

¿Mobile? !Android!

Confesiones de un programador
(y app Android)



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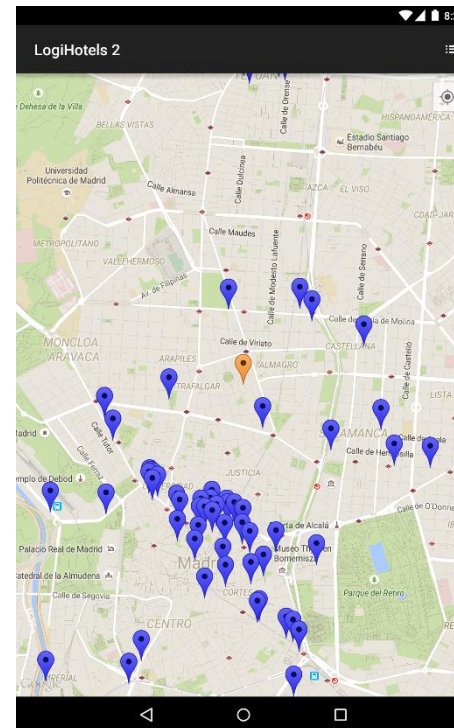
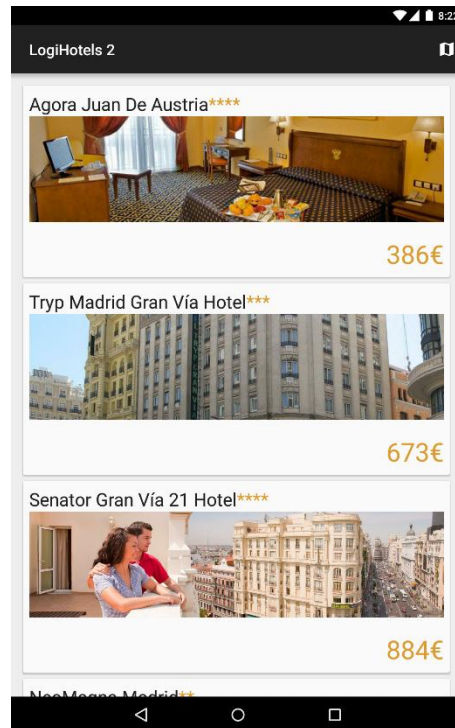
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Vamos a hacer una app

- Y de paso os contaré algo



LogiHotels



www.logitravel.com



Librerías

Retrofit

Picasso

Butter Knife

OkHttp



google / gson



DRY

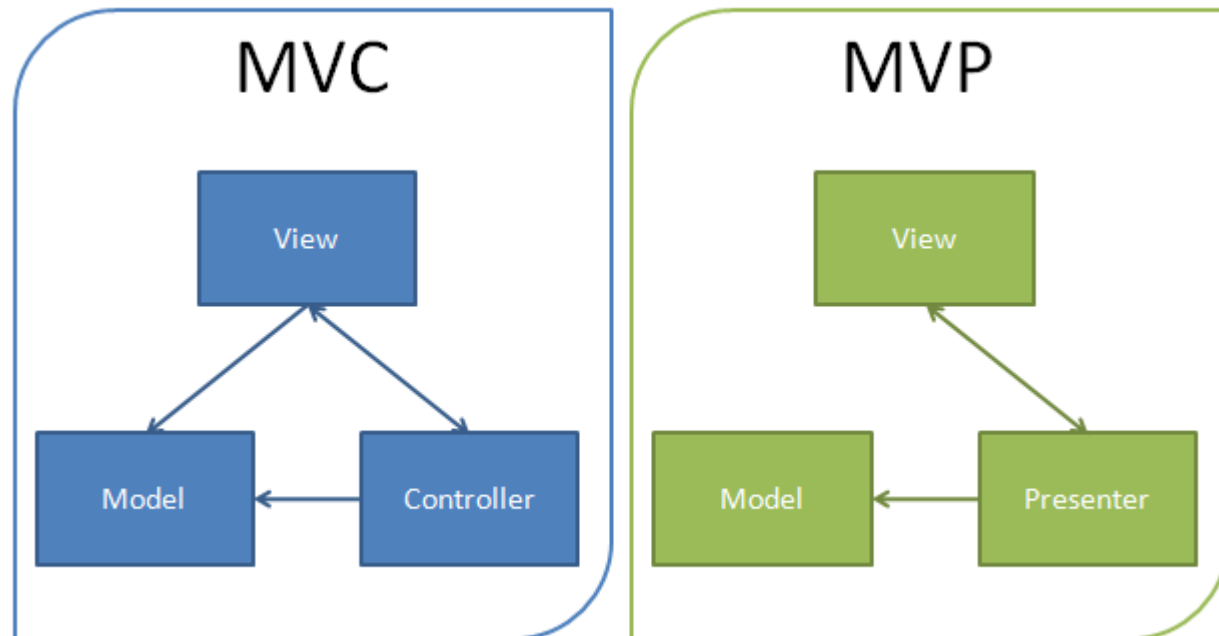
- Usa librerías
- Código duplicado es fuente de bugs



