Android Bootcamp 2014

Currency Converter

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DEVELOPERACADEMY

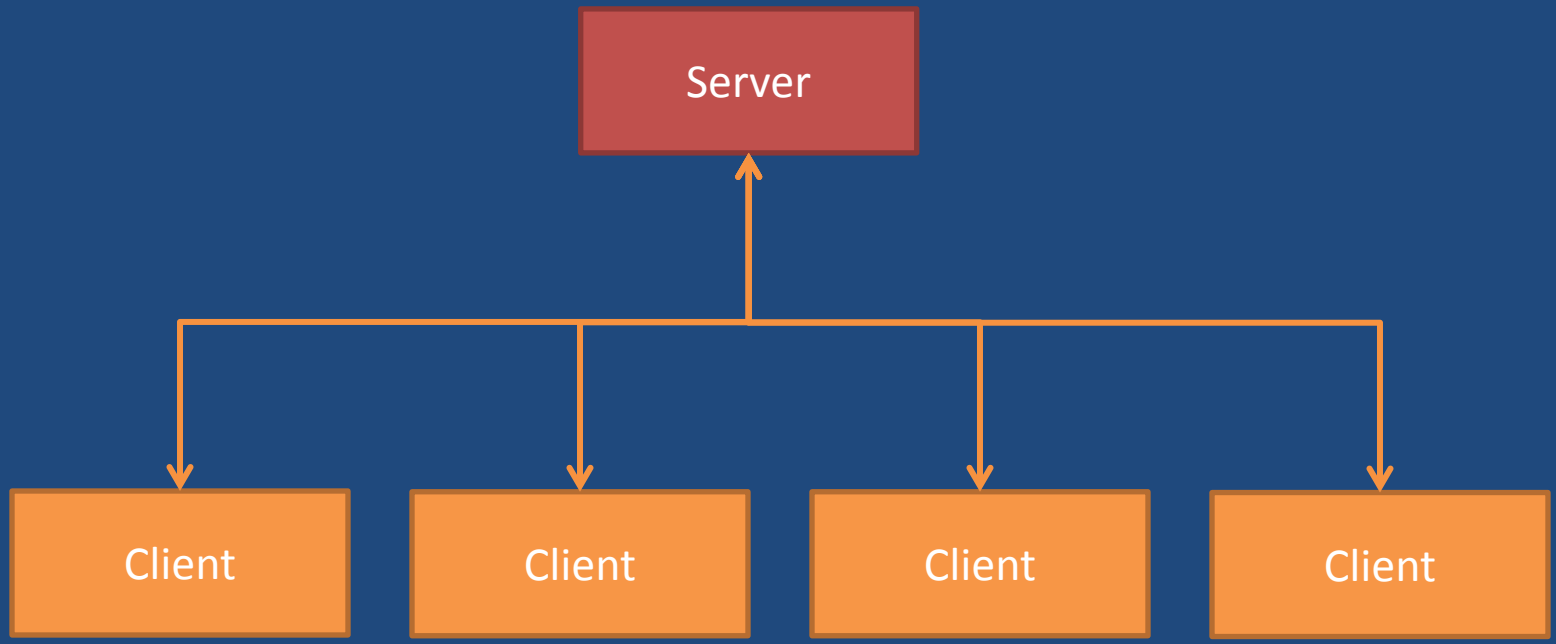
