DataSource
- Cursor
- ArrayList

Adapter

Adapter View
- List View
- Grid View
- Spinner

The adapter converts an ArrayList of objects into View items loaded into the ListView container. It is used to populate a ListView with the data.

Adapter

The Adapter fits **in between an ArrayList (data source) and the ListView (visual representation)** and configures two aspects:

- **Which array to use as the data source for the list**
- **How to convert any given item in the array into a corresponding View object**

Row View Recycling

When your ListView is connected to an adapter, the adapter will instantiate rows until the ListView has been fully populated with enough items to fill the full height of the list. At that point, no additional row items are created in memory.

Instead, as the user scroll through the list, **items that leave the screen are kept in memory for later use** and then every new row that enters the screen **reuses an older row kept around in memory**. In this way, even for a list of 1000 items, only ~7 item view rows are ever instantiated or held in memory.

	Item 1	
Item 1	Item 2	Item 2
Item 2	Item 3	Item 3
Item 3	Item 4	Item 4
Item 4	Item 5	Item 5
Item 5	Item 6	Item 6
Item 6	Item 7	Item 7
Item 7		Item 8

Item 1

Type 1

Type 2

Type n

Recycler

View getView(int position, View convertView, ViewGroup parent)

Item 8

android.amberfog.com