

ANDROID APP 程式設計 DAY1

環境建置與基本概念介紹

大綱

- ▶ Android Studio 安裝說明與介紹五天大概內容
- ▶ Android 系統簡介
- ▶ 基本開發介面簡介
- ▶ 練習

ANDROID STUDIO INSTALLATION

ANDROID STUDIO 安裝

- ▶ <https://developer.android.com/studio/>

ANDROID 系統介紹

- ▶ 架構簡介
- ▶ java簡介
- ▶ Xml簡介
- ▶ JSON簡介
- ▶ Android 部分自學or解決問題網站推薦



ANDROID 系統介紹 — 架構簡介

▶ SDK

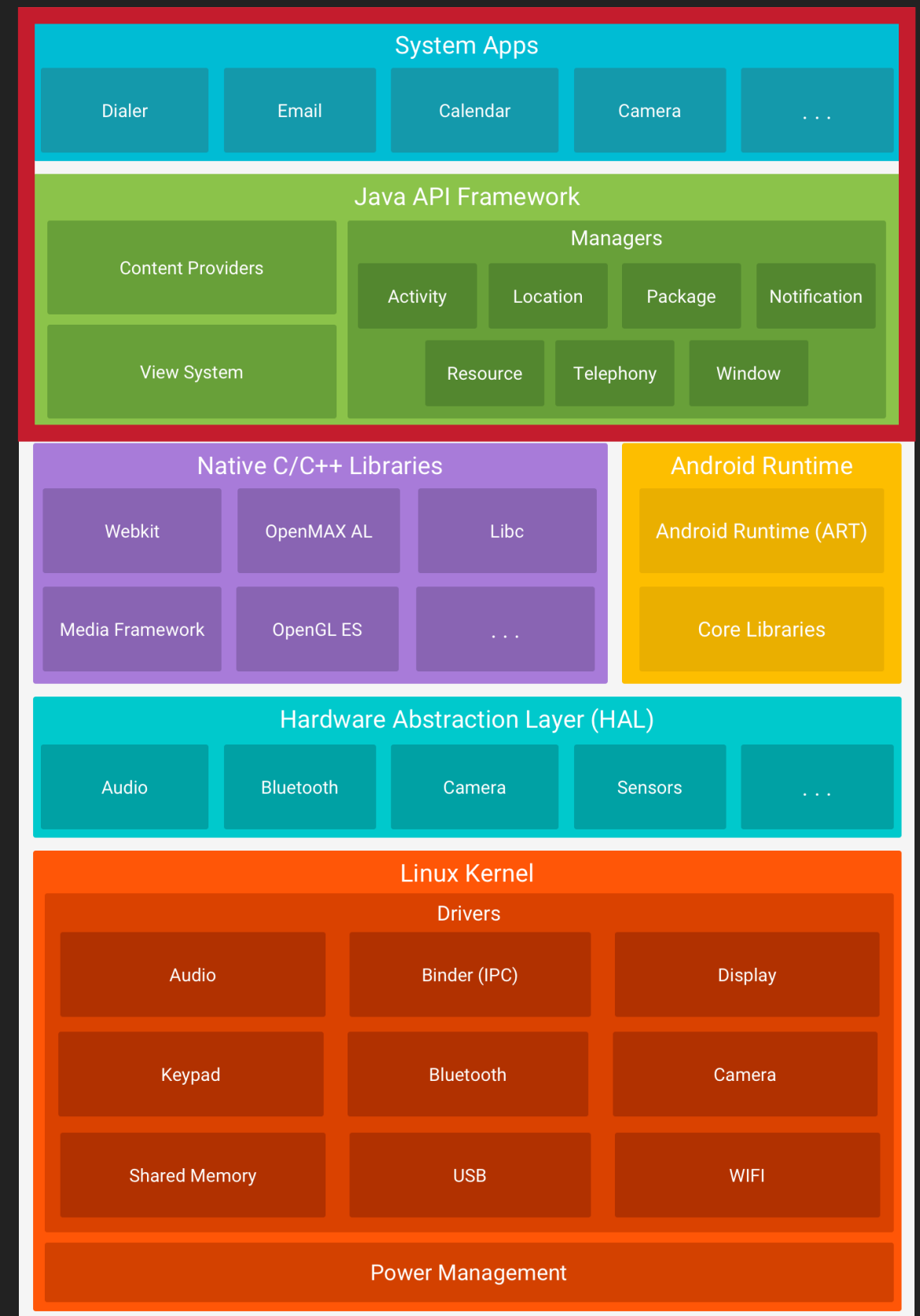
▶ Software Development Kit

▶ NDK

▶ Native Development Kit

▶ JNI

▶ Java Native Interface



ANDROID 系統介紹 — JAVA簡介

- ▶ 物件導向
- ▶ 跨平台
- ▶ 多線程
- ▶ <http://www.runoob.com/java>

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello World");  
    }  
}
```

ANDROID 系統介紹 — XML簡介

- ▶ Extensible Markup Language 可延伸標記式語言
- ▶ 利用標籤來使電腦能夠處理標籤內的資訊

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginBottom="8dp"
        android:text="Hello"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>
```

ANDROID 系統介紹 — JSON簡介

- ▶ JavaScript Object Notation
- ▶ {Key : Value}
- ▶ [] -> 序列表

```
1 {  
2     "firstName": "John",  
3     "lastName": "Smith",  
4     "sex": "male",  
5     "age": 25,  
6     "address":  
7     {  
8         "streetAddress": "21 2nd Street",  
9         "city": "New York",  
10        "state": "NY",  
11        "postalCode": "10021"  
12    },  
13    "phoneNumber":  
14    [  
15        {  
16            "type": "home",  
17            "number": "212 555-1234"  
18        },  
19        {  
20            "type": "fax",  
21            "number": "646 555-4567"  
22        }  
23    ]  
24 }
```


▶ JSON Online Editor (<https://jsoneditoronline.org>)

