Hands-on setup guide (Mac)

1. Pre-requisites

- **Git** If required check this link to install it : [Download Git]

To check open a Terminal and type : `git --version`

Note: We will call `<Archive directory>` the directory where are the provided archives into the `Hands-on`. This directory is coming from the USB pen and should be copied for instance on the Desktop or the Home directory. So when you will read : `cd <Archive directory>` you will understand `cd ~/Desktop` or `cd ~/Bureau` or `cd ~` depending where you've copied the `Hands-on` directory from the USB pen.

2. Create `~/Hands-on` directory

```
mkdir ~/Hands-on
```

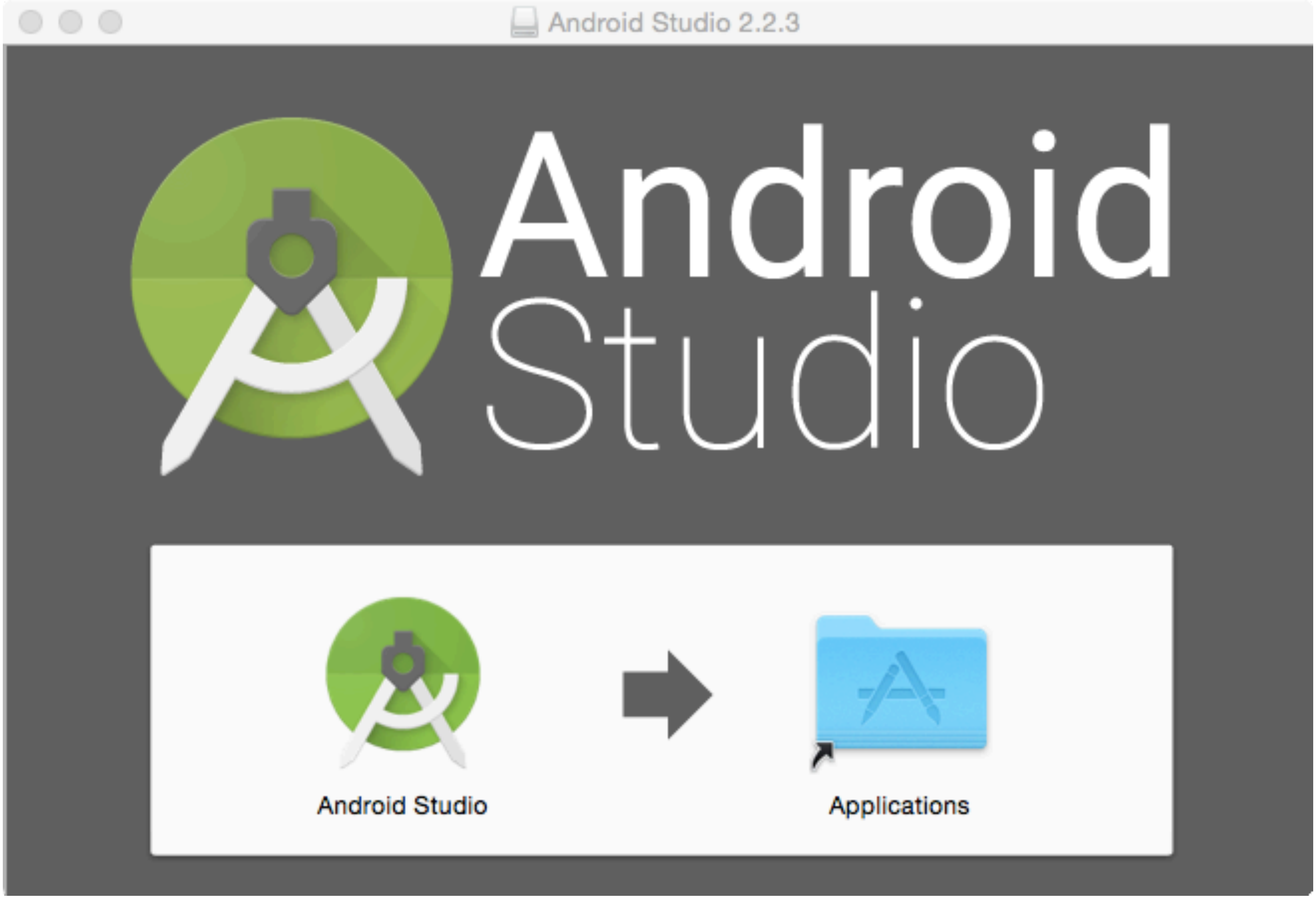
To check open a Terminal and type : `ls ~/Hands-on`

2.1 Install Android Studio

Install provided archive into your directory `~/Hands-on` :

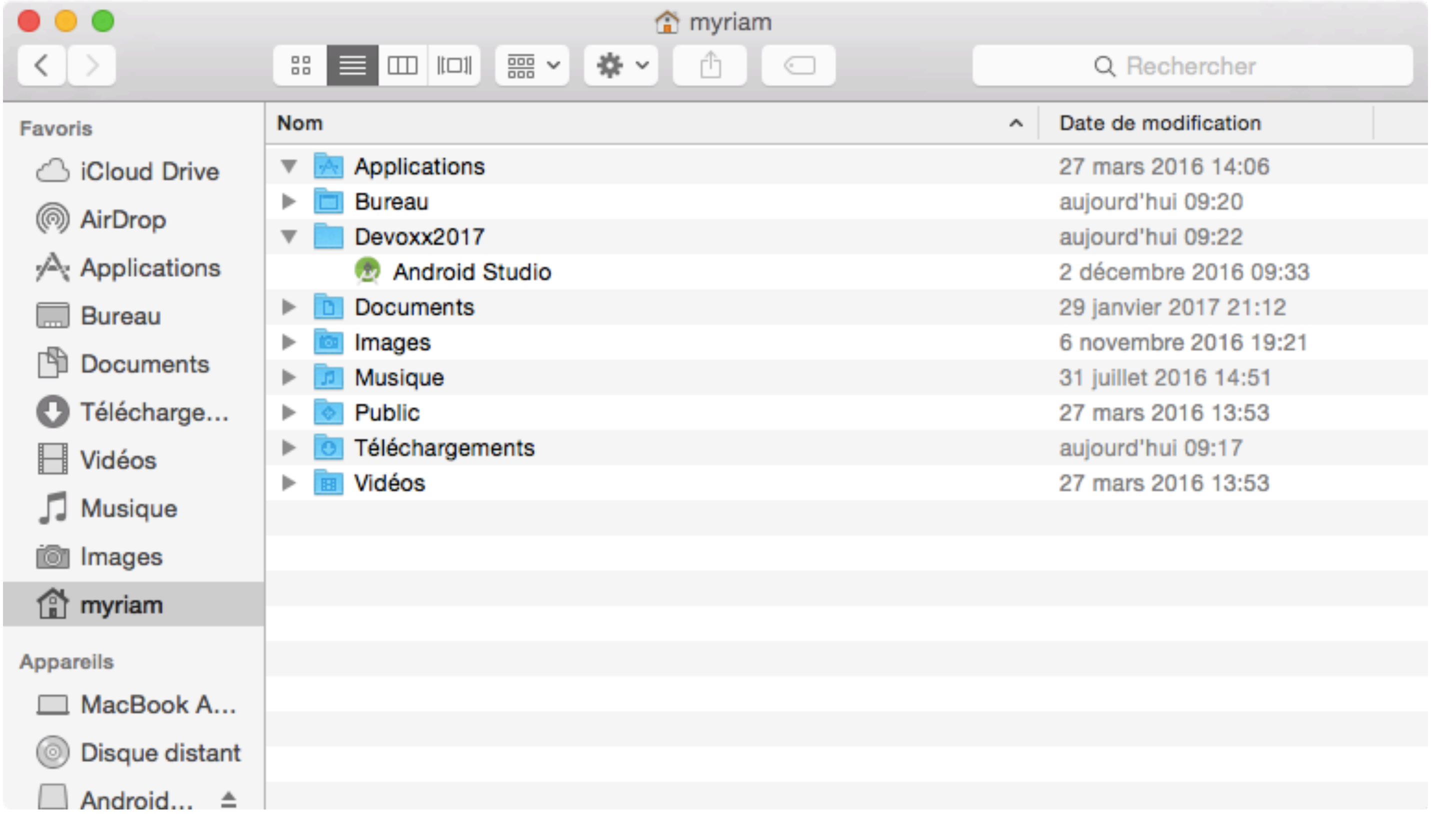
Double click on `./Hands-on/Mac/android-studio-ide-145.3537739-mac.dmg`

You will see the following window :



Don't drag it into your `Applications` directory but into `~/Hands-on`

To check



Nom	Date de modification
▼ Applications	27 mars 2016 14:06
▶ Bureau	aujourd'hui 09:20
▼ Devoxx2017	aujourd'hui 09:22
Android Studio	2 décembre 2016 09:33
▶ Documents	29 janvier 2017 21:12
▶ Images	6 novembre 2016 19:21
▶ Musique	31 juillet 2016 14:51
▶ Public	27 mars 2016 13:53
▶ Téléchargements	aujourd'hui 09:17
▶ Vidéos	27 mars 2016 13:53

2.2 Install Android SDKs

Unzip provided archive into your directory `~/Hands-on` :

```
cd <Archive directory>
cp ./Hands-on/Mac/Android.tar.gz ~/Hands-on
cd ~/Hands-on
tar zxvf Android.tar.gz
```

To check open a Terminal and type : `ls ~/Hands-on/Android` and you should see `Sdk` and `Plugins` directories.

2.3 Hands-on project

Unzip provided archive into your directory `~/Hands-on` :

```
cd <Archive directory>
unzip ./Hands-on/Mac/2017-handson-kotlinAndroid.zip -d ~/Hands-on/
```

To check open a Terminal and type :

```
cd ~/Hands-on/2017-handson-kotlinAndroid
git lg
```

you should read :

```
* 9b50a75 (origin/solution, solution) Exercise 2.5 : Kotlin & Rx
* a911fe9 Exercise 2.4 : Lambda
* a7911d8 Exercise 2.3 : Function extensions
* 8112ad2 Exercise 2.2 : Kotlin extensions
* acbd955 Exercise 2.1 : Prepare MainActivity
* 5e9f1f6 (tag: End-Part1) Exercise 1.4 : Lateinit & Companion Object
* 1d67724 Exercise 1.3 : Collections
* 15a64ab Exercise 1.2 : When
* 76f22bc Exercise 1.1 : Data class kotlin
* 9003149 (HEAD -> master, origin/master, origin/HEAD) Mode offline (#1)
* 24d0724 Initial commit
```

Create your working branch:

```
git checkout -b mywork
git lg
```

you should read :

```
* 9b50a75 (origin/solution, solution) Exercise 2.5 : Kotlin & Rx
* a911fe9 Exercise 2.4 : Lambda
* a7911d8 Exercise 2.3 : Function extensions
* 8112ad2 Exercise 2.2 : Kotlin extensions
* acbd955 Exercise 2.1 : Prepare MainActivity
* 5e9f1f6 (tag: End-Part1) Exercise 1.4 : Lateinit & Companion Object
* 1d67724 Exercise 1.3 : Collections
* 15a64ab Exercise 1.2 : When
* 76f22bc Exercise 1.1 : Data class kotlin
* 9003149 (HEAD -> mywork, origin/master, origin/HEAD, master) Mode offline (#1)
* 24d0724 Initial commit
```

3. Install Gradle cache

/!\ Warning: Due to Gradle open issue (Gradle's cache stores the native OS absolute path), you have to create exactly the same directory ! /!

Note to use your current user instead of `laurent:staff`.

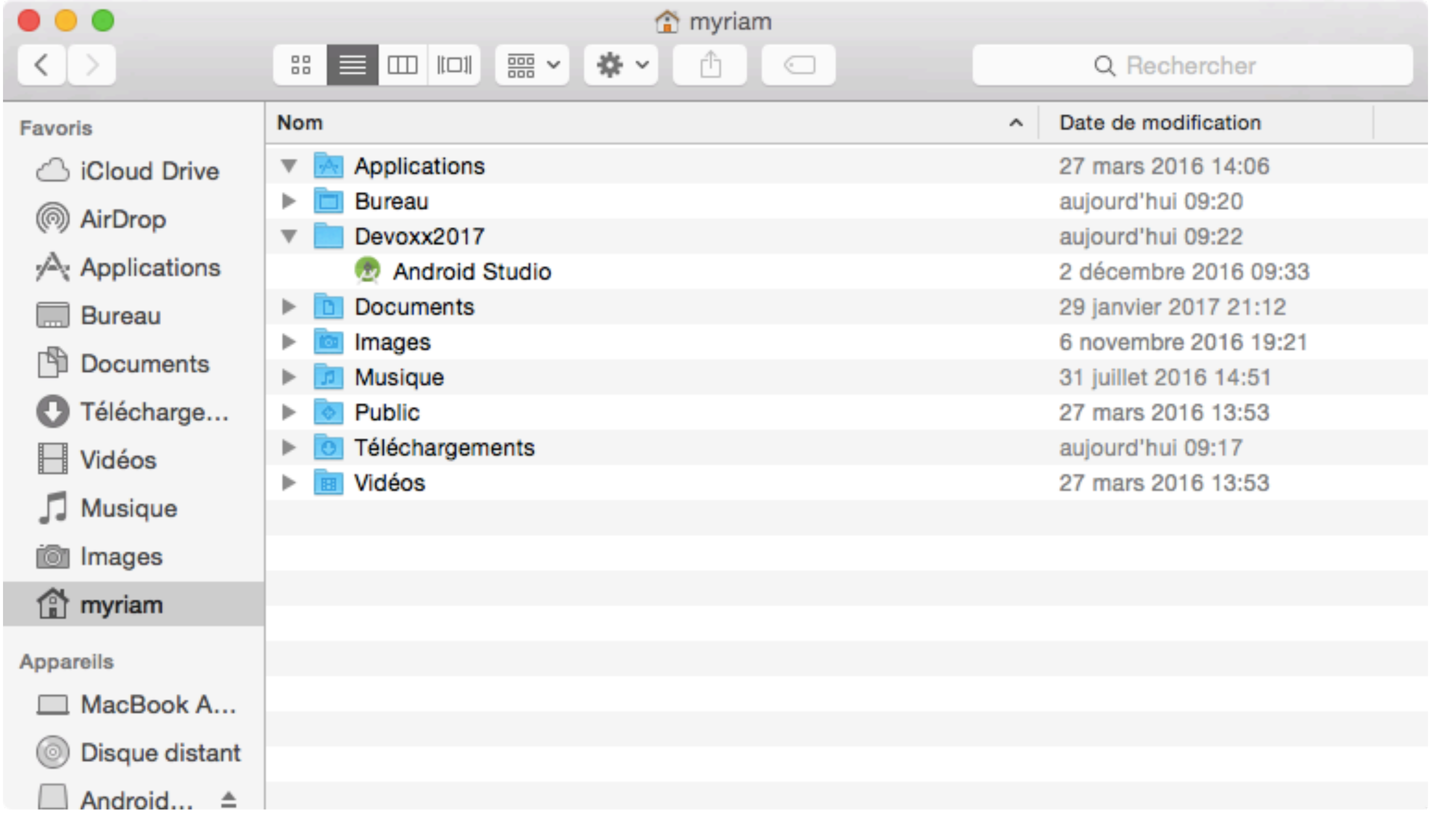
If the `/opt` directory does not exist create it with the following command : `sudo mkdir /opt`

```
cd <Archive directory>
sudo cp ./Hands-on/Mac/handson-devoxx2017-gradle.tar.gz /opt
cd /opt
sudo tar zxvf handson-devoxx2017-gradle.tar.gz
sudo chown -R laurent:staff handson-devoxx2017/
```

To check open a Terminal and type : `ls -l /opt/handson-devoxx2017` and you should see `gradle` directory belonging to `laurent:staff`.

