

Android

Android studio 安裝與入門

課程目的

- 本課程主要是教大家簡單的android程式設計，從安裝android studio、建立開發環境、簡單的App設計，若同學對設計App有興趣，可以之後選修軟體創意專題的課程。

Android Studio安裝 (IOS)

- Download Android Studio from <https://developer.android.com/studio/#downloads>

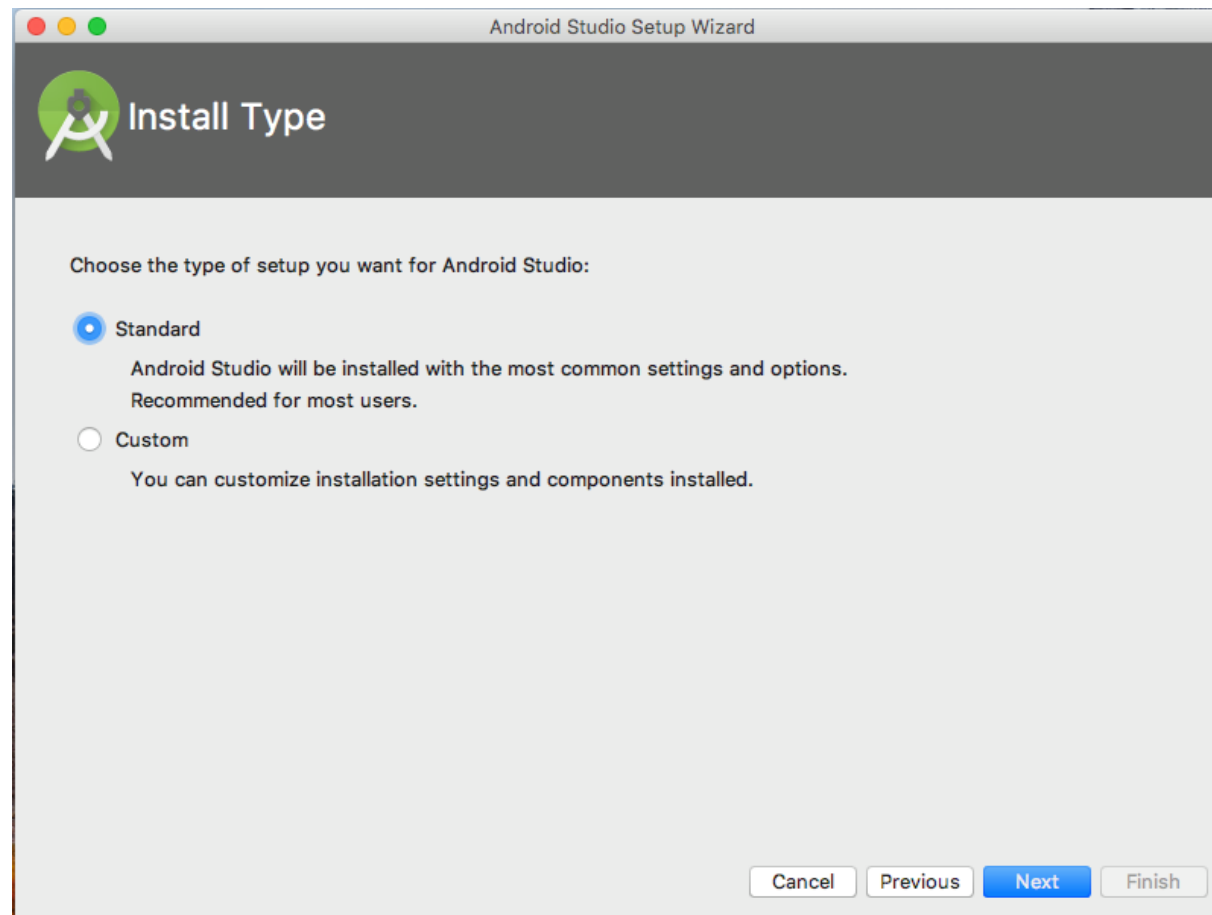
Platform	Android Studio package	Size
Windows (64-bit)	android-studio-ide-181.5014246-windows.exe Recommended	923 MB
	android-studio-ide-181.5014246-windows.zip No .exe installer	1000 MB
Windows (32-bit)	android-studio-ide-181.5014246-windows32.zip No .exe installer	999 MB
Mac	android-studio-ide-181.5014246-mac.dmg	988 MB
Linux	android-studio-ide-181.5014246-linux.zip	1006 MB



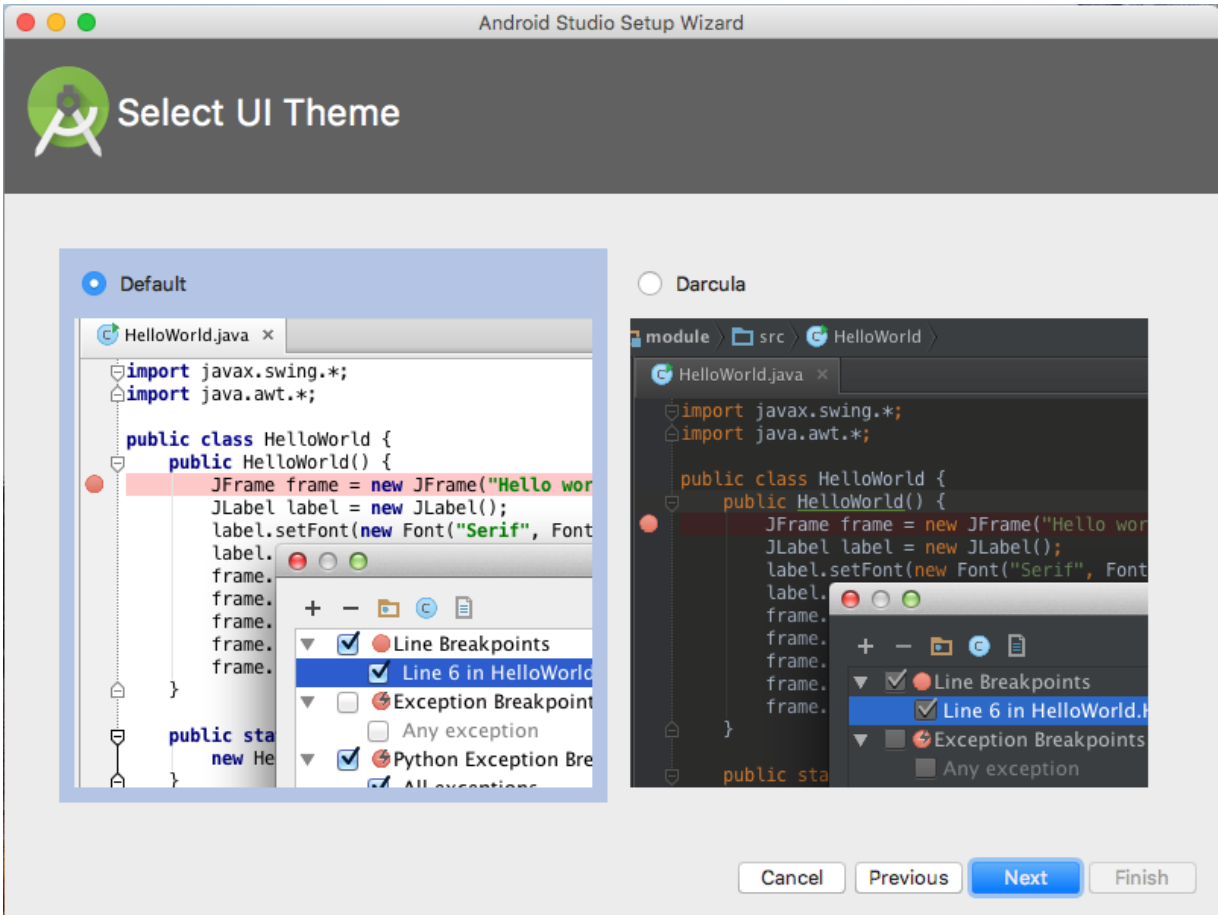
Android Studio安裝 (IOS)



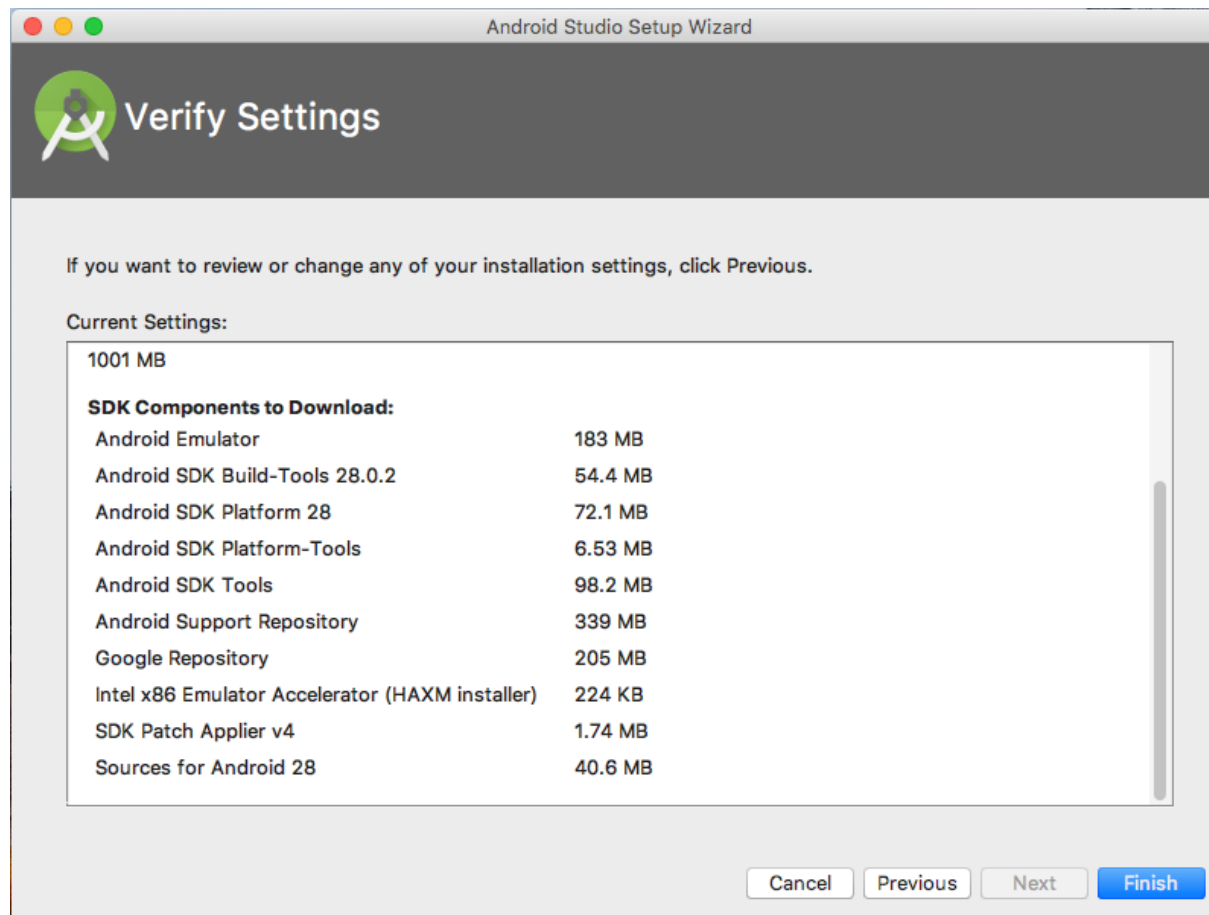
Android Studio安裝 (IOS)



