

*Kuliah Minggu I*

# KILAS BALIK PEMROGRAMAN ANDROID DASAR



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# APA ITU ANDROID

- Mobile operating system based on Linux kernel
- User Interface for touch screens
- Used on over 80% of all smartphones
- Powers devices such as watches, TVs, and cars
- Over 2 Million Android apps in Google Play store
- Highly customizable for devices / by vendors
- Open source



# ANDROID USER INTERACTION

- Touch gestures: swiping, tapping, pinching
- Virtual keyboard for characters, numbers, and emoji
- Support for Bluetooth, USB controllers and peripherals



# TANTANGAN APLIKASI ANDROID

- Multiple screen sizes and resolutions
- Performance: make your apps responsive and smooth
- Security: keep source code and user data safe
- Compatibility: run well on older platform versions
- Marketing: understand the market and your users  
(Hint: It doesn't have to be expensive, but it can be.)

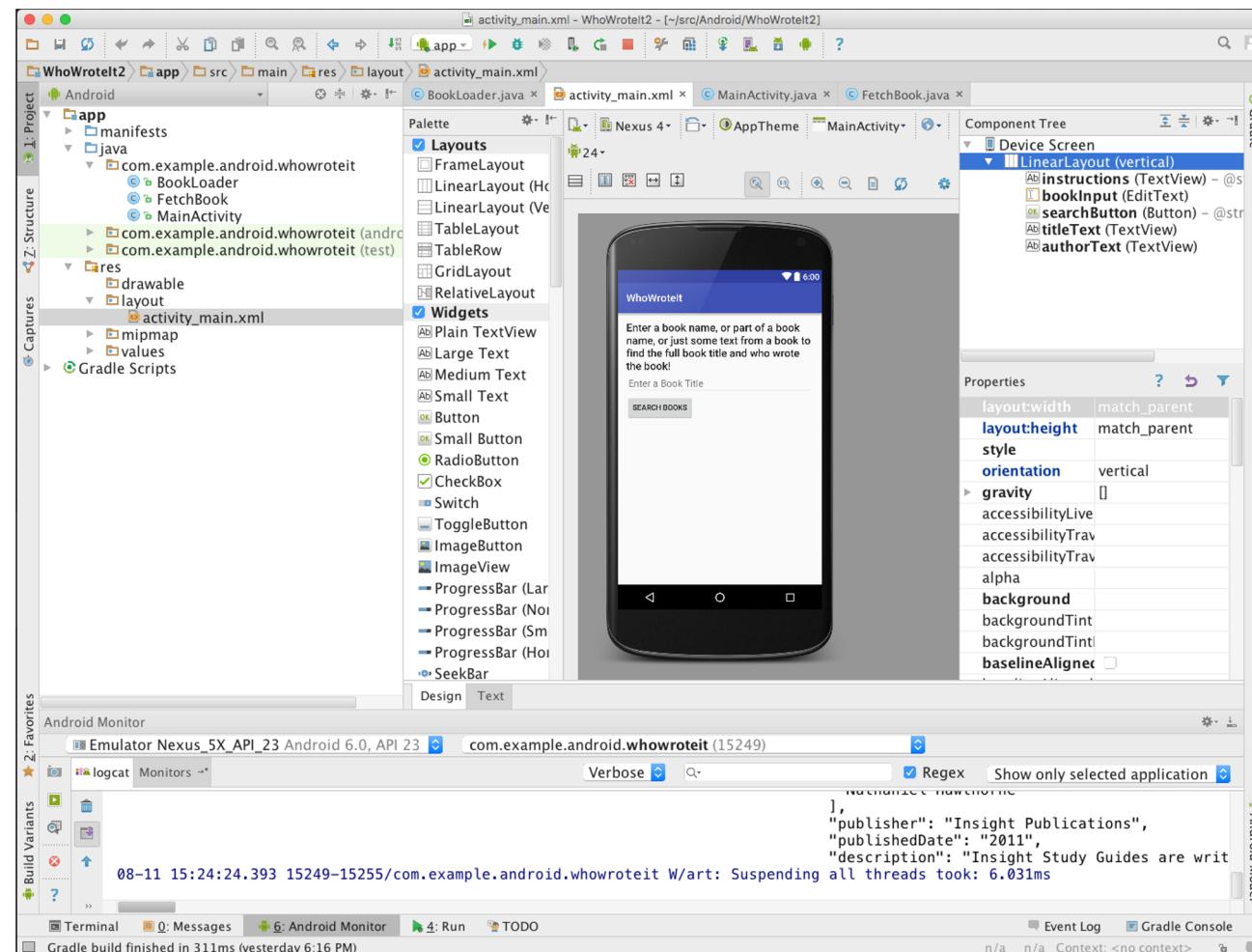


# KOMPONEN DALAM APLIKASI ANDROID

- Resources: layouts, images, strings, colors as XML and media files
- Components: activities, services, and helper classes as Java code
- Manifest: information about app for the runtime
- Build configuration: APK versions in Gradle config files