4. Complete Android Studio offline setup

Double click on Android Studio icon



Nom	Date de modification
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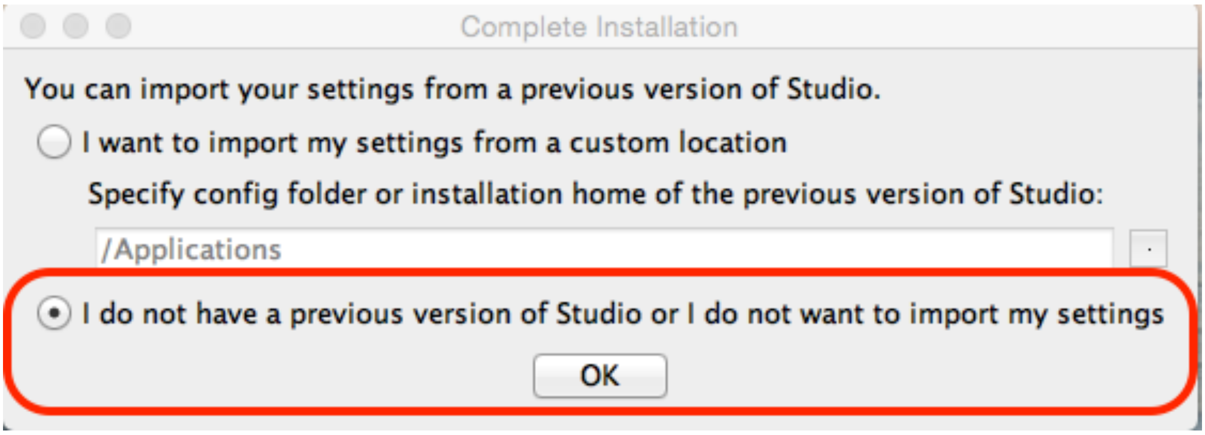
▶ Public	27 mars 2016 13:53
▶ Téléchargements	aujourd'hui 09:17
▶ Vidéos	27 mars 2016 13:53

You will see...



You can import your settings from a previous version of Studio.

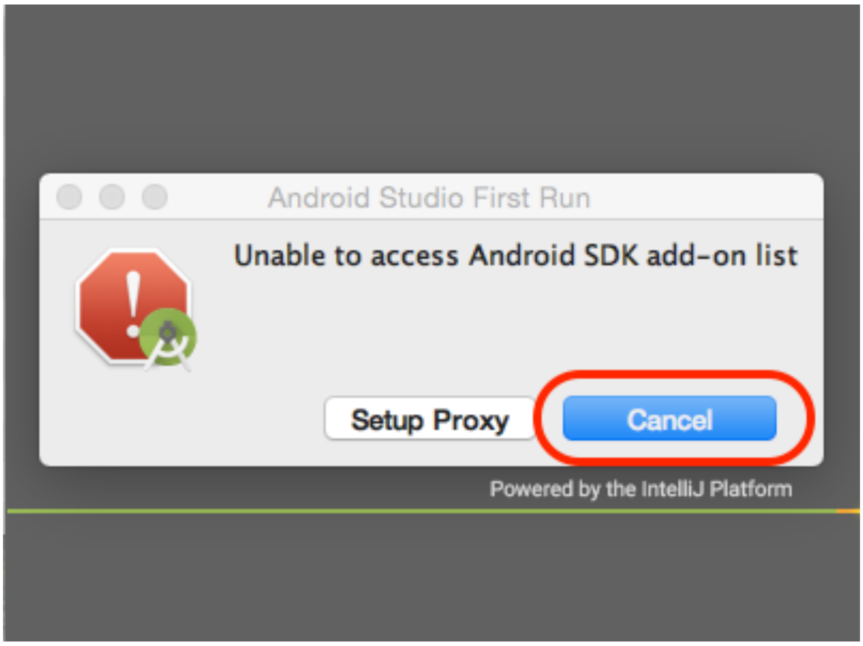
○ I want to import my settings from a custom location

Specify config folder or installation home of the previous version of Studio:

/Applications

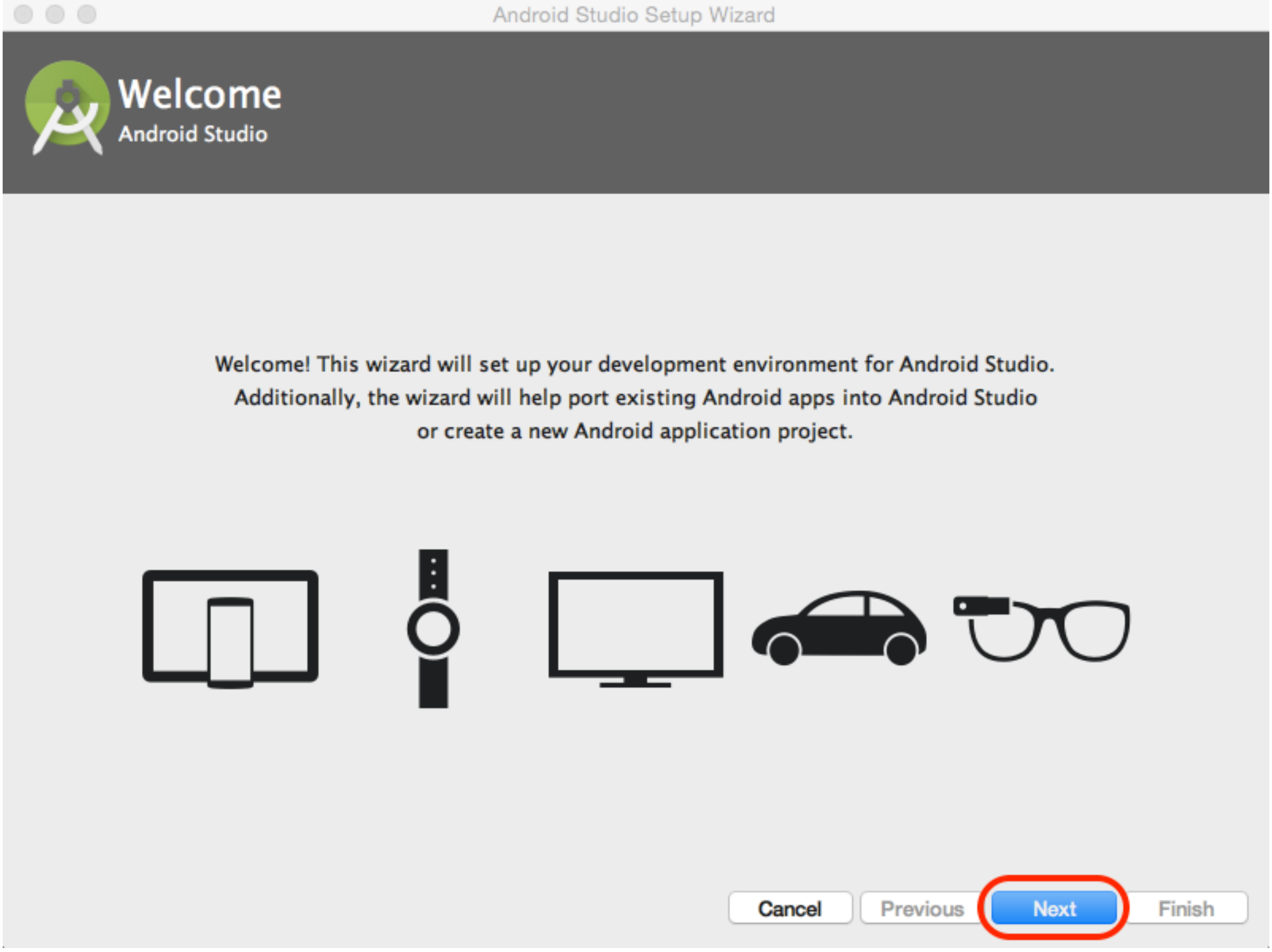
● I do not have a previous version of Studio or I do not want to import my settings

Just ignore the message and click on `Cancel`



Android Studio First Run

Unable to access Android SDK add-on list



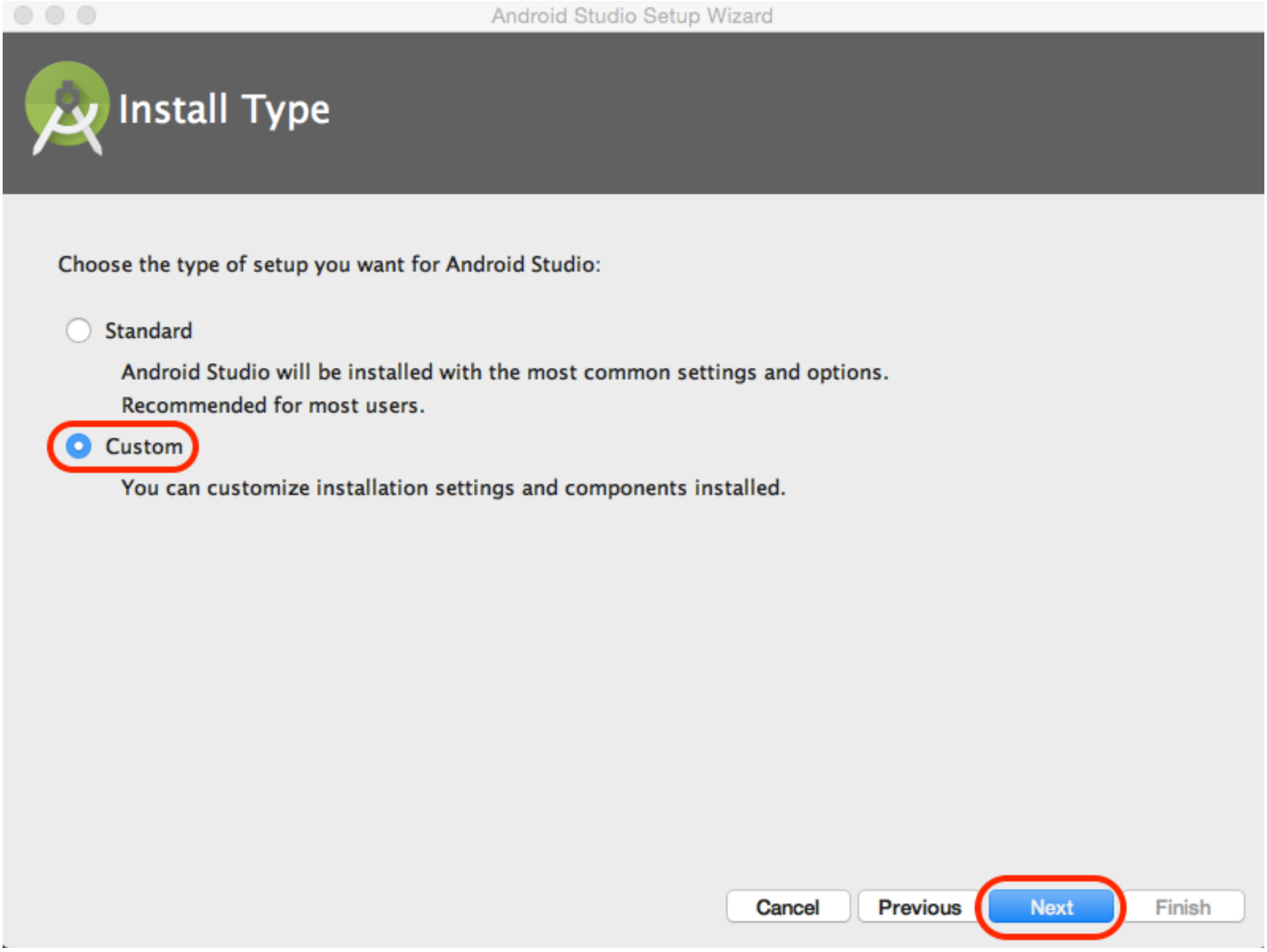
Android Studio Setup Wizard

Welcome

Android Studio

Welcome! This wizard will set up your development environment for Android Studio. Additionally, the wizard will help port existing Android apps into Android Studio or create a new Android application project.

