

Kuliah Minggu I

KILAS BALIK PEMROGRAMAN ANDROID DASAR



I Putu Arya Dharmaadi, ST, MT

*Program Studi Teknologi Informasi Fakultas Teknik
Universitas Udayana*



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.)

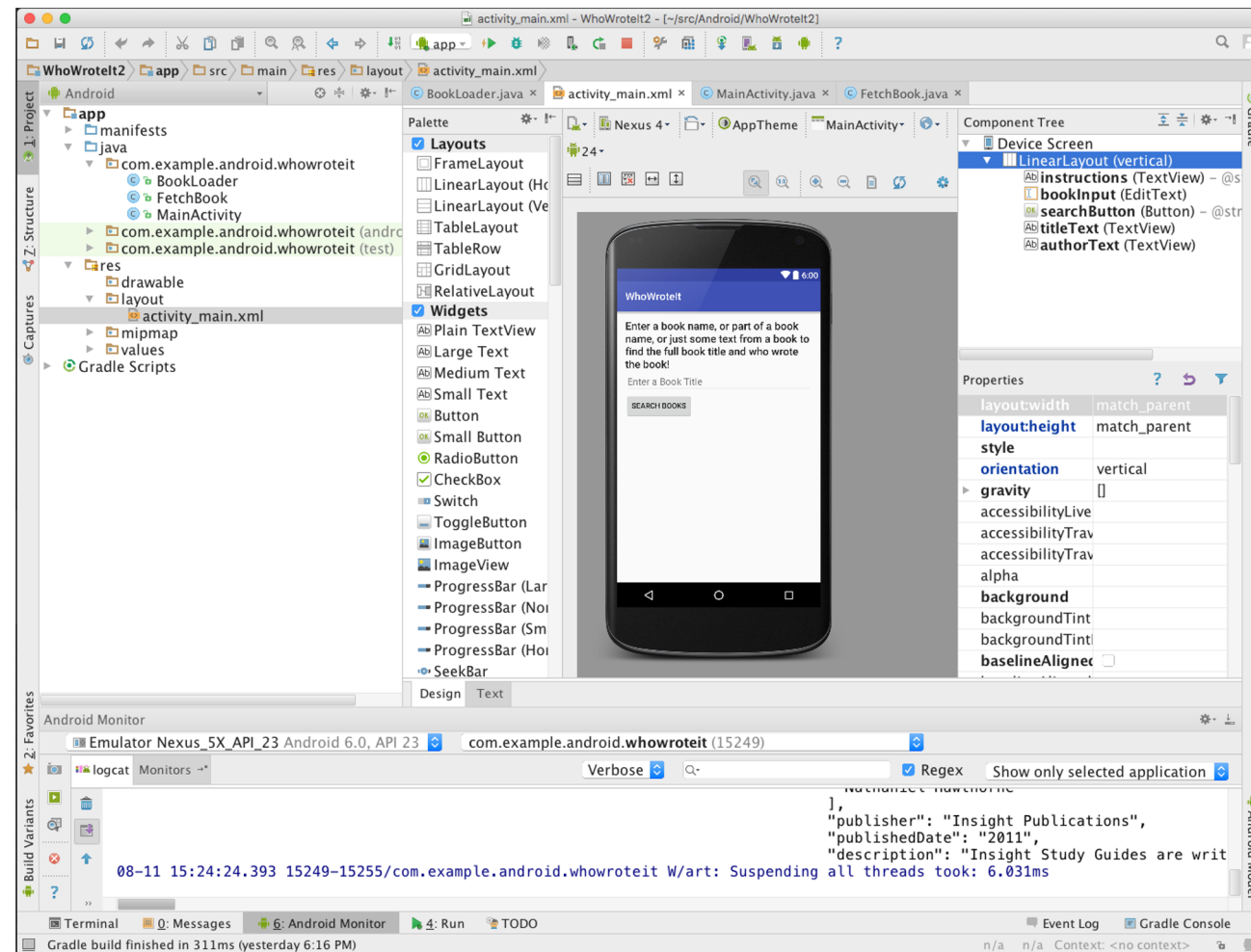


KOMPONEN DALAM APLIKASI ANDROID