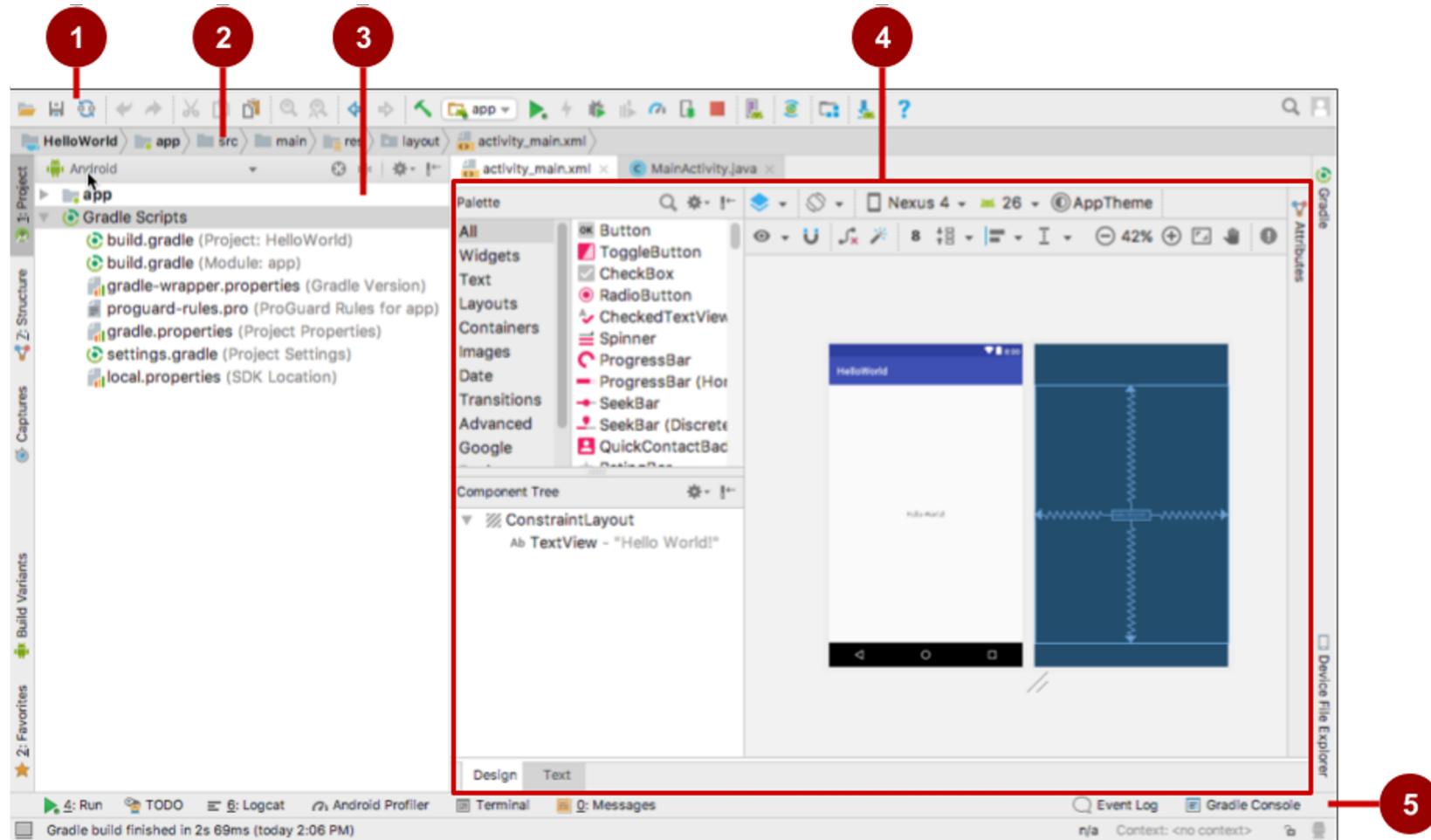
# ANDROID STUDIO



- Official Android IDE
- Develop, run, debug, test, and package apps
- Monitors and performance tools
- Virtual devices
- Project views
- Visual layout editor