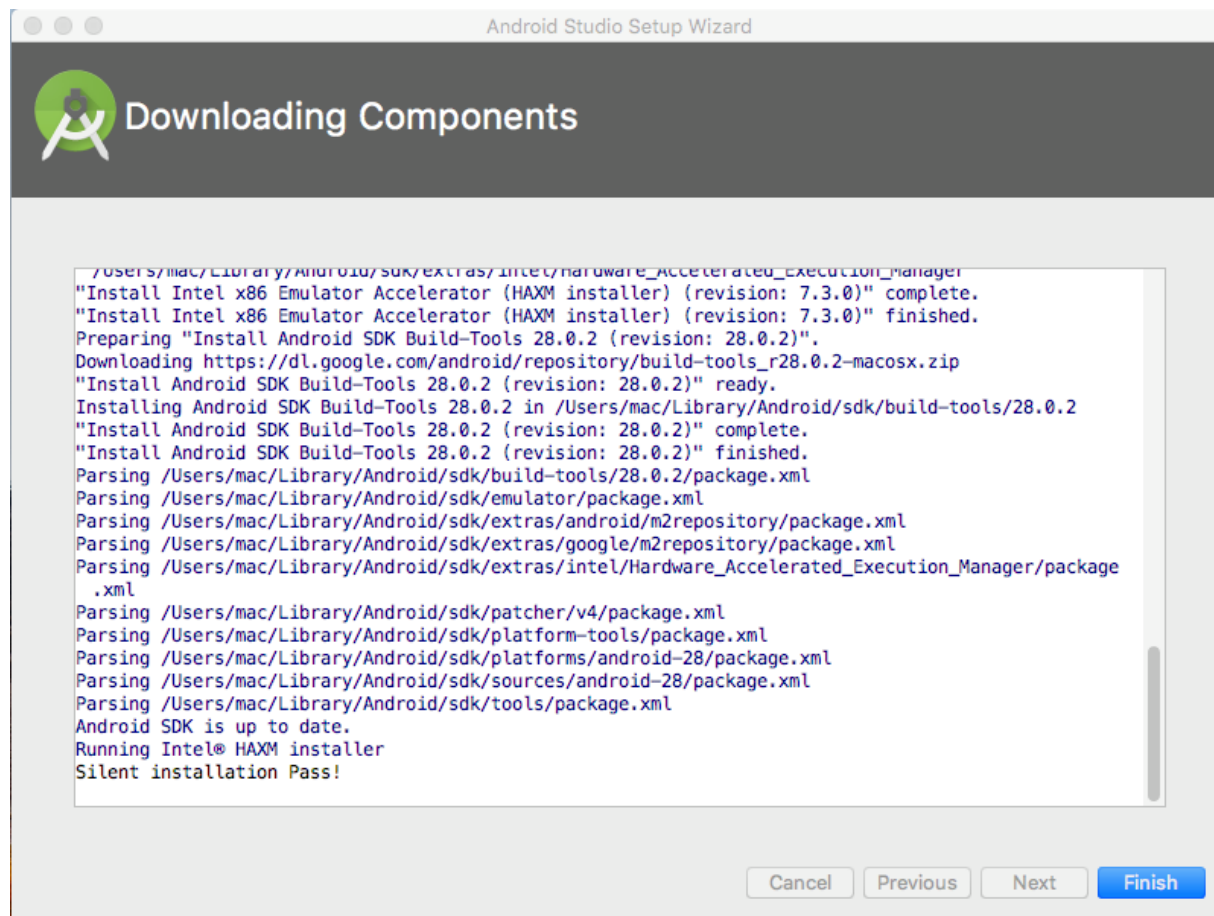
Android Studio安裝 (IOS)



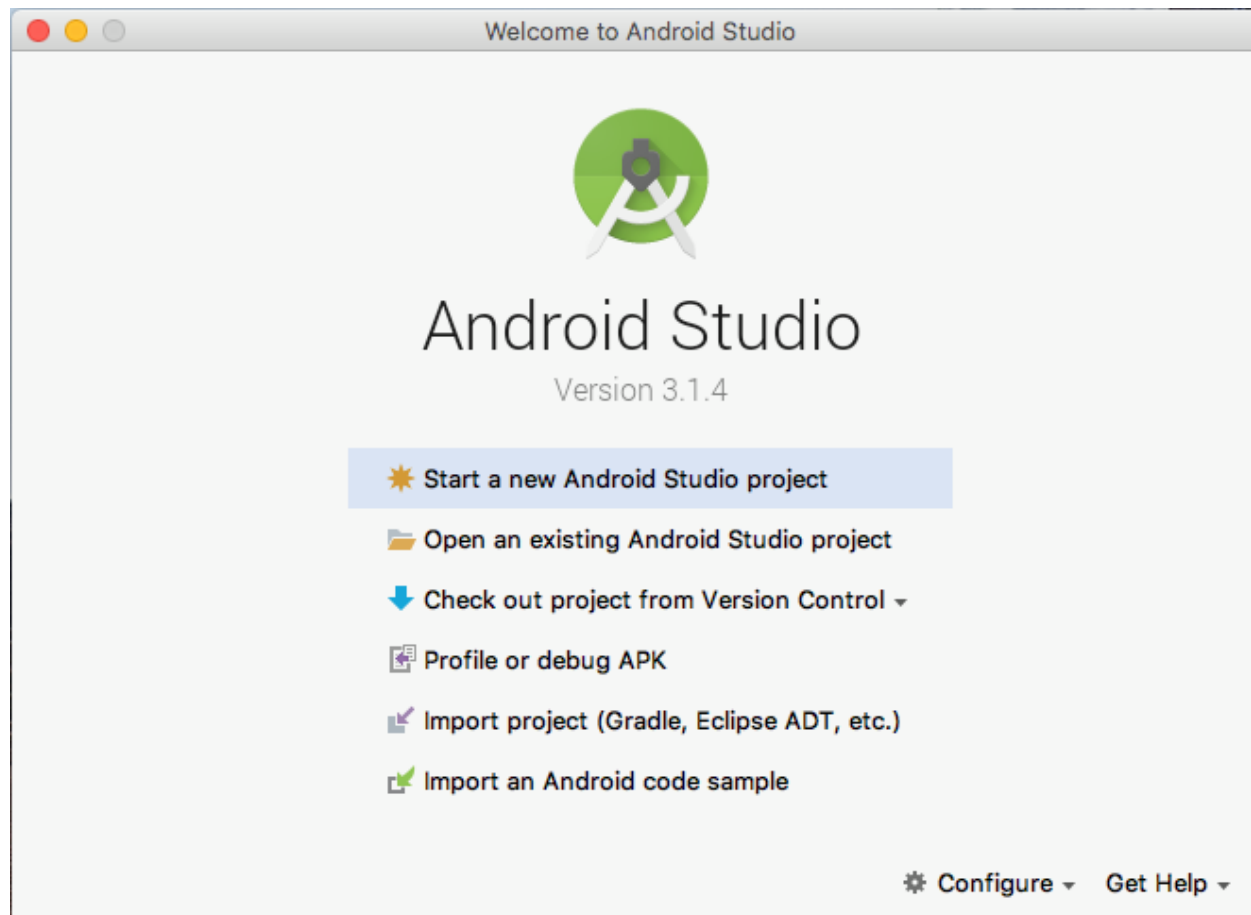
Android Studio安裝 (IOS)



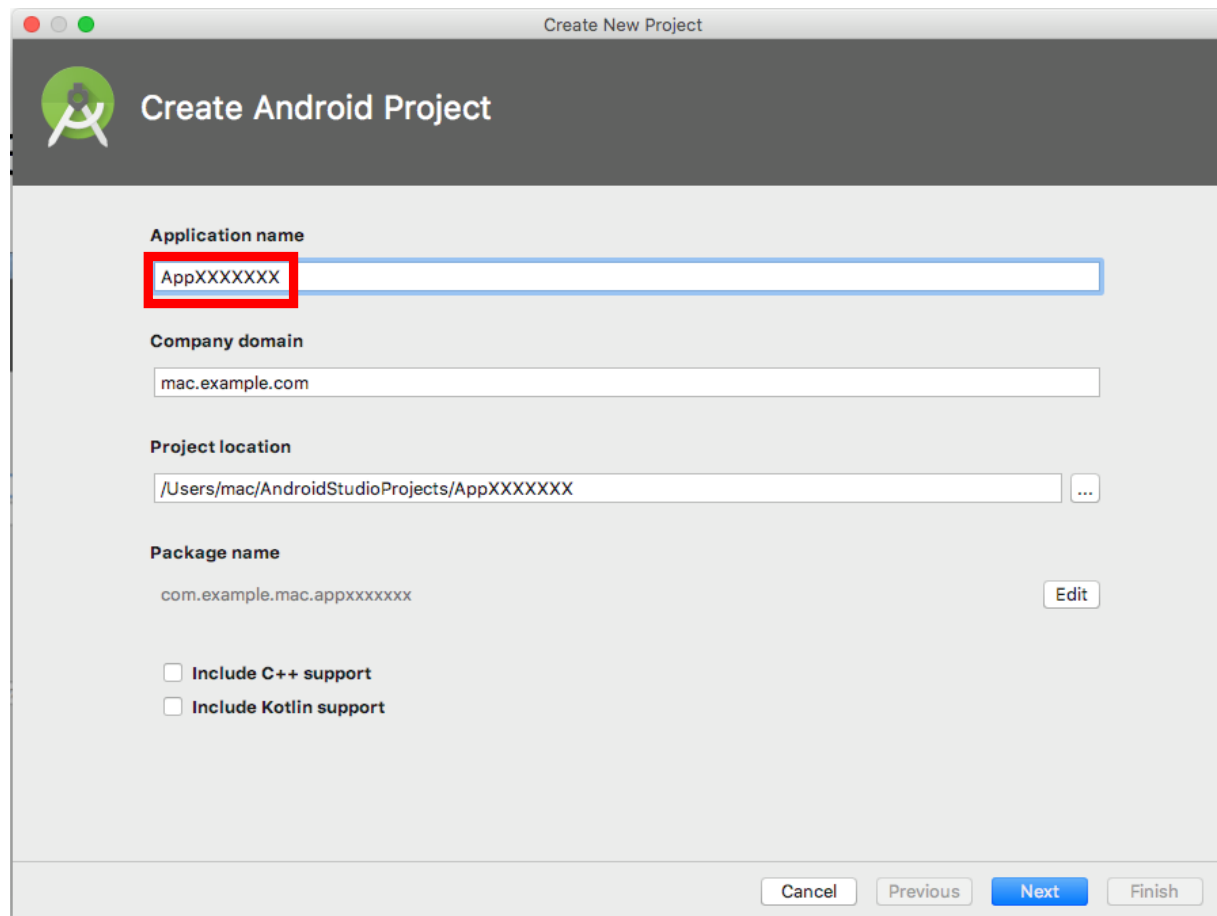
Android Studio安裝 (IOS)



Android Studio安裝 (IOS)



Android Studio安裝 (IOS)



