



# Мови програмування мобільних пристроїв

## Модуль 1: Основи програмування Android

### Лекція 4. Елементи UI

Кудін Олексій Володимирович  
avk256@gmail.com



# План

1. Типи layout.
2. ConstraintLayout

# Віджети

The screenshot displays the Android Studio interface. At the top, the file explorer shows `activity_main.xml` and `MainActivity.java`. The toolbar includes a search icon, a settings gear, a zoom slider, and a zoom level of 26%. The **Palette** on the left is highlighted with a red box and lists various widgets under categories like **All**, **Widgets**, **Text**, **Layouts**, **Containers**, **Images**, **Date**, **Transitions**, **Advanced**, **Google**, **Design**, and **AppCompat**. The **Component Tree** at the bottom left shows a `ConstraintLayout` containing a `TextView` with the text "Hello World!". The main editor area shows a visual representation of the `TextView` widget on a mobile device screen, with a blue header bar labeled "My Application" and the text "Hello World!" centered on a white background. The right side of the editor shows a blue background with a white zigzag line representing the widget's constraints.

```
<LinearLayout ... >

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:padding="24dp"
    android:text="@string/question_text" />

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <Button
        android:id="@+id/true_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/true_button" />

    <Button
        android:id="@+id/false_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/false_button" />

</LinearLayout>

</LinearLayout>
```

```
public class QuizActivity extends AppCompatActivity {

    private Button mTrueButton;
    private Button mFalseButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_quiz);

        mTrueButton = (Button) findViewById(R.id.true_button);
        mFalseButton = (Button) findViewById(R.id.false_button);
    }

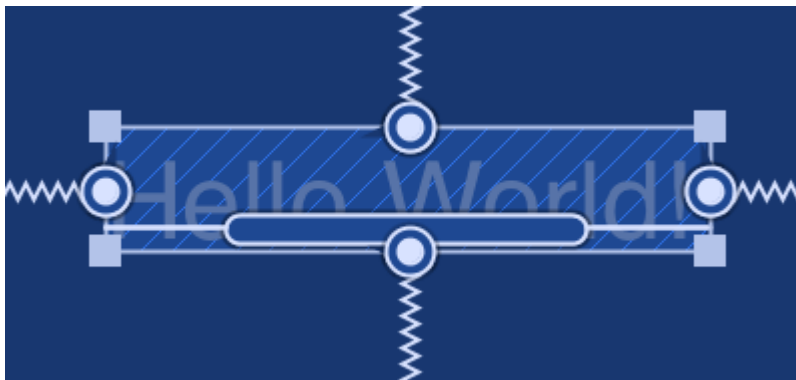
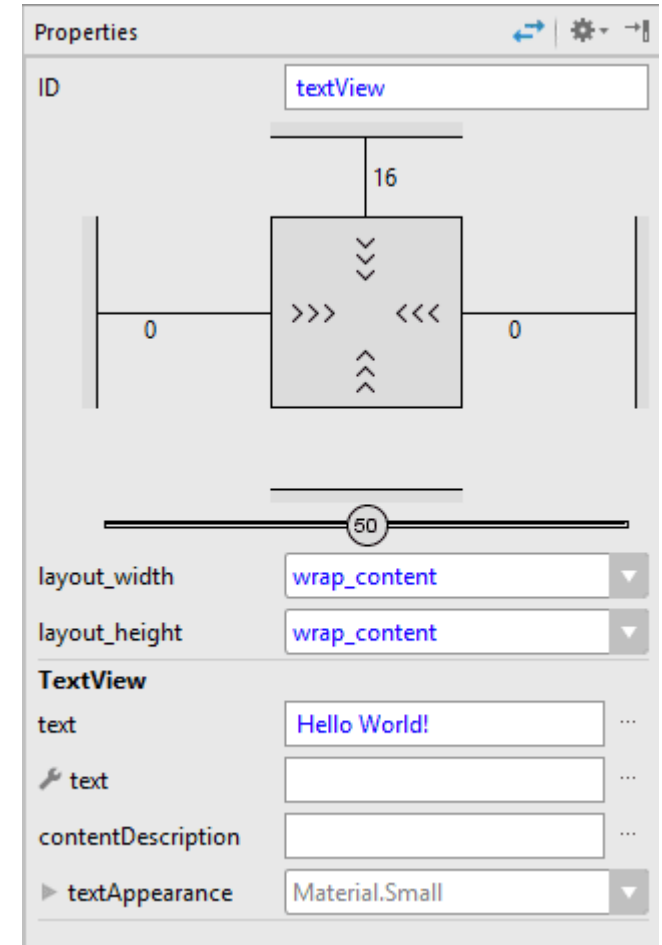
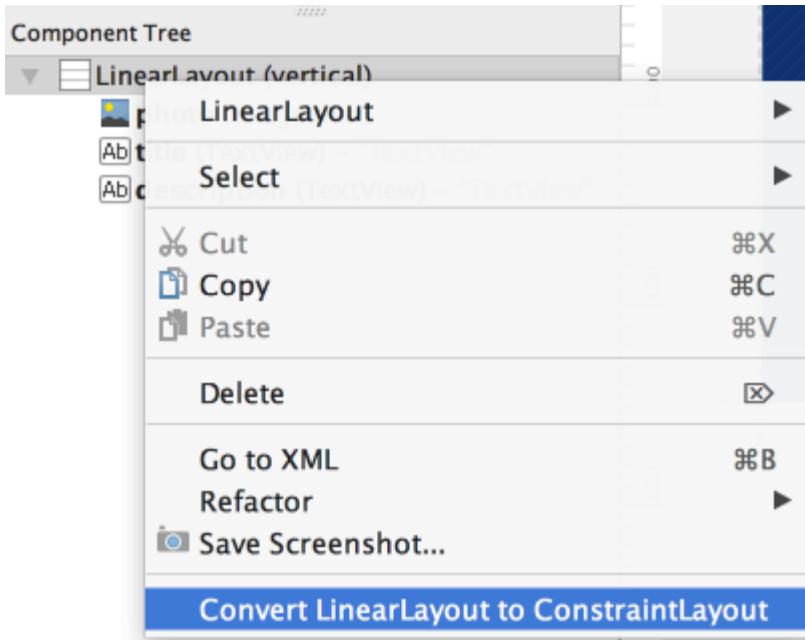
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_quiz);

        mTrueButton = (Button) findViewById(R.id.true_button);
        mTrueButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Пока ничего не делает, но скоро будет!
            }
        });

        mFalseButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(QuizActivity.this,
                    R.string.incorrect_toast,
                    Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

# ConstrainLayout

<https://developer.android.com/reference/android/support/constraint/ConstraintLayout.html>



### Android Адаптер

<https://developer.android.com/reference/android/widget/Adapter.html>

<https://developer.android.com/reference/android/widget/AdapterView.html>

```
ArrayAdapter<String> adapter = new  
ArrayAdapter<String>(this,  
    android.R.layout.simple_list_item_1, myStringArray);
```

```
ListView listView = (ListView) findViewById(R.id.listview);  
listView.setAdapter(adapter);
```