The screenshot displays the JSON Editor Online interface, which is powered by ace. The interface is divided into two main panels: a text editor on the left and a tree view on the right.

Text Editor (Left Panel): The JSON object is displayed as text, with line numbers 1 through 24 on the left. The JSON structure is as follows:

```
1 {
2   "firstName": "John",
3   "lastName": "Smith",
4   "sex": "male",
5   "age": 25,
6   "address":
7   {
8     "streetAddress": "21 2nd Street",
9     "city": "New York",
10    "state": "NY",
11    "postalCode": "10021"
12  },
13  "phoneNumber":
14  [
15    {
16      "type": "home",
17      "number": "212 555-1234"
18    },
19    {
20      "type": "fax",
21      "number": "646 555-4567"
22    }
23  ]
24 }
```

The status bar at the bottom left indicates "Ln: 23 Col: 3".

Tree View (Right Panel): The tree view shows the hierarchical structure of the JSON object. The root is an "object" containing "firstName", "lastName", "sex", "age", "address", and "phoneNumber". The "address" is an "object" with "streetAddress", "city", "state", and "postalCode". The "phoneNumber" is an array of two objects, each containing "type" and "number".

Navigation and Tools: The top bar includes "New", "Open", "Save", "Settings", and "Help" buttons. The left panel has icons for file operations and a "powered by ace" label. The right panel has a search bar and a "powered by jsoneditor" label.

ANDROID 部分自學OR解決問題網站推薦

- ▶ Android Developer website : <https://developer.android.com>
- ▶ StackOverflow
- ▶ Google