Create New Project

Create Android Project

Application name
AppXXXXXXXX

Company domain
mac.example.com

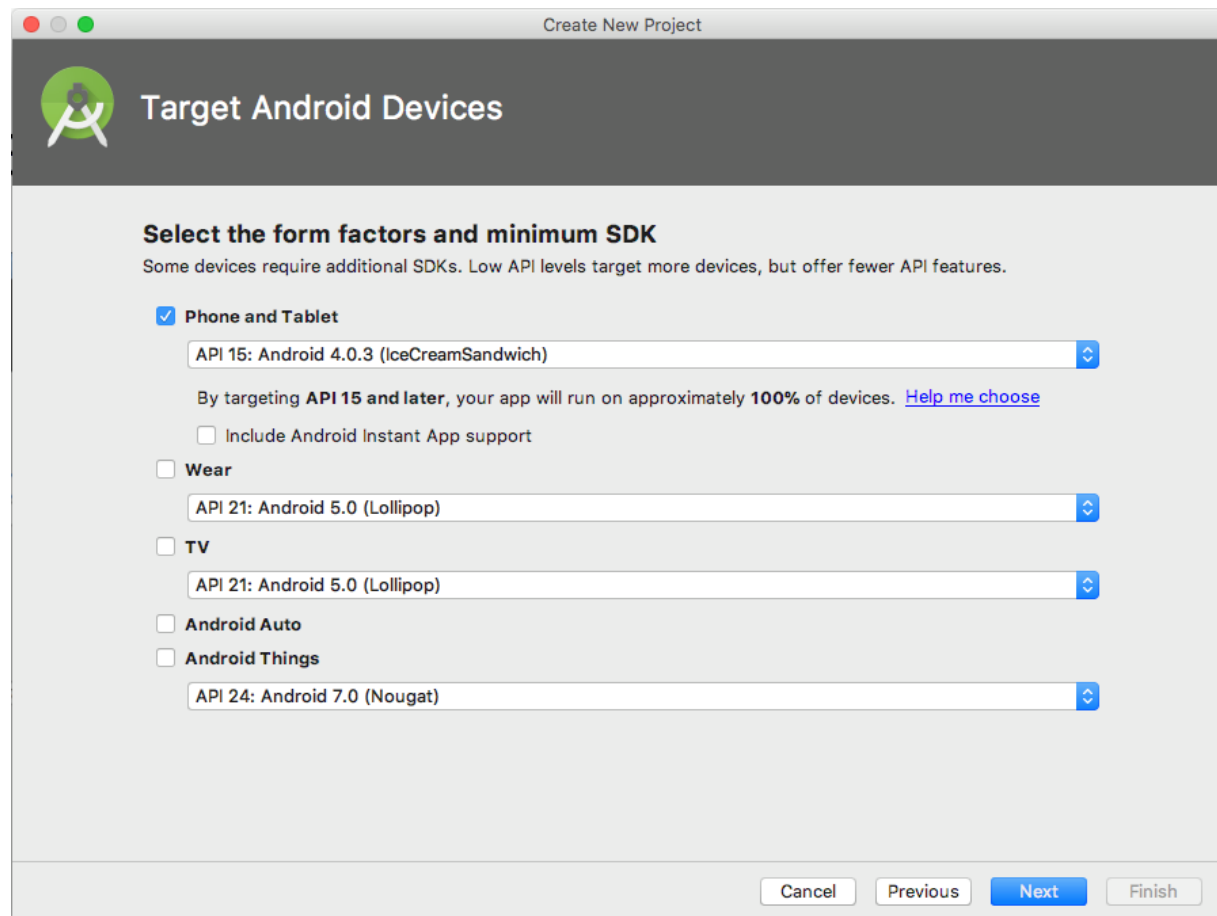
Project location
/Users/mac/AndroidStudioProjects/AppXXXXXXXX

Package name
com.example.mac.appxxxxxxx Edit

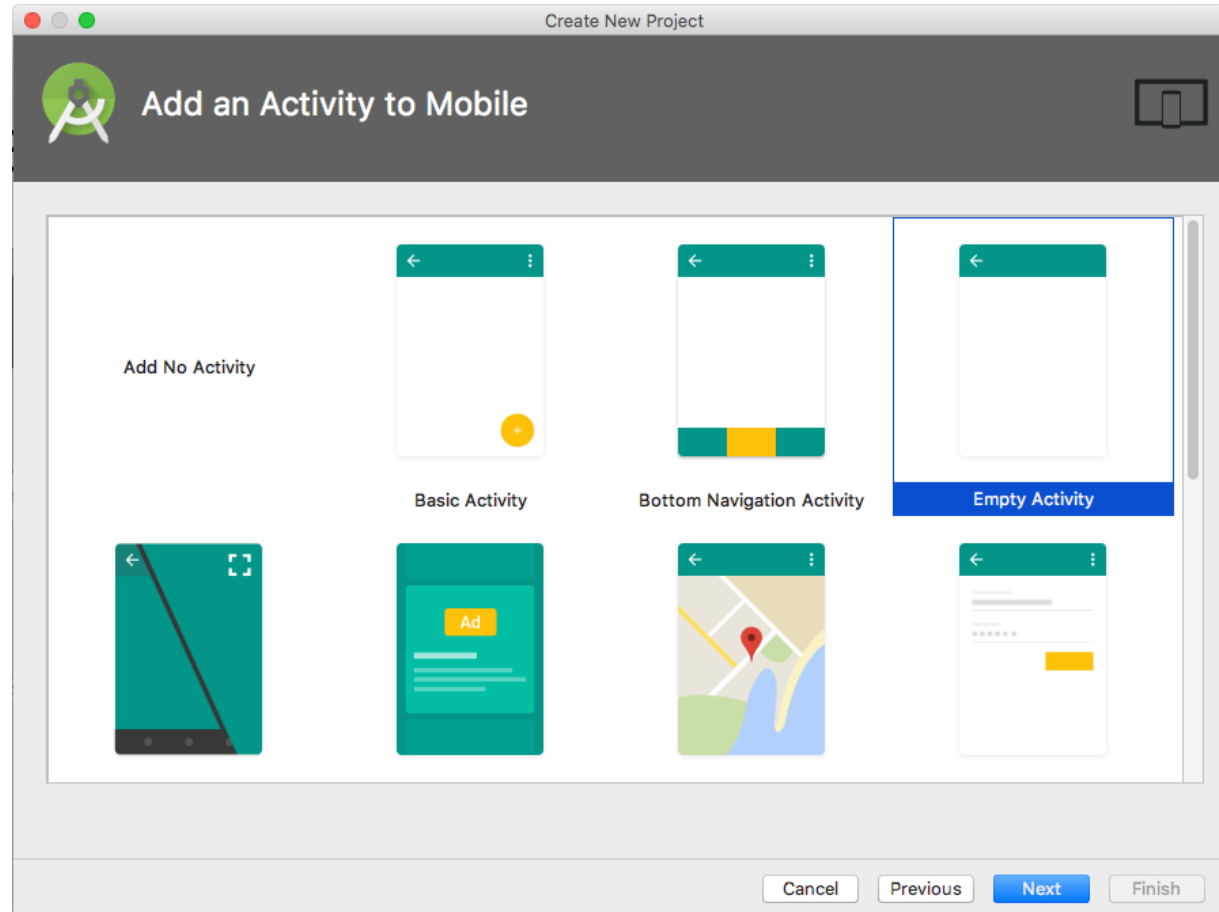
☐ Include C++ support
☐ Include Kotlin support

Cancel Previous Next Finish

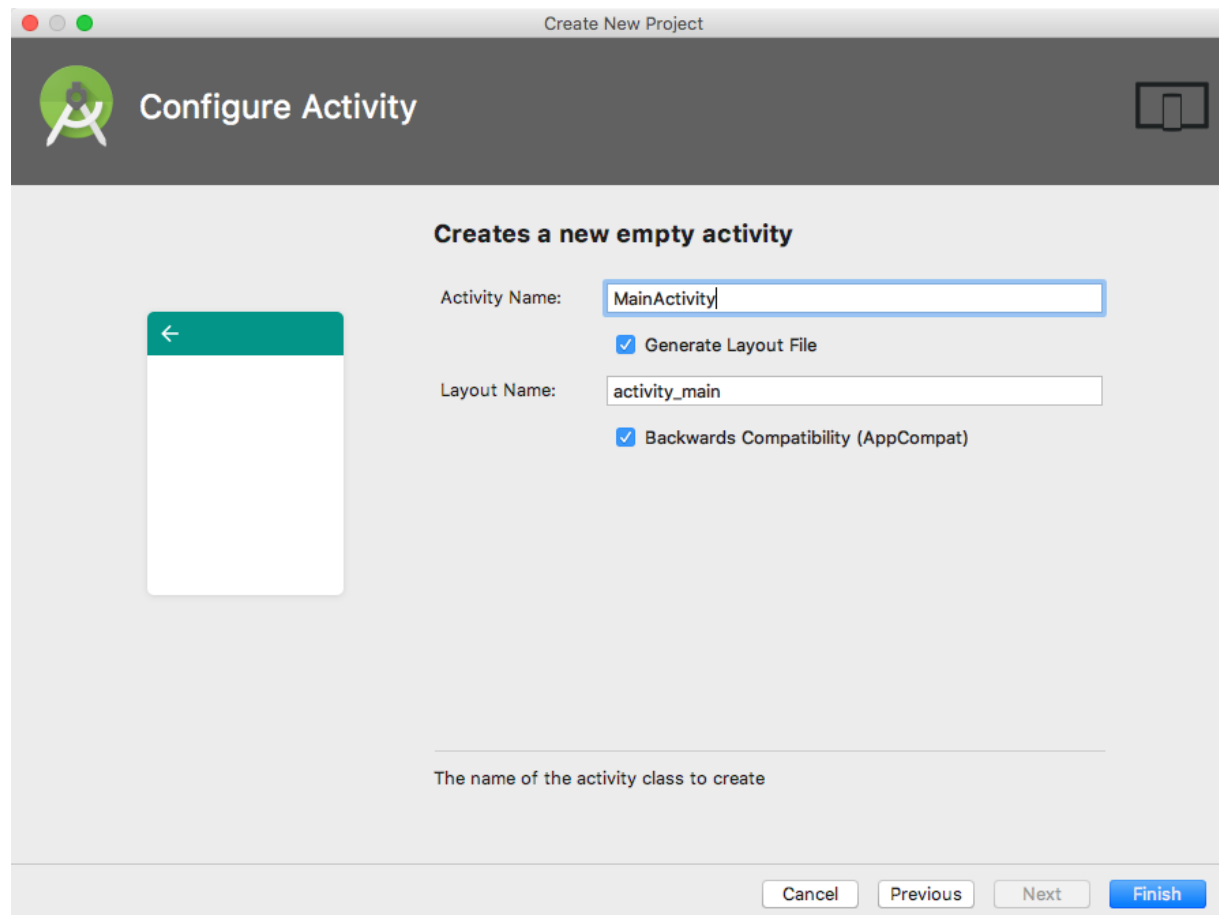
Android Studio安裝 (IOS)