Model View Presenter (MVP)

- MVC, MVP, MVVM...
- Hay que trabajar con partes bien separadas
- Menor acoplamiento → Mejor código

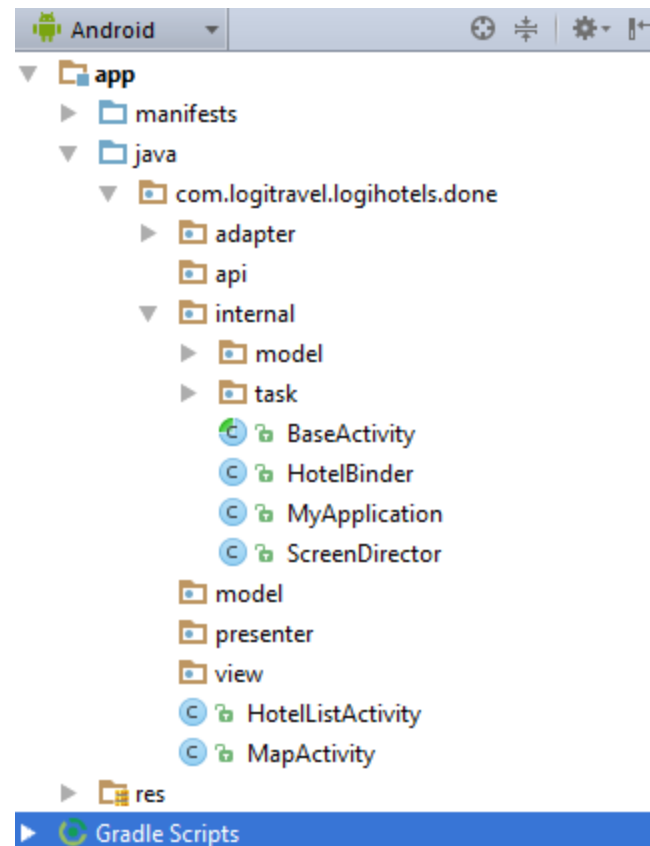




Menor acoplamiento... mejor código...

- WHY??





Logitravel-android

- ▼ app
 - ▶ manifests
 - ▼ java
 - ▶ com.android.datetimepicker.time
 - ▼ eu.yesweapp.app
 - ▶ audit
 - ▶ bugreport
 - ▼ data
 - ▶ annotation
 - ▼ api
 - ▶ account
 - ▶ binder
 - ▶ c2c
 - ▶ circuits
 - ▶ contact
 - ▶ cruises
 - ▶ deserializer
 - ▶ ferries
 - ▶ flights
 - ▶ hotels
 - ▶ model
 - ▶ session
 - ▶ trains
 - ① 🗂 ApiCars
 - Ⓒ 🗂 ApiCarsAuth
 - ① 🗂 ApiCatalog
 - ① 🗂 ApiCheckout

- ▶ app
- ▶ cache
- ▶ datasource
- ▶ debug
- ▶ exception2
- ▼ model
 - ▶ account
 - ▶ circuits
 - ▶ common
 - ▶ cruises
 - ▶ ferries
 - ▶ hotels
 - ▶ mobile
 - ▶ quote
 - ▶ rateme
 - ▶ trains
 - Ⓒ 🗂 Location
 - Ⓒ 🗂 ProductCarousel
- @ 🗂 BaseContentUrl
- @ 🗂 Circuits
- @ 🗂 Click2Call
- @ 🗂 CountryFlagEndpoint
- @ 🗂 CruiseDetails
- @ 🗂 CruisesAvailability
- @ 🗂 CruisesHome
- @ 🗂 CruisesLastMinuteAvailability



