



# Android Class

**#Android Notes**

# Grid View in Android



# Grid View

- Android **GridView** shows items in two-dimensional scrolling grid (rows & columns)
- The list items are automatically inserted to the list using an Adapter that pulls content from a source such as an array or database.



# Properties Of Gridview

No	Attribute Name	Description
1	<b>android:id</b>	This is the ID which uniquely identifies the layout.
2	<b>android:horizontalSpacing</b>	Defines the default horizontal spacing between columns. This could be in px, dp & sp.
3	<b>android:columnWidth</b>	This specifies the fixed width for each column. This could be in px, dp & sp.
4	<b>android:numColumns</b>	Defines how many columns to show.
5	<b>android:verticalSpacing</b>	Defines the default vertical spacing between rows. This could be px, dp & sp.



# What is Adapter ?

- An adapter actually bridges between UI components and the data source that fill data into UI Component.
- Adapter holds the data and send the data to adapter view.
- The view can takes the data from adapter view and shows the data on different views like as spinner, list view, grid view etc.
- The ListView and GridView are subclasses of AdapterView.



# Array Adapter ?

- Array adapter used when your data source is an array.
- By default, ArrayAdapter creates a view for each array item by calling `toString()` on each item and placing the contents in a `TextView`.
- Once you have array adapter created, then simply call **`setAdapter()`** method on your `ListView` object.



# Syntax

## ■ Syntax:-

```
ArrayAdapter adapter = new  
ArrayAdapter<String>(this, R.layout.ListView, StringArray) ;
```

## ■ Here,

- First argument **this** is the **application context**.
- Second argument will be **layout defined in XML file** and having **TextView** for each string in the array.
- Third argument is **an array of strings** which will be populated in the text view.







# Screenshot Of activity\_gridview.xml

The screenshot displays the Android Studio interface with the XML code for `activity_gridview.xml` in the main editor and its visual preview on the right.

**XML Code:**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".GridviewActivity">

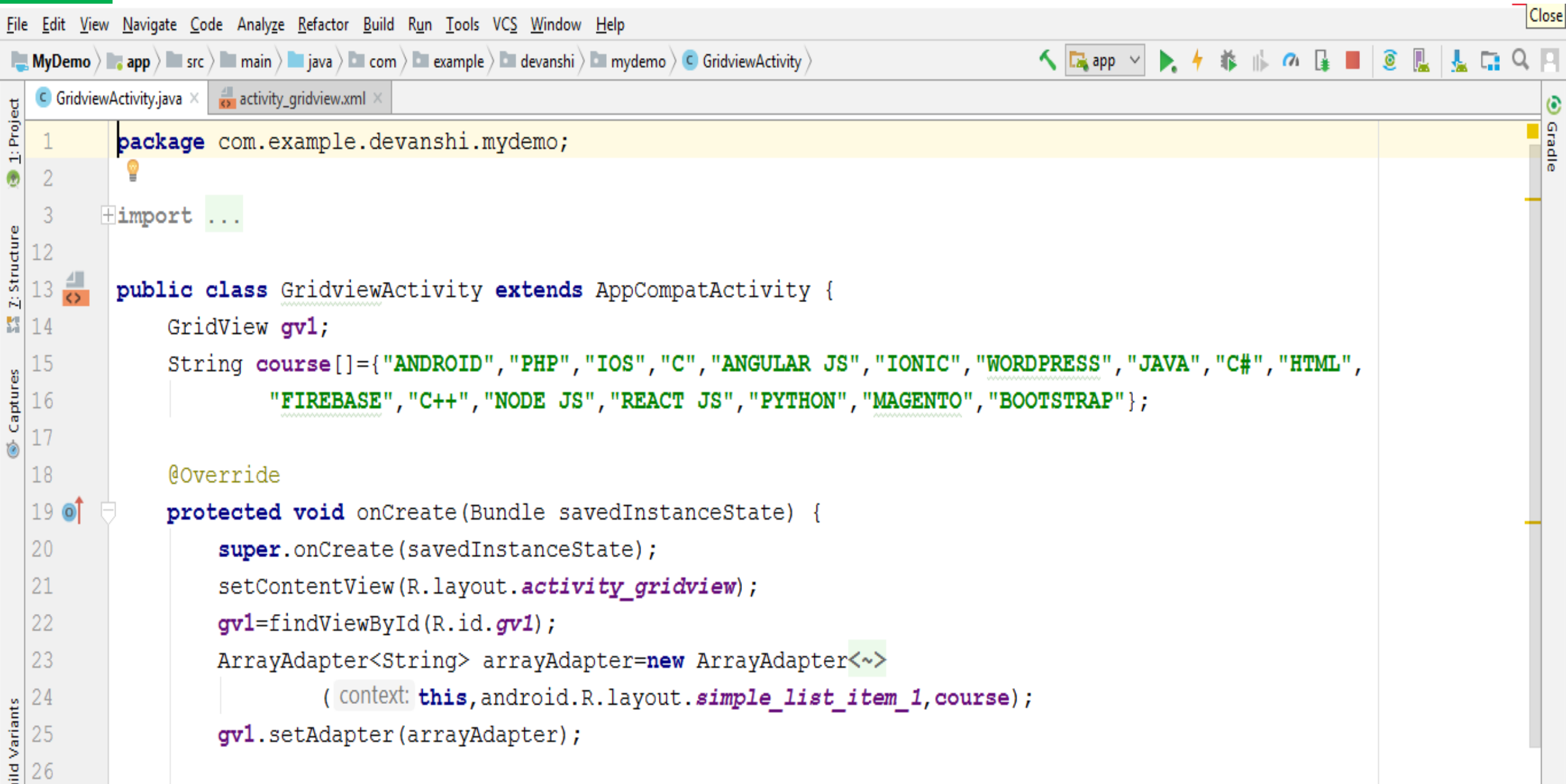
    <GridView
        android:id="@+id/gv1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:numColumns="2">