Agenda

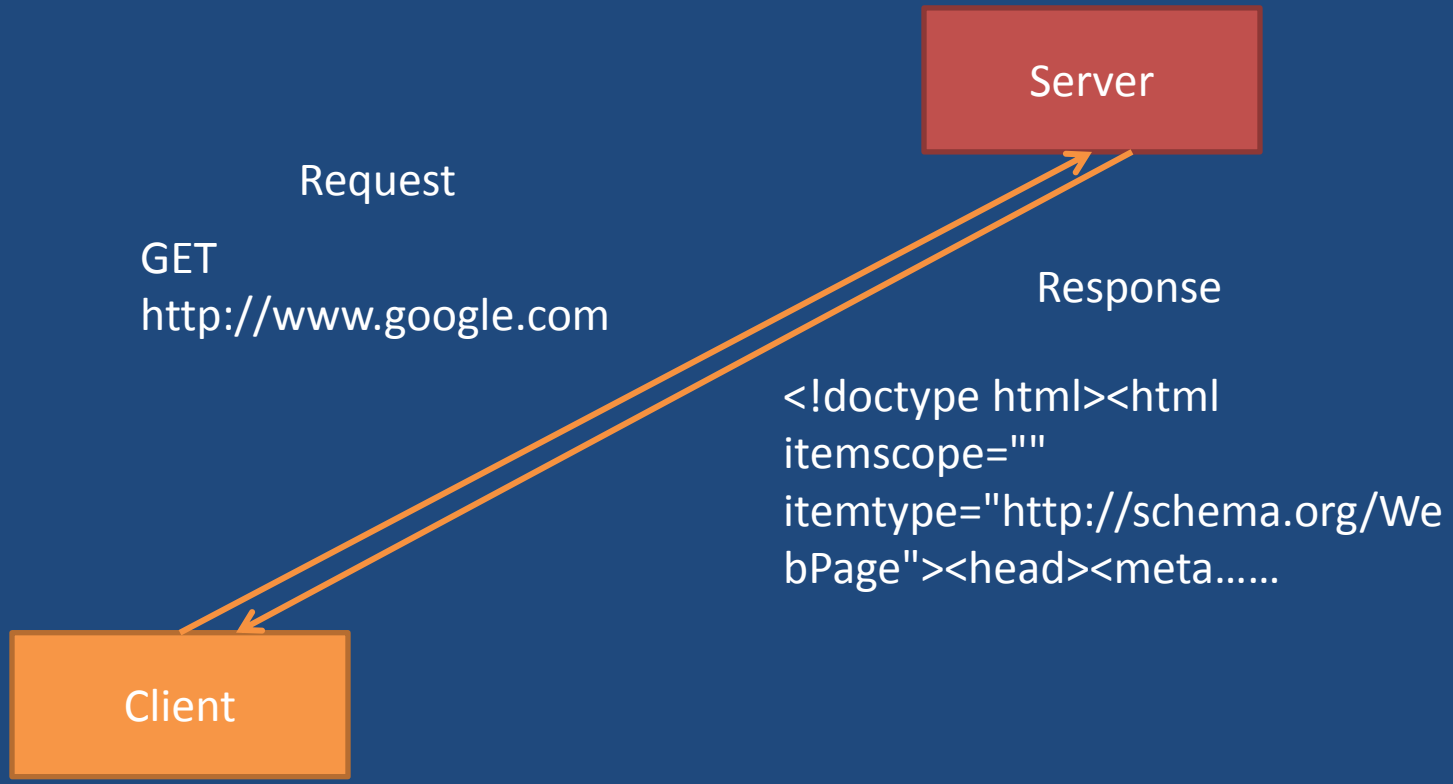
- Create Layout and View
- Connecting XML view to code
- Dialog
- Networking
- JSON parsing
- Preferences