# ANDROID STUDIO INTERFACE

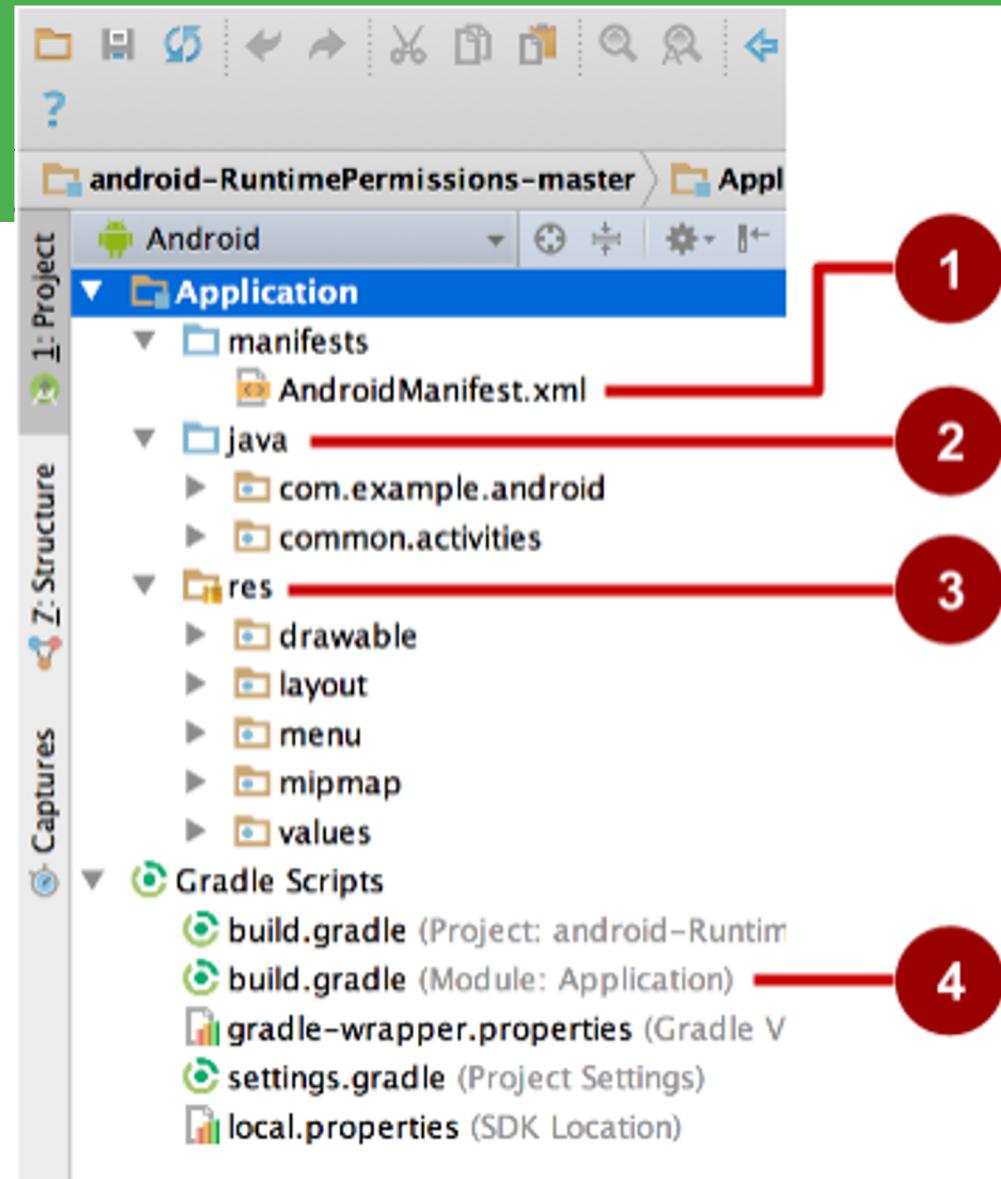


1. Toolbar
2. Navigation bar
3. Project pane
4. Editor
5. Tabs for other panes



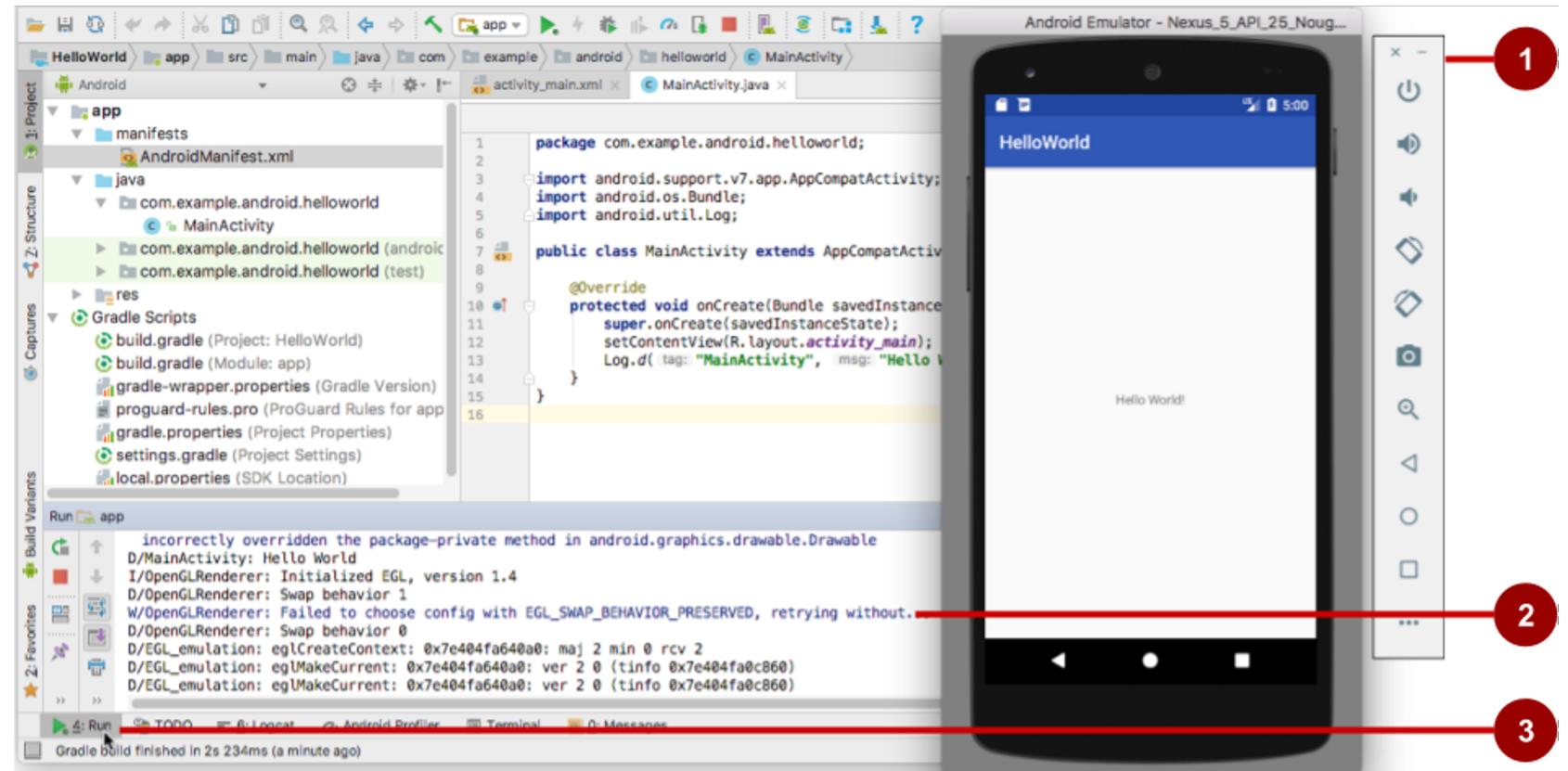
# PROJECT FOLDERS

1. **manifests**—Android Manifest file - description of app read by the Android runtime
2. **java**—Java source code packages
3. **res**—Resources (XML) - layout, strings, images, dimensions, colors...
4. **build.gradle**—Gradle build files