    </GridView>
</LinearLayout>
```

**Preview:** The preview window shows a Nexus 4 device displaying the app's UI. The app has a blue header bar labeled "MyDemo". Below the header, there is a grid view with 16 items arranged in two columns and eight rows. Each item consists of a main title and a subtitle.

Item 1	Item 2
Sub Item 1	Sub Item 2
Item 3	Item 4
Sub Item 3	Sub Item 4
Item 5	Item 6
Sub Item 5	Sub Item 6
Item 7	Item 8
Sub Item 7	Sub Item 8
Item 9	Item 10
Sub Item 9	Sub Item 10
Item 11	Item 12
Sub Item 11	Sub Item 12
Item 13	Item 14
Sub Item 13	Sub Item 14
Item 15	Item 16
Sub Item 15	Sub Item 16

# Screenshot Of ListViewActivity.java



# Output



# Click Event Of Gridview

- To set click event on every item of Gridview **setOnItemClickListener** is used.

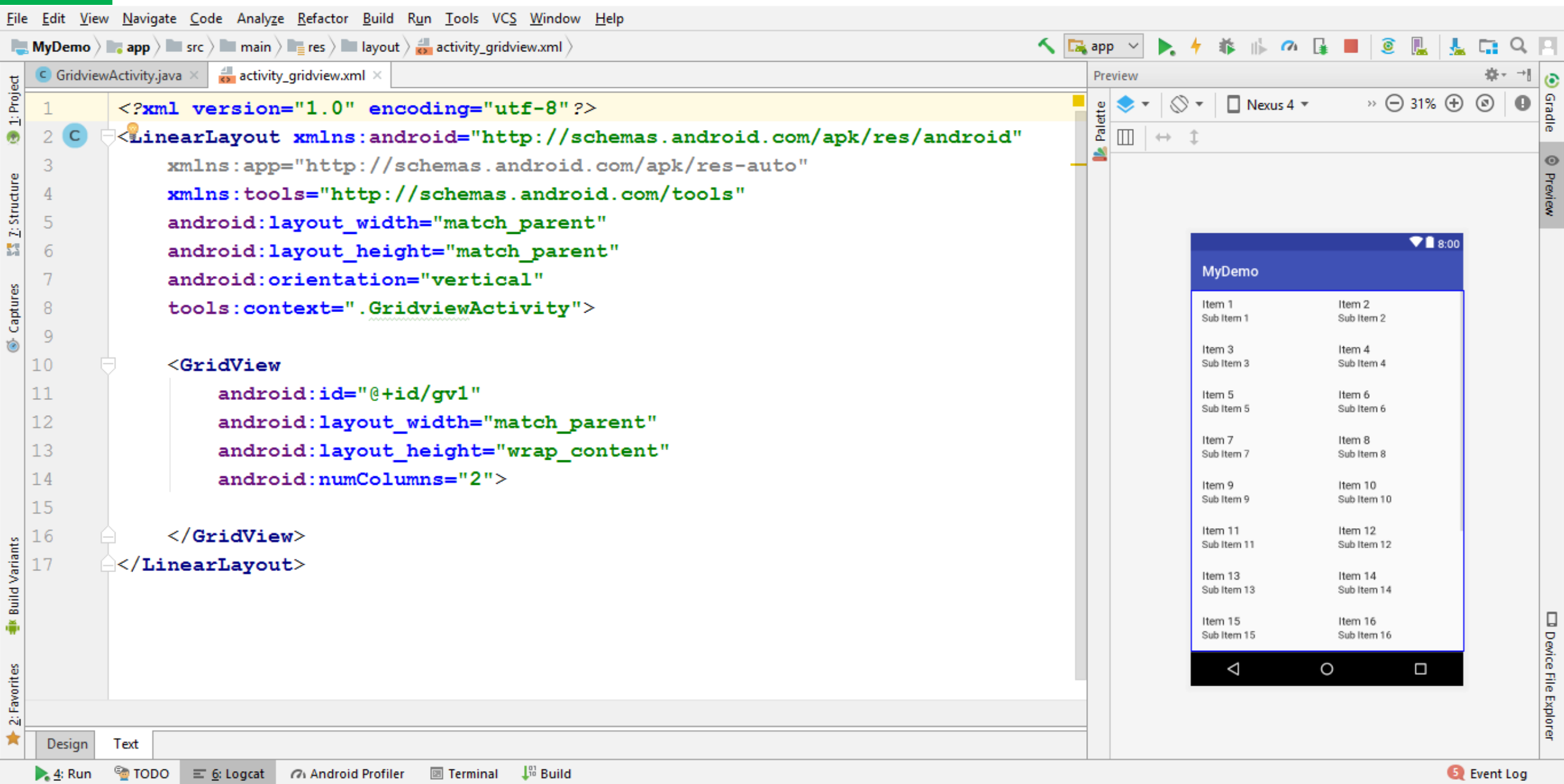
## ■ Syntax:-