- 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

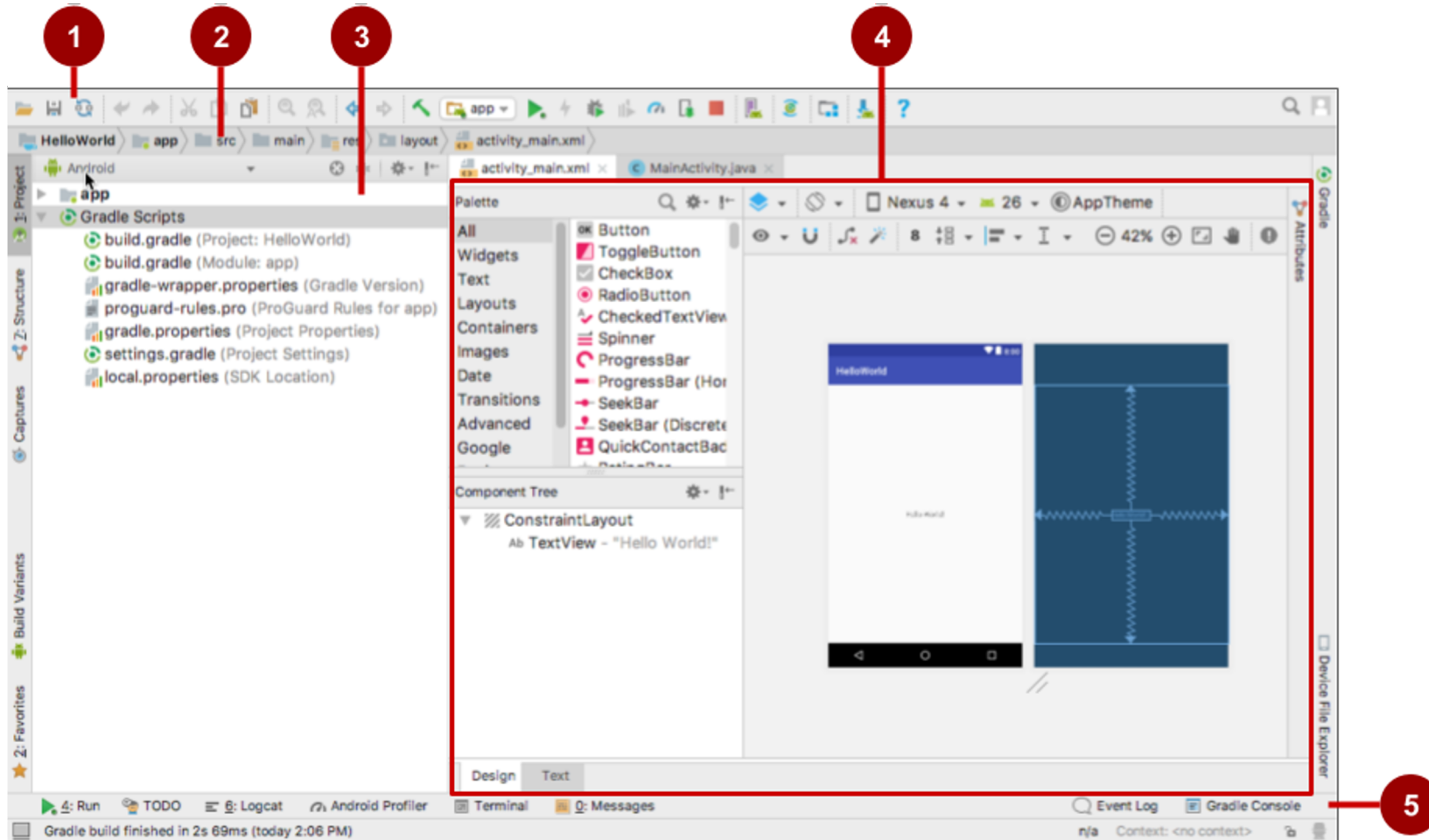


ANDROID STUDIO



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

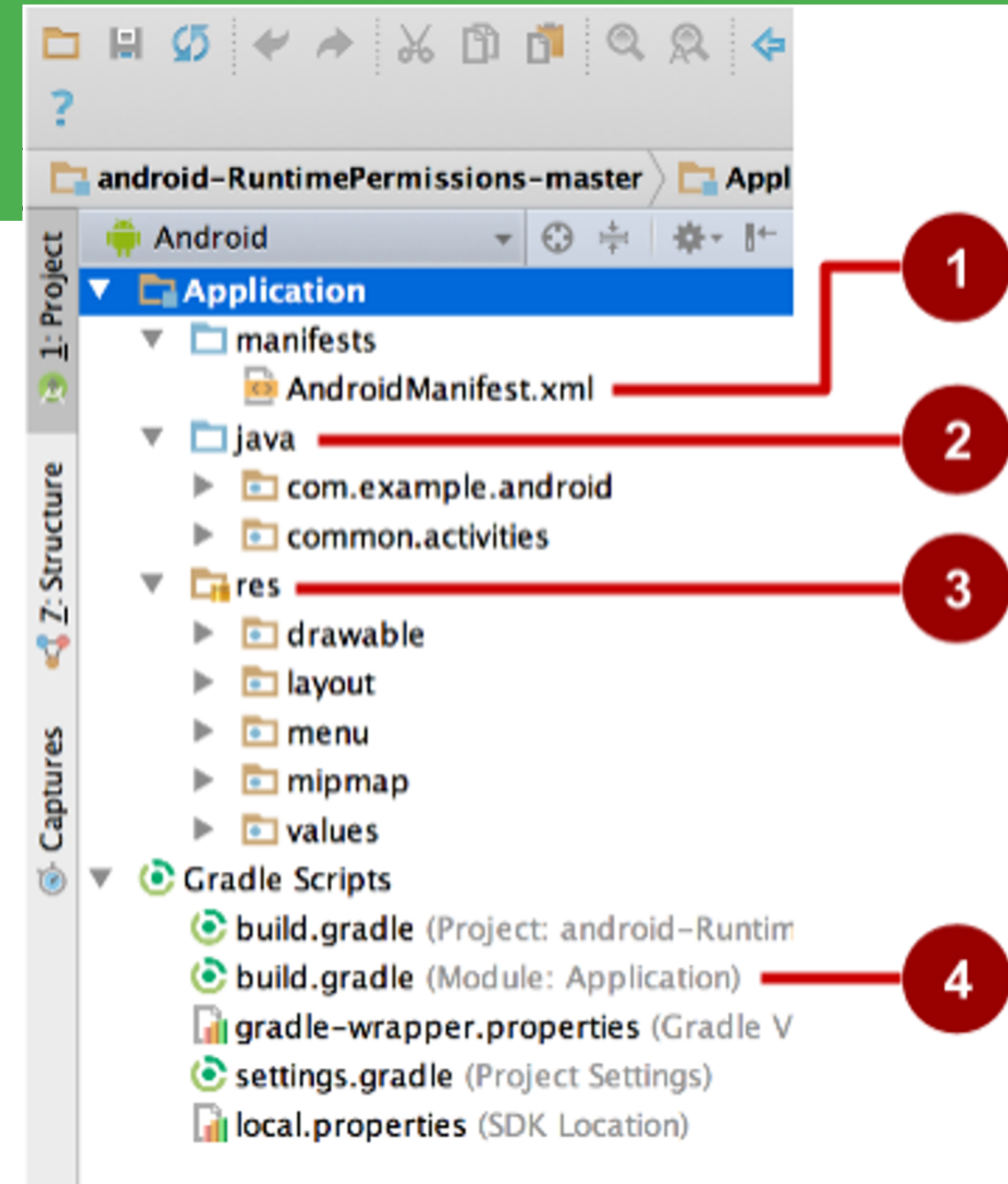
ANDROID STUDIO INTERFACE



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

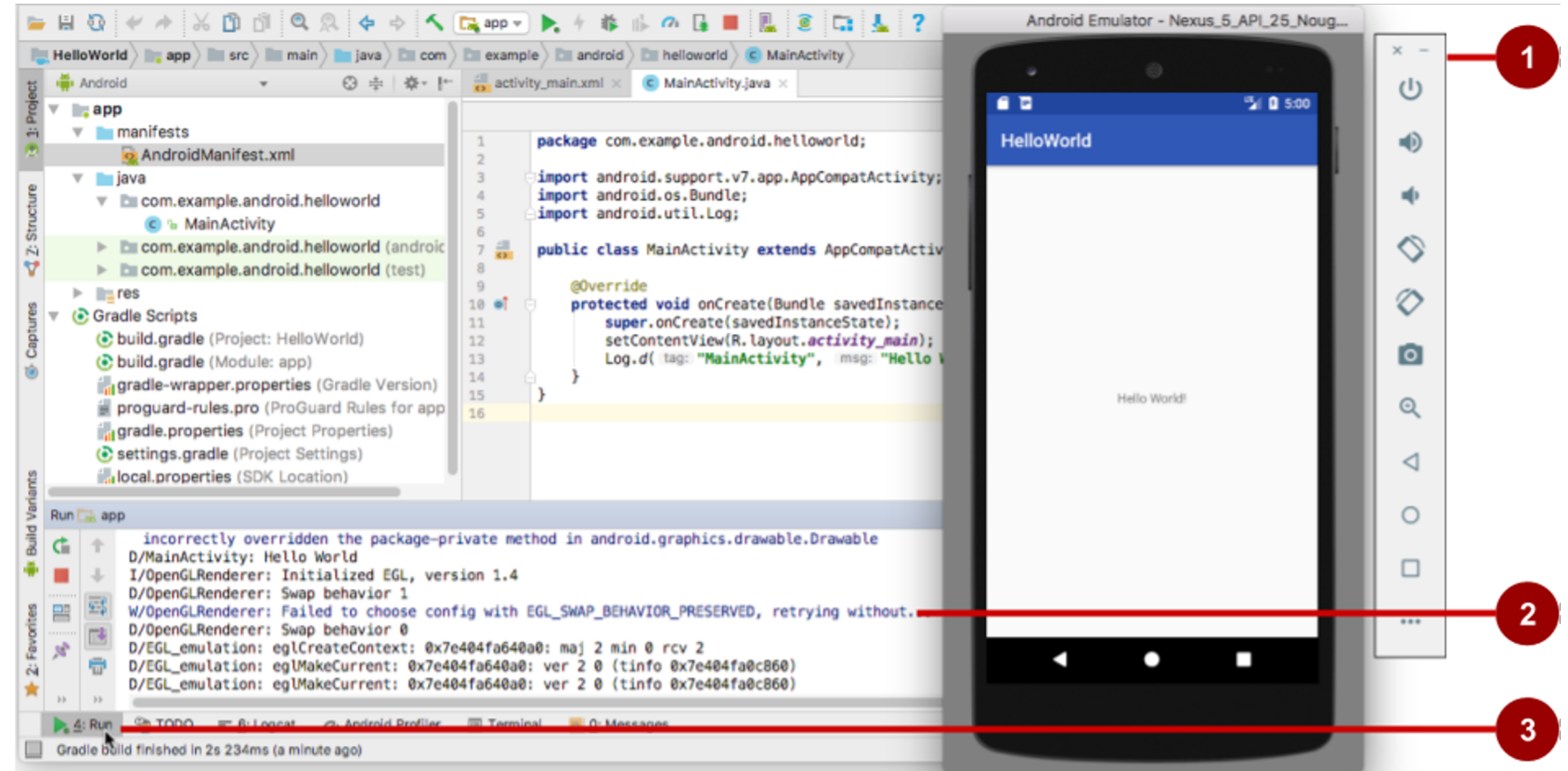
