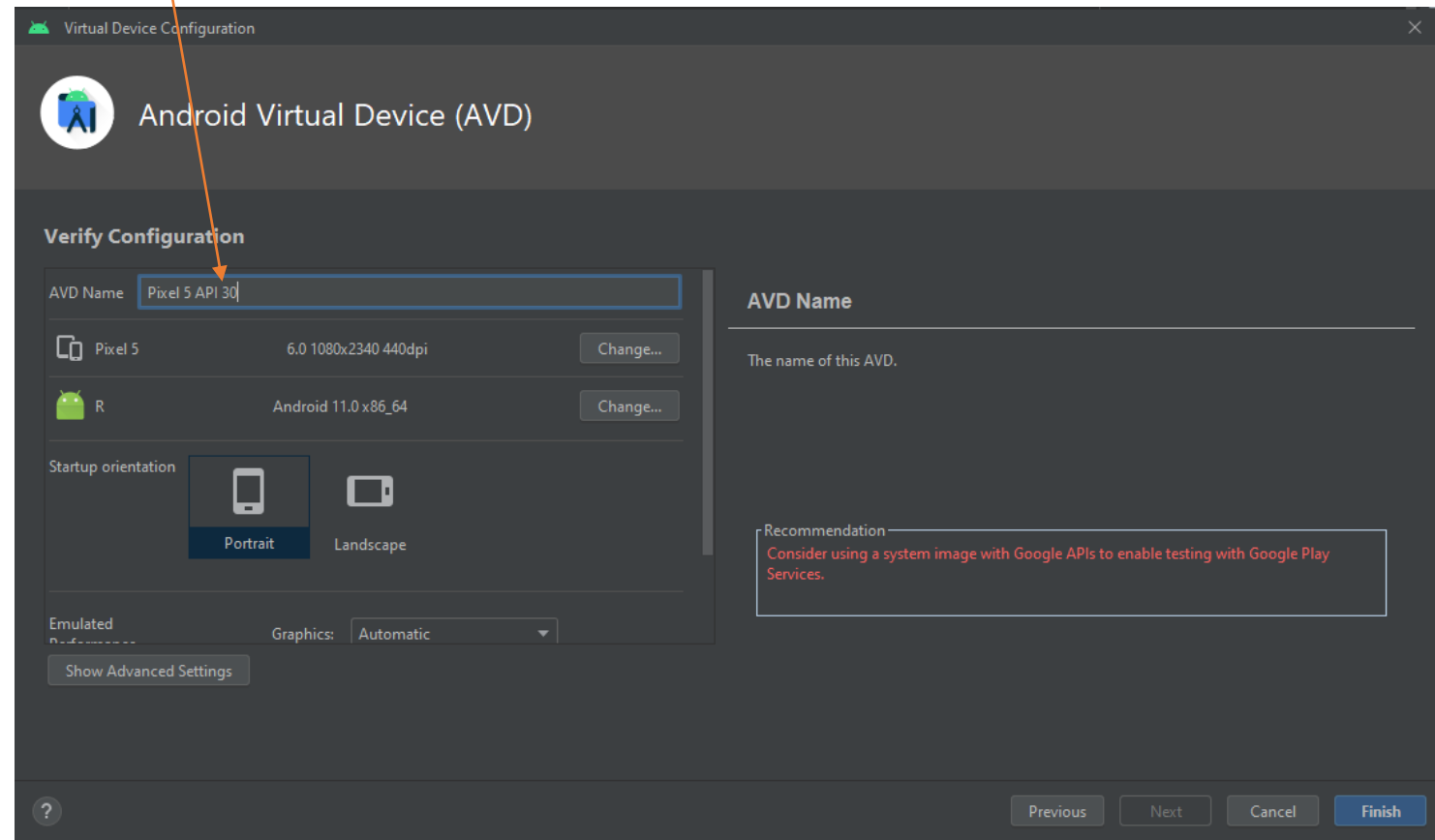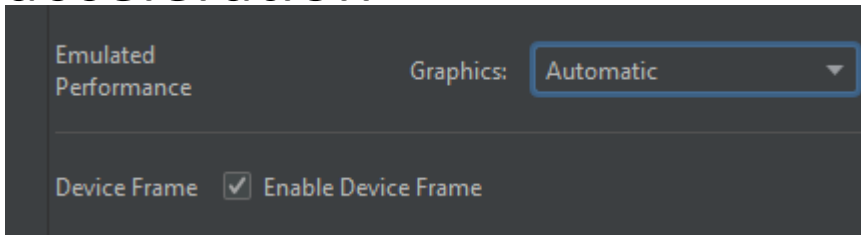it will show some images,

we already downloaded

How to build your own virtual Android device in Android Studio

- Some of the image is marked with Google API. For some images have Google Play store (if you choose such kind of image), they must have Google API.