Logitravel-android

- ▼ filter
 - ▶ cruise
 - ▶ entry
 - ▶ flight
 - ▶ hotel
 - ▶ sorting
 - FilterCallback
 - FilterEntryBinder
 - FilterManager
 - FilterSelectionType
 - FilterType
 - TrainsFilterManager
- ▼ interactor
 - ▶ account
 - ▶ catalog
 - ▶ checkout
 - ▶ circuits
 - ▶ ckic12call
 - ▶ common
 - ▶ cruises
 - ▶ cybersource
 - ▶ flights
 - ▶ hotels
 - ▶ login
 - ▶ quote
 - ▶ rateme
 - ▶ session
 - ▶ setting
- ▶ statistics
- ▶ trains
- ▶ voucher
 - GetDeviceInteractor
 - GetMobileConfiguration
 - IGetQuoteV2Interactor
 - InteractorsModule
 - NavigationState
 - ShowMessageException
- ▼ presenter
 - ▶ welcome
 - AskPhoneDialogPresenter
 - DrawerPresenter
 - EditTextDialogPresenter
 - EmailDialogPresenter
 - LanguageDialogPresenter
 - MarketDialogPresenter
 - PresenterModule
 - RateMePresenter
 - SortDialogPresenter
- ▼ pushNotification
 - ▶ loopback
 - ▶ notification
 - PushNotificationModule
 - RegisteredVersion
 - SubscriptionId
- ▼ repository
 - ▶ account



...



Logitravel-android

- ▼ repository
 - ▶ account
 - ▶ catalog
 - ▶ circuits
 - ▶ click2call
 - ▶ common
 - ▶ config
 - ▶ cruises
 - ▶ device
 - ▶ flights
 - ▶ hotels
 - ▶ location
 - ▶ login
 - ▶ rateme
 - ▶ resource
 - ▶ session
 - ▶ setting
 - ▶ statistics
 - ▶ tracking
 - ▶ trains
 - ▶ voucher
 - 🔄 RepositoriesModule
- ▶ res
- ▼ screen
 - ▶ car
 - ▶ circuit
 - ▶ cruises
 - ▶ ferries
 - ▶ flight
- ▶ ui
- ▶ util
- ▼ view
 - ▶ car
 - ▶ circuit
 - ▶ common.home
 - ▶ cruise
 - ▶ dialog
 - ▶ ferries
 - ▶ filter
 - ▶ flight
 - ▶ hotel
 - ▶ login
 - ▶ quote
 - ▶ quoterework
 - ▶ train
 - ▶ welcome
 - ▶ welcome2
 - ▶ widget
 - 🔄 AutoCompleteView
 - 🔄 BaseAutoCompleteView
 - 🔄 BaseSummaryItineraryView
 - 🔄 BaseSummaryView
 - 🔄 CatalogListView
 - 🔄 CatalogView
 - 🔄 Click2CallView
 - 🔄 CriticalVersionView



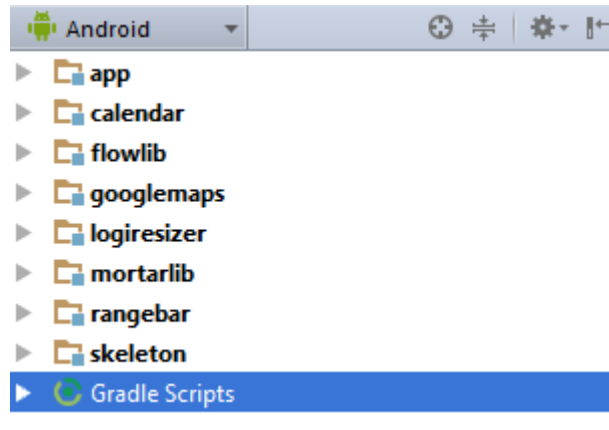
...



```
▼ eu.yesweapp.app (test)
  ▼ data
    ▼ api
      ▼ model
        ► checkout
        ► quote.elements
        ◉ ◉ ApiSessionTest
        ◉ ◉ AuthEnforcerTest
        ◉ ◉ AuthInterceptorTest
        ► cache
        ► model.common
      ► filter
      ► interactor.rateme
    ▼ repository
      ► config
      ► flights
      ► resource
      ► tracking
    ► screen
    ► util
    ▼ view.quote
      ► datasource
      ► price
      ◉ ◉ CustomRobolectricRunner
      ◉ ◉ DaggerNoRoboTest
      ◉ ◉ DaggerTest
      ◉ ◉ TestSharedPreferences
  ► jniLibs
```



Logitravel-android



¿Qué hacemos aquí?