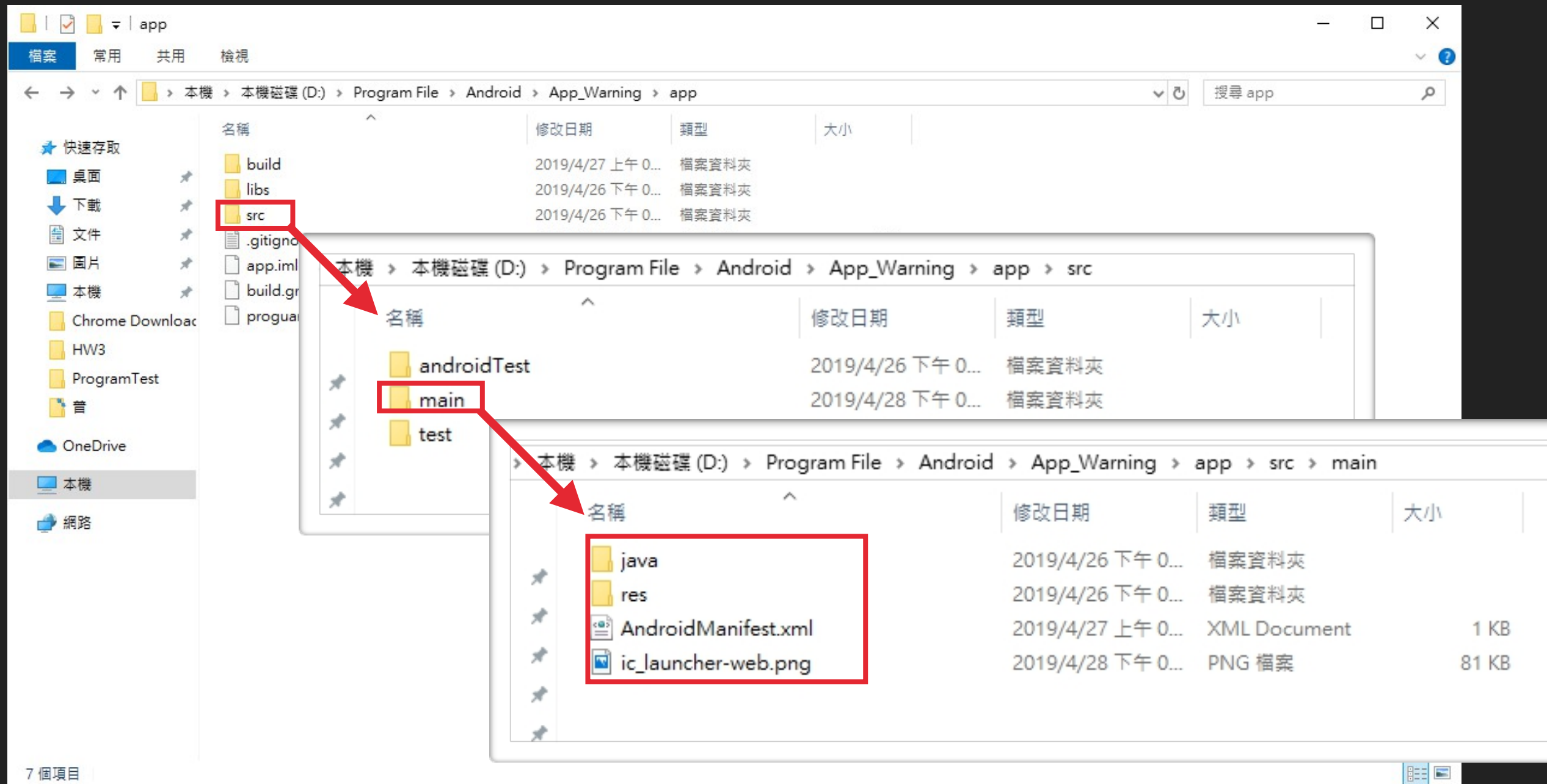
基本介面介紹

- ▶ 檔案架構
- ▶ 介面設計
- ▶ 程式設計
- ▶ 虛擬機用法與實體機用法
- ▶ debug與系統檢測

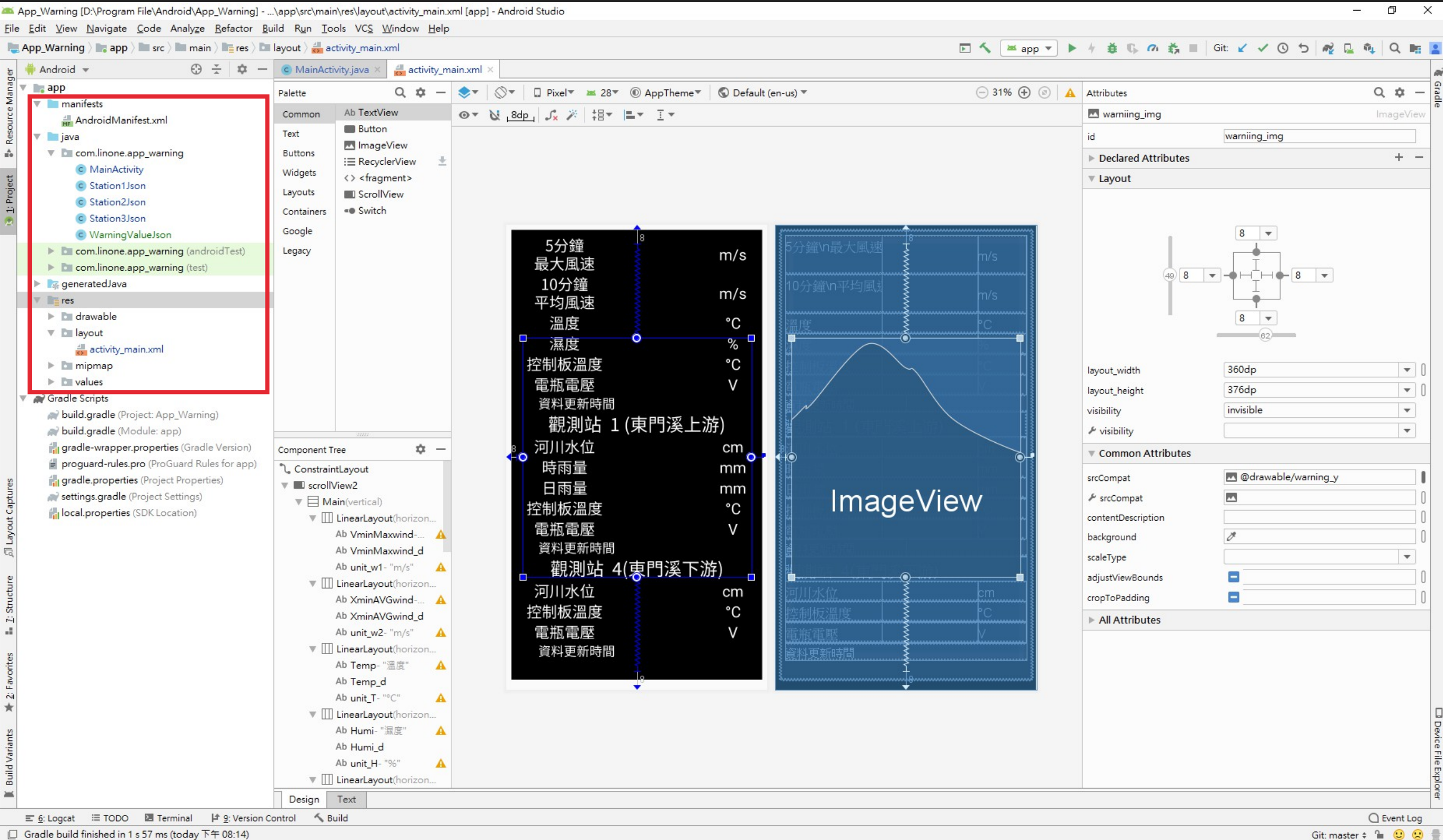
基本介面介紹 — 檔案架構說明

| 名稱 | 修改日期 | 類型 | 大小 |
|-------------------|-------------------|---------------|------|
| .git | 2019/8/24 下午 0... | 檔案資料夾 | |
| .gradle | 2019/4/26 下午 0... | 檔案資料夾 | |
| .idea | 2019/8/24 下午 0... | 檔案資料夾 | |
| app | 2019/8/24 下午 0... | 檔案資料夾 | |
| gradle | 2019/4/26 下午 0... | 檔案資料夾 | |
| .gitignore | 2019/4/26 下午 0... | 文字文件 | 1 KB |
| App_Warning.iml | 2019/8/24 下午 0... | IML 檔案 | 1 KB |
| build.gradle | 2019/4/27 上午 0... | GRADLE 檔案 | 1 KB |
| gradle.properties | 2019/4/26 下午 0... | PROPERTIES 檔案 | 1 KB |
| gradlew | 2019/4/26 下午 0... | 檔案 | 6 KB |
| gradlew.bat | 2019/4/26 下午 0... | Windows 批次檔案 | 3 KB |
| local.properties | 2019/5/13 下午 1... | PROPERTIES 檔案 | 1 KB |
| settings.gradle | 2019/4/26 下午 0... | GRADLE 檔案 | 1 KB |

基本介面介紹 — 檔案架構說明 (CONT.)

