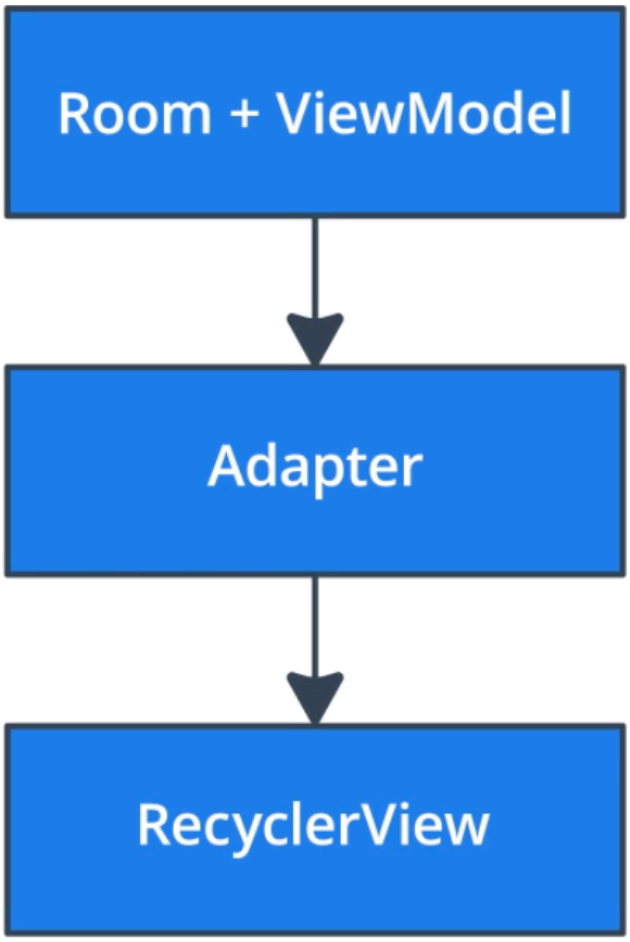
Lesson 7: RecyclerView

Introduction

RecyclerView is designed to be efficient even when displaying extremely large lists. It allows you to build everything from simple lists of textviews to very complex collections of views.

Adapter

Converts one interface to work with another. An adapter is used to adapt data into something that can be used by RecyclerView.



Adapter Interface

RecyclerView adapters must provide a few methods for RecyclerView to understand how to display the data on screen.

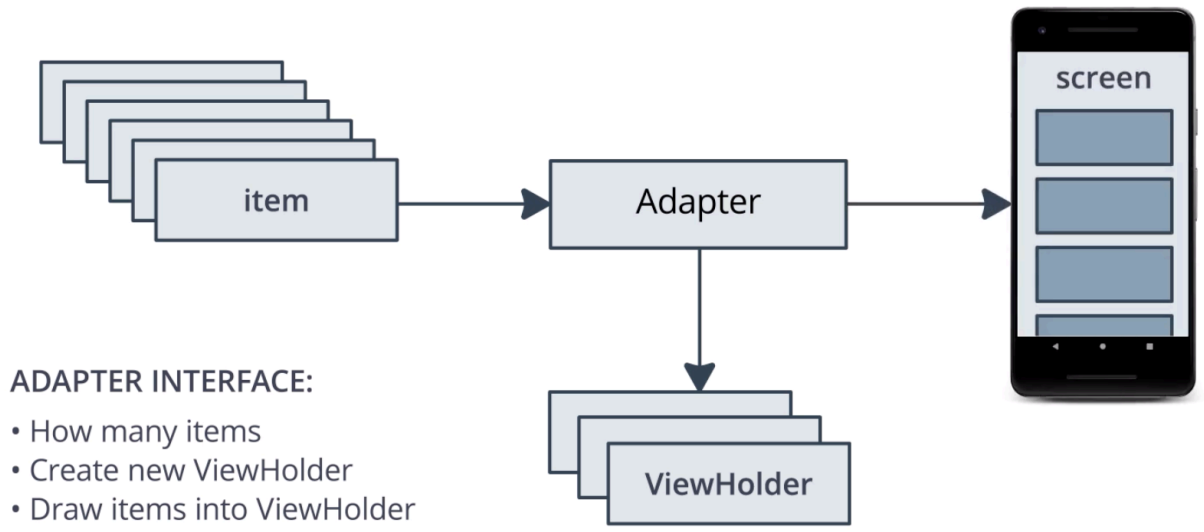
- How many items
- How to draw an item
- Way to create a new view for an item

ViewHolder

RecyclerView doesn't interact with views, but instead it iteracts with ViewHolders.

- Holds Views
- Stores information for RecyclerView
- RecyclerView's main interface

The Adapter will take care of providing any ViewHolders that the RecyclerView needs.



Improving Data Refresh

notifyDataSetChanged()

Tells RecyclerView that the entire list is potentially invalid. As a result, RecyclerView has to re-bind and re-draw every item in the list, even if the updated item isn't on the screen.

Better way → tell RecyclerView exactly what changed.

DiffUtil

Helper for RecyclerView adapters that calculates changes in lists and minimizes modifications.

It will take an old list and a new list and figure out the differences.

DiffUtil Benefits

- Only redraw changed items
- Animate by default
- Efficient