- Crear una app Android desde (casi) cero
- Best practices



Activity

- Punto de entrada
- Maneja el ciclo de vida de la aplicación
- .java + .xml (+ .xml...)



SmileActivity.java

```
15
16 public class SmileActivity extends AppCompatActivity {
17     @Bind(R.id.text_smile) TextView smileTextView;
18     @Bind(R.id.button_clickme) Button clickMeButton;
19
20     @Override protected void onCreate(Bundle savedInstanceState) {
21         super.onCreate(savedInstanceState);
22         setContentView(R.layout.activity_smile);
23         ButterKnife.bind(this);
24
25         clickMeButton.setOnClickListener(new View.OnClickListener() {
26             @Override public void onClick(View v) {
27                 smileTextView.setText(smileTextView.getText().equals(":D") ? ":[": ":D");
28             }
29         });
30     }
31
32     @Override public boolean onCreateOptionsMenu(Menu menu) {
33         getMenuInflater().inflate(R.menu.menu_main, menu);
34         return true;
35     }
36
37     @Override public boolean onOptionsItemSelected(MenuItem item) {
38         switch (item.getItemId()) {
39             case R.id.action_map:
40                 onMapClick();
41                 break;
42         }
43
44         return super.onOptionsItemSelected(item);
45     }
46
47     private void onMapClick() {
48         //Go to map!
49     }
50 }
```



activity_smile.xml

```
1  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
2      android:layout_width="match_parent"
3      android:layout_height="match_parent"
4      android:gravity="center"
5      android:orientation="vertical">
6
7      <TextView
8          android:id="@+id/text_smile"
9          android:layout_width="match_parent"
10         android:layout_height="wrap_content"
11         android:gravity="center"
12         android:text=":D"
13         android:textSize="42sp"/>
14
15     <Button
16         android:id="@+id/button_clickme"
17         android:layout_width="200dp"
18         android:layout_height="wrap_content"
19         android:layout_marginTop="40dp"
20         android:text="Click me!"/>
21 </LinearLayout>
22
```







...



