

# Working with ListView

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## 1 ListView-Android Widgets(View)

Listview is a view which groups several items and displays them in the vertical scrollable list. The list items are automatically inserted to the list using an entity called as Adapters. Adapters can be of many types, some of the commonly used adapters are

- ListAdapters
- ArrayAdapters

An array adapter receives entries from the data source which can be a string array or database and creates a view for each of the elements with a specified layout. Adapter acts as an interface between the data source and the UI component. The common way to define the Array adapter is as follows,

---

```
ArrayAdapter<type> adapter= new ArrayAdapter<type>(context,  
    layout_to_inflate, datasource) ;  
listview.setAdapter(adapter);
```

---

## 2 Exercise

**Create an Android Application to demonstrate the working of the ListView by creating a country List. On each item click, Display the Item clicked as a Toast Message.**

Following are the steps followed to implement the ListView

1. *Create the Data Source* Navigate to the resource folder, under which go to values folder, open the string.xml and add the following lines

---

```
<string-array name="country">
    <item>India</item>
    <item>China</item>
    <item>Pakistan</item>
    <item>USA</item>
    <item>UK</item>
</string-array>
```

---

2. Create a Listview in activity\_main.xml Change the Layout of the Main activity as LinearLayout and add the following code snippet.

---

```
<ListView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/list"/>
```

---

3. Create a Layout for each of the view component of the List as textview\_layout.xml. Add the following code snippet.

---

```
<?xml version="1.0" encoding="utf-8"?>
<TextView
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="Content"
    android:textSize="40dp"
/>
```

---

4. Instantiate the ListView object in the MainActivity.java and create a String array as follows,

---

```
ListView myList ;
String countryList[] ;
```

---

5. On the onCreate(), assign the XML object of the listview to the ListView object of the JAVA. At the same time, fetch the resource array from string.xml and assign it to the countryList[] array as follows,

---

```
myList = findViewById(R.id.list) ;
countryList = getResources().getStringArray(R.array.country) ;
```

---

6. Create a Array Adapter class and pass the context, layout for each view, data-source as arguments.

---

```
ArrayAdapter<String> arrayAdapter = new  
    ArrayAdapter<String>(this, R.layout.textviewlayout,  
        countryList);
```

---

7. Add the array adapter to the Listview using setAdapter() function,

---

```
myList.setAdapter(arrayAdapter);
```

---

8. Finally add the event Listener called onItemClickClickedListener to the List items as follows,

---

```
myList.setOnItemClickListener(new  
    AdapterView.OnItemClickListener() {  
    @Override  
    public void onItemClick(AdapterView<?> parent, View view, int  
        position, long id) {  
        Toast.makeText(MainActivity.this, "You have  
            clicked:" +parent.getItemAtPosition(position),  
            Toast.LENGTH_SHORT).show();  
    }  
});
```

---

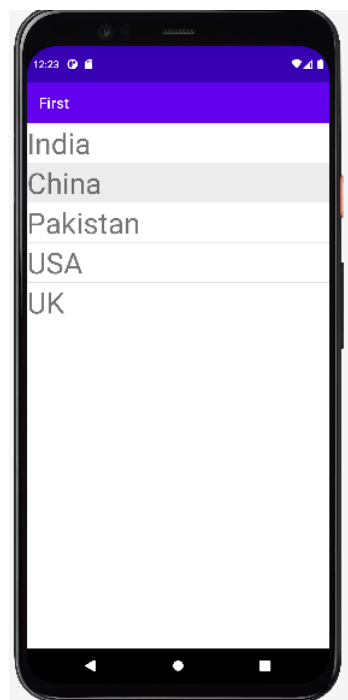


Figure 1: Output