PROJECT FOLDERS

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



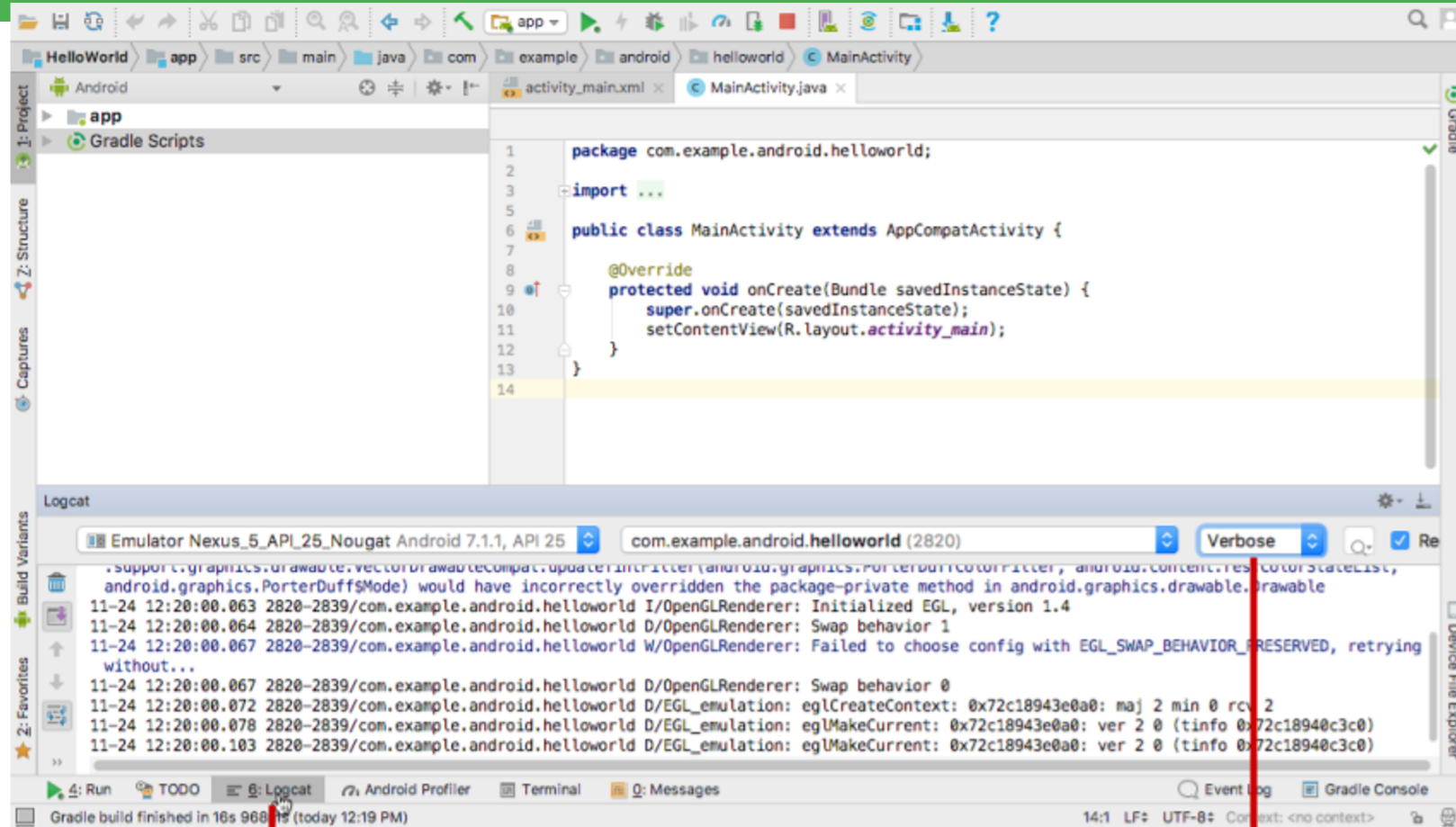
GET FEEDBACK AS YOUR APP RUNS

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



THE LOGCAT PANE

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



1

2



Sumber: Android Developer Fundamentals v2