Hands On

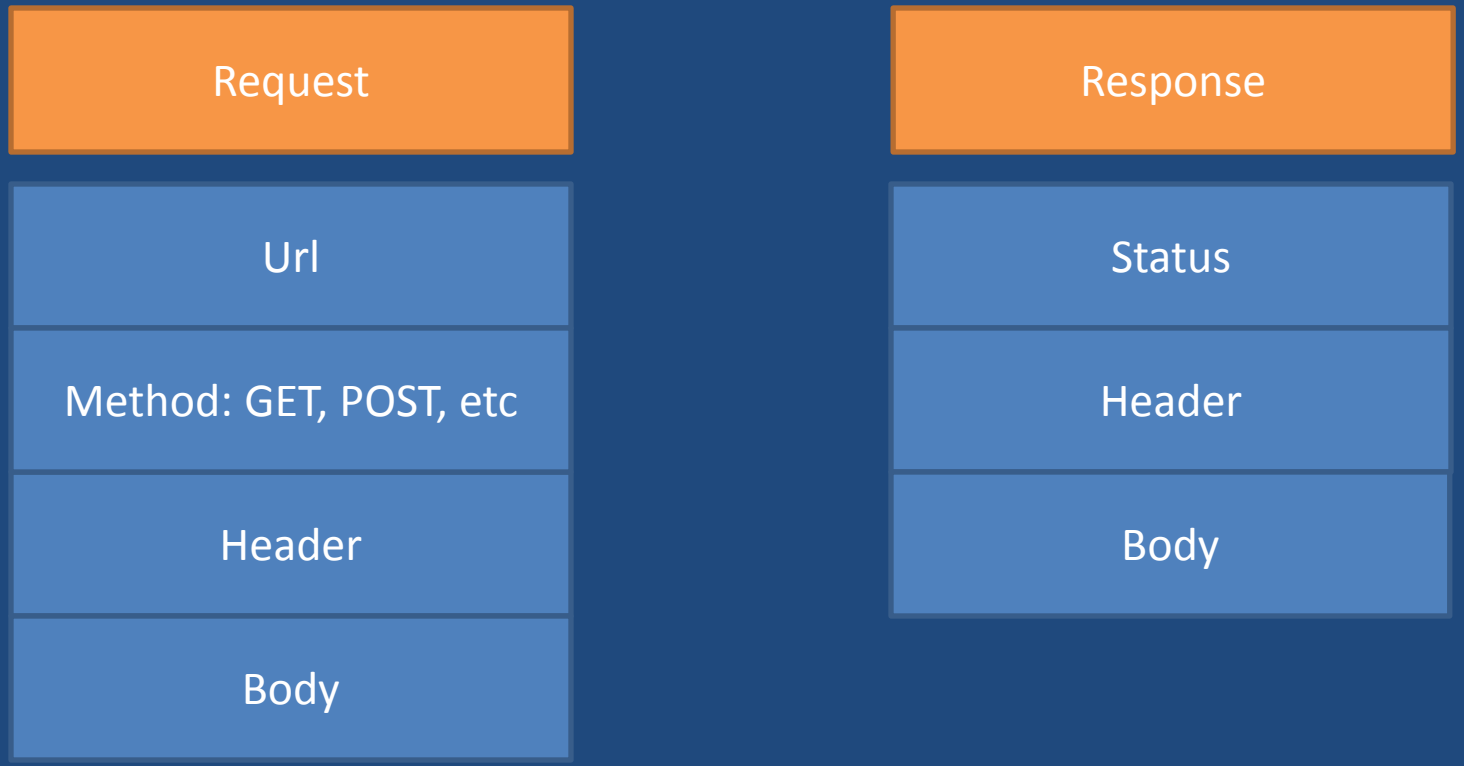
- Create Layout and View
- Connecting XML view to code
- Dialog

Server Client Model



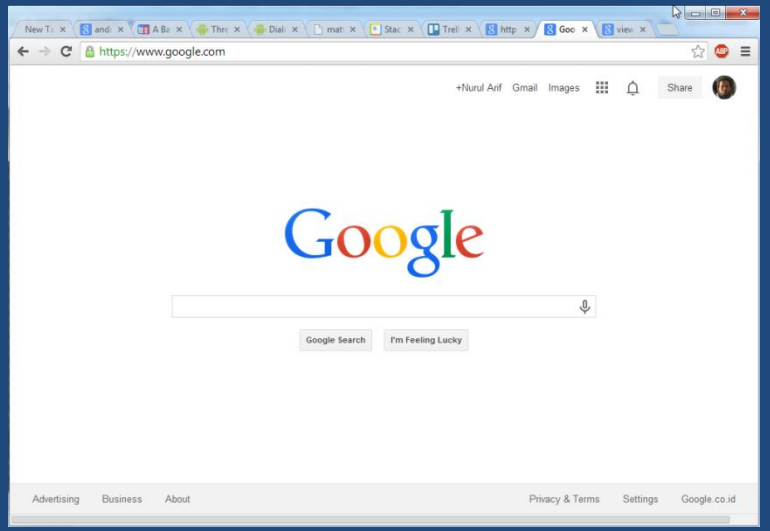

Server
Request
GET
http://www.google.com
Response
<!doctype html><html
itemscope=""
itemtype="http://schema.org/We
bPage"><head><meta……
Client

HTTP Request Response



Client

<!doctype html><html itemscope="" itemtype="http://schema.org/WebPage"><head><meta……



HTTP GET and POST

- GET – Getting data, Obtaining resource
- POST – Updating information on Server
  - Has body

JSON

- JavaScript Object Notation
- Describe data in key and value

```
“person” : {
        “name” : “John”,
        “email” : “john@email.com”,
        “phones” : [
                “0123456789”,
                “987654321”
        ]
}
```

Parsing JSON

- Get element in JSON and put into Java (or others programming languages) data types.
- Why?