Select `Custom` installation



Install Type

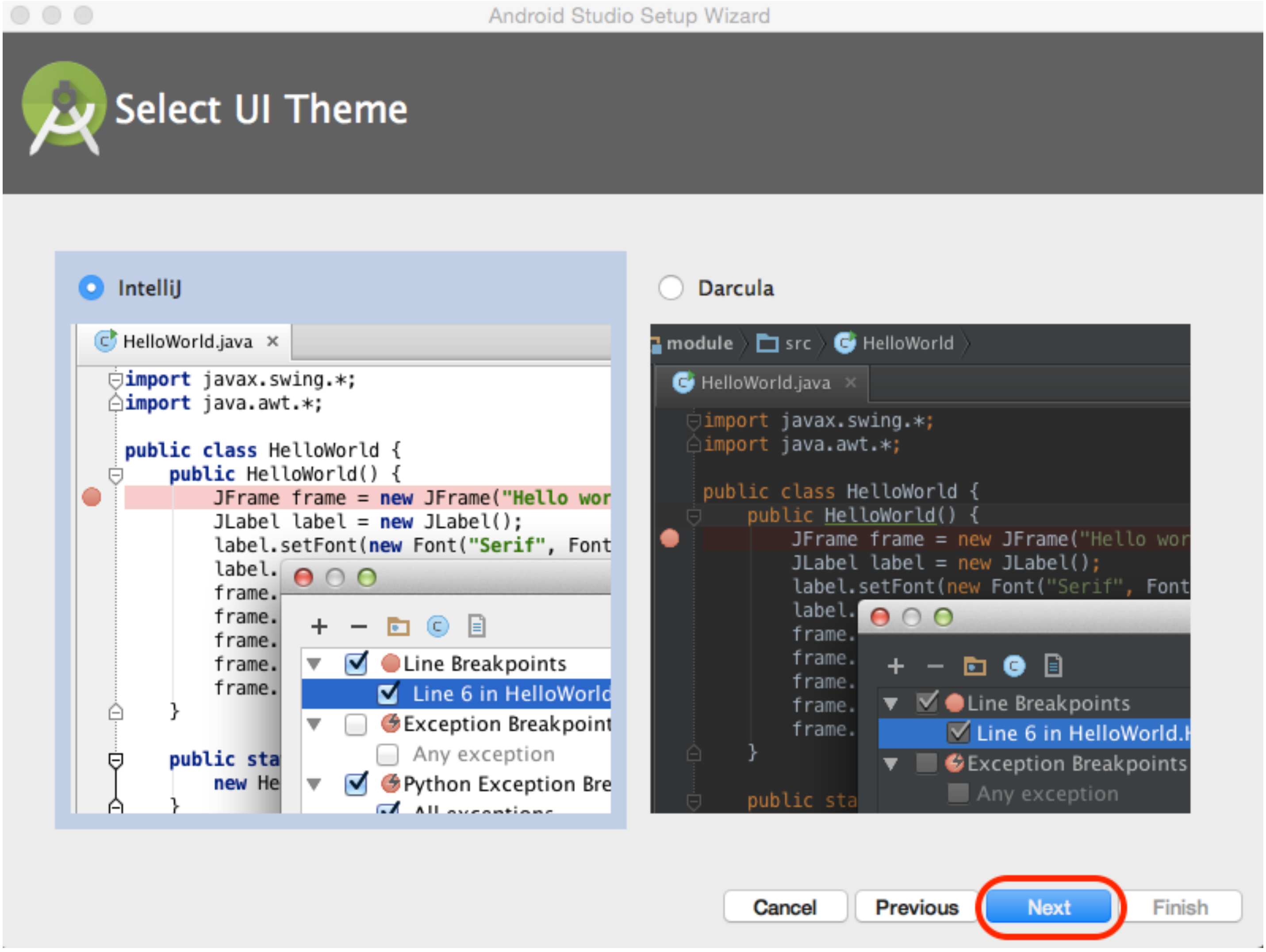
Choose the type of setup you want for Android Studio:

○ Standard

Android Studio will be installed with the most common settings and options.
Recommended for most users.

● Custom

You can customize installation settings and components installed.

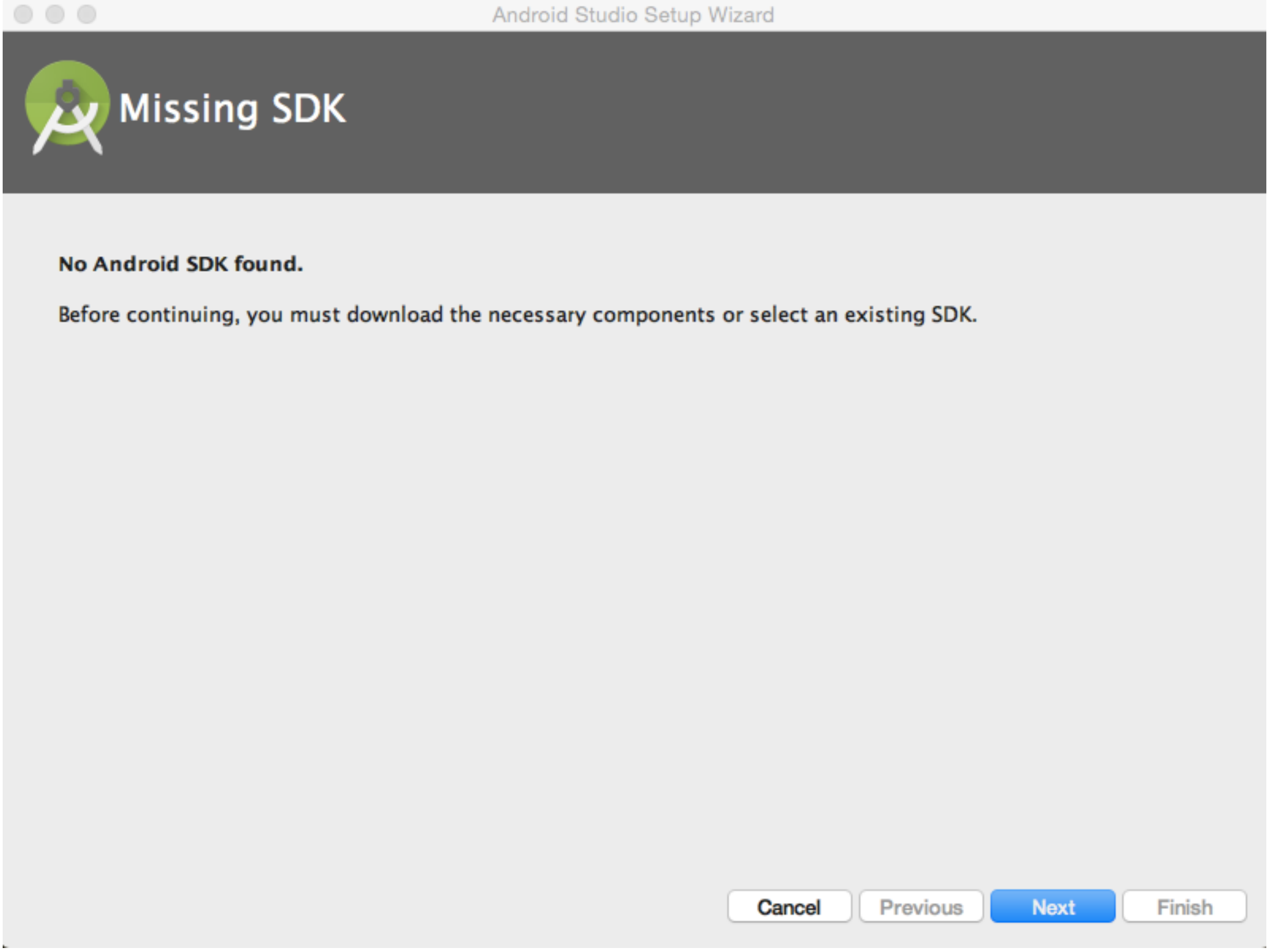


Select UI Theme

● IntelliJ

○ Darcula

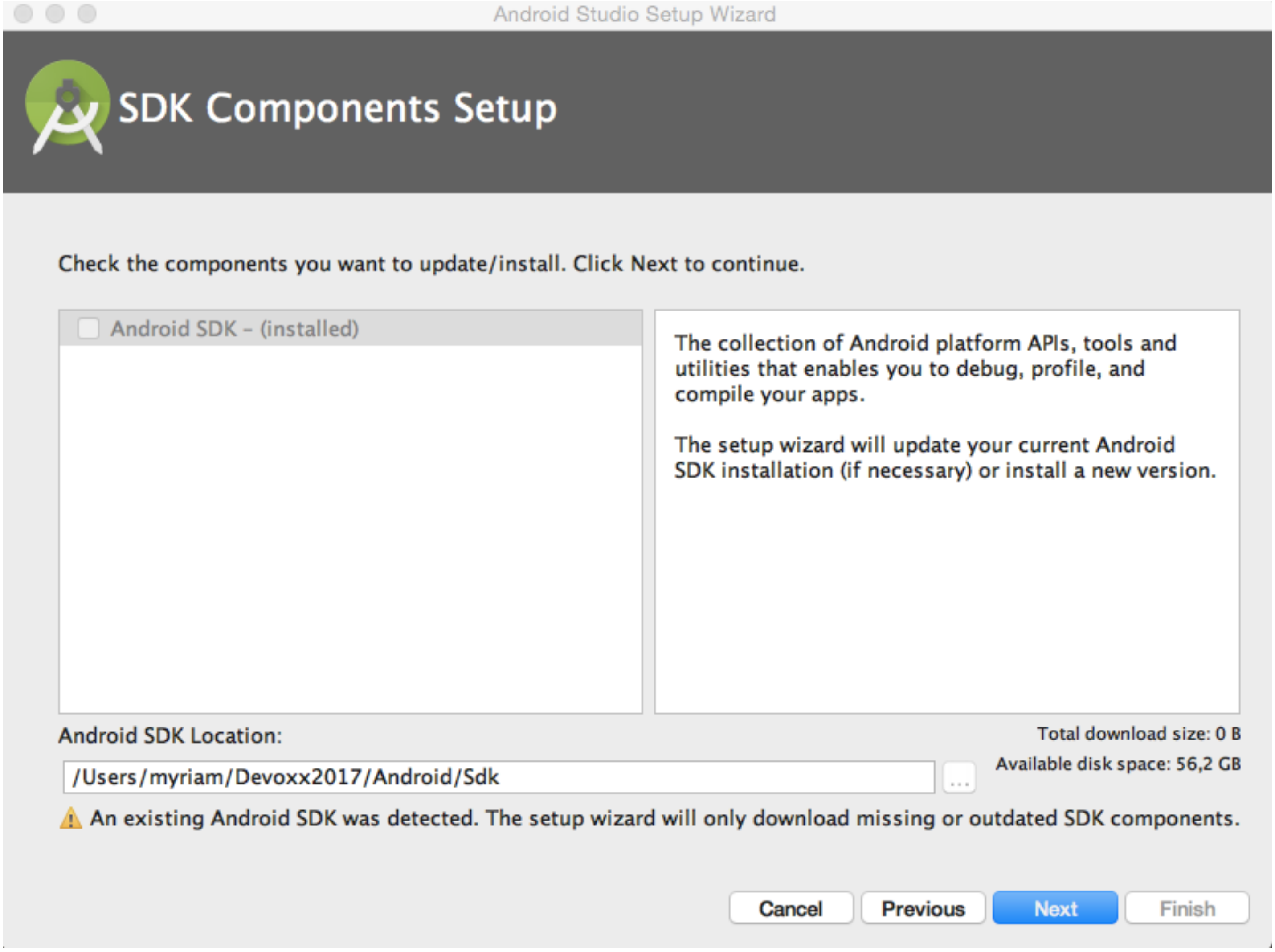
```
import javax.swing.*;
import java.awt.*;

public class HelloWorld {
    public HelloWorld() {
        JFrame frame = new JFrame("Hello wor
        JLabel label = new JLabel();
        label.setFont(new Font("Serif", Font
```



No Android SDK found.

Before continuing, you must download the necessary components or select an existing SDK.

Update Android SDK location and set the path defined in chap. 2 above. Should be the absolute path of : `~/Hands-on/Android/Sdk`



SDK Components Setup

Check the components you want to update/install. Click Next to continue.

□ Android SDK – (installed)

The collection of Android platform APIs, tools and utilities that enables you to debug, profile, and compile your apps.

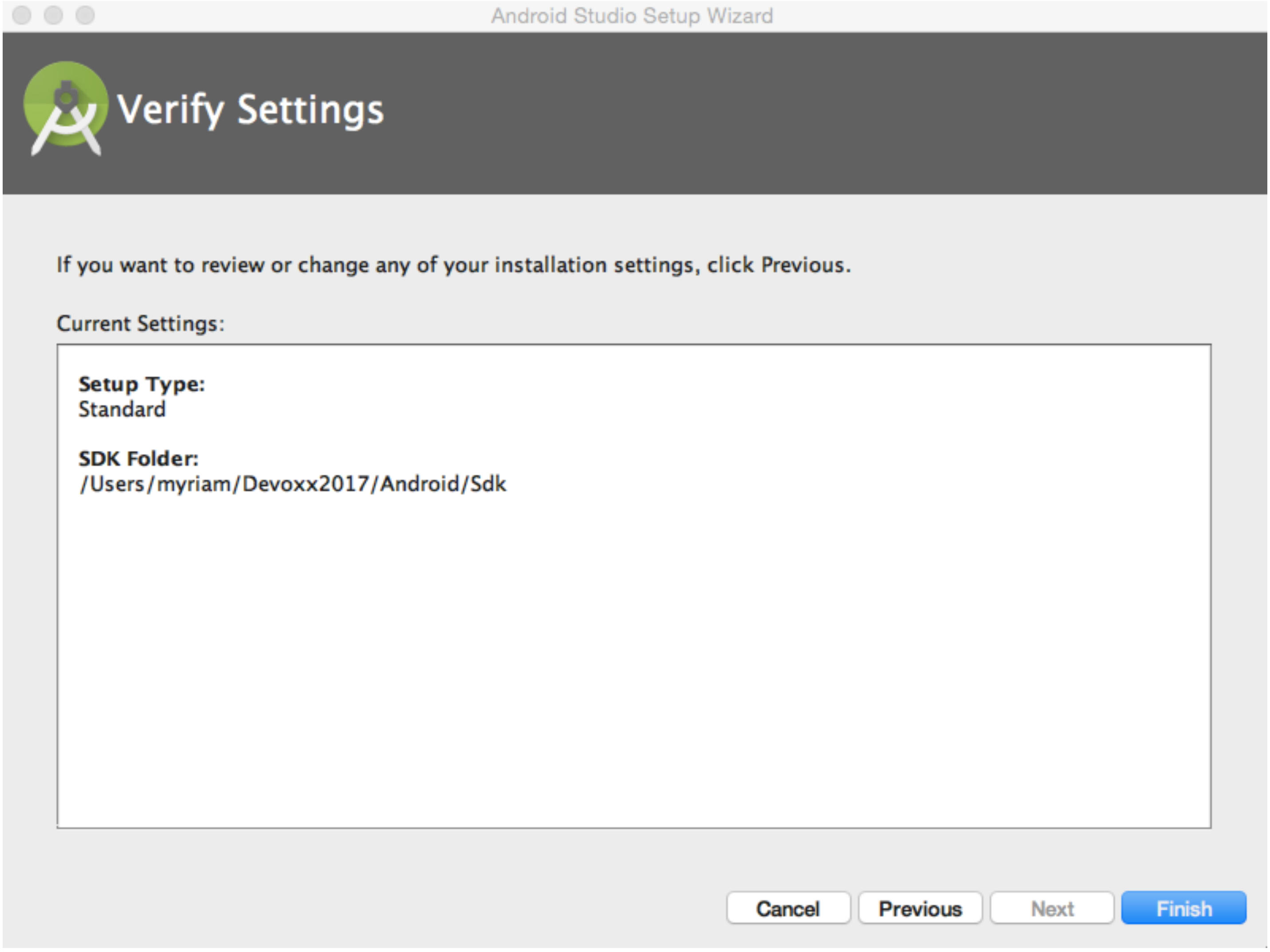
The setup wizard will update your current Android SDK installation (if necessary) or install a new version.

