## CODE NOTES – LiveStock App

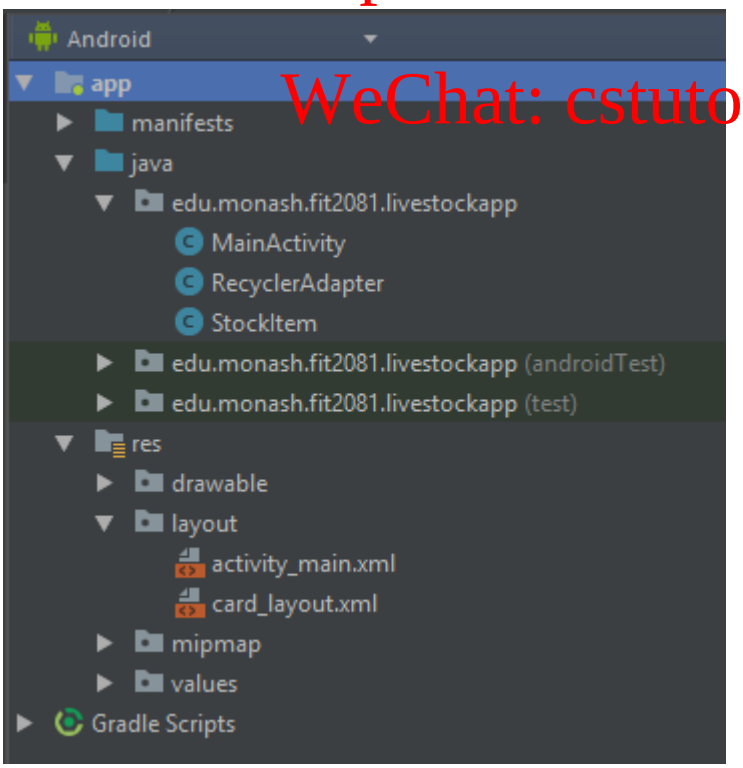
This app is very similar to CardDemo_AppBar2081Student App in terms of structure and function. The main difference is the data source as the CardDemo uses synthetic data while this App (LiveStock) retrieves its data from a real web server using HTTP requests.

### App Structure

The app consists of three classes, which are:

- MainActivity:
  - Inflate the layout
  - Send HTTP GET request
  - Parse the response and generate the list of items
  - Create and setup the ArrayAdapter
- RecyclerAdapter
  - Accept the list of items from the MainActivity class
  - Build card views
  - Bind data to the card views
- StockItem:
  - Represents one item
  - Has four attributes which are: title, open, close, and volume of the stock.





## Data Source

The app sends a request to https://www.alphavantage.co/ to get the live updates of stocks.

The request is:

https://www.alphavantage.co/query?function=TIME_SERIES_INTRADAY&symbol=GOOGL&interval=15min&apikey=PU8GPVJCDYMBBAQF

Where:

| | |
|---|---|
| **https://www.alphavantage.co** | **The remote server** |
| **TIME_SERIES_INTRADAY** | The required function |
| **GOOGL** | Stock Symbol (Google) |
| **15min** | Interval. Other values:5min, 10min,30min |
| **PU8GPVJCDYMBBAQF** | Apikey (Free and lifetime) |

## Response Sample




```
{
    "Meta Data": {
        "1. Information": "Intraday (15min) prices and volumes",
        "2. Symbol": "GOOGL",
        "3. Last Refreshed": "2018-03-29 16:00:00",
        "4. Interval": "15min",
        "5. Output Size": "Compact",
        "6. Time Zone": "US/Eastern"
    },
    "Time Series (15min)": {
        "2018-03-29 16:00:00": {
            "1. open": "1039.3800",
            "2. high": "1043.2300",
            "3. low": "1035.0450",
            "4. close": "1039.4000",
            "5. volume": "410864"
        },
        "2018-03-29 15:45:00": {
            "1. open": "1042.9150",
            "2. high": "1043.2150",
            "3. low": "1038.0000",
            "4. close": "1039.4100",
            "5. volume": "62081"
        },
        "2018-03-29 15:30:00": {
            "1. open": "1046.1300",
            "2. high": "1047.3700",
            "3. low": "1041.0000",
            "4. close": "1043.0900",
            "5. volume": "41421"
        }
.
.
.
```


Notes:

- The response is an object
- The first child object “Meta Data” has 6 items describe the response.
- The second object "Time Series (15min)" contains a list of items (list of objects) represent the stock updates
- The app has to create a view (card) for each object (2018-03-29 16:00:00 or 2018-03-29 15:30:00