- Otherwise, we might not

being able to test some

of the Play Store functions

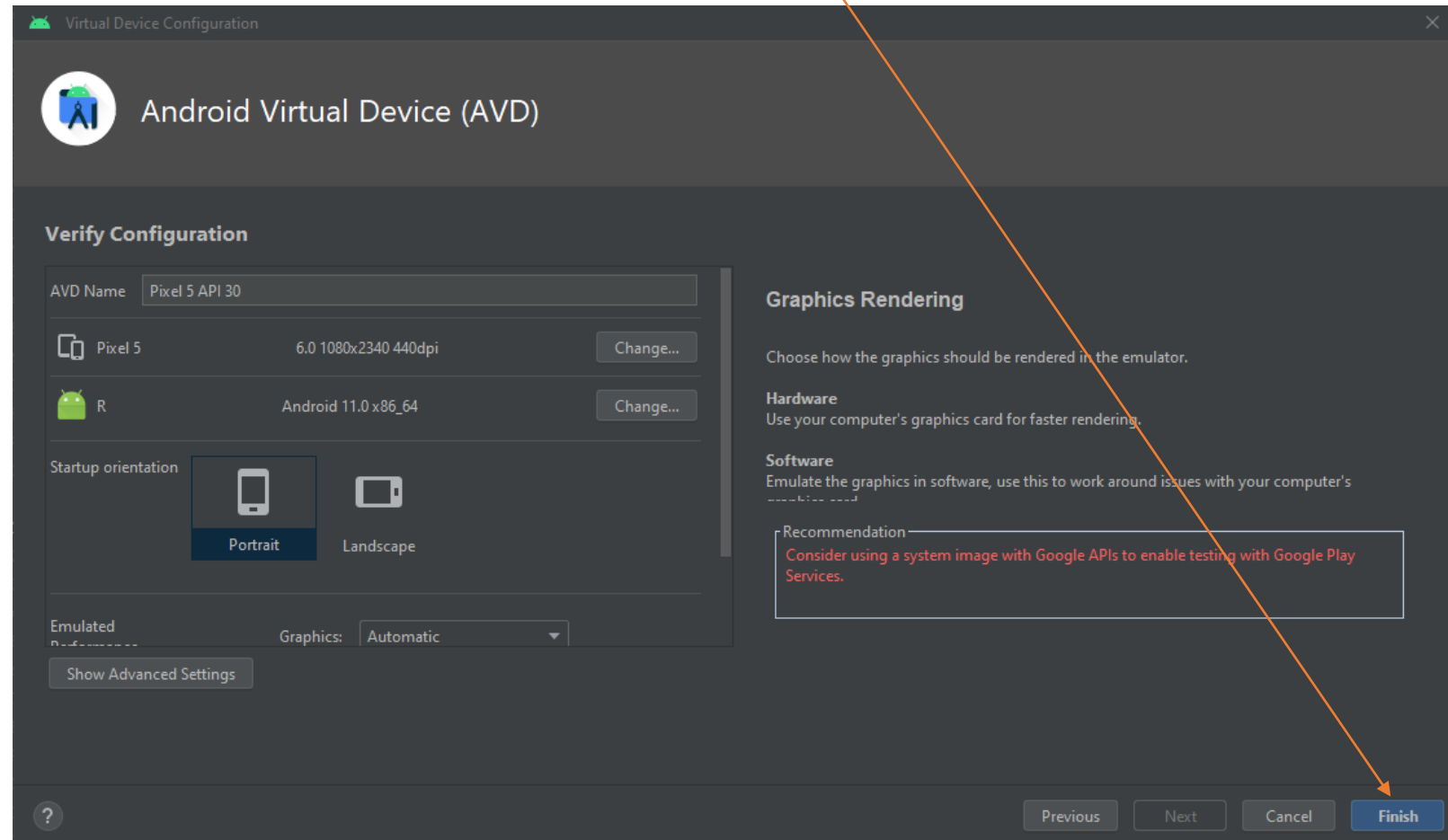- I have downloaded some

system images

How to build your own virtual Android device in Android Studio

- So, previously, I choose Pixel 5 and now I choose Android v11

- Now, it will ask you to input the name for this virtual device

- Choose the device orientation (I keep the default setting)