Android SDK Location: /Users/myriam/Devoxx2017/Android/Sdk

Total download size: 0 B

Available disk space: 56,2 GB

⚠ An existing Android SDK was detected. The setup wizard will only download missing or outdated SDK components.

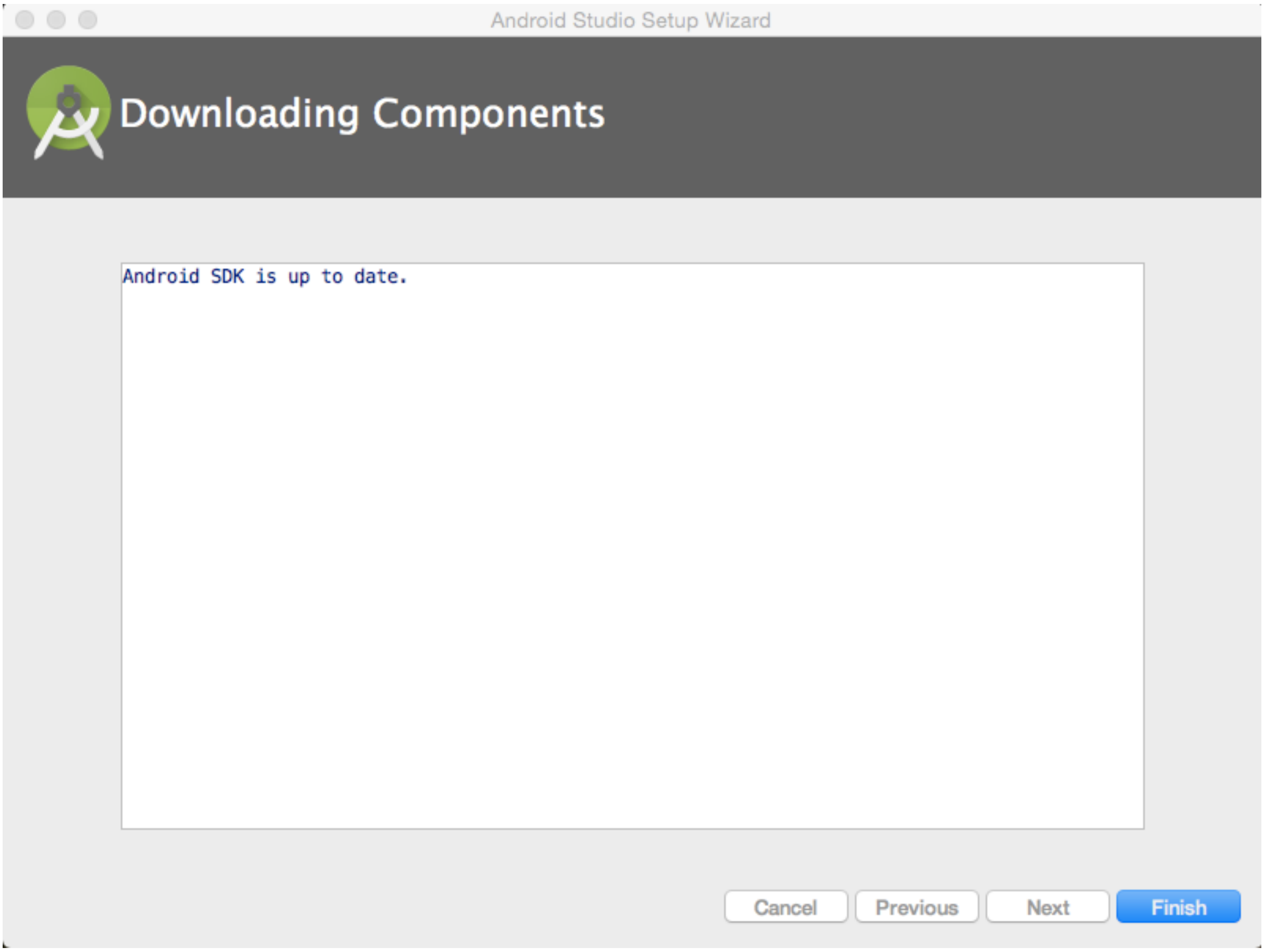


If you want to review or change any of your installation settings, click Previous.

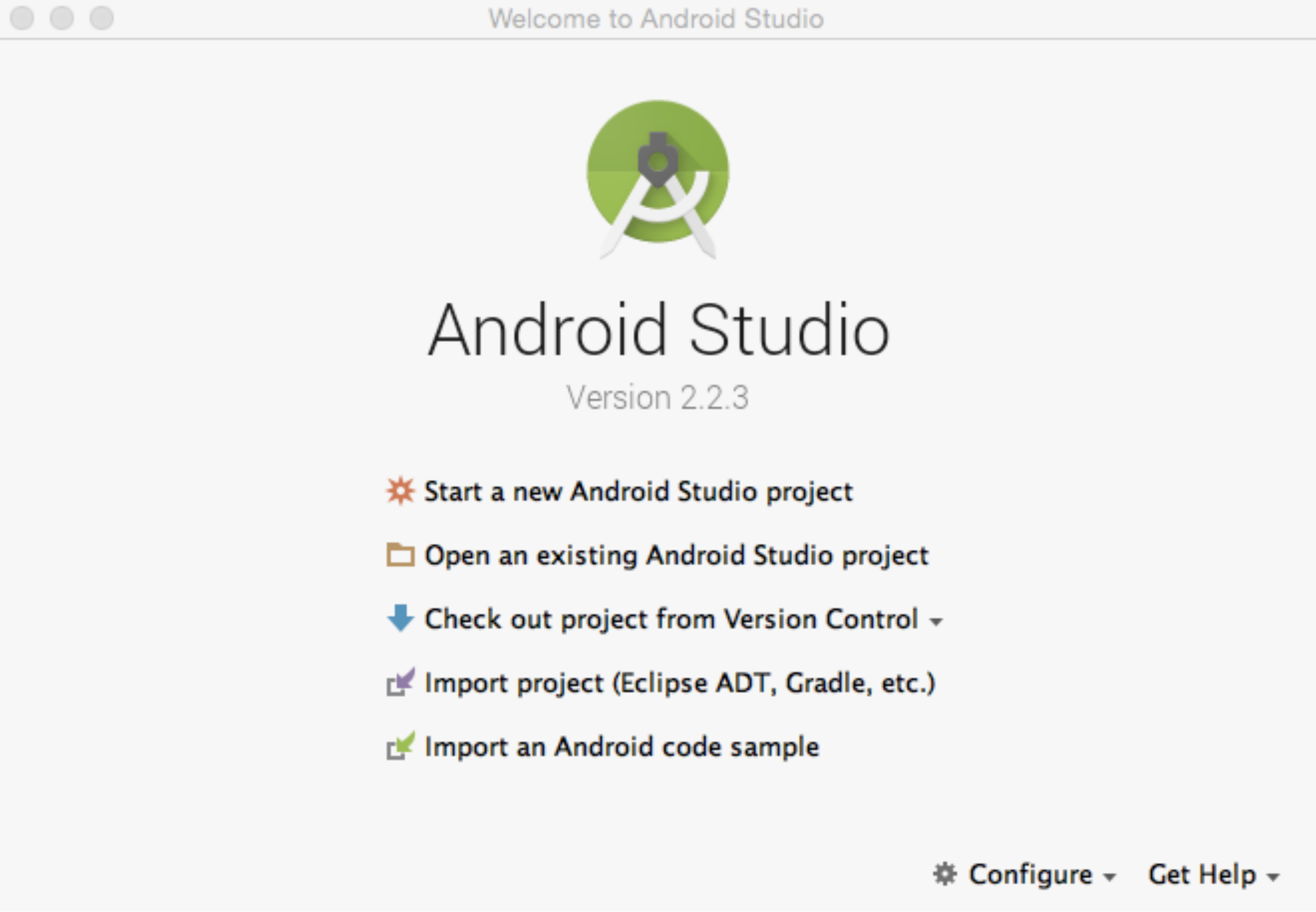
Current Settings:

Setup Type:
Standard

SDK Folder:
/Users/myriam/Devoxx2017/Android/Sdk



```
Android SDK is up to date.
```