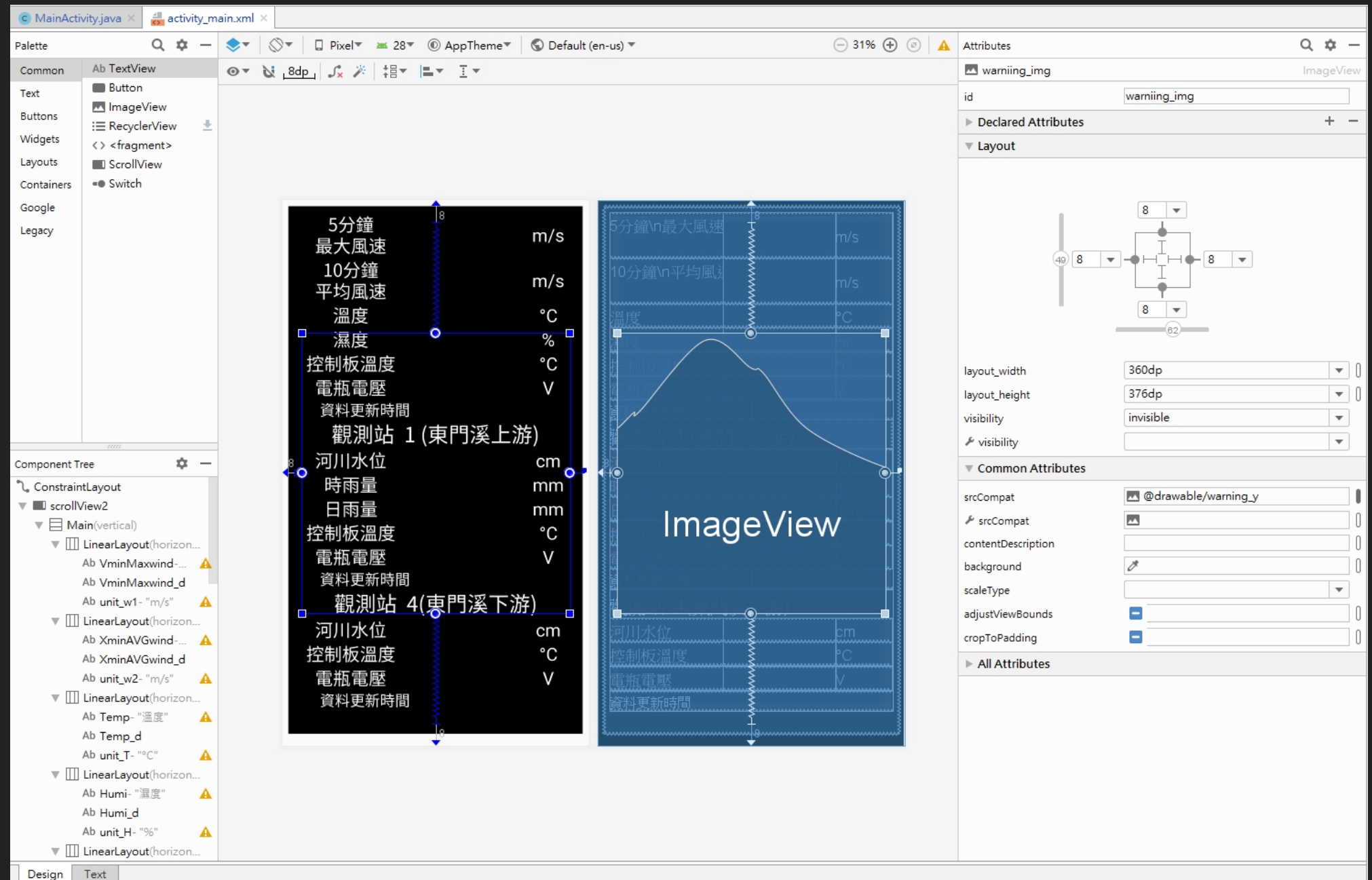


基本介面介紹