# GET FEEDBACK AS YOUR APP RUNS

1. Emulator running the app
2. Run pane
3. Run tab to open or close the Run pane

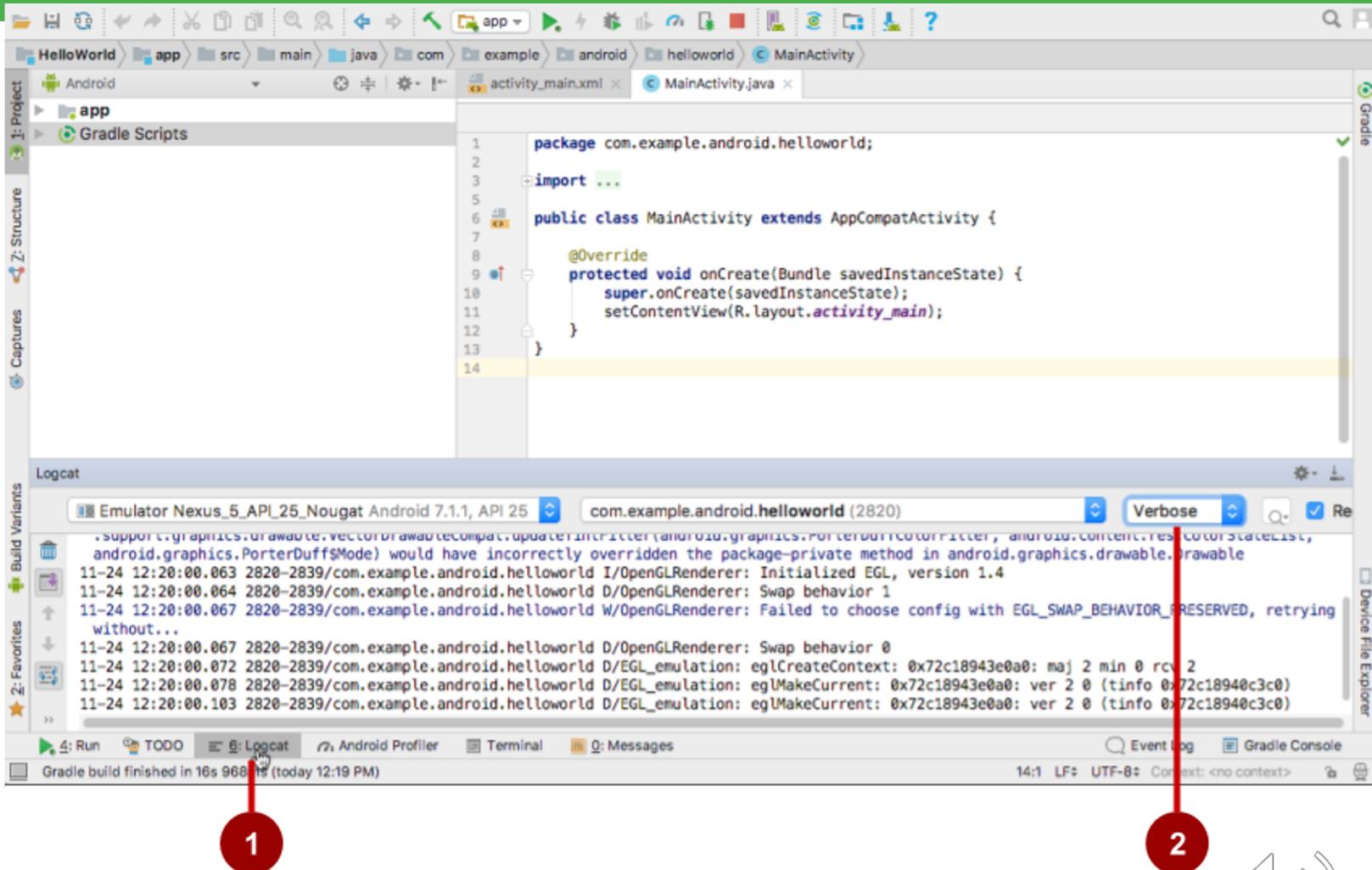


Sumber: *Android Developer Fundamentals v2*



# THE LOGCAT PANE

1. Logcat tab to show Logcat pane
2. Log level menu



Sumber: *Android Developer Fundamentals v2*

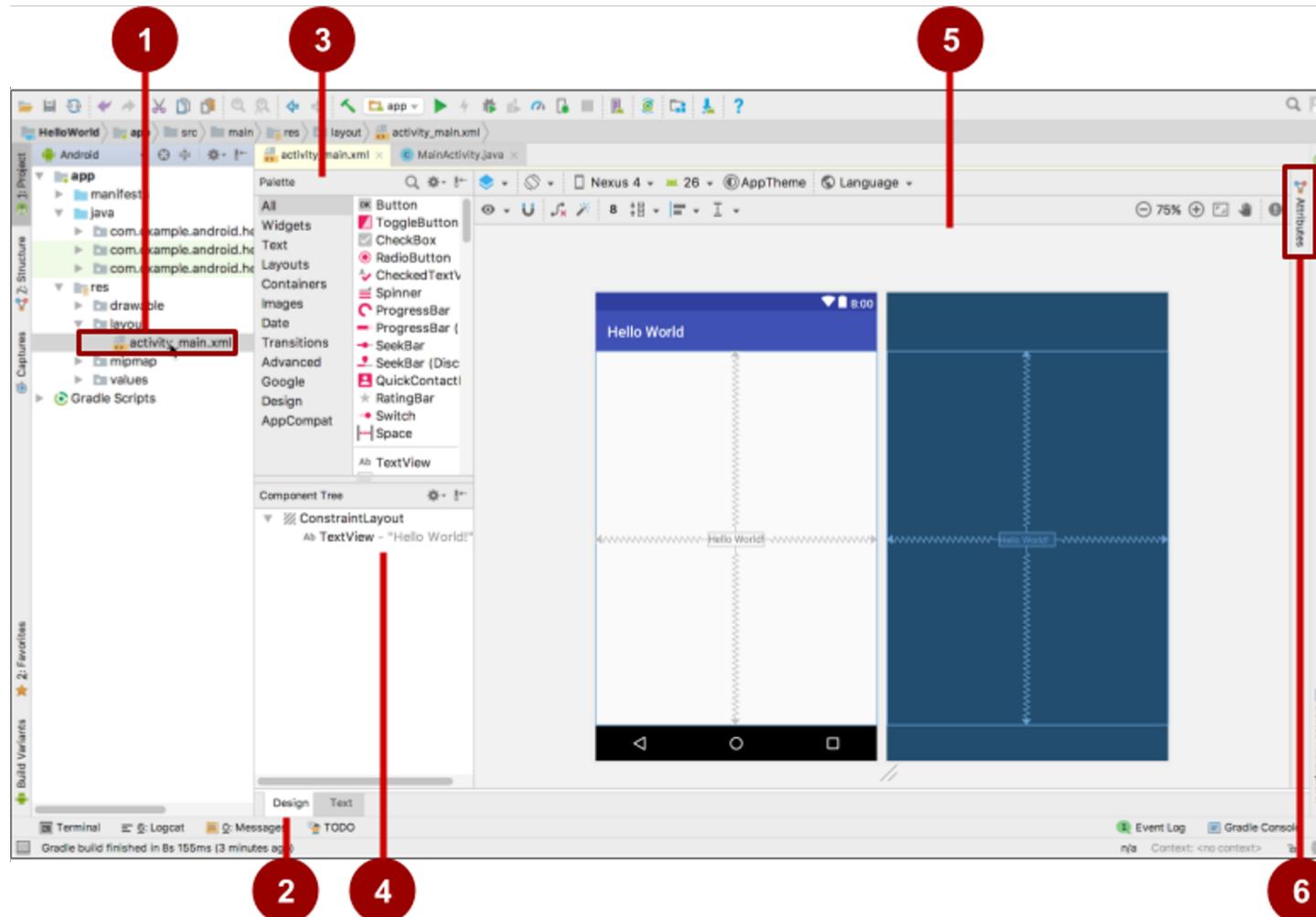


# MEMASUKKAN PESAN PADA LOGCAT PANE

```
import android.util.Log;  
  
// Use class name as tag  
private static final String TAG =  
    MainActivity.class.getSimpleName();  
  
// Show message in Android Monitor, logcat pane  
// Log.<log-level>(TAG, "Message");  
Log.d(TAG, "Pesan yang akan ditulis");
```



# ANDROID STUDIO LAYOUT EDITOR

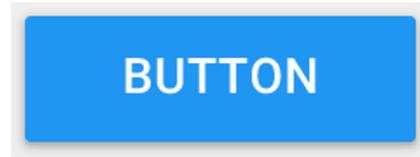


1. XML layout file
2. Design and Text tabs
3. Palette pane
4. Component Tree
5. Design and blueprint panes
6. Attributes tab