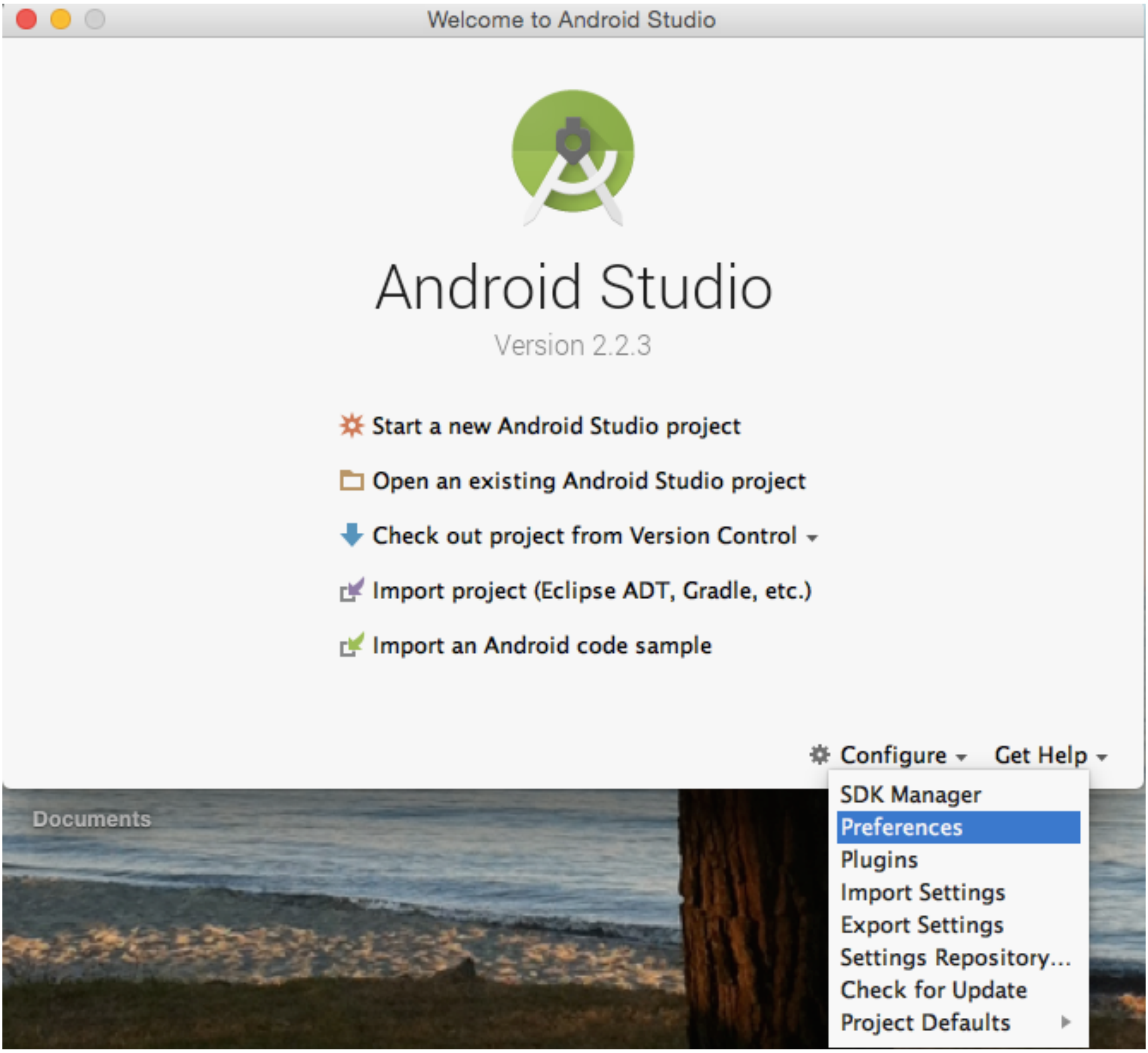
Welcome to Android Studio

Android Studio

Version 2.2.3

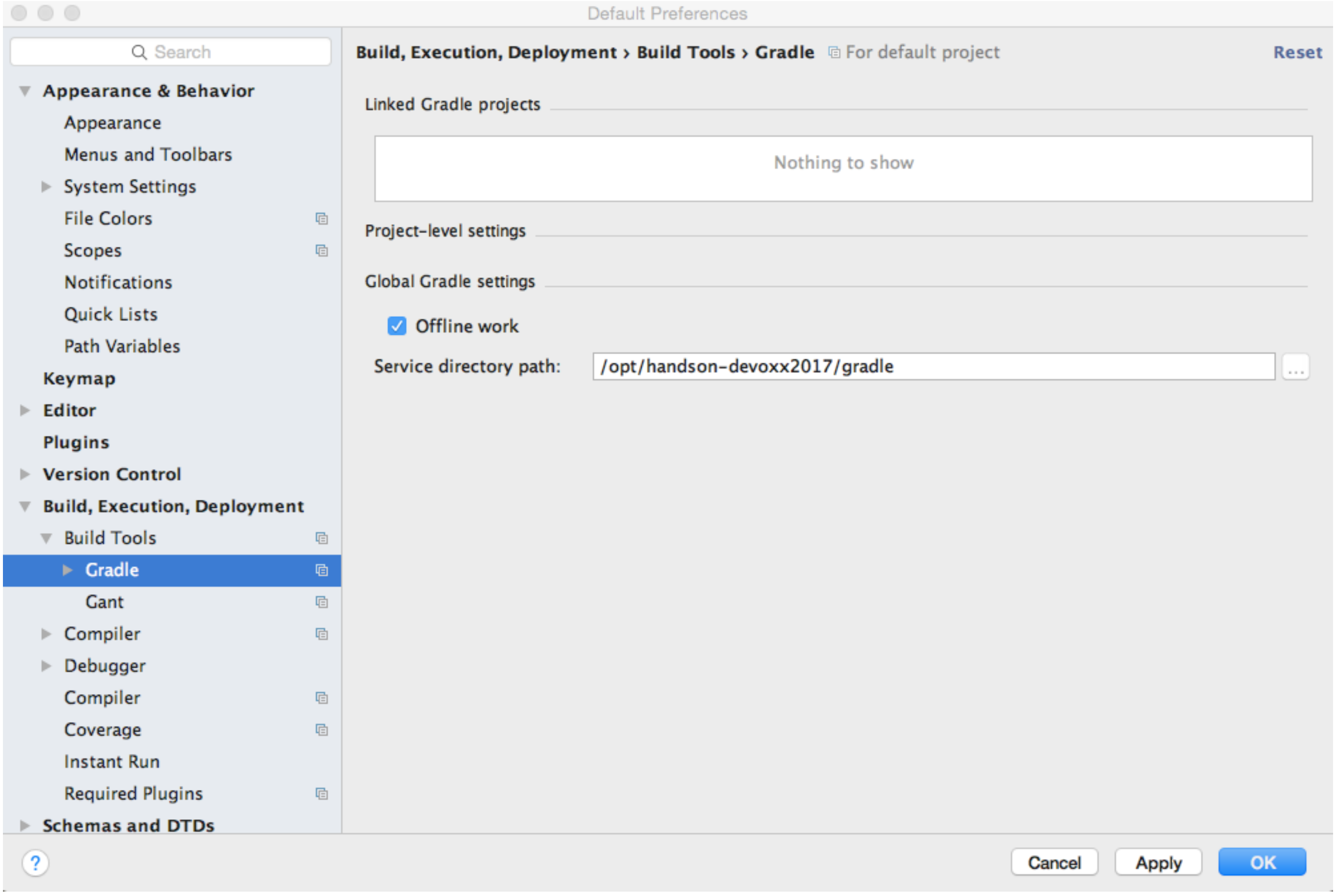
- Start a new Android Studio project
- Open an existing Android Studio project
- Check out project from Version Control
- Import project (Eclipse ADT, Gradle, etc.)
- Import an Android code sample

Open `configure` menu and select `Preferences`



Welcome to Android Studio
Android Studio
Version 2.2.3
Start a new Android Studio project
Open an existing Android Studio project
Check out project from Version Control
Import project (Eclipse ADT, Gradle, etc.)
Import an Android code sample
Configure
Get Help
SDK Manager
Preferences
Plugins
Import Settings
Export Settings
Settings Repository...
Check for Update
Project Defaults
Documents

- Select `Build, Execution, Deployment | Gradle`
- Check `Offline work`
- Set service directory path to : `/opt/handson-devoxx2017/gradle`
- Then Click on `Apply` button

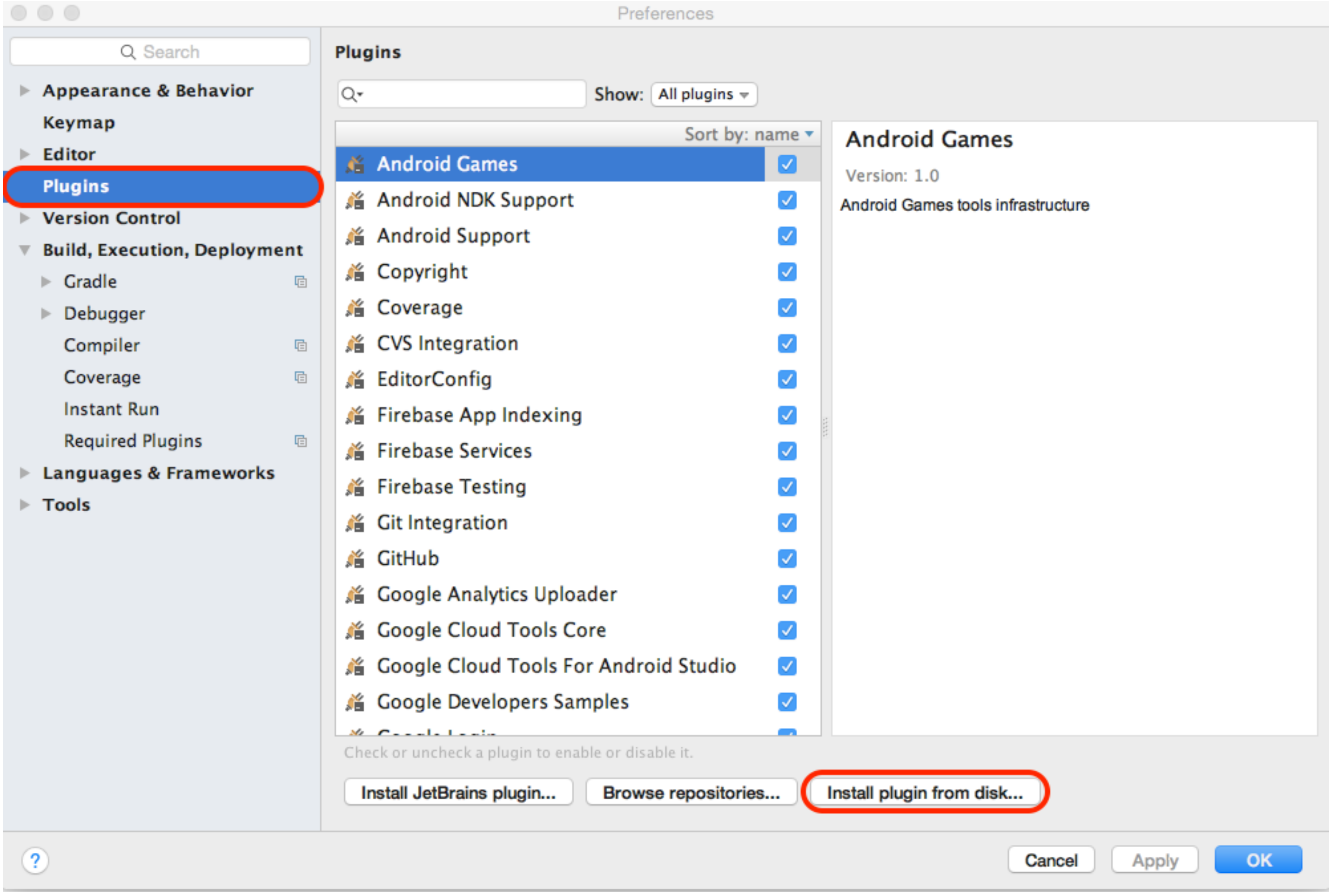


Build, Execution, Deployment › Build Tools › Gradle For default project

☑ Offline work

Service directory path: /opt/handson-devoxx2017/gradle

- Select `Plugins`
- Click on `Install plugin from disk...` button



Android Games ☑
Android NDK Support ☑
Android Support ☑
Copyright ☑
Coverage ☑
CVS Integration ☑
EditorConfig ☑
Firebase App Indexing ☑
Firebase Services ☑
Firebase Testing ☑
Git Integration ☑
GitHub ☑
Google Analytics Uploader ☑
Google Cloud Tools Core ☑
Google Cloud Tools For Android Studio ☑
Google Developers Samples ☑

Android Games

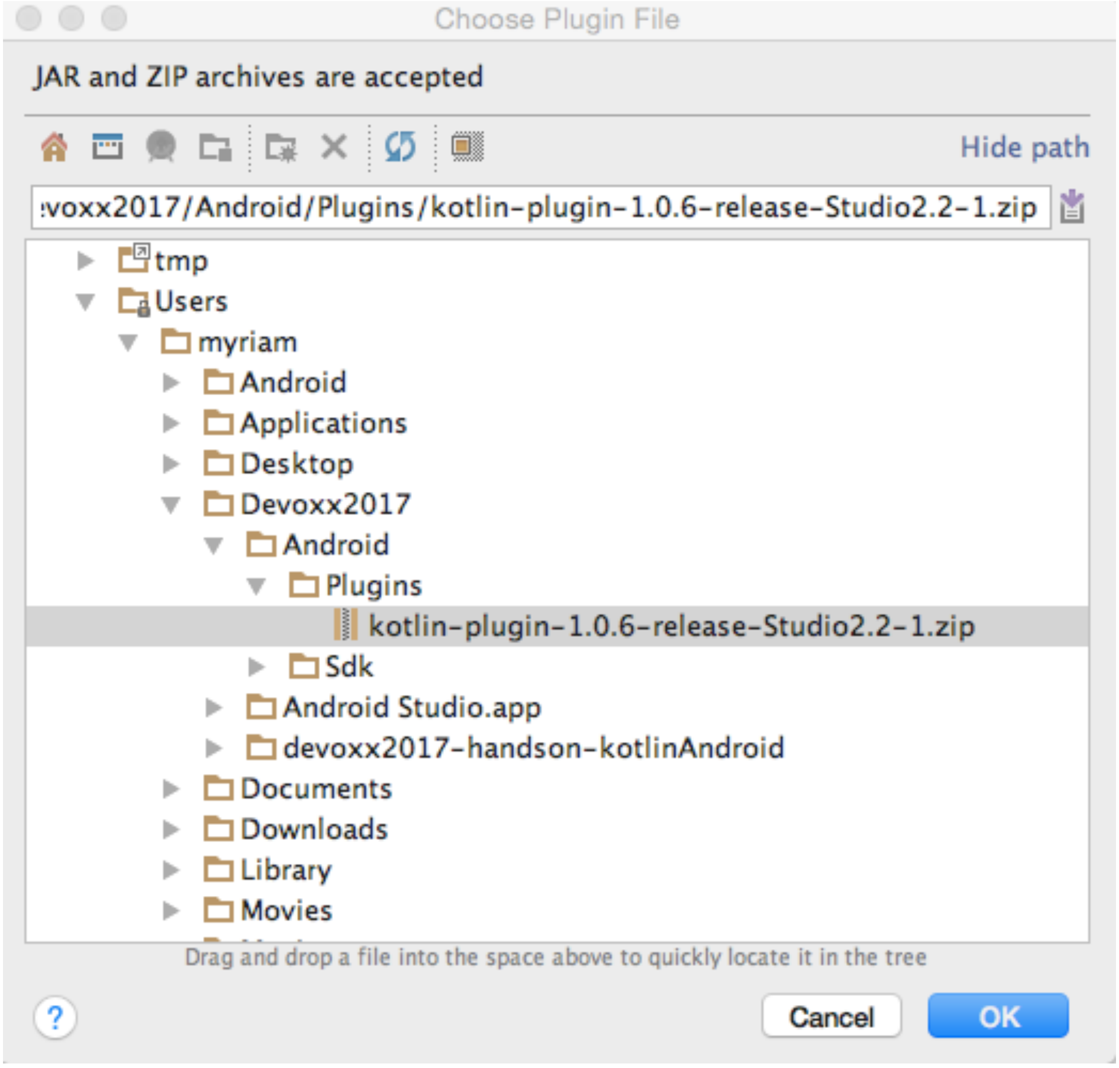
Version: 1.0

Android Games tools infrastructure

Check or uncheck a plugin to enable or disable it.