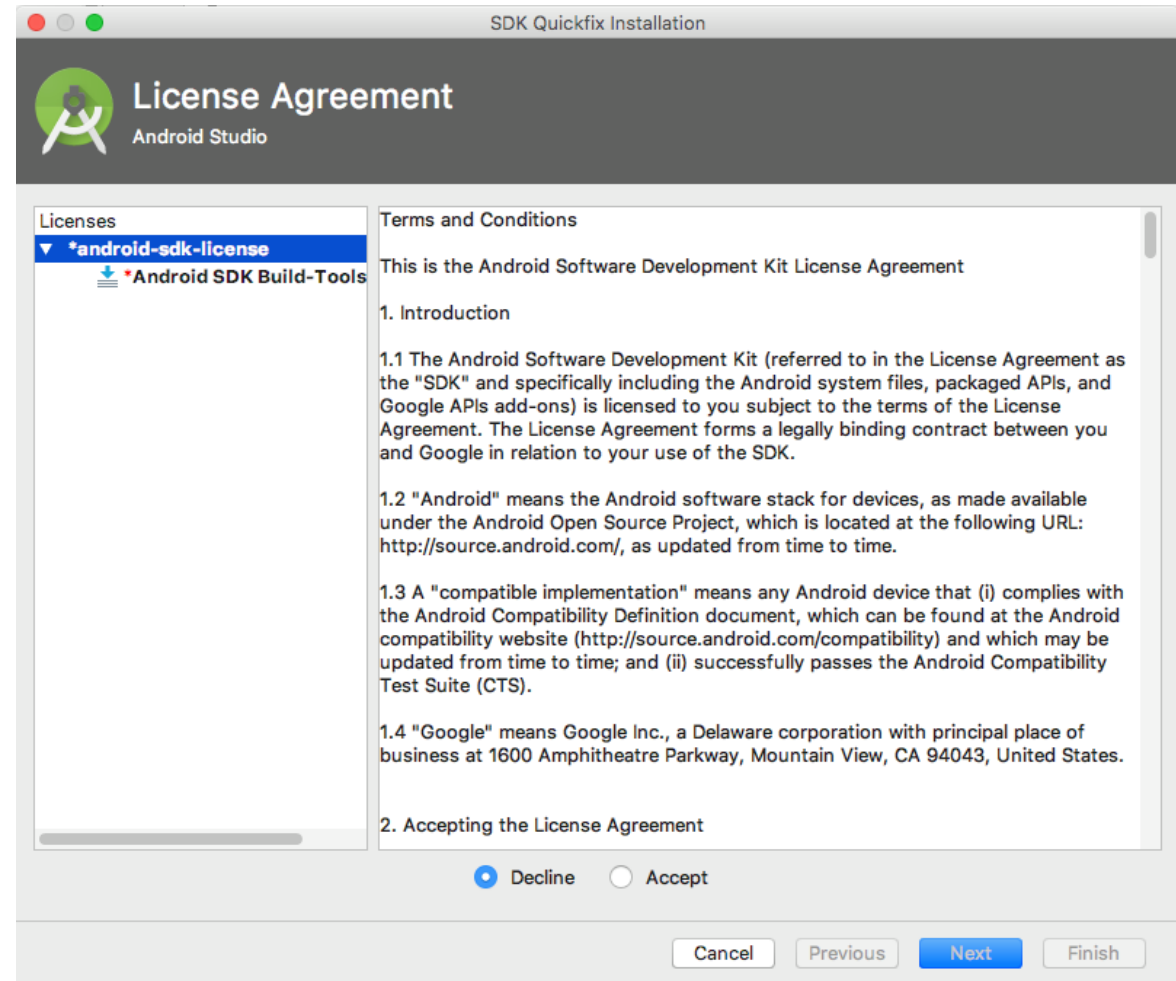
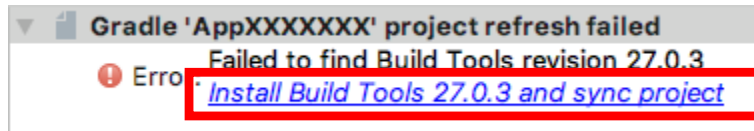
Android Studio安裝 (IOS)



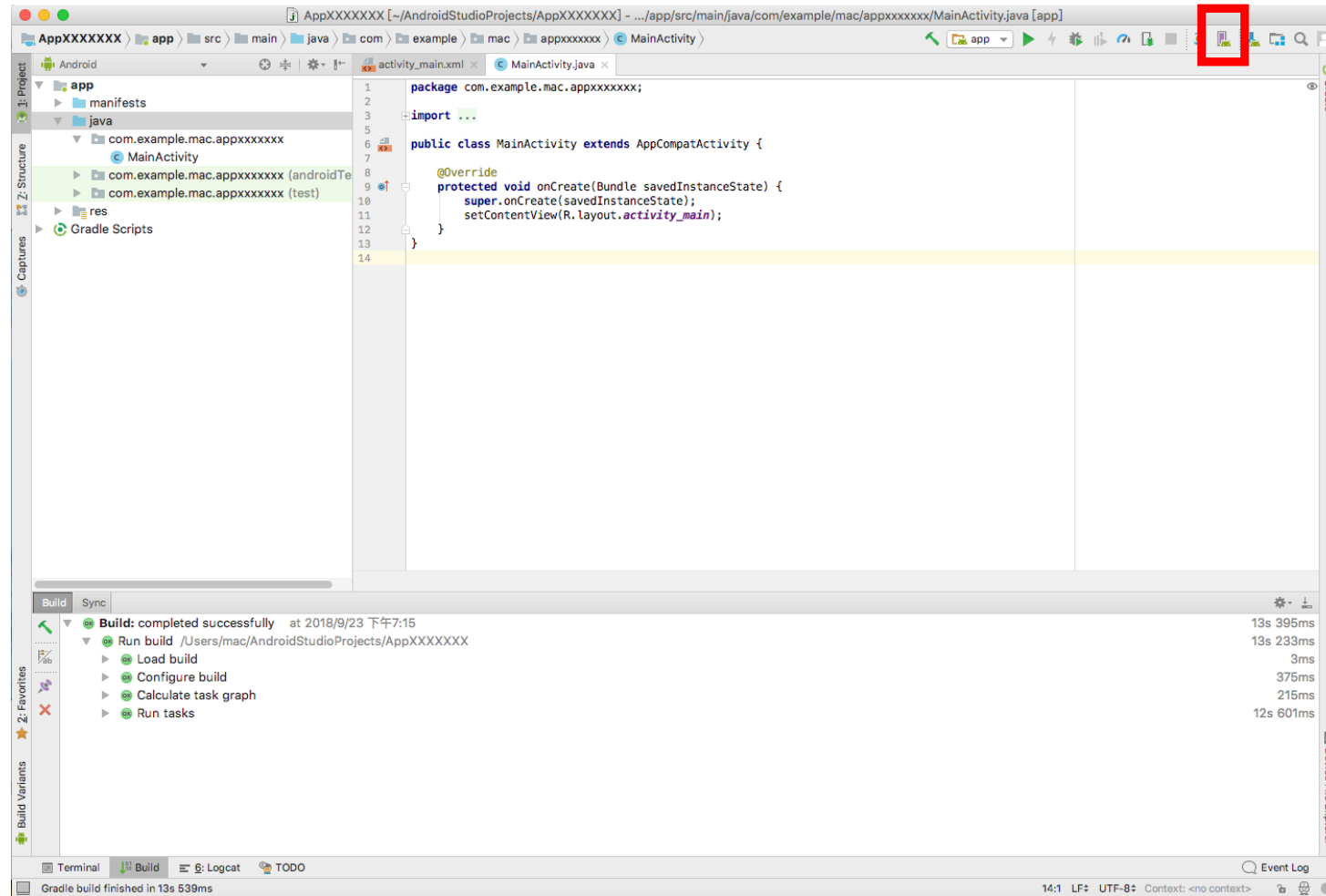
Android Studio安裝 (IOS)



