# ANDROID VIRTUAL DEVICE Installing

## 2.1 ANDROID VIRTUAL DEVICE

After creating the first Android application, we need to create an *Android Virtual Device* (AVD) to run it. First, on the top of the interface, select Tools, then Android, and then AVD Manager (Tools  $\rightarrow$  Android  $\rightarrow$  AVD Manager). The AVD Manager is similar to Fig. 2.10.

• • •	Create New Project
New F	Project
Configure you	r new project
Application name:	My Application
Company Domain:	my.android.example
Package name:	example.android.my.myapplication <u>Edit</u>
Project location:	/Users/dwy/Desktop/MyApplication
	Cancel Previous Next Finish

Figure 2.5 First Step of creating an Android Application in Android Studio.

### **Mobile Applications Development**

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Click "Create a virtual device"; the interface will be similar to Fig.

2.11. Choose *Phone* in the category list, and Nexus S as the device. Then click "Next."

In the second step of creating an AVD in Android Studio, you can choose the version of Android SDK which you want to use, as shown in Fig. 2.12. Then click "Next."

•	Create New Project	×
New Project		
Select the form factors your app wil	I run on	
Different platforms require separate SDKs		
☑ Phone and Tablet		
Minimum SDK	API 21: Android 5.0 (Lollipop)	
	Lower API levels target more devices, but have fewer features available. By targeting API 21 and later, your app will run on approximately <b>0.0%</b> of the devices that are active on the Google Play Store. Help me choose.	
עד 🗔		
Minimum SDK		
🗌 Wear		
Minimum SDK		
Glass (Not Installed)		
Minimum SDK		
	Previous Next	Cancel Finish

Figure 2.6 First step of creating an Android application in Android Studio.

# **Mobile Applications Development**

e		Create New Project		
Add an activity to M	obile			
Add No Activity	Blank Activity	Blank Activity with Fragment	Fillscreen Activity	Google Maps Activity
			Previous	Next Cancel Finish

Figure 2.7 Second step of creating an Android application in Android Studio.

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•		Create New Project	×
Choose options for your new f	ile		
	Creates a new blank act	tivity with an action bar.	
	Activity Name:	MainActivity	
	Layout Name:	activity_main	
	Title:	MainActivity	
	Menu Resource Name:	menu_main	
Blank Activity	The name of the activity	y class to create	Einish

# Figure 2.8 Last step of creating an Android application in Android Studio.



Figure 2.9 Interface of Android Studio with a new Android project.



Figure 2.10 Android Virtual Device Manager in Android Studio.

In the last step of creating an AVD in Android Studio, you can change the name of the AVD you want to create, as shown in Fig. 2.13. Then click "Finish".

The AVD is created, as shown in Fig. 2.14. Then click the green arrow on the right side to start this virtual device. After waiting a while, the virtual device is started, as shown in Fig. 2.15.

Then run your Android application on this virtual device. Select the application created before, and then click the green arrow to that was run it. At last, the Android application runs on the virtual device, as shown in Fig. 2.16.

_			Virtual	Device Configur	ation
<b>elect Ha</b> hoose a de	rdware vice definition				
	Q.			$ \rightarrow $	Nevue S
Category	Name =	Size	Resolution	Density	III Nexus S
тv	Nexus S		480x800	hdpi	
Phone	Nexus One	3.7*	480x800	hdpi	480px Size: normal
Wear	Nexus 6	5.96*	1440x2560	560dpi	Ratio: long Density: hdpi
Tablet	Nexus 5	4.95*	1080x1920	xxhdpi	4.0" 800px
	Nexus 4	4.7*	768×1280	xhdpi	f
	Galaxy Nexus	4.65*	720x1280	xhdpi	
	5.4" FWVGA	5.4*	480x854	mdpi	
New Hard	ware Profile	Import Hardw	are Profiles	 Ø	Clone Device
New Hard	5.4" FWVGA	5.4* Import Hardw	480x854 are Profiles	mdpi 	

Figure 2.11 First Step of Creating an Android Virtual Device in Android Studio -1.

Release Name	API Level =	ABI armeabi-v7a	Target Android 5.0.1	Lollipop
Lollipop	21	x86	Google APIs (Google In	
Lollipop Download	21	x86_64	Android SDK Platform :	6
Lollipop Download	21	х8б	Android SDK Platform :	API Level
Lollipop Download	21	armeabi-v7a	System Image armeabi	21
Lollipop Download	21	x86_64	System Image x86_64 w	Android
<i>KitKat</i> Download	15	armeabi-v7a	Android SDK Platform -	5.0.1
KitKat Download	15	x86	Android SDK Platform -	Google Inc.
Jelly Bean Download	18	armeabi-v7a	Android SDK Platform -	System Image
Jelly Bean Download	16	x86	Android SDK Platform -	x86
<i>ielly Bean</i> Download	17	armeabi-v7a	Android SDK Platform 4	
A show downloadable	a system images		(5)	? - See documentation for Android 5 APIs

Figure 2.12 Second Step of Creating an Android Virtual Device in Android Studio -2.

WD Name	Nexus 6 API 21				
Nexus S	4.0" 480x800 hdpi		Change	AVD Name	
Lollipop	Google APIs (Google	Inc.) x86	Change	The name of this AVD.	
Startup size and prientation	Scale:	Auto			
Emulated Performance	☑ Use □ Stor You can	Host GPU e a snapshot for faster sta either use Host GPU or Sni	<b>rtup</b> apshots		

Figure 2.13 Last Step of Creating an Android Virtual Device in Android Studio.

 Name	Resolution	API	Target	CPU/ABI	Size on Disk	Actions
Nexus S API 21	480 × 800: h	21	Google APIs	×86	650 MB	▶ / -

Figure 2.14 New Virtual Device in AVD Manager in Android Studio.



Figure 2.15 Android Virtual Device in Android Studio



Figure 2.16 Android Application Running on the Android Virtual Device in Android Studio