Kotlin 1.0.6 plugin is provided along with the Android SDK archive under the `Plugins` directory :

- `~/Hands-on/Android/Plugins/kotlin-plugin-1.0.6-release-Studio2.2-1.zip`



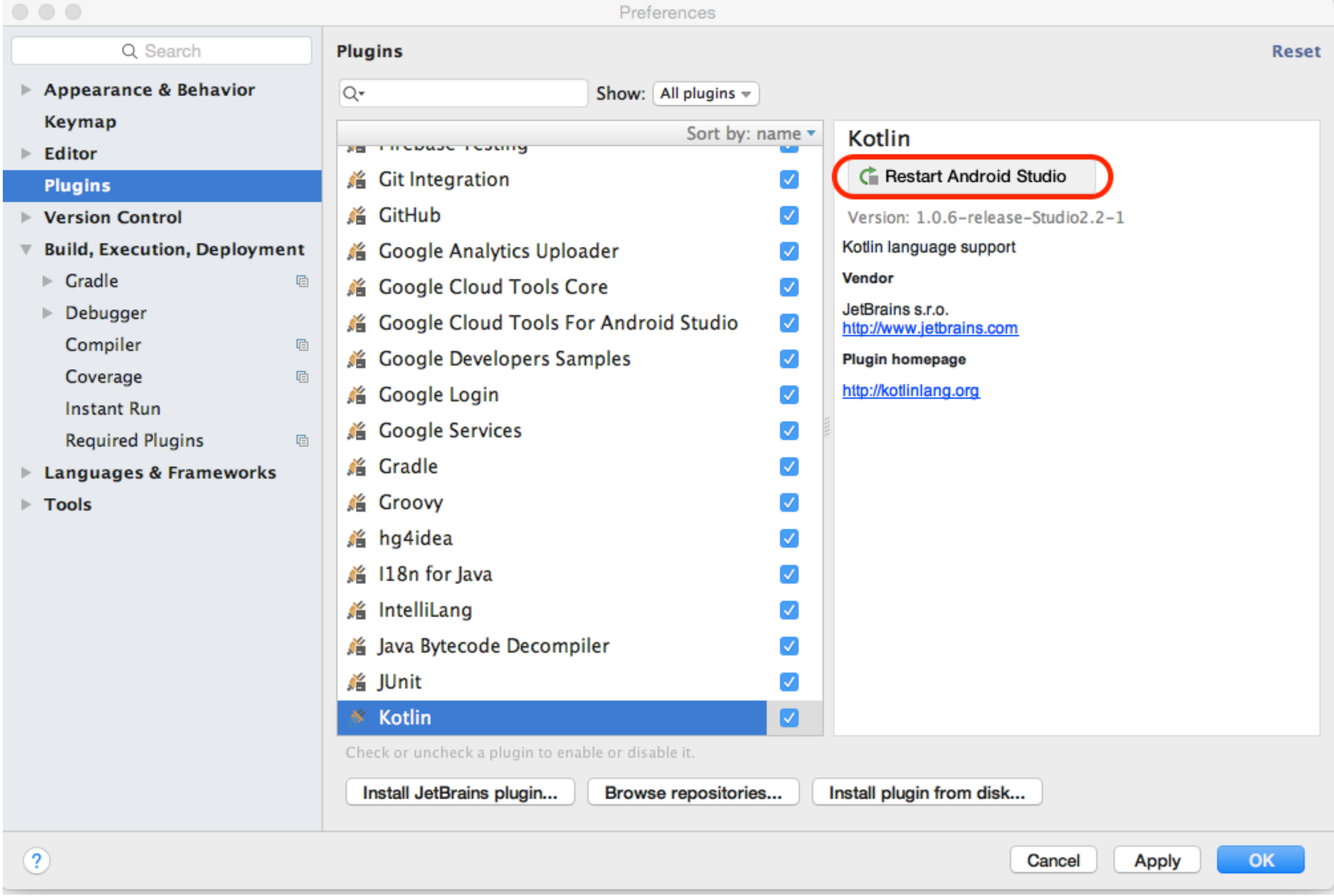
Choose Plugin File

JAR and ZIP archives are accepted

:voxx2017/Android/Plugins/kotlin-plugin-1.0.6-release-Studio2.2-1.zip

```
▶ tmp
▼ Users
  ▼ myriam
    ▶ Android
    ▶ Applications
    ▶ Desktop
    ▼ Devoxx2017
      ▼ Android
        ▼ Plugins
            kotlin-plugin-1.0.6-release-Studio2.2-1.zip
        ▶ Sdk
      ▶ Android Studio.app
      ▶ devoxx2017-handson-kotlinAndroid
    ▶ Documents
    ▶ Downloads
    ▶ Library
    ▶ Movies
```

Drag and drop a file into the space above to quickly locate it in the tree



Kotlin

Version: 1.0.6-release-Studio2.2-1

Kotlin language support

Vendor

JetBrains s.r.o.
http://www.jetbrains.com

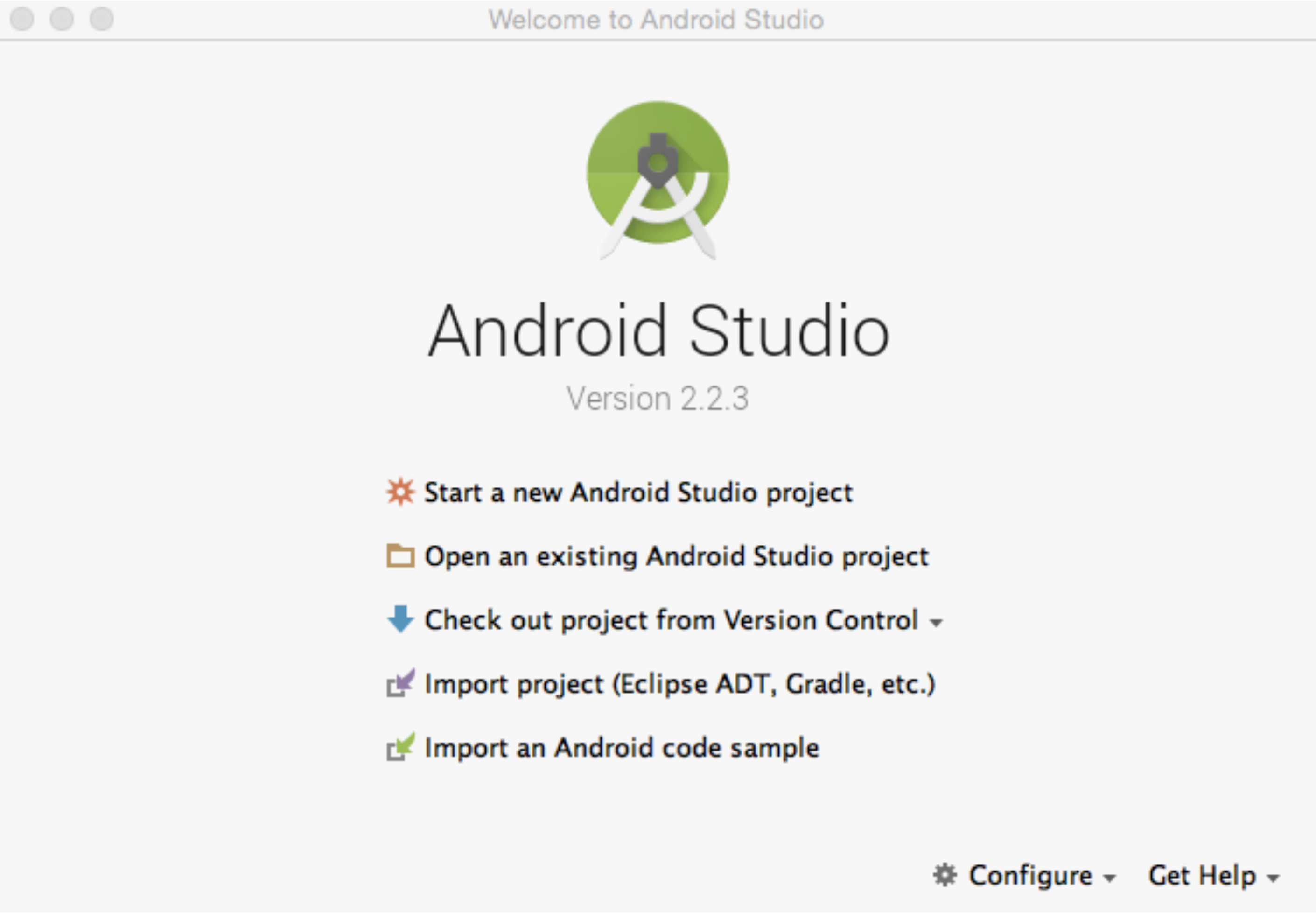
Plugin homepage

http://kotlinlang.org

Check or uncheck a plugin to enable or disable it.

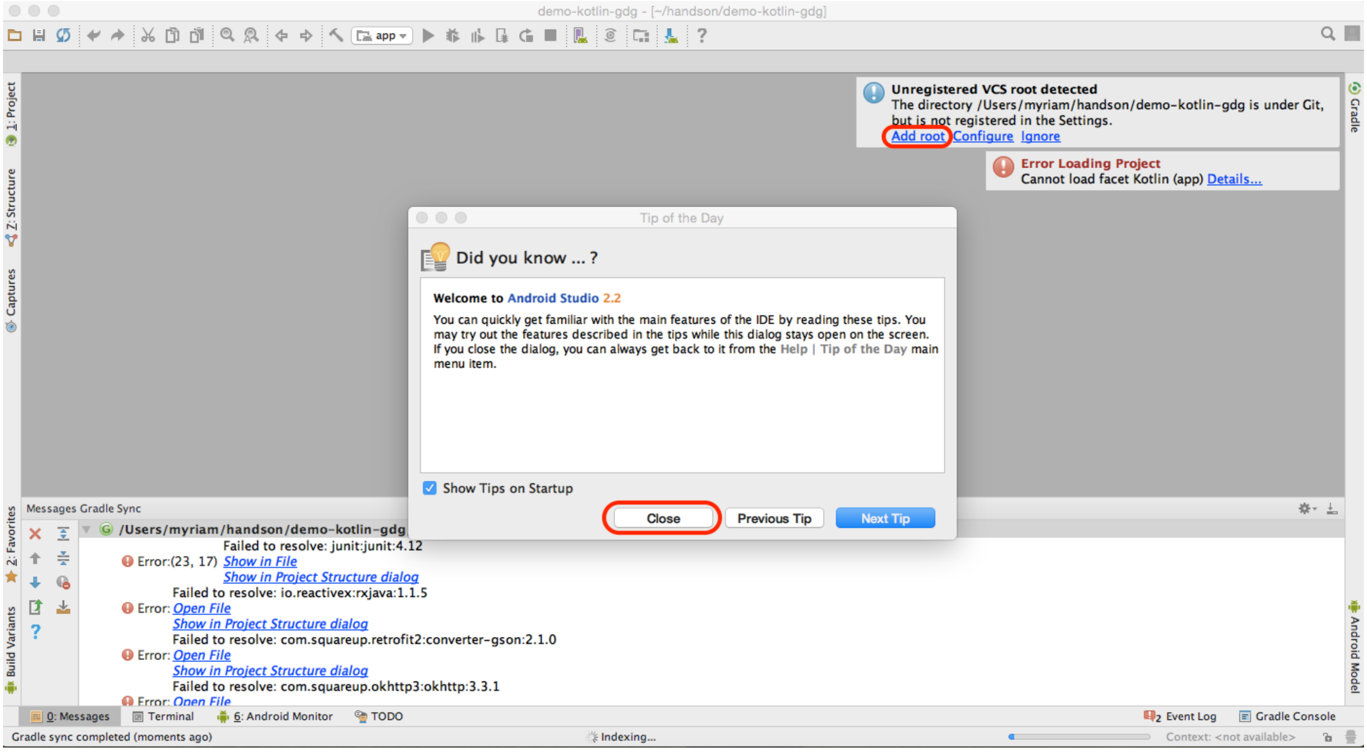
- Then Click on `Apply` button
- Click on `Restart Android Studio` button

5. Import Hands-on project


Welcome to Android Studio
Android Studio
Version 2.2.3
Start a new Android Studio project
Open an existing Android Studio project
Check out project from Version Control
Import project (Eclipse ADT, Gradle, etc.)
Import an Android code sample
Configure
Get Help

- Click `Import project (Eclipse ADT, Gradle, etc.)` and choose `~/Hands-on/2017-handson-kotlinAndroid` directory

- Click `Add Root`



Unregistered VCS root detected
The directory /Users/myriam/handson/demo-kotlin-gdg is under Git, but is not registered in the Settings.

Error Loading Project
Cannot load facet Kotlin (app)

Did you know ... ?

Welcome to Android Studio 2.2

You can quickly get familiar with the main features of the IDE by reading these tips. You may try out the features described in the tips while this dialog stays open on the screen. If you close the dialog, you can always get back to it from the Help | Tip of the Day main menu item.

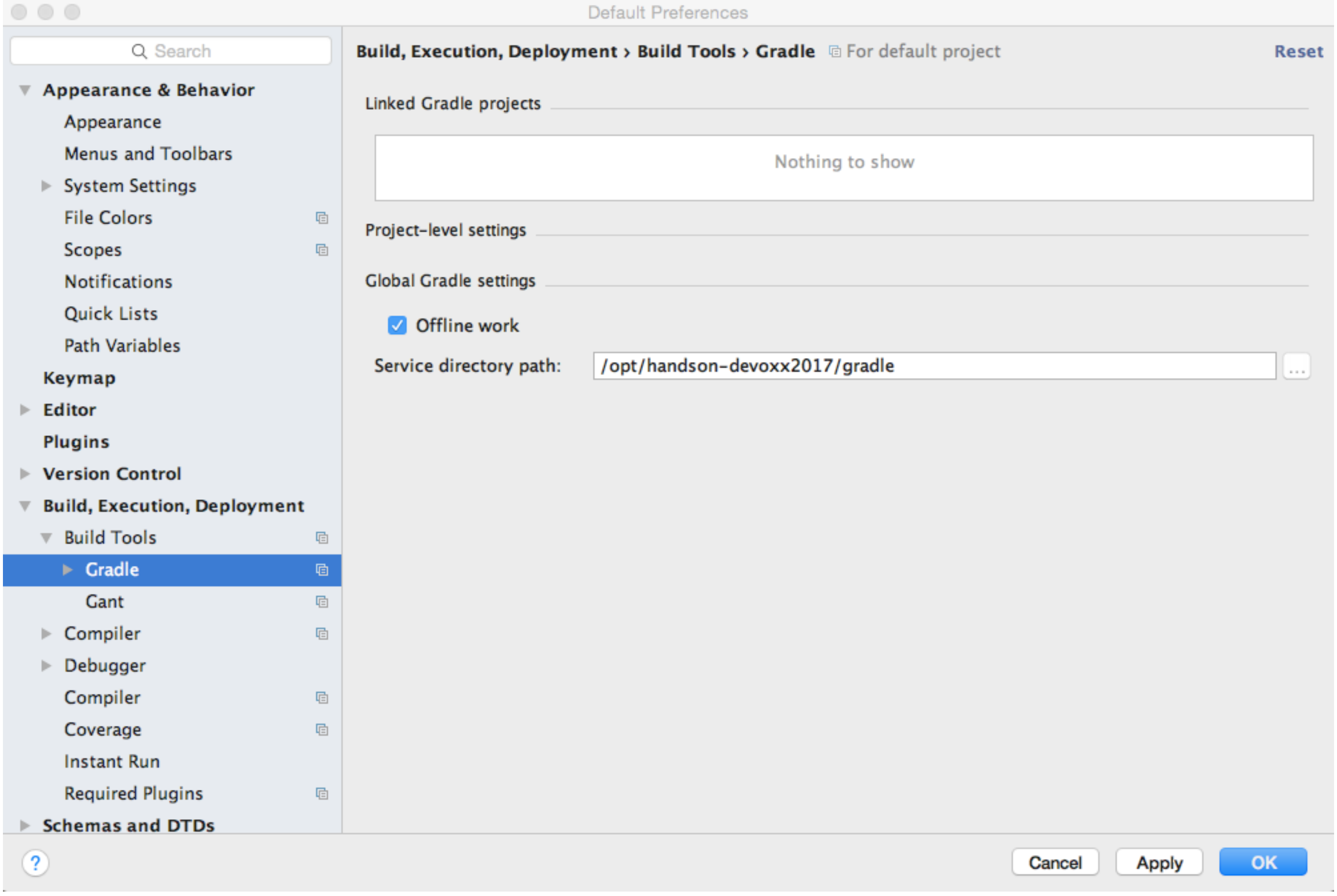
☑ Show Tips on Startup

```
/Users/myriam/handson/demo-kotlin-gdg
        Failed to resolve: junit:junit:4.12
  Error:(23, 17) Show in File
        Show in Project Structure dialog
      Failed to resolve: io.reactivex:rxjava:1.1.5
  Error: Open File
      Show in Project Structure dialog
      Failed to resolve: com.squareup.retrofit2:converter-gson:2.1.0
  Error: Open File
      Show in Project Structure dialog
      Failed to resolve: com.squareup.okhttp3:okhttp:3.3.1
  Error: Open File
```

Gradle sync completed (moments ago)

If there is still some errors with Gradle... Double check the following.