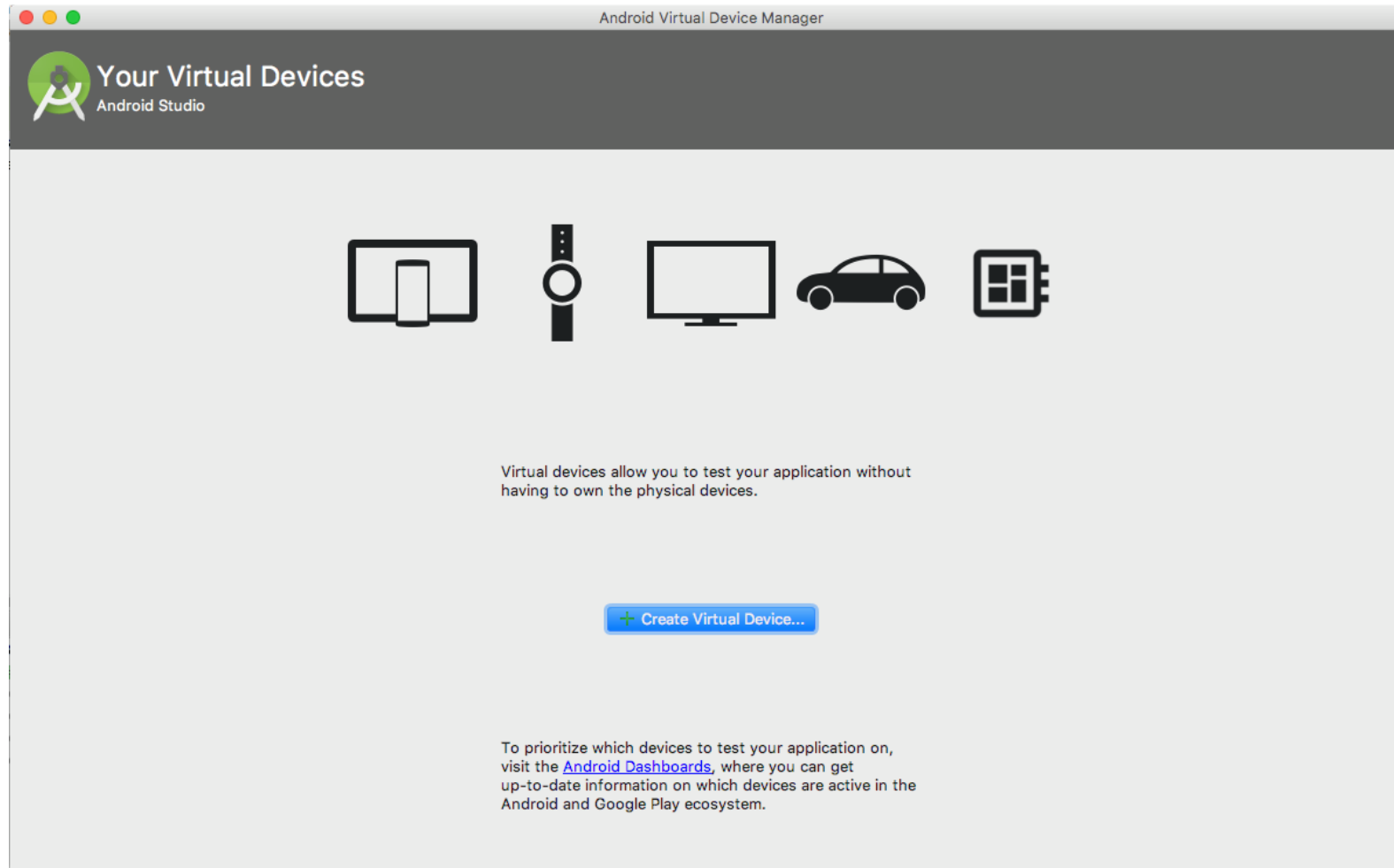
Android Studio



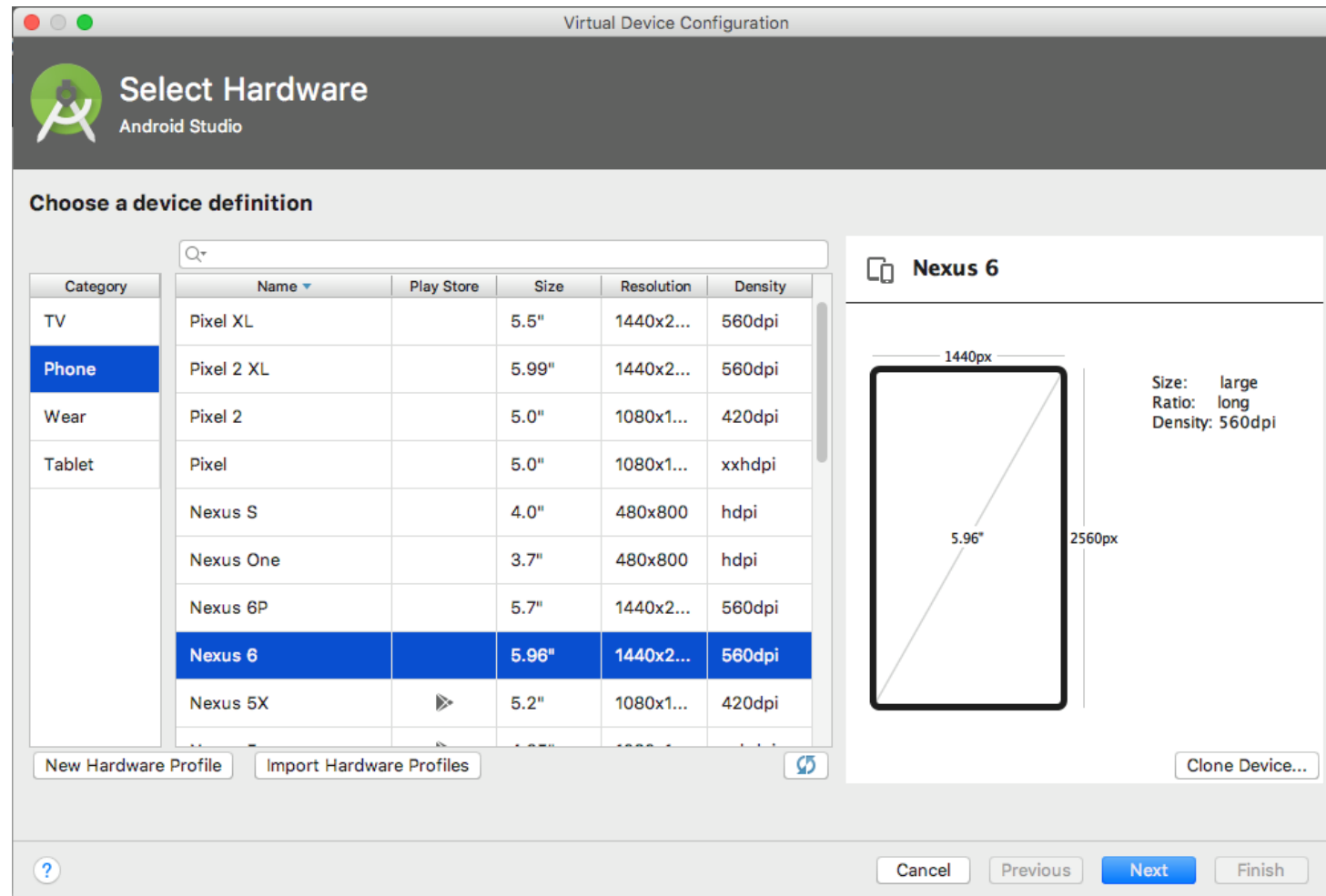
Android Studio



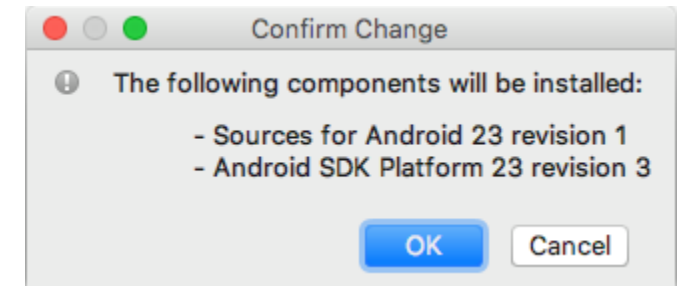
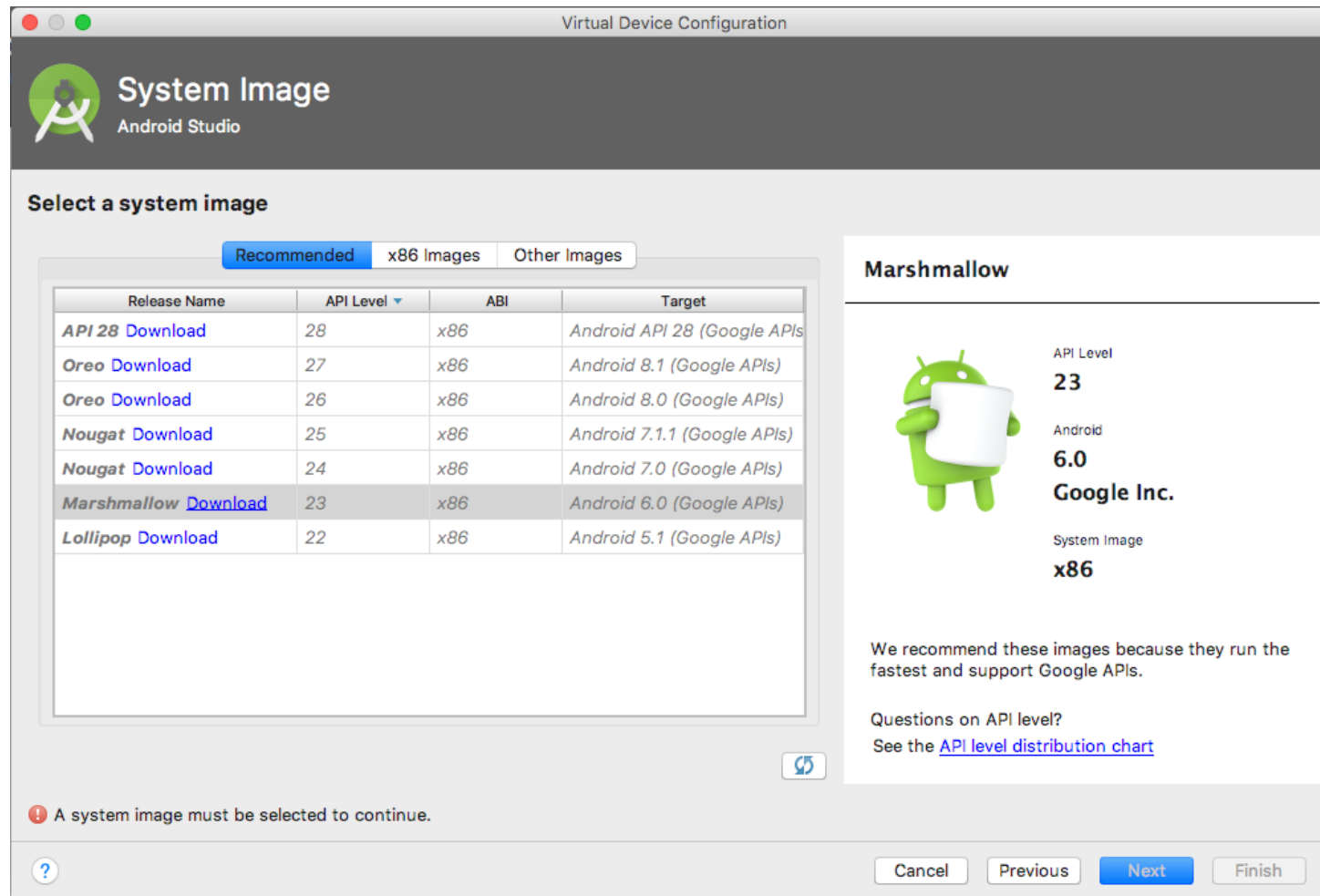
AVD