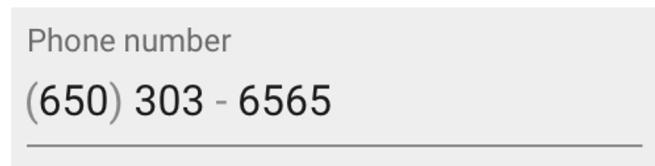


# CONTOH VIEW

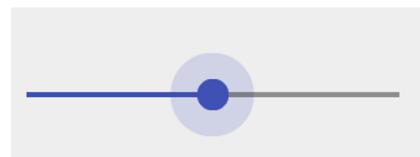
Button



EditText



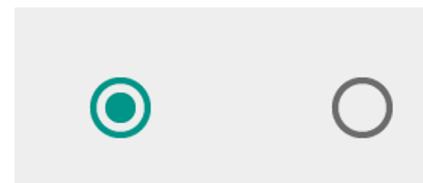
Slider



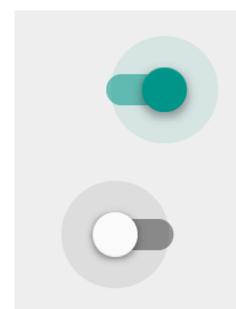
CheckBox



RadioButton



Switch



# CONTOH ATRIBUT PADA VIEW

```
<TextView  
    android:id="@+id/show_count"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:background="@color/myBackgroundColor"  
    android:text="@string/count_initial_value"  
    android:textColor="@color/colorPrimary"  
    android:textSize="@dimen/count_text_size"  
    android:textStyle="bold"  
/>
```



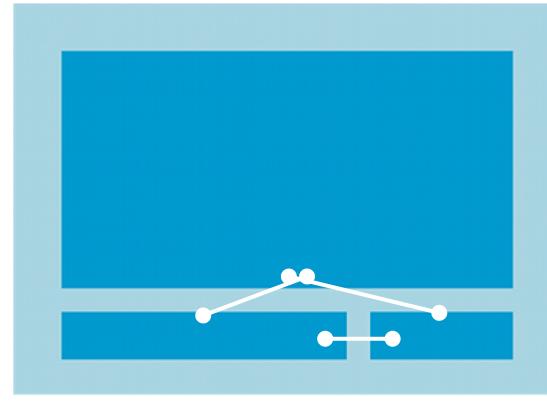
# LAYOUT PADA ANDROID

- ConstraintLayout: [Connect views with constraints](#)
- LinearLayout: Horizontal or vertical row
- RelativeLayout: Child views relative to each other
- TableLayout: Rows and columns
- FrameLayout: Shows one child of a stack of children

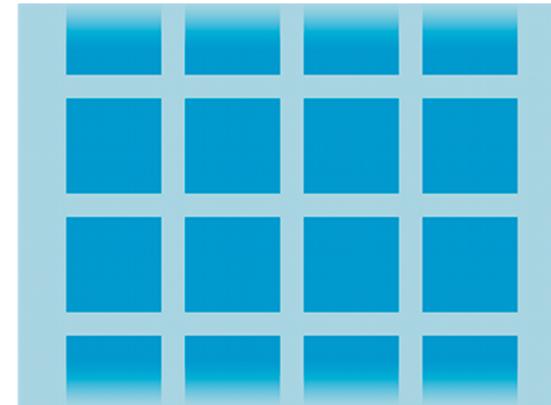
# LAYOUT PADA ANDROID (2)