MEMASUKKAN PESAN PADA LOGCAT PANE

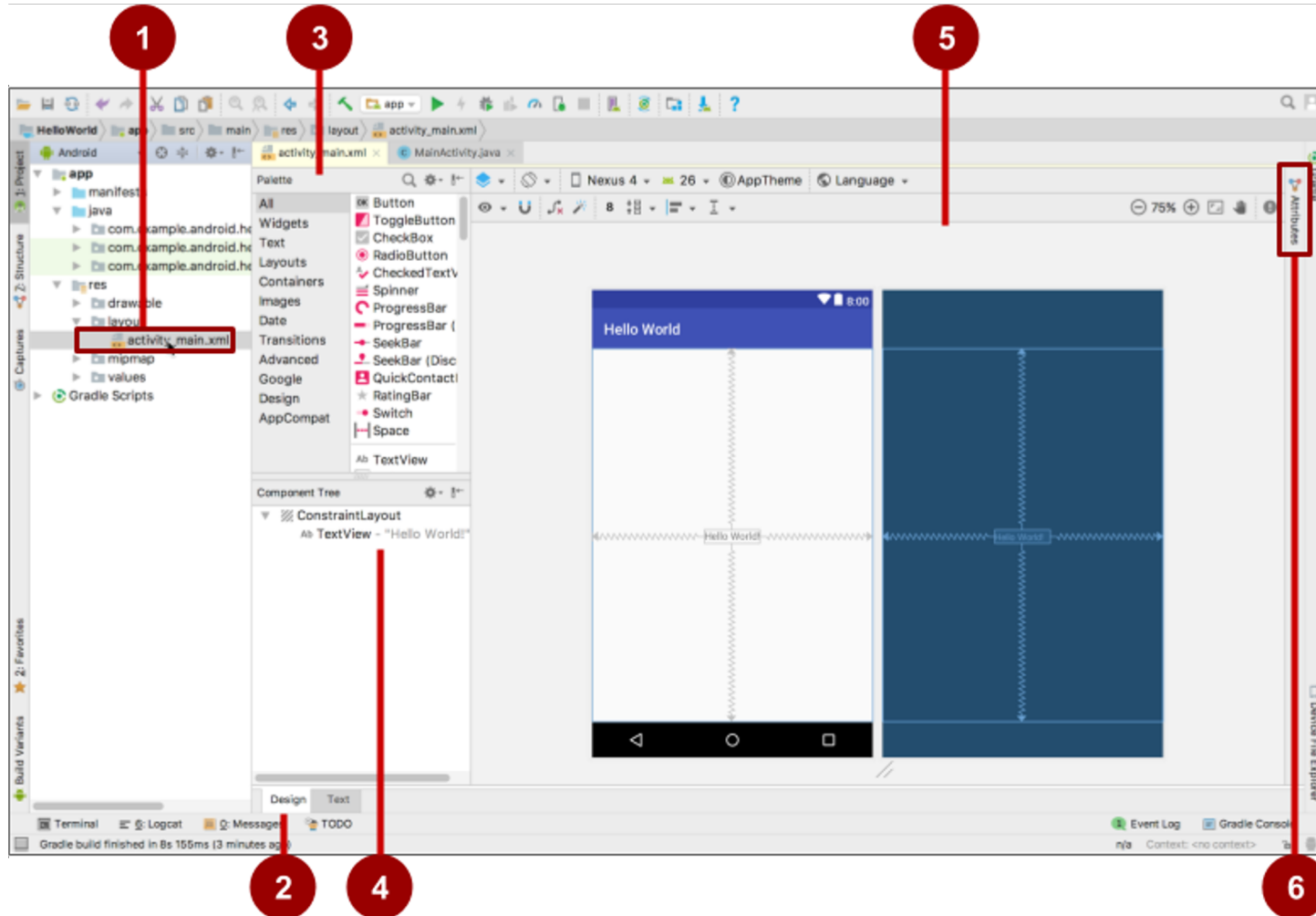
```
import android.util.Log;

// 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



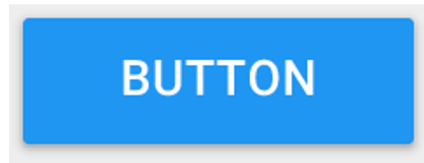
1. XML layout file
2. **Design and Text** tabs
3. **Palette** pane
4. **Component Tree**