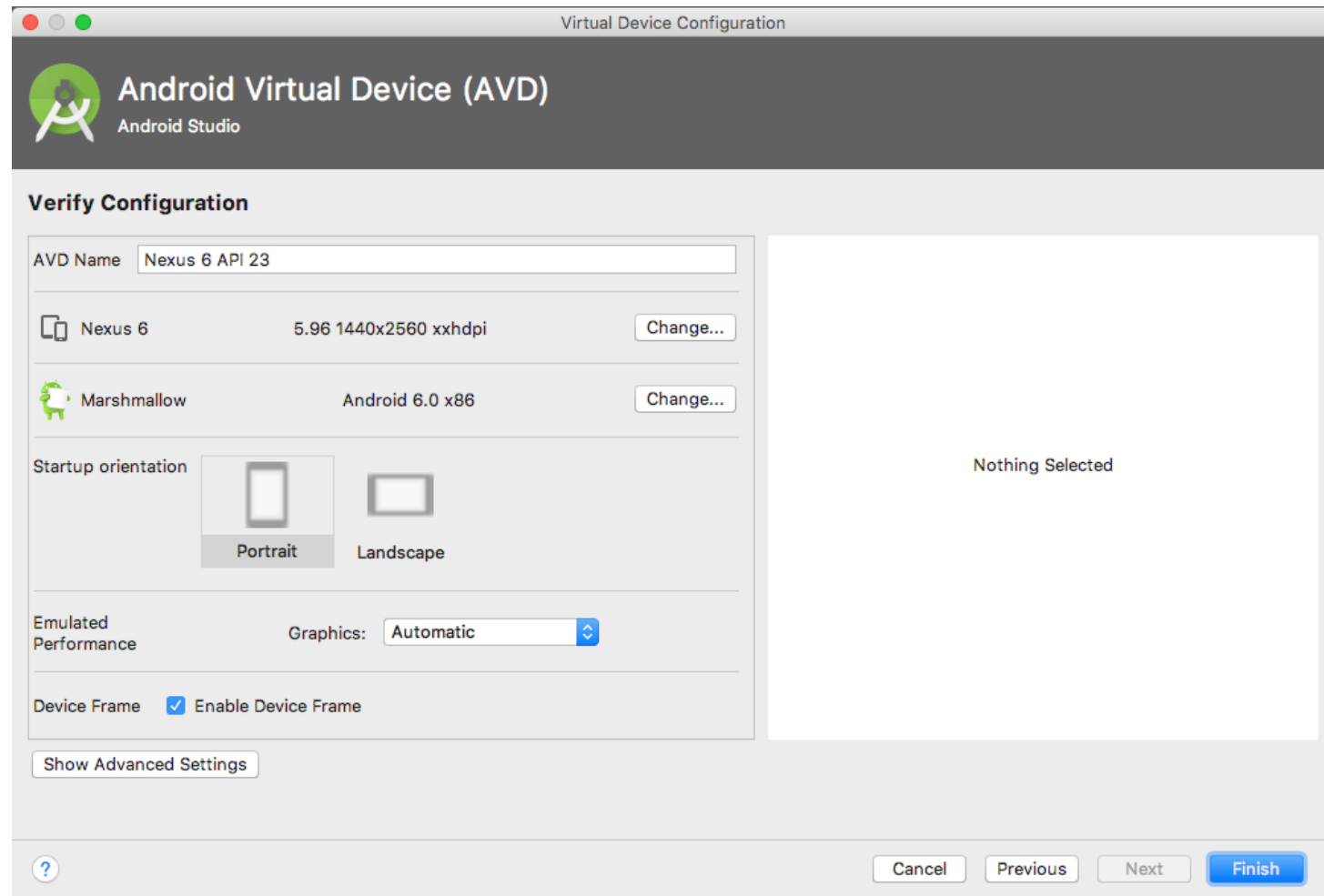
AVD



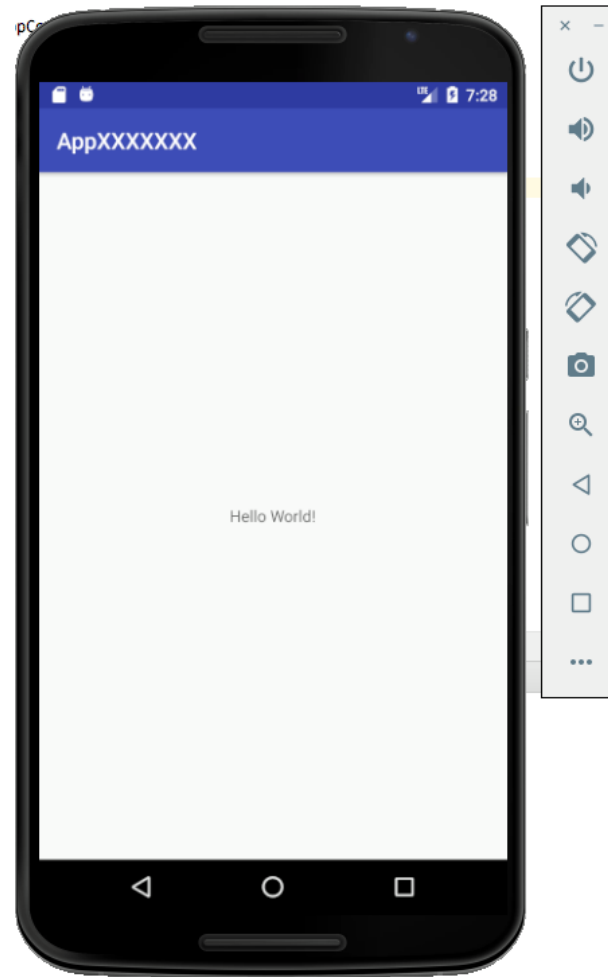
AVD



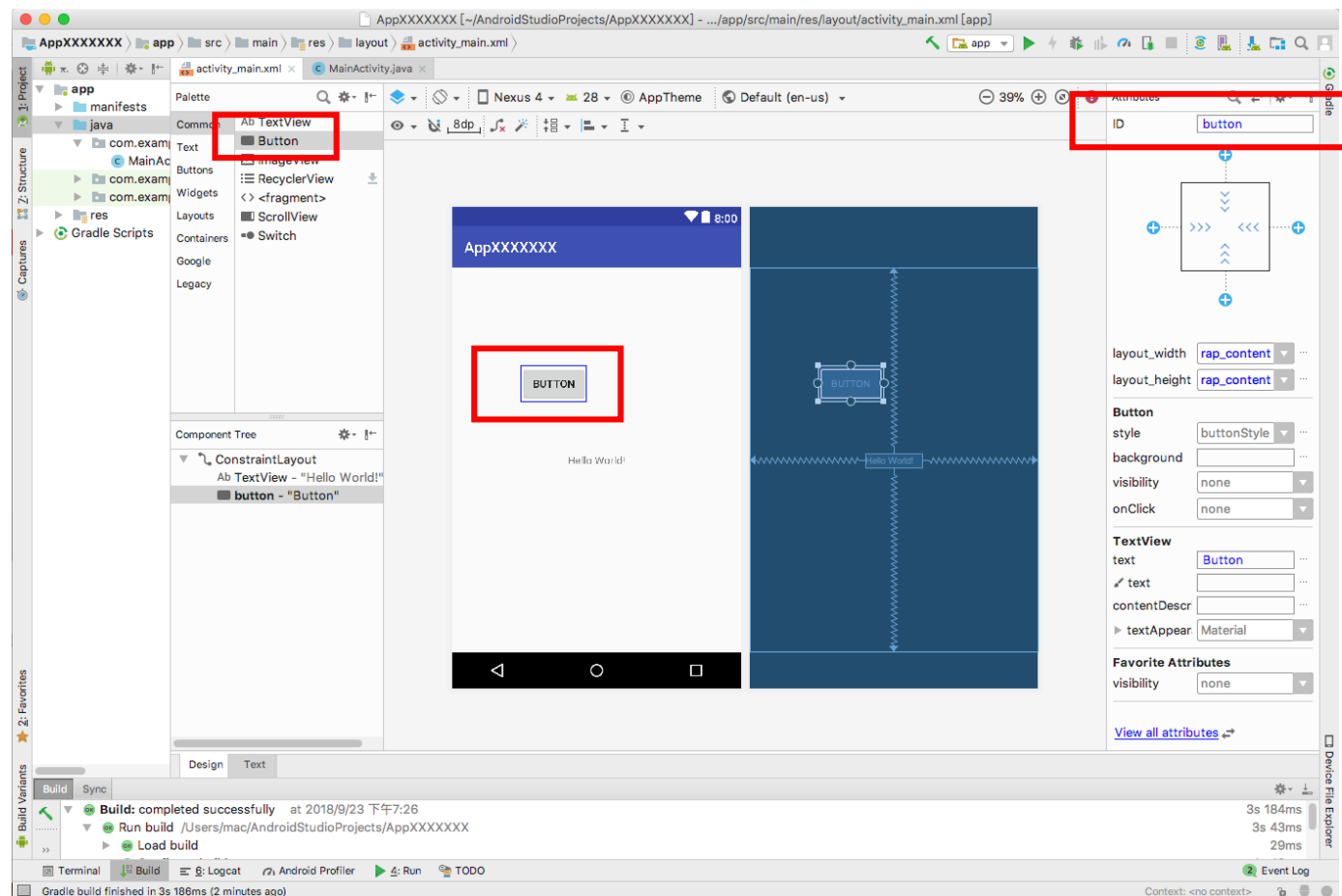
AVD



AVD



Widget物件類別



AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.user.app0560227">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="App0560227"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

每一個Android應用程式模組還有一個主要的設定檔案，檔案的名稱是「AndroidManifest.xml」，位置在應用程式模組的「manifests」目錄下。它是一個XML格式的檔案，檔案裡面都是一些應用程式非常重要的設定。

application標籤，執行應用程式元件的重要設定。

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="16dp"
    android:paddingLeft="16dp"
    android:paddingRight="16dp"
    android:paddingTop="16dp"
    tools:context="com.example.user.app0560227.MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:id="@+id/textView" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="New Button"
        android:id="@+id/button"
        android:layout_below="@+id/textView"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginTop="38dp" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.user.app0560227;
```

```
import android.os.Bundle;
```

```
import android.support.v7.app.AppCompatActivity;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    TextView showlabel;
```

```
    Button demobutton;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        showlabel = (TextView)findViewById(R.id.textView);
```

```
        showlabel.setText("Android experiment demo");
```

```
        demobutton = (Button)findViewById(R.id.button);
```

```
        demobutton.setText("Demo");
```

```
        demobutton.setOnClickListener(new View.OnClickListener() {
```

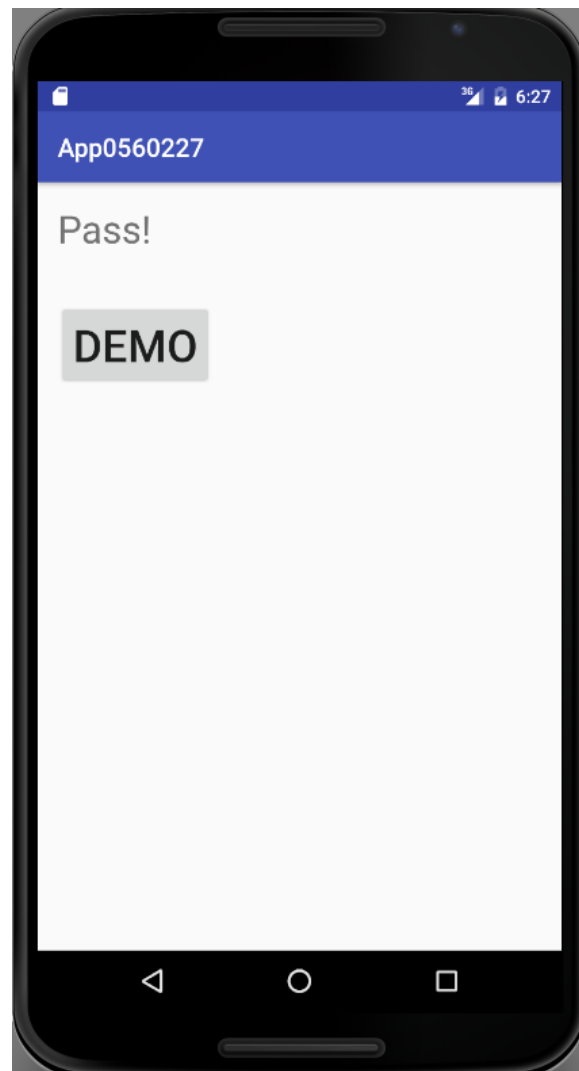
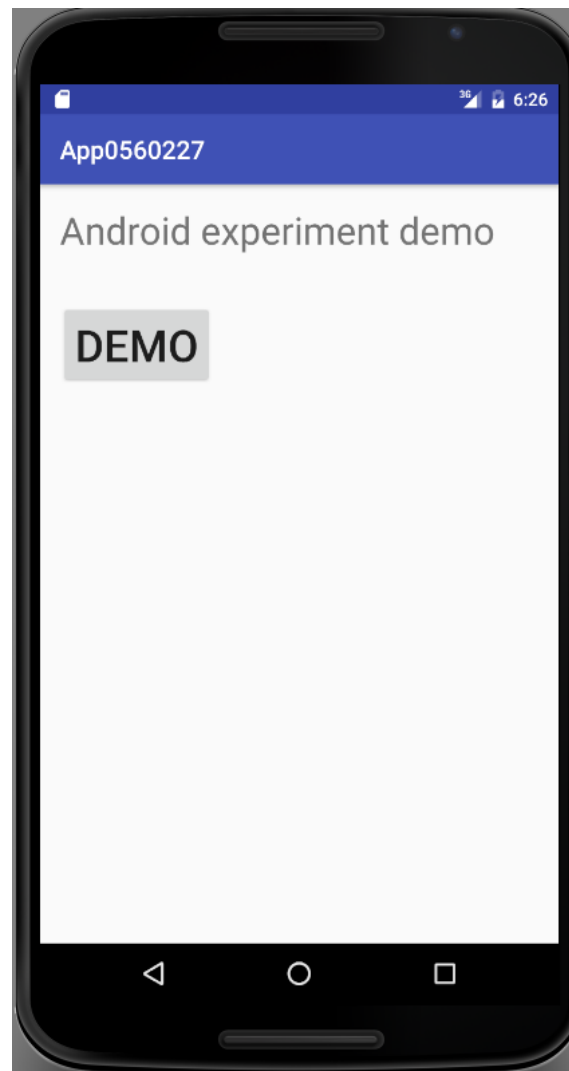
```
            @Override
```