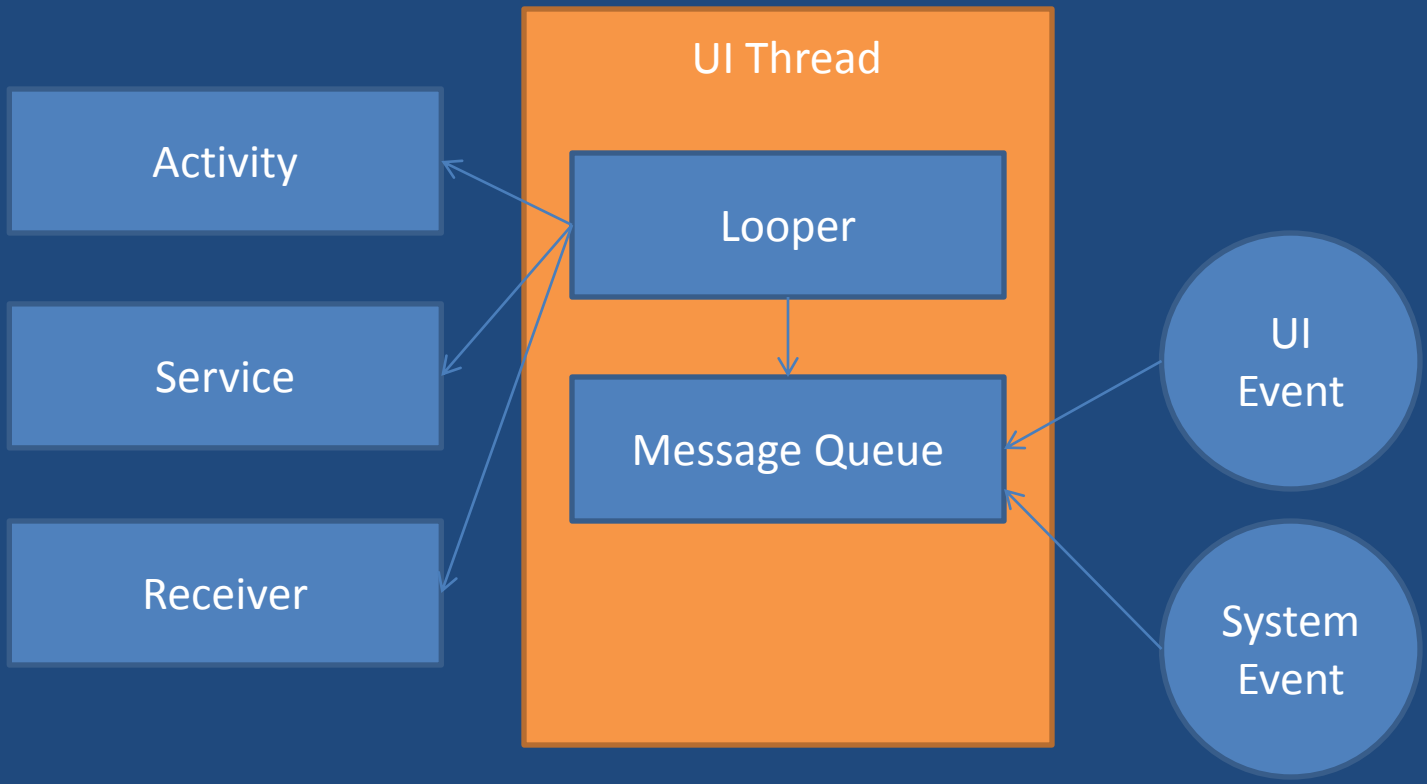
Hands On

- HTTP Request in Android

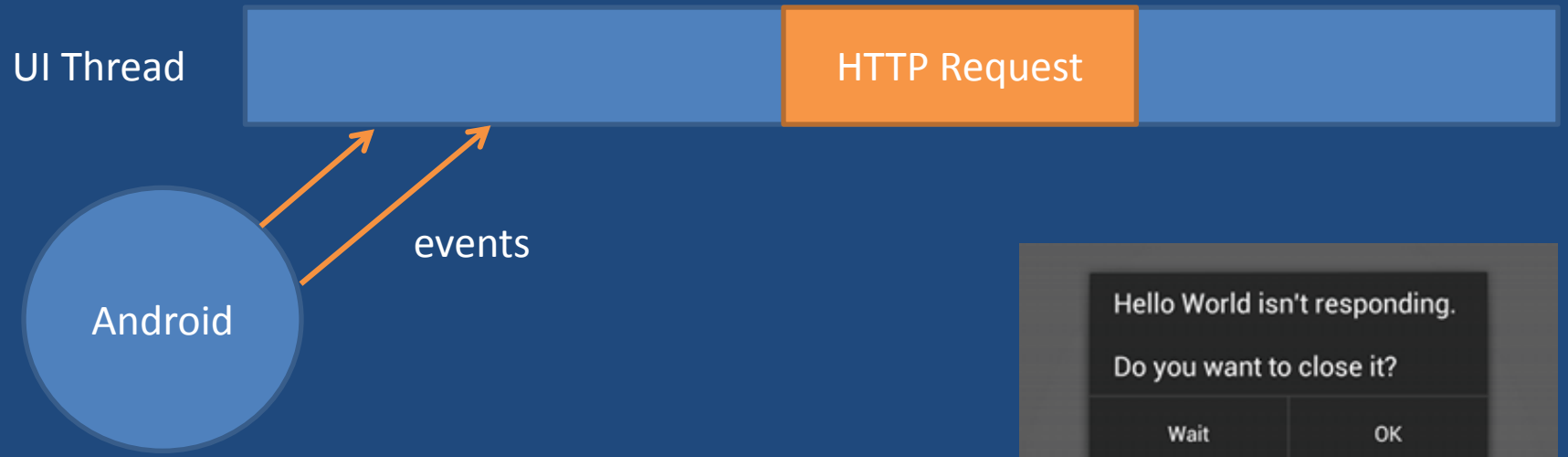
Thread

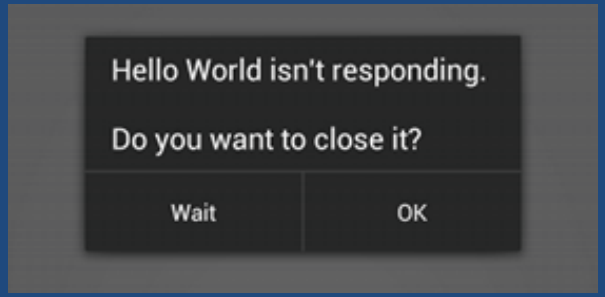
- A Thread is a concurrent unit of execution.
- A Process can have multiple thread. It’s called concurrency
- By default one app runs on one thread called UI thread
- Rule : DO NOT BLOCK UI THREAD!

Process


UI Thread
Activity
Looper
Service
Message Queue
Receiver
UI
Event
System
Event

Blocking UI Thread





Hands on

- Multithread in Android

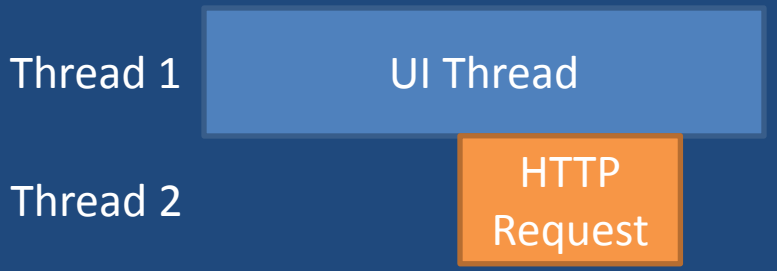
AsyncTask

```
private class DownloadCurrencyData extends AsyncTask<String, Void, String> {

  // This runs in other thread
  @Override
  protected String doInBackground(String... urls) {

    try {
      // TODO
      // Download code here
    } catch (IOException e) {
      return "Unable to retrieve web page. URL may be invalid.";
    }
  }

  // This runs in UI thread
  @Override
  protected void onPostExecute(String result) {
    // Parse JSON here
  }
}
```



Hands on

- Parsing JSON
- Store data with SharedPreferences