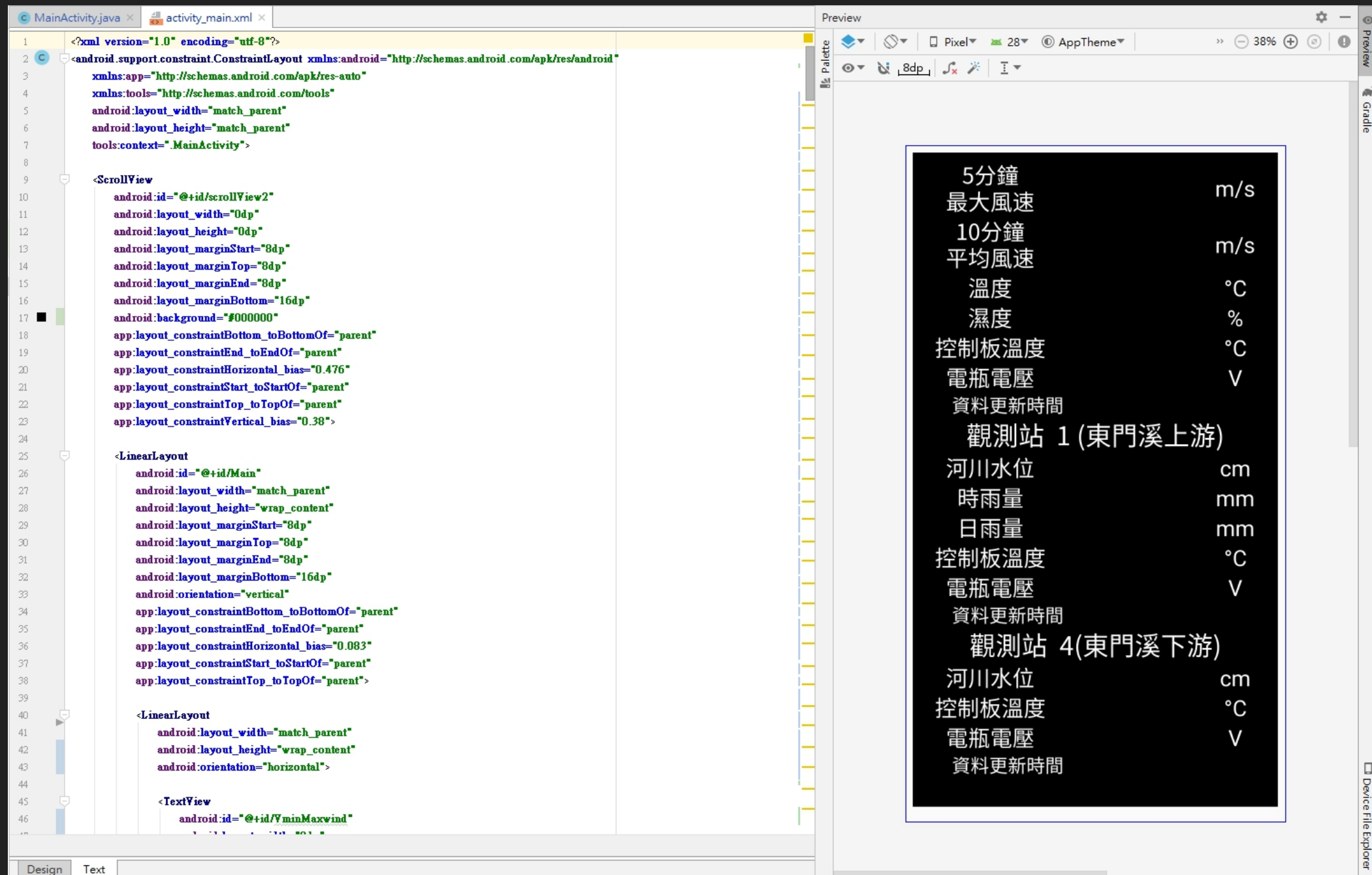
基本介面介紹 — 介面設計

► Design模式