```
            public void onClick(View v) {
```

```
                showlabel.setText("Pass!");
```

```
            }
```

```
        });
```

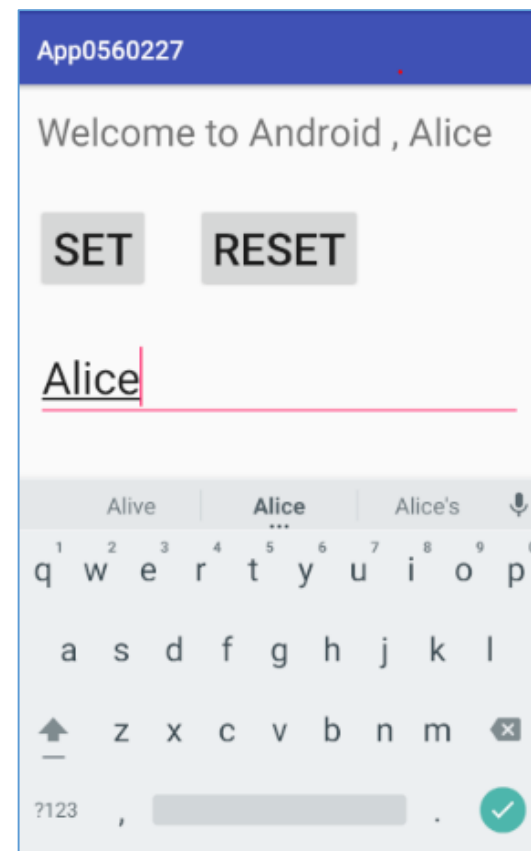
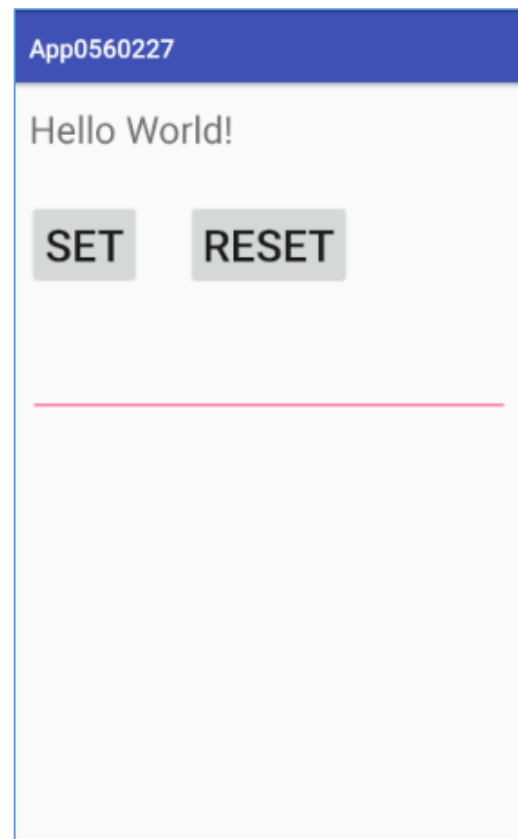


Button小程式

- 新增一個Button物件(名字為Demo)
- 原本有一個TextView物件(顯示Android experiment demo 9/28)
- 小程式設計
 - 點擊Button後，修改TextView內容為Pass!
 - 請參閱上一頁投影片

進階

- 小程式設計
 - 在EditText上輸入名字，按下SET顯示Welcome to Android, “輸入的名字”
 - 按下RESET，顯示Hello World!
- 提示
 - setText()
 - getText().toString()
- 寫完找助教demo~



Android(for windows)

Android studio 安裝與入門

安裝與設定開發環境

- Download Java SE Development Kit 8 (JDK 8) from <http://www.oracle.com/technetwork/java/javase/downloads/>

Java SE Development Kit 8u144

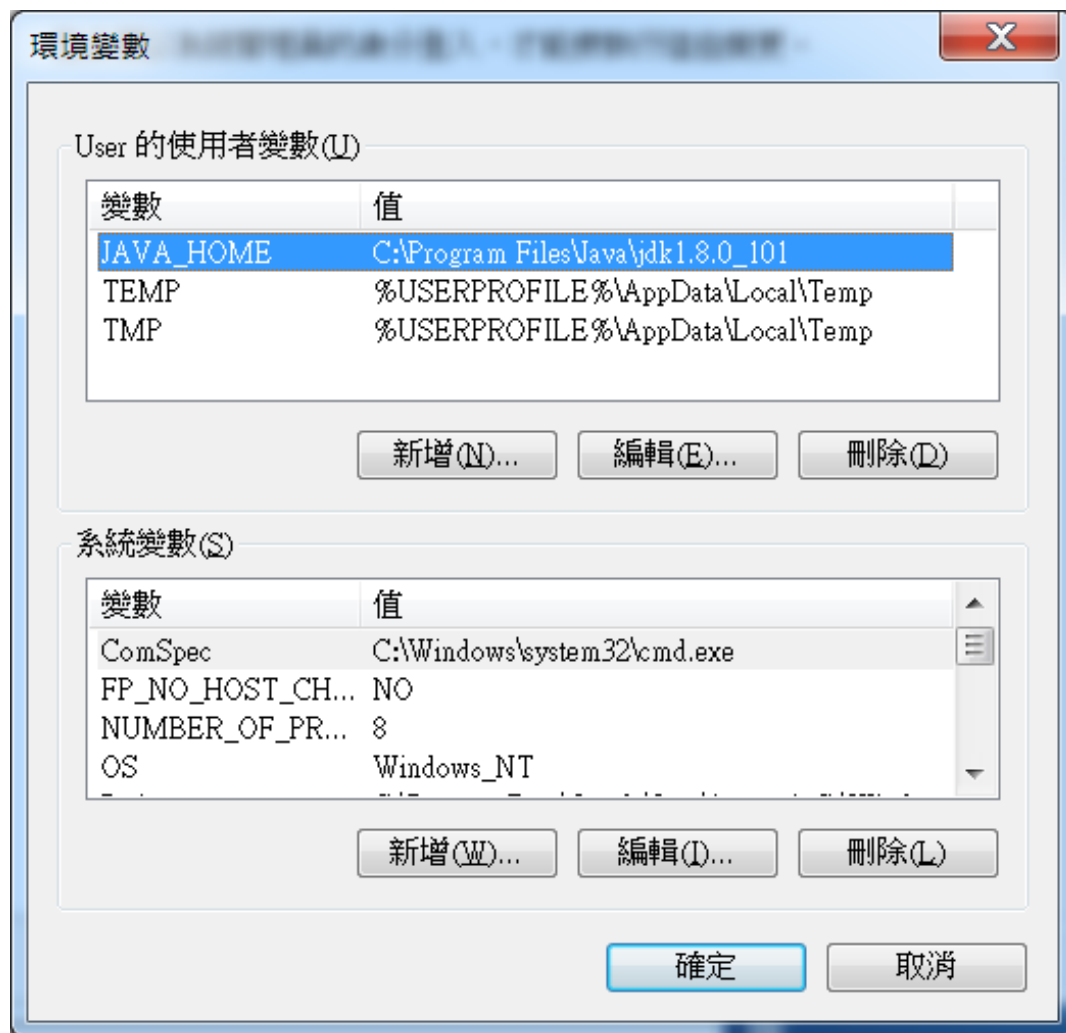
You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

☒ **Accept License Agreement** ☐ Decline License Agreement

Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.89 MB	jdk-8u144-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.83 MB	jdk-8u144-linux-arm64-vfp-hflt.tar.gz
Linux x86	164.65 MB	jdk-8u144-linux-i586.rpm
Linux x86	179.44 MB	jdk-8u144-linux-i586.tar.gz
Linux x64	162.1 MB	jdk-8u144-linux-x64.rpm
Linux x64	176.92 MB	jdk-8u144-linux-x64.tar.gz
Mac OS X	226.6 MB	jdk-8u144-macosx-x64.dmg
Solaris SPARC 64-bit	139.87 MB	jdk-8u144-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.18 MB	jdk-8u144-solaris-sparcv9.tar.gz