```
gridview.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
    @Override  
    public void onItemClick(AdapterView<?> parent, View view, int position, long id)  
    {  
        //Code To Be Executed  
    }  
});
```

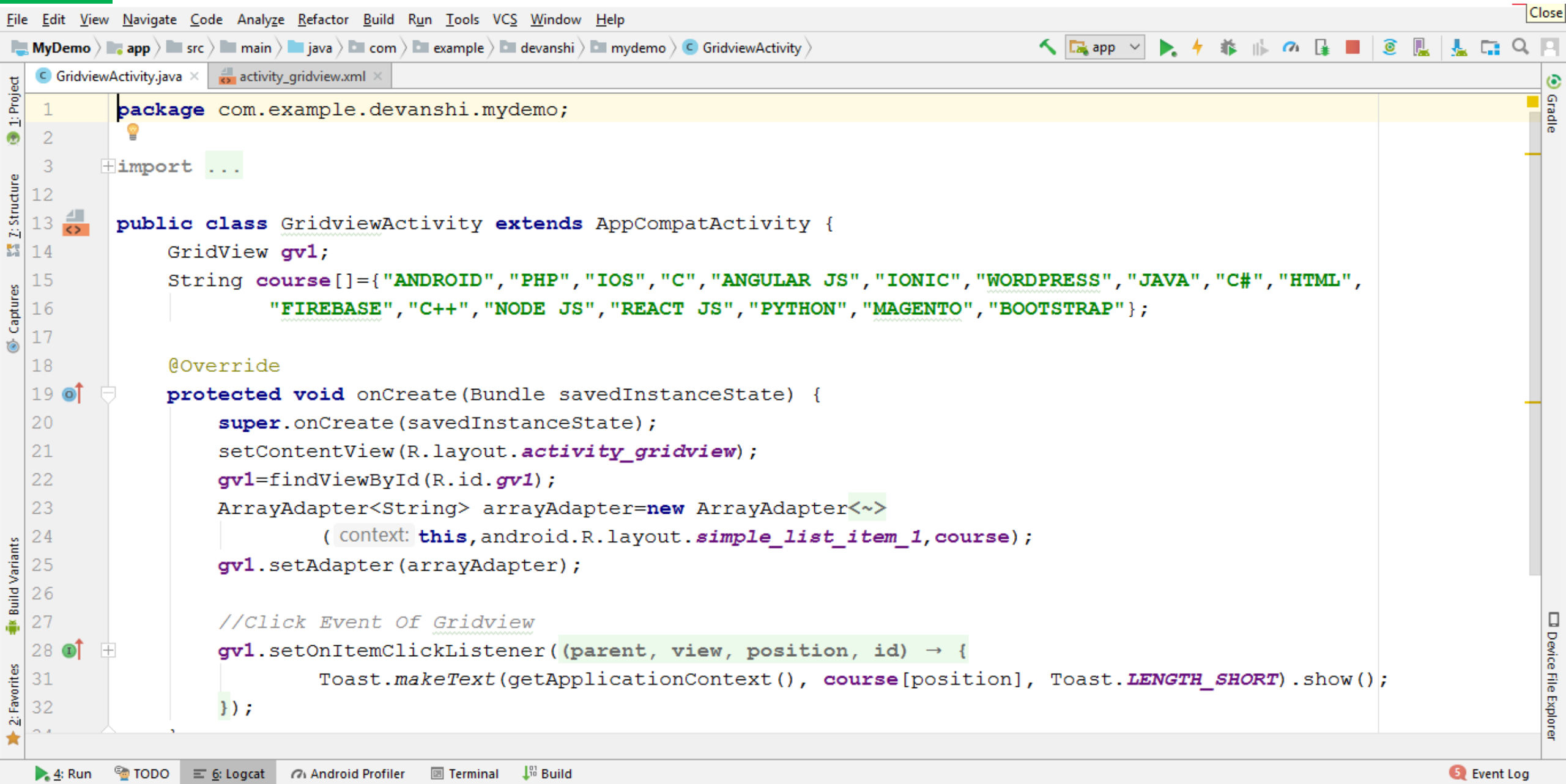




# Screenshot Of activity\_gridview.xml



# Screenshot Of ListViewActivity.java



# Cont...

The screenshot displays the Android Studio IDE with the following components:

- Menu Bar:** File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, Help.
- Breadcrumb:** MyDemo > app > src > main > java > com > example > devanshi > mydemo > GridviewActivity >
- Toolbar:** Includes icons for back, forward, run, debug, and other development tools.
- Editor:** Shows the `GridviewActivity.java` file with the following code:

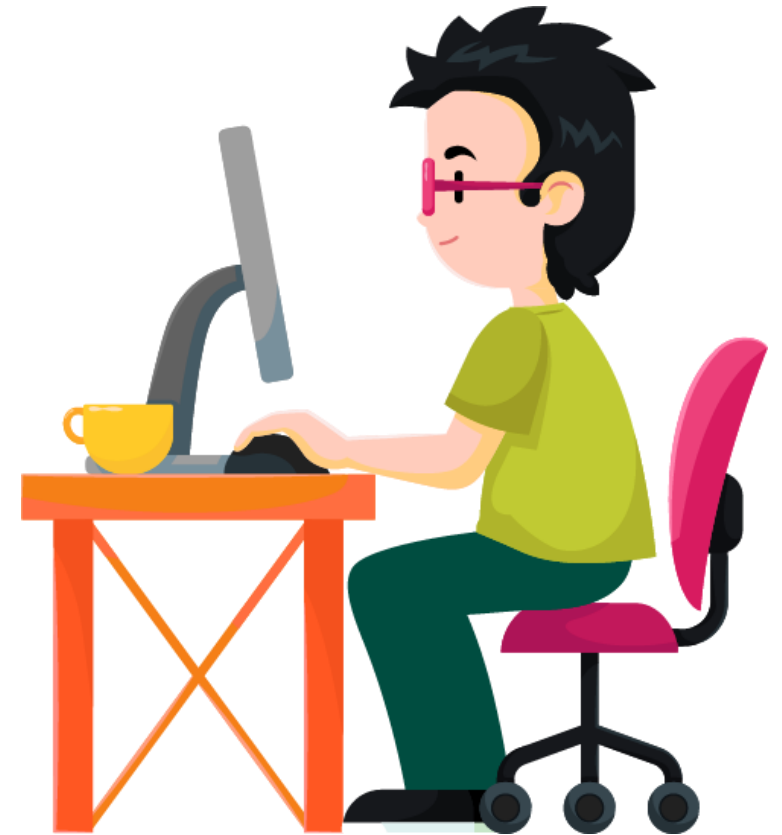
```
15 String course []={ "ANDROID", "PHP", "IOS", "C", "ANGULAR JS", "IONIC", "WORDPRESS", "JAVA", "C#", "HTML",
16     "FIREBASE", "C++", "NODE JS", "REACT JS", "PYTHON", "MAGENTO", "BOOTSTRAP" };