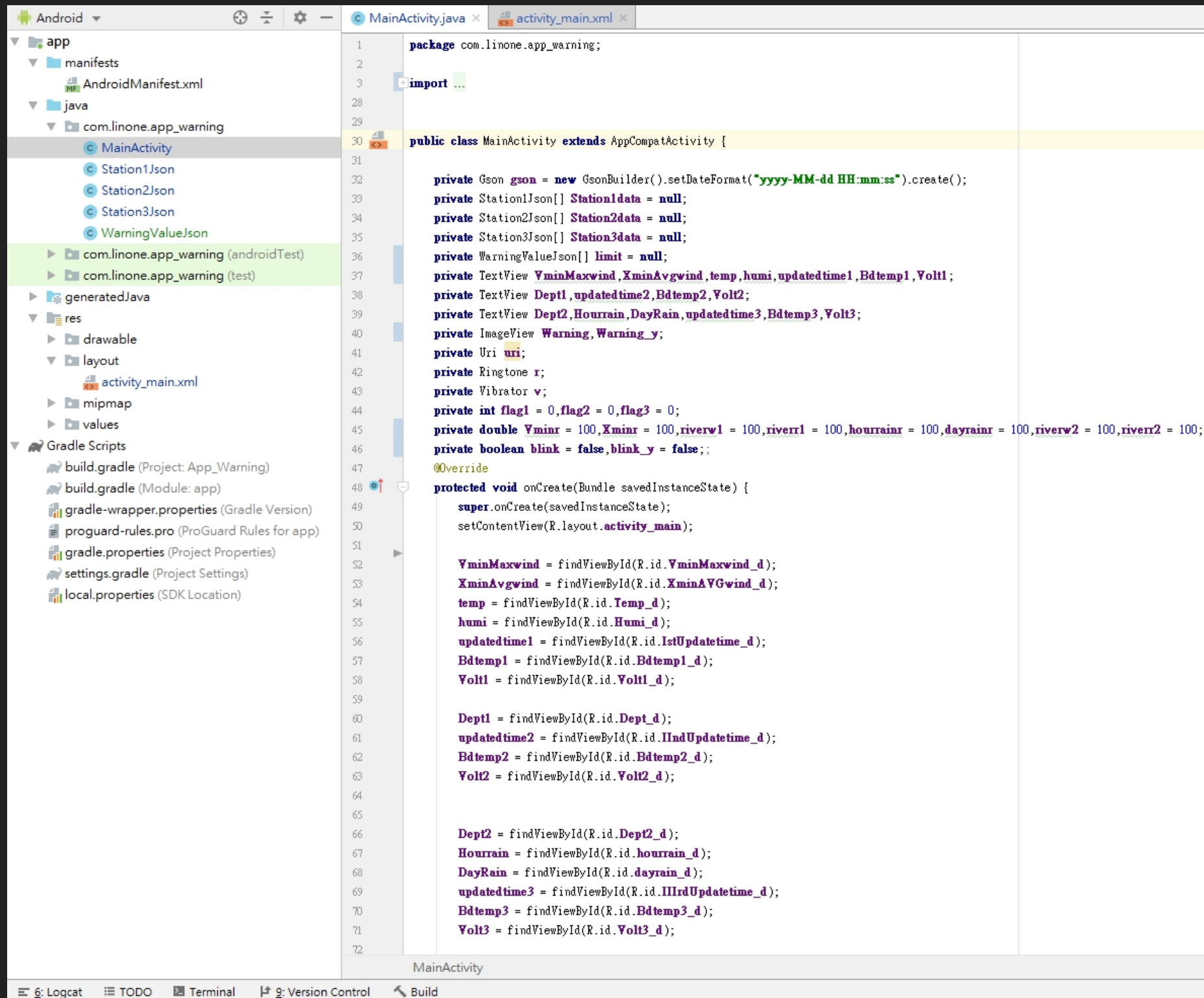


基本介面介紹 — 介面設計 (CONT.)