Solaris x64	140.51 MB	jdk-8u144-solaris-x64.tar.Z
Solaris x64	96.99 MB	jdk-8u144-solaris-x64.tar.gz
Windows x86	190.94 MB	jdk-8u144-windows-i586.exe
Windows x64	197.78 MB	jdk-8u144-windows-x64.exe

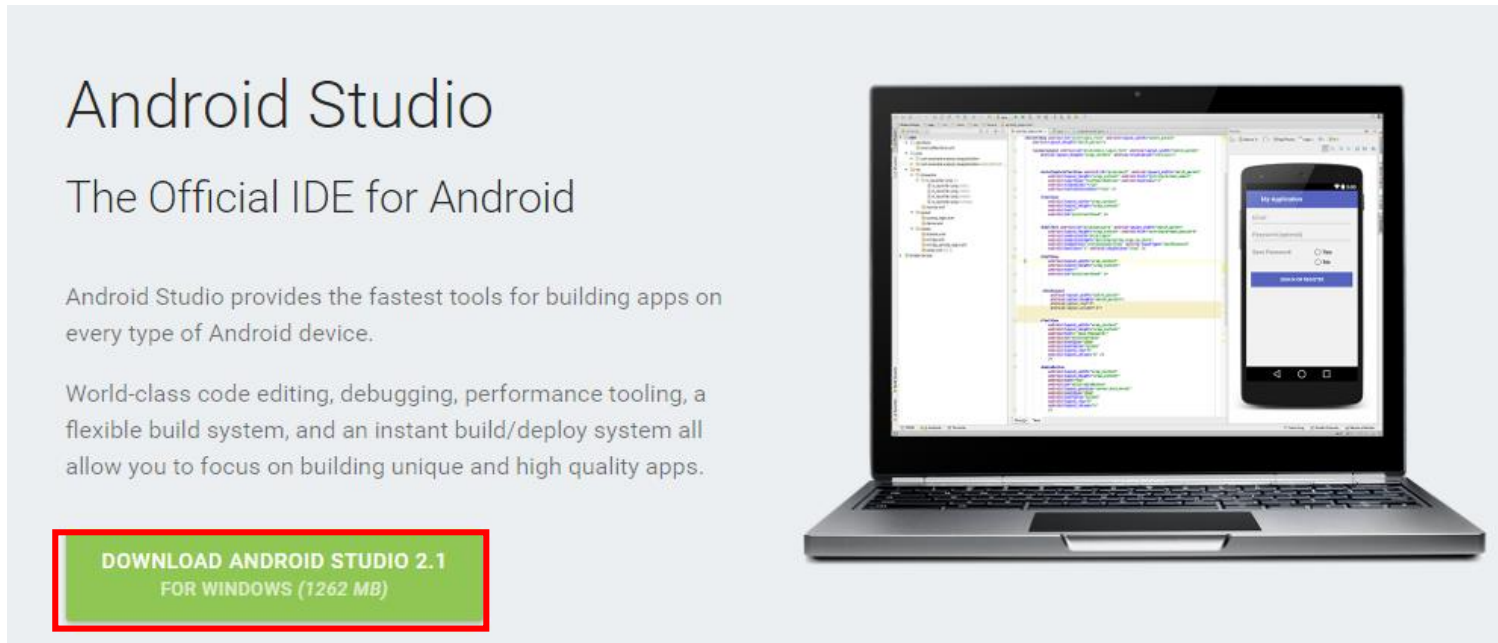
- 設定環境變數

- Start menu > Computer > System Properties > Advanced System Properties
- Advanced tab > Environment Variables



Android Studio安裝

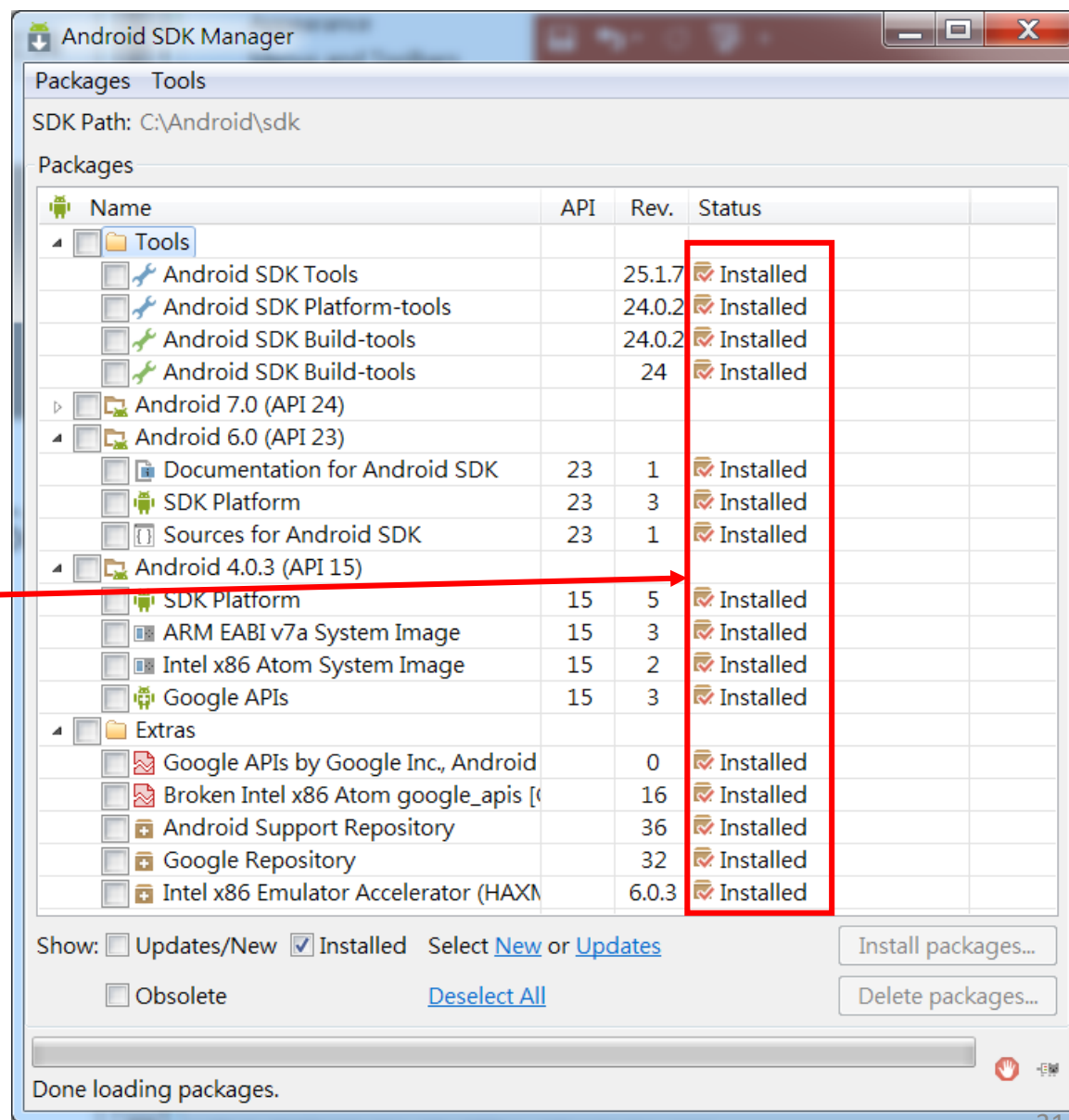
- Download Android Studio from <https://developer.android.com/studio/index.html>



- 提供[中文教學參考](#)

Android Studio安裝

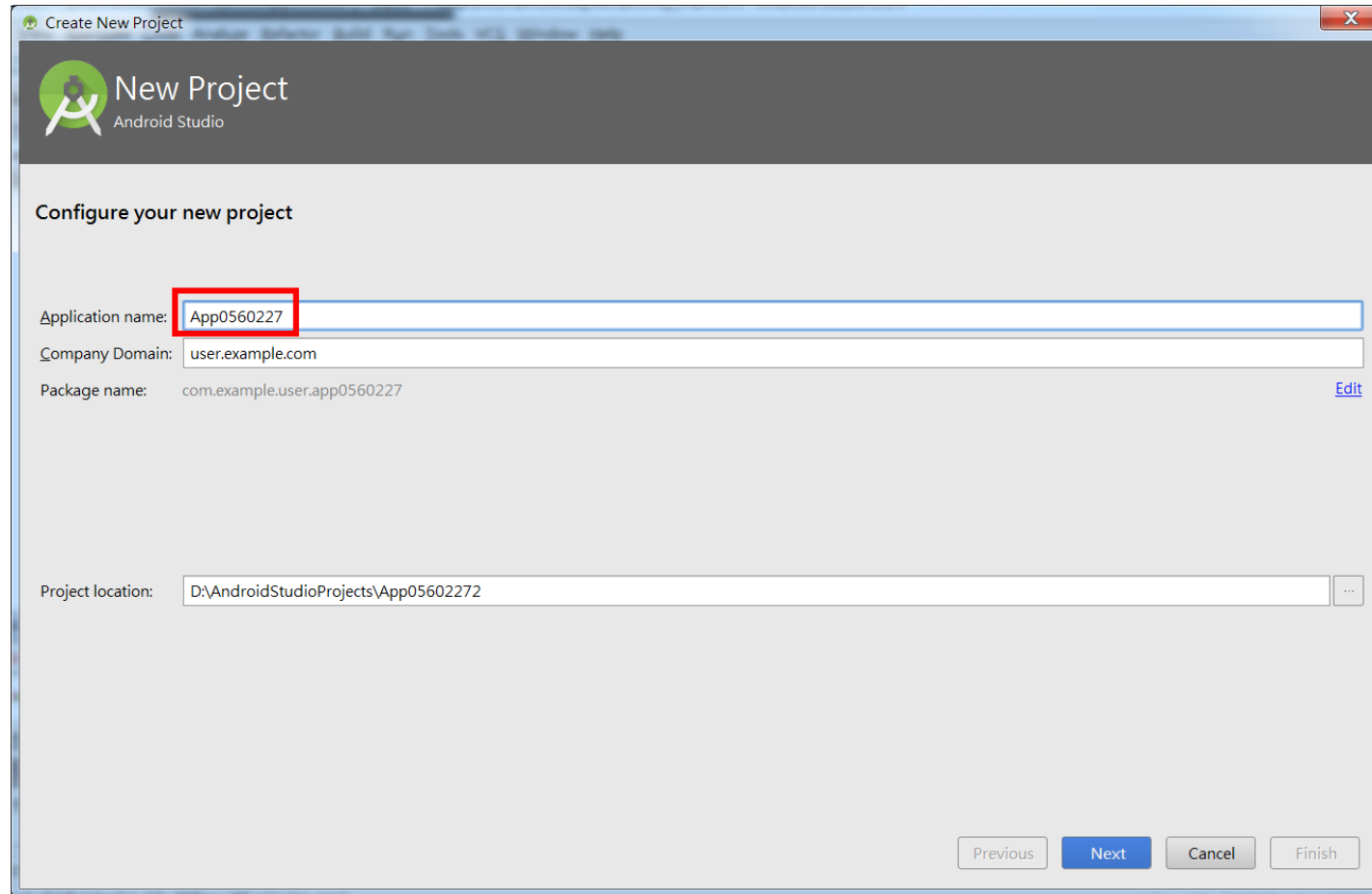
- 請確認以下步驟有執行
 - 下載安裝JDK8
 - 下載安裝Android Studio
 - 安裝必要的SDK
 - 確認HAXM安裝成功



Building Your First App -- Hello World!

- Start a new Android Studio project
- !!!App名稱請包含自己的學號!!!
- AVD建立
- RUN!!!

App name



Create New Project

New Project
Android Studio

Configure your new project

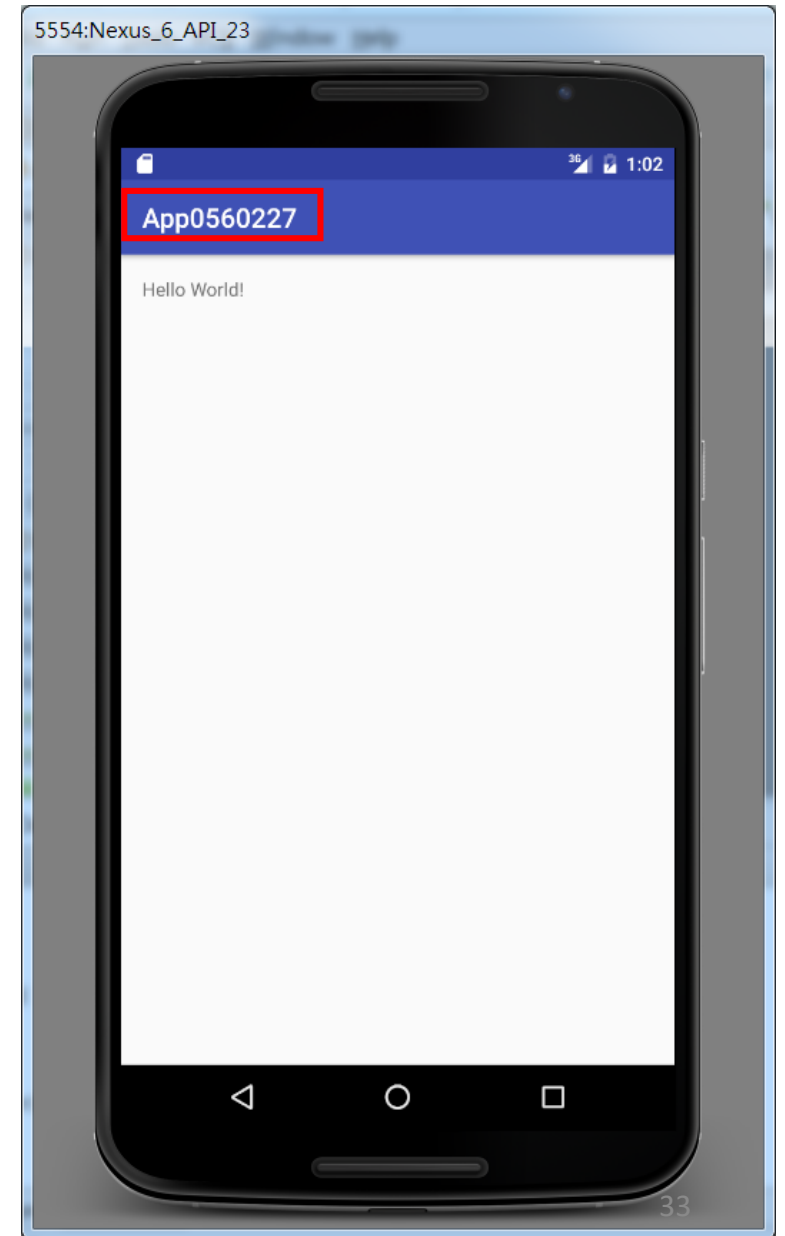
Application name: **App0560227**

Company Domain: user.example.com


Package name: com.example.user.app0560227 [Edit](#)

Project location: D:\AndroidStudioProjects\App0560227

Previous Next Cancel Finish



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 API 15: Android 4.0.3 (IceCreamSandwich)

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 API 21: Android 5.0 (Lollipop)

☐ TV

Minimum SDK API 21: Android 5.0 (Lollipop)

☐ Android Auto

☐ Glass

Minimum SDK Glass Development Kit Preview (API 19)

Previous

Next

Cancel

Finish