17
18 @Override
19 protected void onCreate(Bundle savedInstanceState) {
20     super.onCreate(savedInstanceState);
21     setContentView(R.layout.activity_gridview);
22     gv1=findViewById(R.id.gv1);
23     ArrayAdapter<String> arrayAdapter=new ArrayAdapter<~>
24         ( context: this, android.R.layout.simple_list_item_1, course);
25     gv1.setAdapter(arrayAdapter);
26
27     //Click Event Of Gridview
28     gv1.setOnItemClickListener((parent, view, position, id) → {
31         Toast.makeText(getApplicationContext(), course[position], Toast.LENGTH_SHORT).show();
32     });
34 }
35
36 }
```
- Left Sidebar:** Contains tabs for Project, Structure, Captures, Build Variants, and Favorites.
- Right Sidebar:** Contains tabs for Gradle and Device File Explorer.
- Bottom Bar:** Includes icons for Run, TODO, Logcat, Android Profiler, Terminal, Build, and Event Log.



# Output



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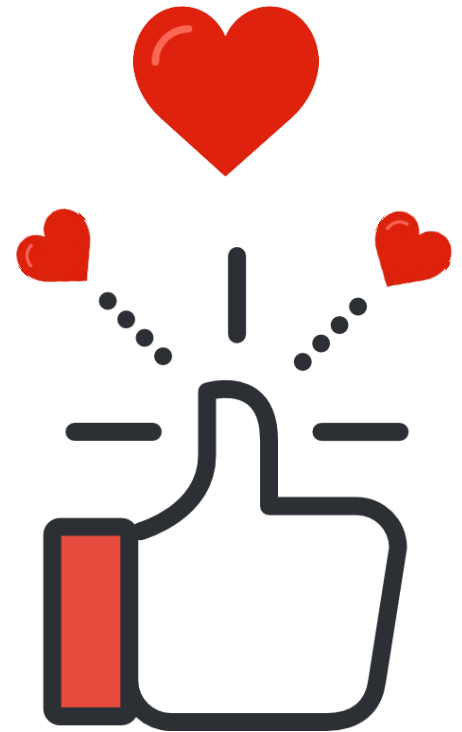
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