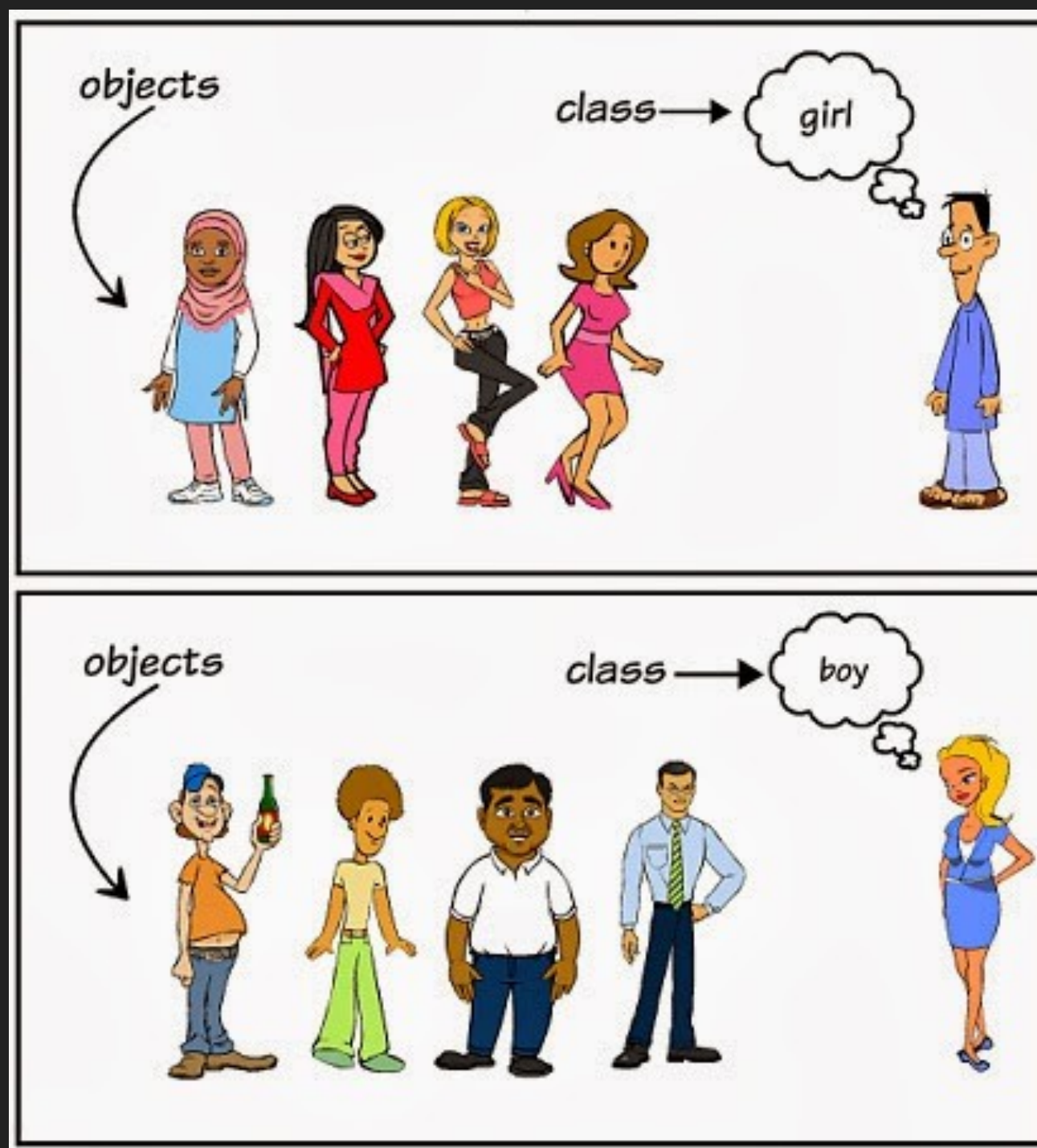
► Text模式



基本介面介紹 — 程式設計



CLASS 概念



ACTIVITY 生命週期