- Open `File | Prefrences...` menu
- Select `Build, Execution, Deployment | Gradle`
- Check `Offline work`
- Set service directory path to : `/opt/handson-devoxx2017/gradle`
- Then Click on `Apply` button



Default Preferences

Build, Execution, Deployment › Build Tools › Gradle   For default project

Linked Gradle projects

Nothing to show

Project-level settings

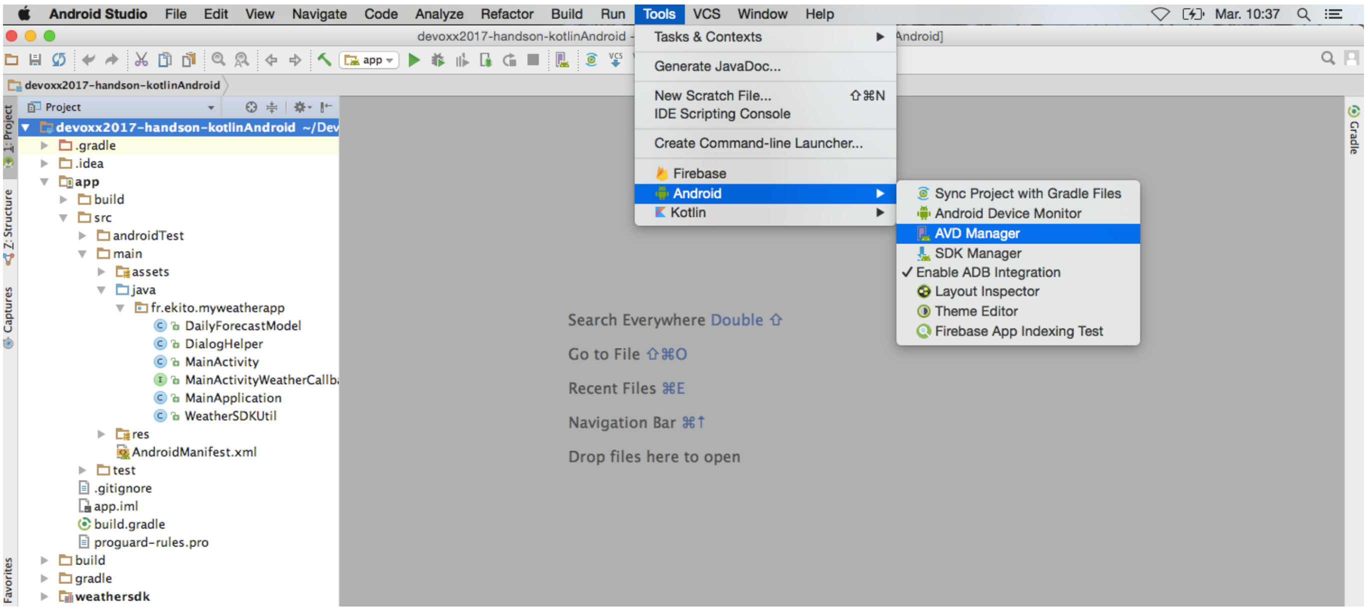
Global Gradle settings

☑ Offline work

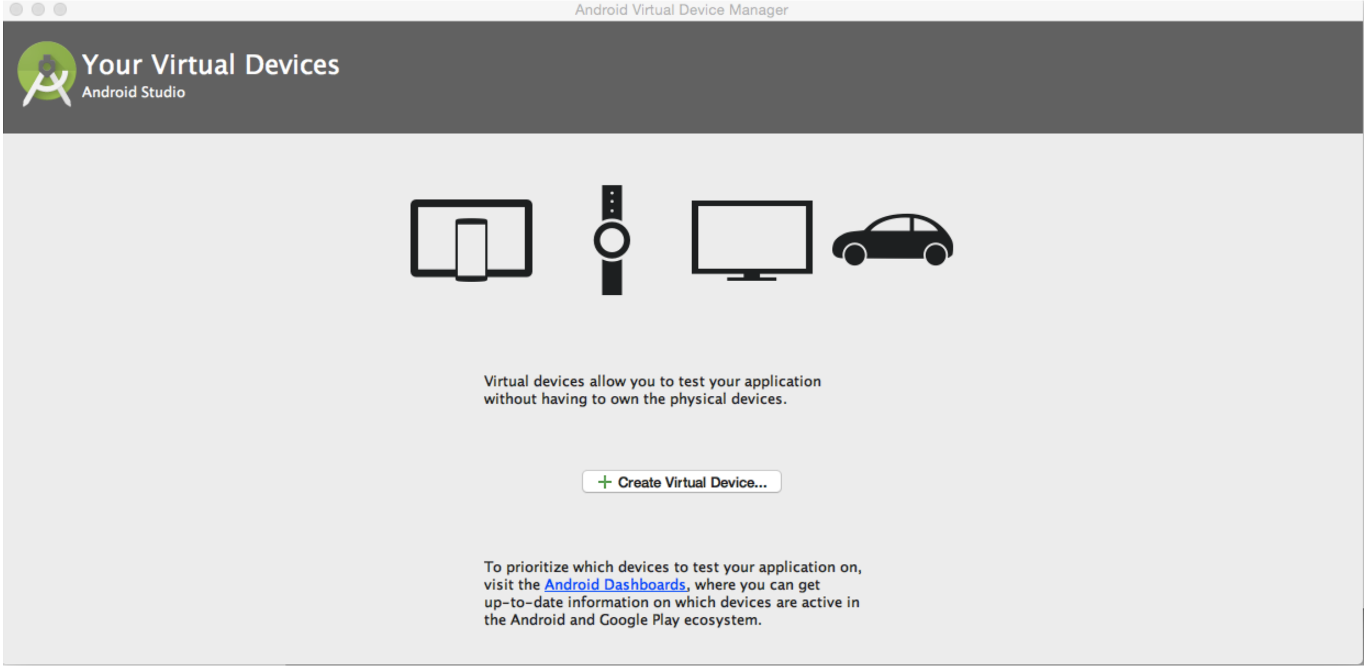
Service directory path: /opt/handson-devoxx2017/gradle

6. Create Virtual Device for Emulator

- Click on the menu : `Tools | Android | AVD Manager` :



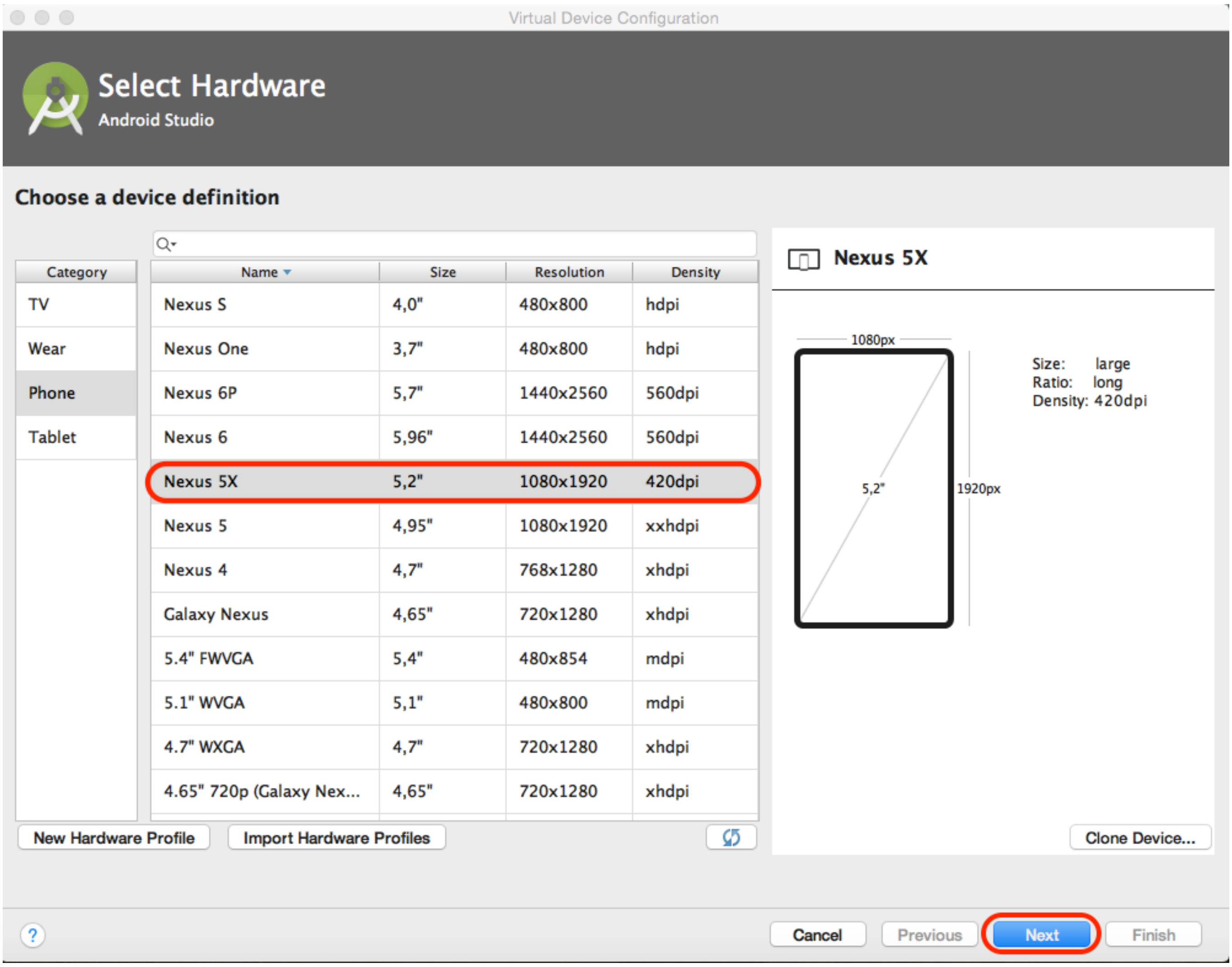
- Click on `Create Virtual Device...` button



Virtual devices allow you to test your application without having to own the physical devices.

To prioritize which devices to test your application on, visit the Android Dashboards, where you can get up-to-date information on which devices are active in the Android and Google Play ecosystem.

- Select `Nexus 5X`
- Click `Next`



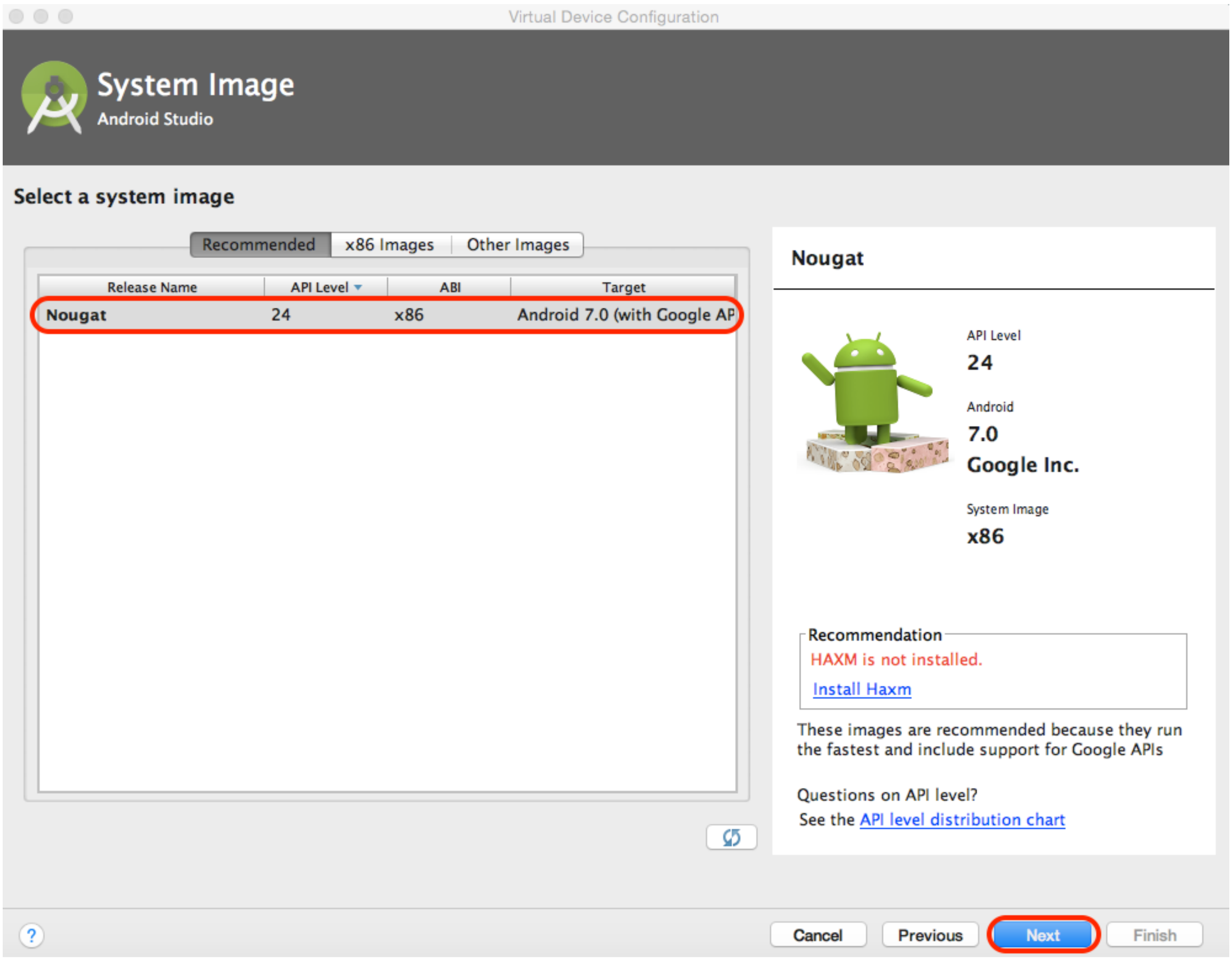
Choose a device definition

Name	Size	Resolution	Density
Nexus S	4,0"	480x800	hdpi
Nexus One	3,7"	480x800	hdpi
Nexus 6P	5,7"	1440x2560	560dpi
Nexus 6	5,96"	1440x2560	560dpi
Nexus 5X	5,2"	1080x1920	420dpi
Nexus 5	4,95"	1080x1920	xxhdpi
Nexus 4	4,7"	768x1280	xhdpi
Galaxy Nexus	4,65"	720x1280	xhdpi
5.4" FWVGA	5,4"	480x854	mdpi
5.1" WVGA	5,1"	480x800	mdpi
4.7" WXGA	4,7"	720x1280	xhdpi
4.65" 720p (Galaxy Nex...	4,65"	720x1280	xhdpi

Nexus 5X

Size: large
Ratio: long
Density: 420dpi

- Click `Next`



Virtual Device Configuration

System Image
Android Studio

Select a system image

Release Name	API Level	ABI	Target
Nougat	24	x86	Android 7.0 (with Google AP

Nougat

API Level
24

Android
7.0
Google Inc.