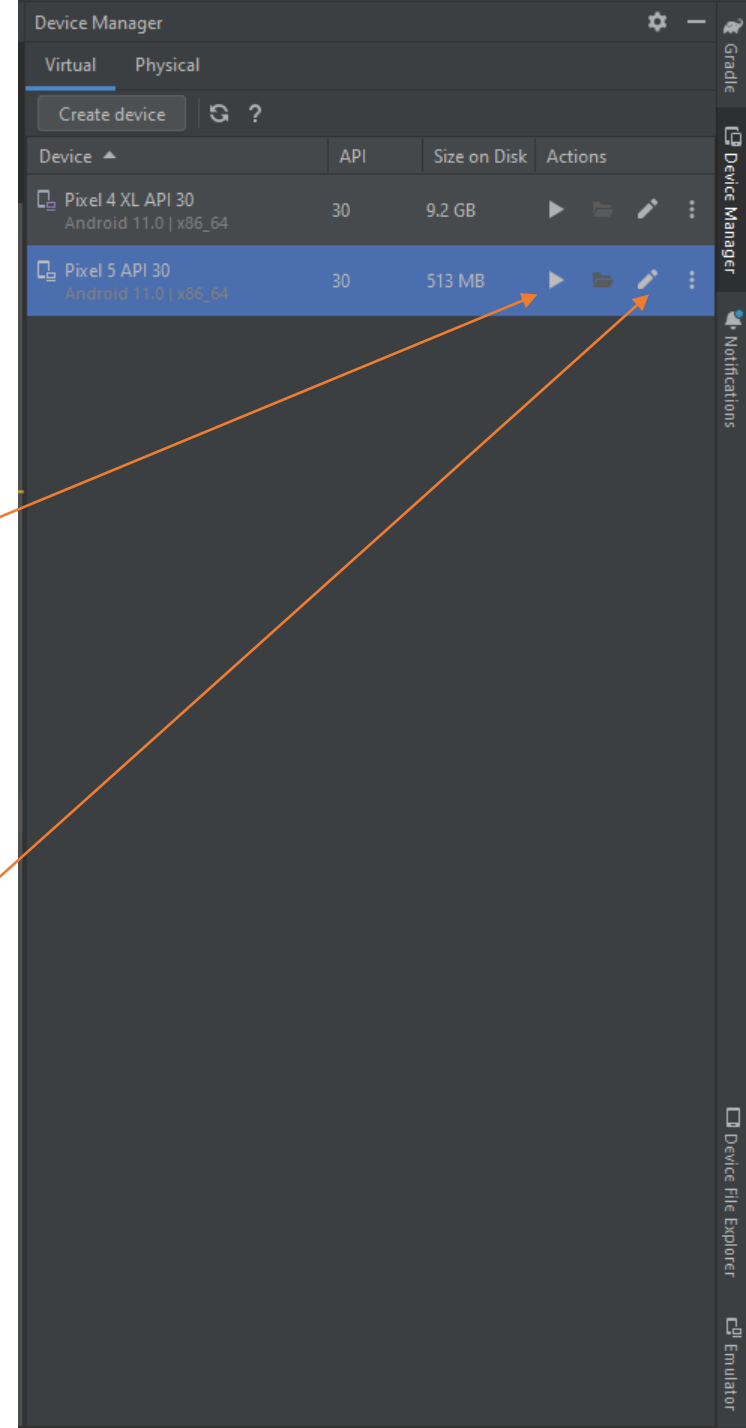- It even supports simulation for graphics hardware acceleration

How to build your own virtual Android device in Android Studio

- Click the "**finish**" to finish the build-up for virtual device
- I don't really like to choose the image with Google API because the loading of the VM will be little bit slower.
- But if you have special needs, you can build the image with this supported

How to build your own virtual Android device in Android Studio

• Finally, it will bring you back to

Android Studio and you will see this new device

appear on your right pane,

in your [Device Manager]

• Except my old virtual device Pixel 4 XL,

our new device is Pixel 5 with API v30 (Android 11)

• There is a [**Play**] button to start the virtual device

• [**Editing**] function can help you to change

the parameters, the "**name**", for example

How to build your own virtual Android device in Android Studio

• You can [delete] the VM if you don't want it anymore.

• You can click the [Show on Disk] to see where is this big guy living in?

• You can [wipe] the data after you played with some Trojans or backdoors.

It can return you a clean Android OS.