Views

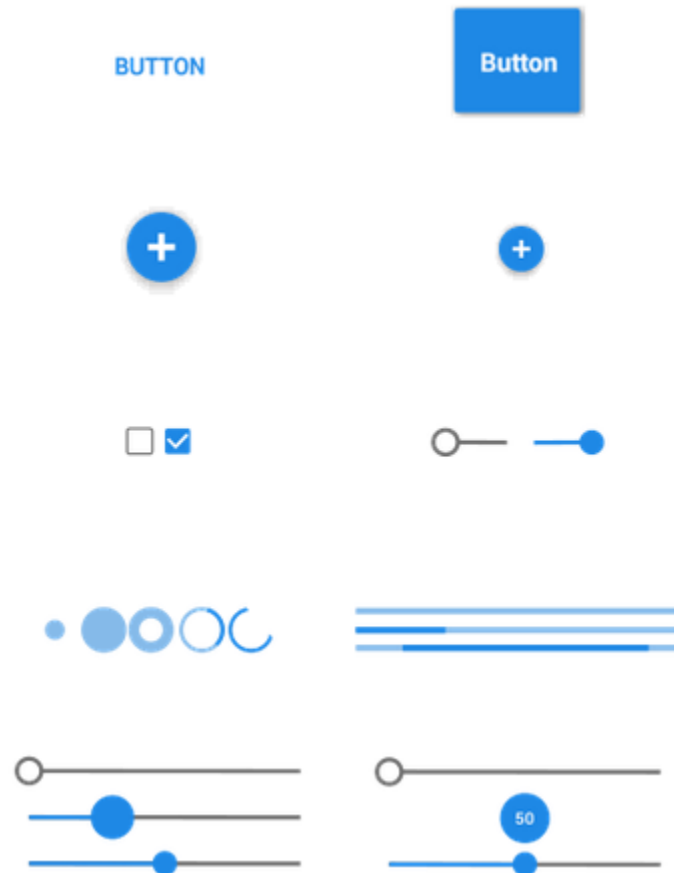
- Elementos de la UI

Widgets

- Ab Plain TextView
- Ab Large Text
- Ab Medium Text
- Ab Small Text
- OK Button
- OK Small Button
- RadioButton
- CheckBox
- Switch
- ToggleButton
- ImageButton
- ImageView
- ProgressBar (Large)
- ProgressBar (Normal)
- ProgressBar (Small)
- SeekBar
- RatingBar
- Spinner
- WebView

Text Fields

- Plain Text
- Person Name



Layouts

- Organización de la interfaz
- Toda View tienen un layout padre

LinearLayout

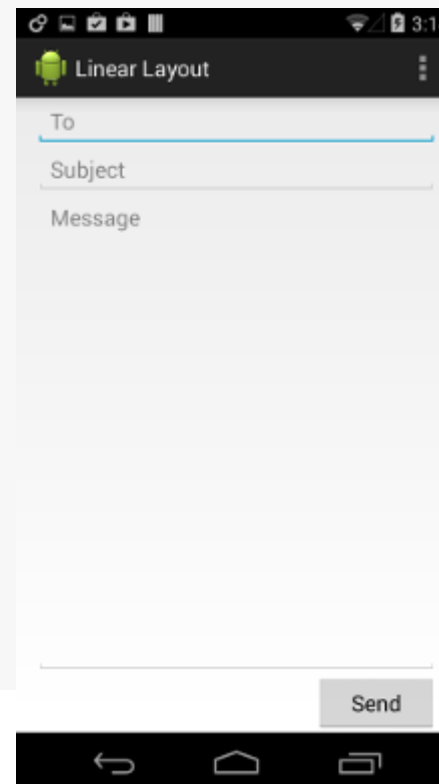


RelativeLayout



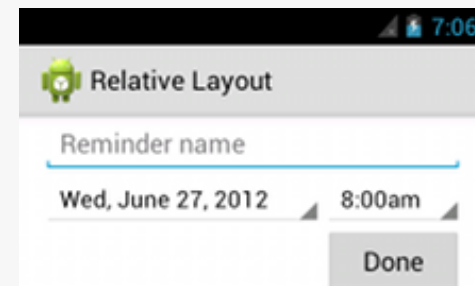
LinearLayout

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="16dp"
    android:paddingRight="16dp"
    android:orientation="vertical" >
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/to" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/subject" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:gravity="top"
        android:hint="@string/message" />
    <Button
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:layout_gravity="right"
        android:text="@string/send" />
</LinearLayout>
```



RelativeLayout

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="16dp"
    android:paddingRight="16dp" >
    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/reminder" />
    <Spinner
        android:id="@+id/dates"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentLeft="true"
        android:layout_toLeftOf="@+id/times" />
    <Spinner
        android:id="@id/times"
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentRight="true" />
    <Button
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/times"
        android:layout_alignParentRight="true"
        android:text="@string/done" />
</RelativeLayout>
```