5. Design and blueprint panes
6. **Attributes** tab



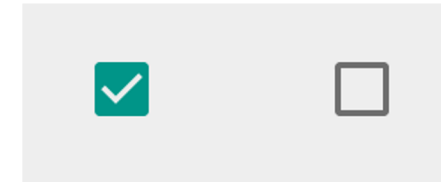
Sumber: Android Developer Fundamentals v2

CONTOH VIEW

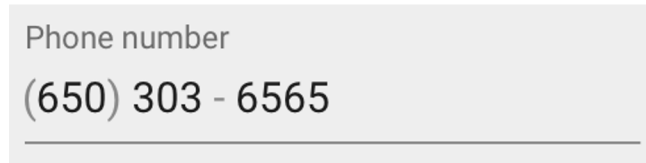
Button



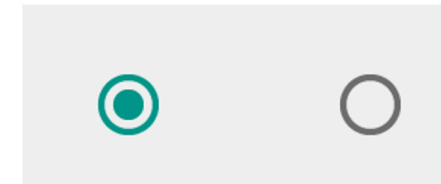
CheckBox



EditText



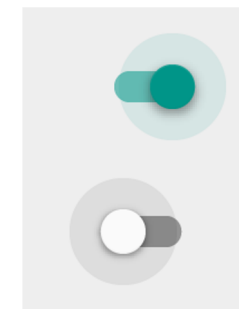
RadioButton