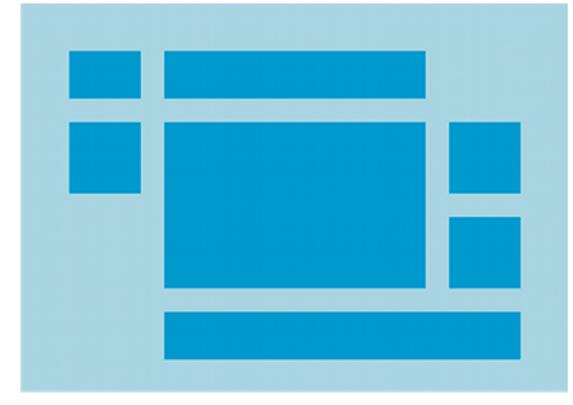
LinearLayout



ConstraintLayout



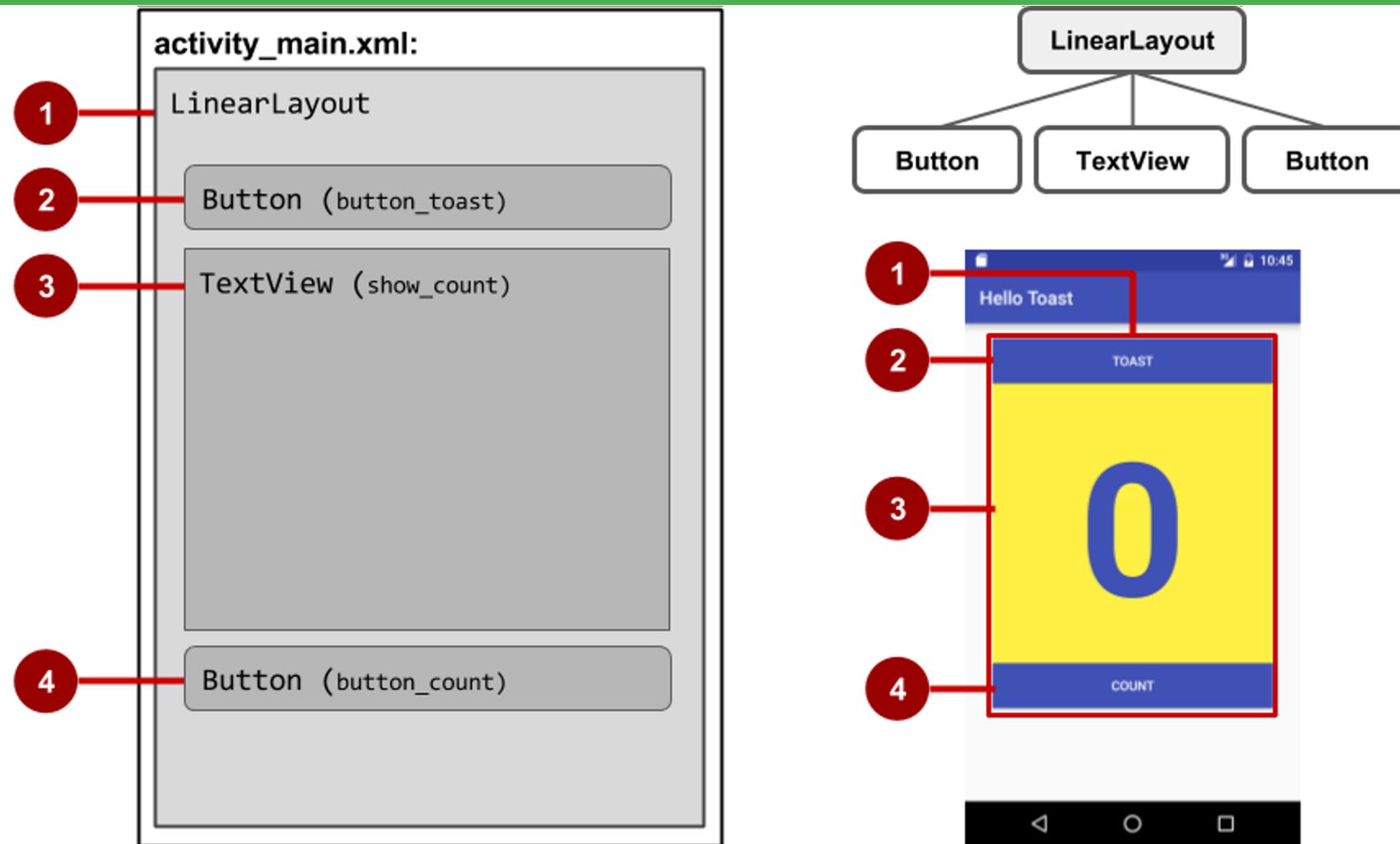
GridLayout



TableLayout



# PEMBUATAN LAYOUT SECARA HIRARKI



Sumber: Android Developer Fundamentals v2



# CONTOH HIRARKI KODE

```
<LinearLayout  
    android:orientation="vertical"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
    <Button  
        ... />  
    <TextView  
        ... />  
    <Button  
        ... />  
</LinearLayout>
```



NEXT . . .

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## Recycle View



# REFERENSI