Modelo

- Mira el Postman
- ¿Qué objetos recibimos? Crear modelos semejantes usando GSON



Vista

- La vista tiene su lógica en las actividades. PERO ABSTRAÍDA CON INTERFACES



Interfaces

Lista

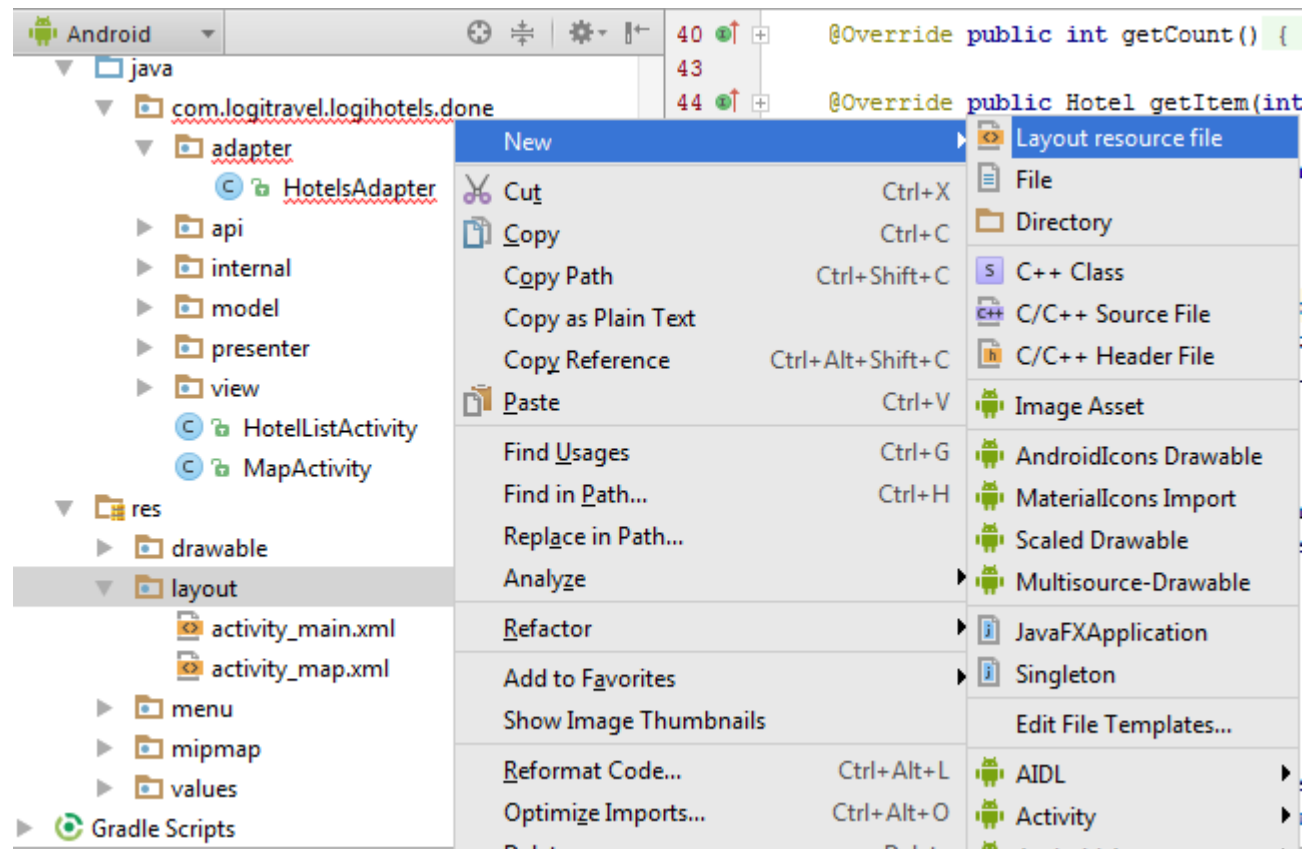
```
public interface IHotelListView {  
    void showHotels(List<Hotel> hotels);  
  
    void showError(String message);  
}
```

Mapa

```
public interface IHotelMapView {  
    void drawHotel(Hotel hotel, boolean selected);  
  
    void moveCameraTo(double lat, double lng);  
  
    void clearHotels();  
}
```



Creando el adapter



Creando el adapter

- El adapter dicta cómo debe ser pintado cada ítem de una lista
- Cread el ítem a vuestro aire... ¿Qué propiedades tiene el modelo que queremos mostrar? ¿Título, Imagen?



Bindeo

- Ahora hay que rellenar el ítem con los datos del modelo (clase HotelsAdapter)

```
67
68 private void bind(Hotel hotel, ViewHolder holder) {
69     //TODO: Fill the holder with hotel info
70 }
71
72 private void loadNotFoundImage(ImageView imageView) {
73     //TODO: load the 'no_image' drawable into the ImageView
74 }
75
76 private void loadImageUrl(ImageView imageView, String imageUrl) {
77     //TODO: Use Picasso to load the image
78 }
79
80 public Hotel[] getHotels() { return hotels.toArray(new Hotel[hotels.size()]); }
81
82
83
84 public static class ViewHolder {
85     //TODO: Bind the views here
86
87     public ViewHolder(View view) { ButterKnife.bind(this, view); }
88
89
90 }
```



Presenter

- Un presenter por cada screen
- En el presenter vive la lógica de negocio

