

Chapter 3 - Activities & layouts

What is an Activity?

A single, focused thing that the user can do.
In layman's terms \Rightarrow Activity = Screen

Activity has layouts

\rightarrow Defines how Views are displayed

Button TextView

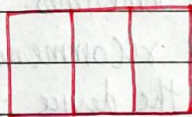


Types of layouts in Android

If you go to the palette, you will find a lot of layouts
We can use any of these (LinearLayout, ConstraintLayout etc)

LinearLayout

Arranges its collection of views in a straight horizontal or vertical row.



Horizontal



vertical

\Rightarrow gravity attribute can be used for alignment

Required attributes of a LinearLayout

- \rightarrow Layout width \rightarrow can be match.parent / wrap-content / some value dp
- \rightarrow Layout height \rightarrow can be match.parent / wrap-content / some value dp
- \rightarrow Orientation \rightarrow can be horizontal or vertical

Note \rightarrow Never close ur Emulator on every run when you change the app
Emulator is a resource hungry program & will take time to launch.

RelativeLayout

- Elements are aligned relative to each other
- Attributes like `android:layout_alignParentTop` are used to declare positions of views.

The RelativeLayout is available in legacy tab in Palette

Legacy tab in Palette

Some View Layouts in Android Studio are replaced with better counterparts.

- List View is replaced with RecyclerView
- Grid View is replaced with ConstraintLayout
- TabHost is replaced with TabLayout
- RelativeLayout is replaced with ConstraintLayout

Important Notes

- Component view shows certain warnings sometimes. Correcting these by following good practices is recommended.
- You can resize the preview as per the device of your liking in Design view itself.
- Android Studio uses Gradle as the build system.
- Project structure of Android is very simple & straightforward
- You don't have to remember all the attributes of every View

strings.xml file

This file contains string resources in XML format

`<string name="app"> Harry </string>`

↓
identifier

↓
value

We can use `` bold `` and `<i>` Italic `</i>` tags inside the text in strings.xml. Other HTML Tags are ignored. Escape sequence characters like `'\n'` are also allowed.

ScrollView

ScrollView is a ViewGroup used to create Scrollable Views. It contains just one child which can be greater than the screen height and can be scrolled.

ScrollView offers many attributes which is used to customize it.

Horizontal ScrollView

It is very similar to ScrollView but instead of vertical scrolling, it provides functionality for horizontal scrolling.

Logging in Android

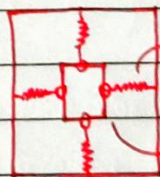
We can log a message to the console using:

`Log.d("Tag", "Log this message");`

Similarly we can use `Log.i` for info, `Log.e` for error etc.

Constraint Layout

Constraint layout allows us to position widgets by applying constraints.



Constraints work exactly like a Spring!

Corners can be used to resize the widget

We can add a baseline constraint on widgets inside the constraint layout by right clicking > Show Baseline & finally adding the baseline constraints.