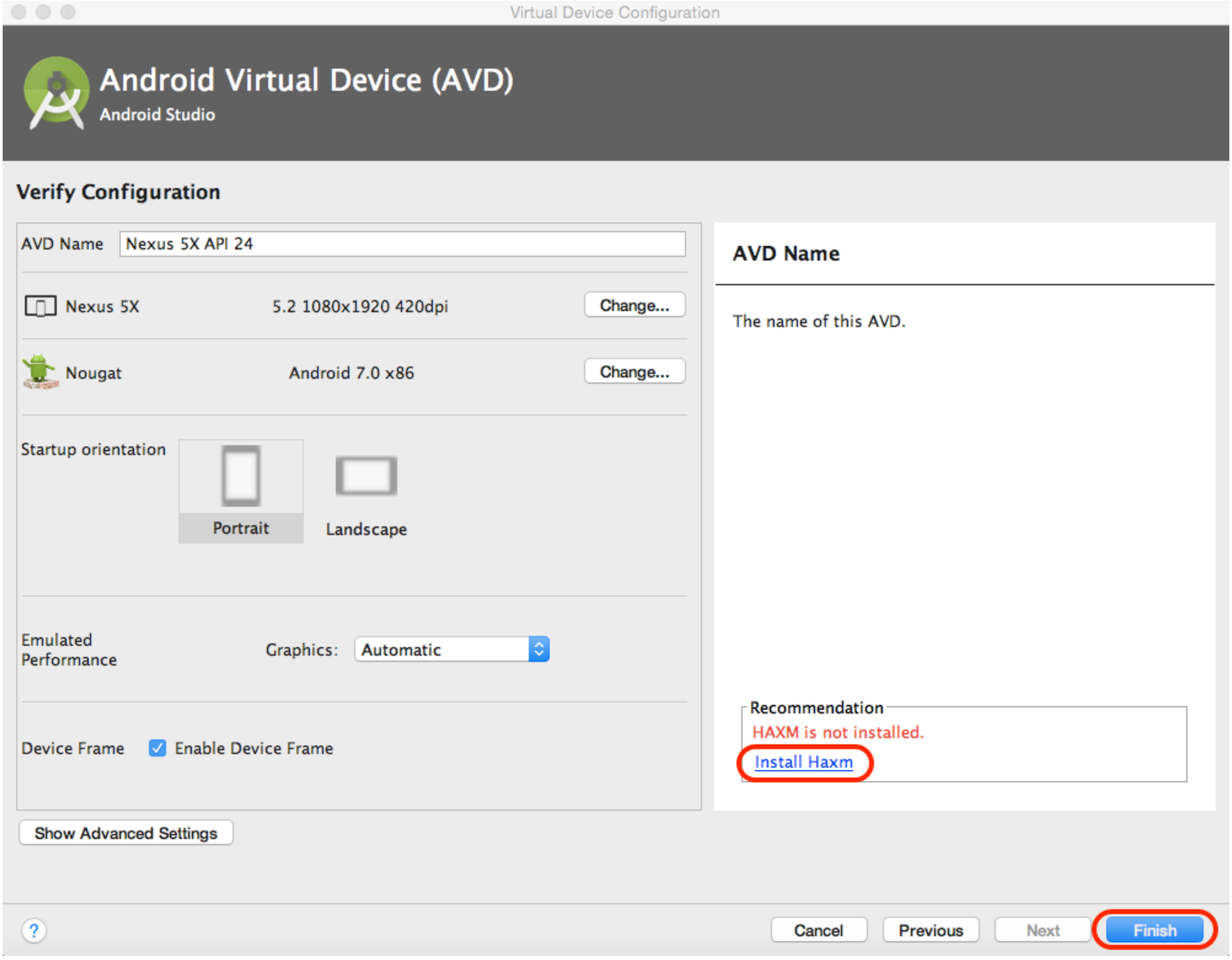
System Image
x86

Recommendation
HAXM is not installed.
Install Haxm

These images are recommended because they run the fastest and include support for Google APIs

Questions on API level?
See the API level distribution chart

- Click `Install Haxm`



Virtual Device Configuration

Android Virtual Device (AVD)

Android Studio

Verify Configuration

AVD Name: Nexus 5X API 24

Nexus 5X — 5.2 1080x1920 420dpi

Nougat — Android 7.0 x86

Startup orientation: Portrait

Emulated Performance — Graphics: Automatic

Device Frame — ☑ Enable Device Frame

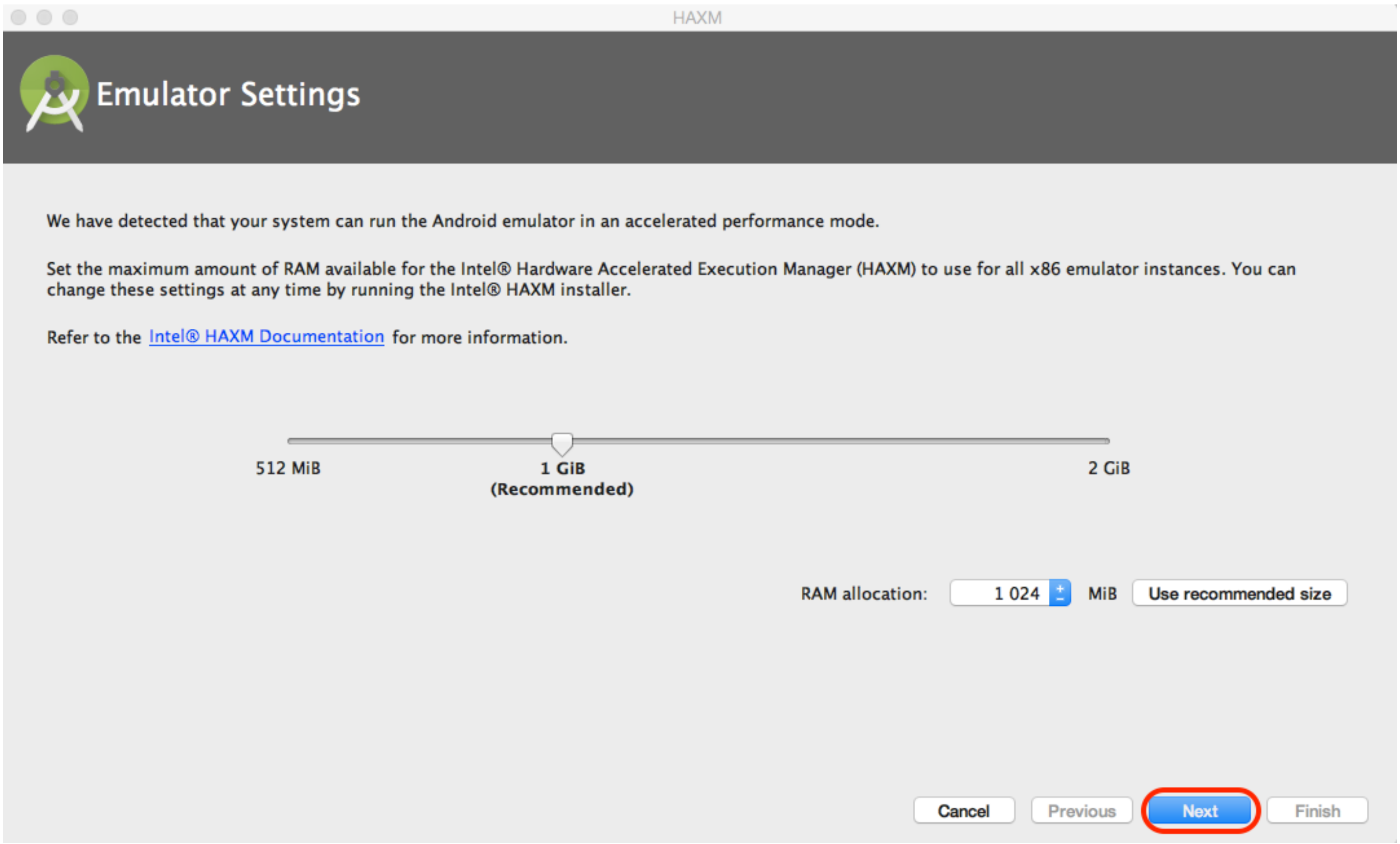
AVD Name

The name of this AVD.

Recommendation

HAXM is not installed.

Install Haxm



HAXM

Emulator Settings

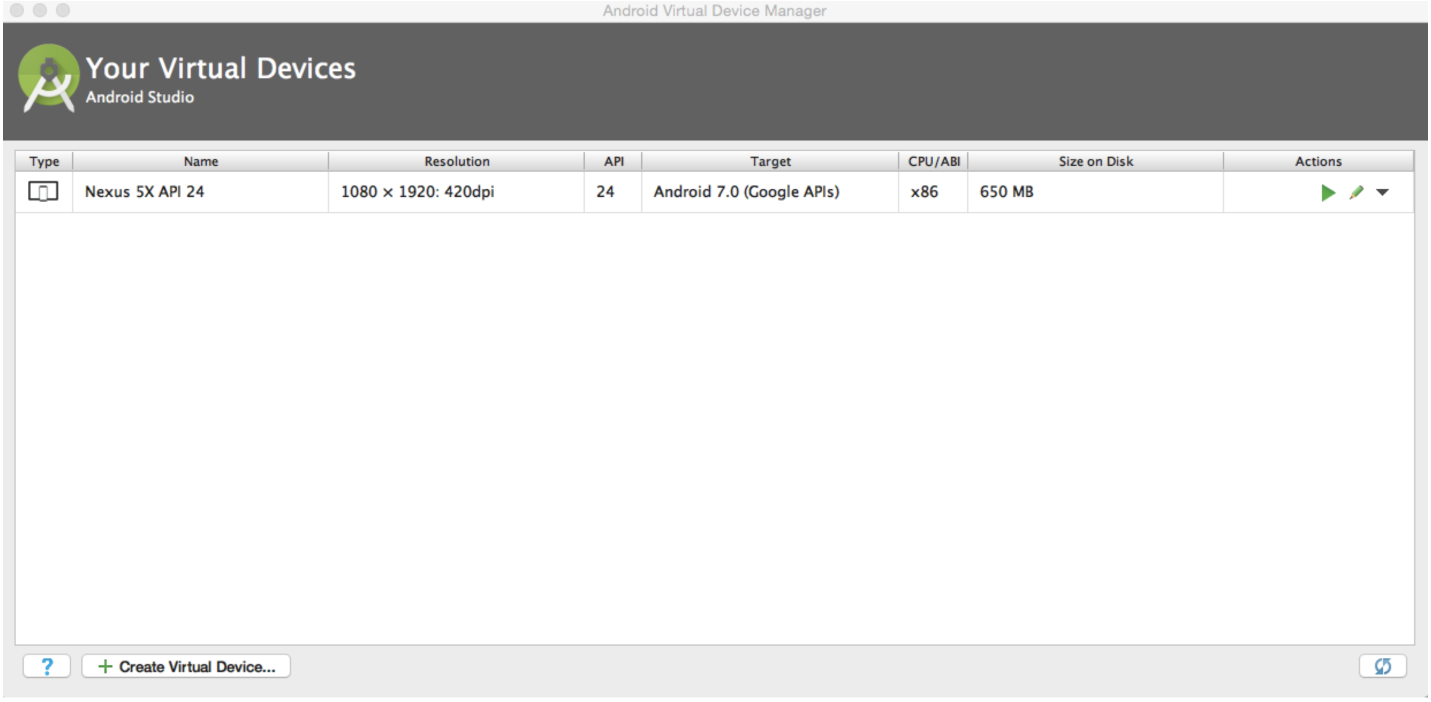
We have detected that your system can run the Android emulator in an accelerated performance mode.

Set the maximum amount of RAM available for the Intel® Hardware Accelerated Execution Manager (HAXM) to use for all x86 emulator instances. You can change these settings at any time by running the Intel® HAXM installer.

Refer to the Intel® HAXM Documentation for more information.

RAM allocation: 1 024 MiB

* Click `Finish`



Android Virtual Device Manager

Your Virtual Devices

Android Studio

Type	Name	Resolution	API	Target	CPU/ABI	Size on Disk	Actions
	Nexus 5X API 24	1080 × 1920: 420dpi	24	Android 7.0 (Google APIs)	x86	650 MB	▶ ✎ ▾