Slider



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

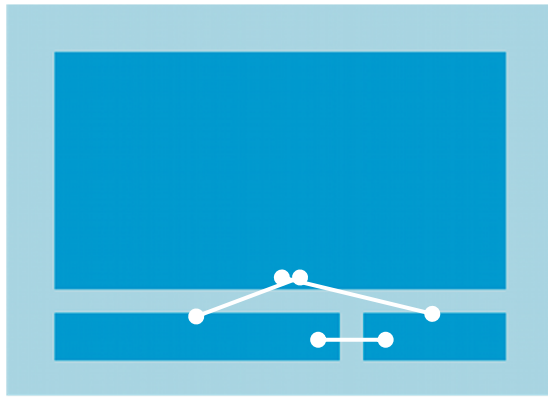
- ConstraintLayout: **Connect views with constraints**
- LinearLayout: Horizontal or vertical row
- RelativeLayout: Child views relative to each other
- TableLayout: Rows and columns
- FrameLayout: Shows one child of a stack of children



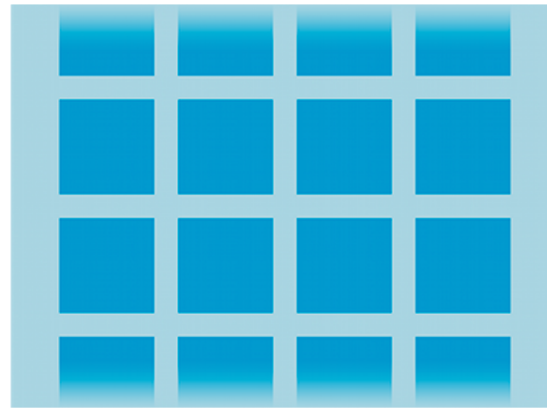
LAYOUT PADA ANDROID (2)



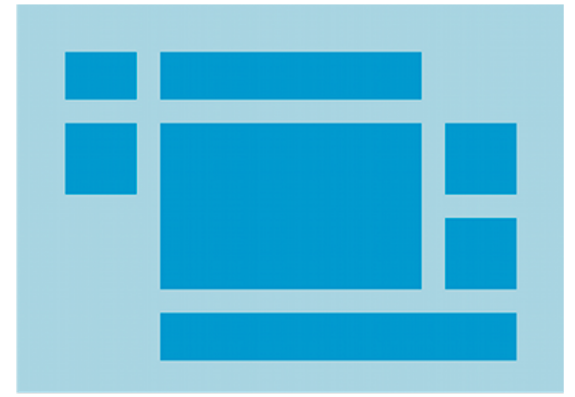
LinearLayout



ConstraintLayout



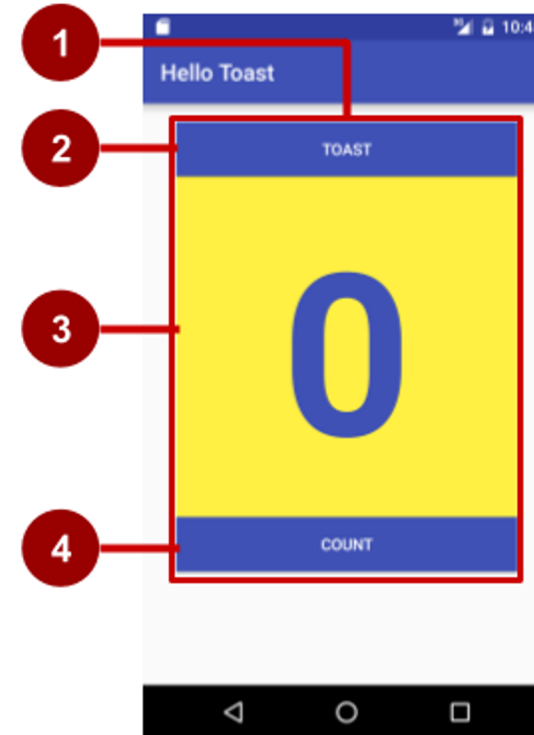
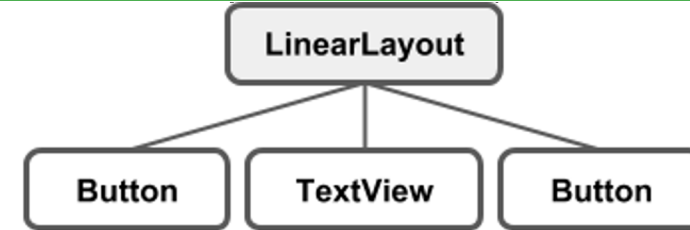
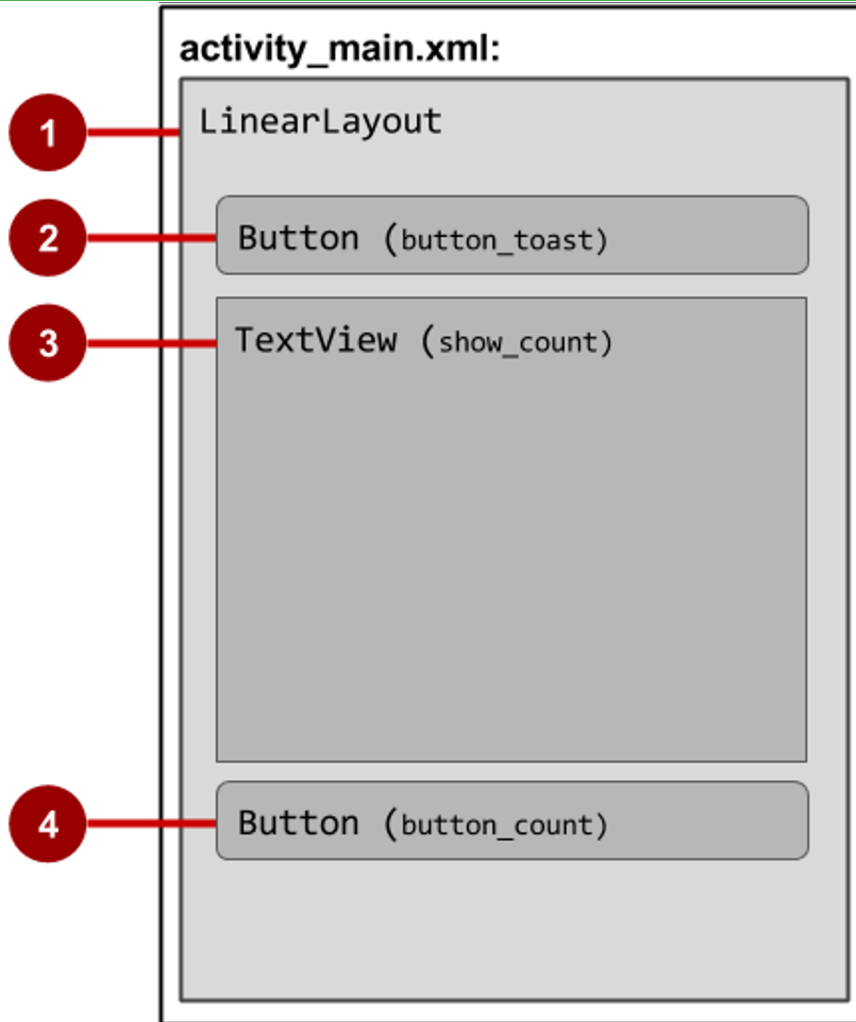
GridLayout



TableLayout



PEMBUATAN LAYOUT SECARA HIRARKI



CONTOH HIRARKI KODE

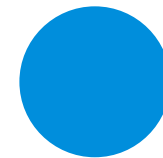
```
<LinearLayout
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <Button
        ... />
    <TextView
        ... />
    <Button
        ... />
</LinearLayout>
```



NEXT . . .



Recycle View



REFERENSI

