

Processing and Android

TU / **e**

Technische Universiteit
Eindhoven
University of Technology

Where innovation starts

Mind this...

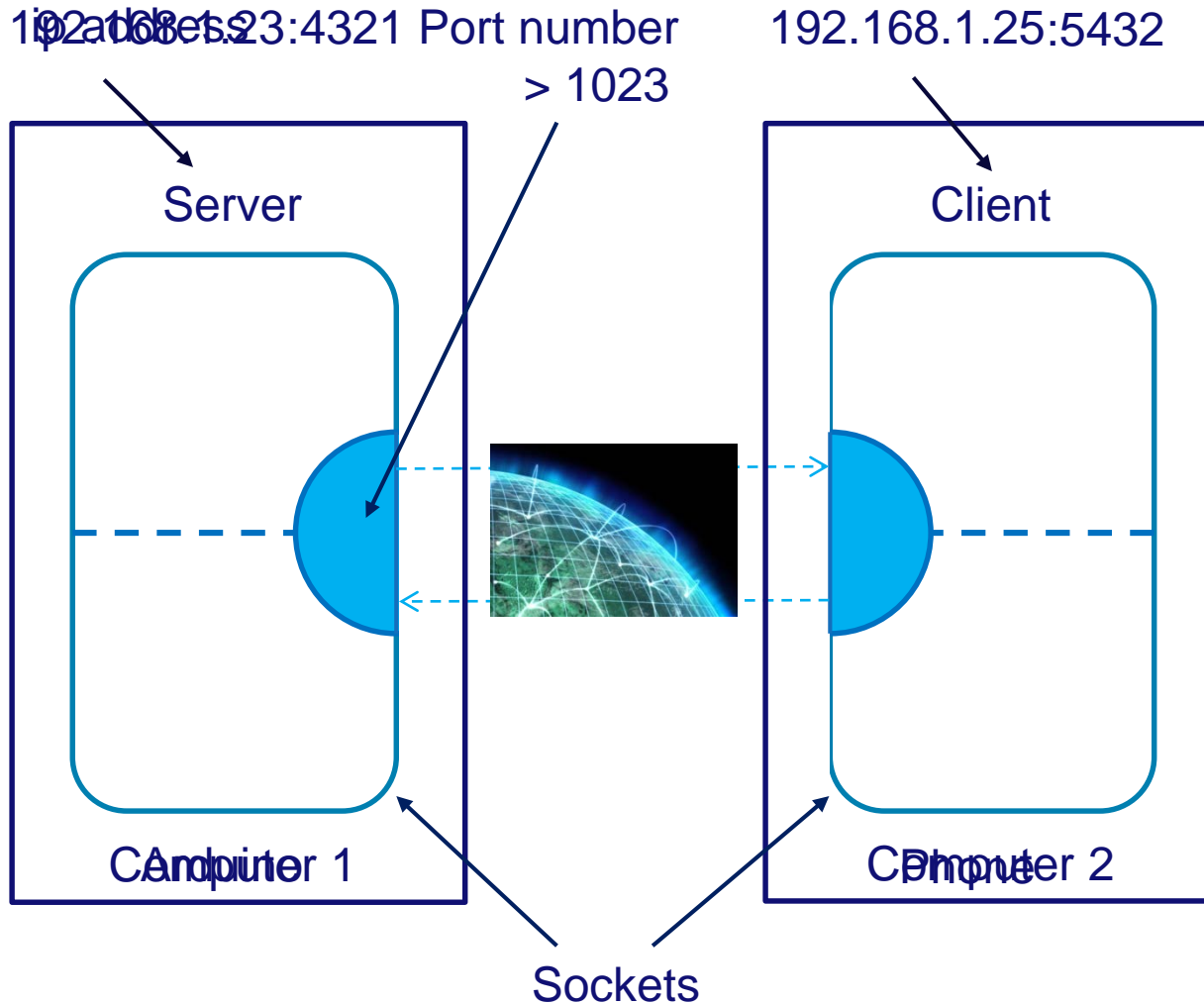
- **Check the wiki (location changes)**
- **Permissions are required to access resources.**
 - **access_fine_location (gps)**
 - **Internet**
 - **...**

Use of Internet

Today

- **Some (practical) networking theory**
- **Client / Server**
- **Use of Web APIs**

Networking



Client / Server

- **Sever waits for client to connect**
 - Uses port number (>1024)
- **Client connects to server**
 - Need to know ip address and port of server
- **Remember permissions!!!**
- **Remember net.jar for Android sketch!!!**
(Present in the examples on the wiki)



Web API

- **Set of HTTP request messages**
- **Structured responses**
 - **Extensible Markup Language (XML)**
 - **JavaScript Object Notation (JSON)**
- **Register for API use**
 - <http://apis.io/>
 - <http://www.programmableweb.com/>
 - **E.g.** <https://developer.nytimes.com/>

Example: NYT API usage

```
String baseURL = "http://api.nytimes.com/svc/search/v2/articlesearch.json";  
String word = "Netherlands";  
String startdate="20160221";  
String enddate="20160222";  
String apikey="YOU NEED TO GET AN API KEY";  
  
String url = baseURL + "?q=" + word + "&begin_date="+ startdate +  
"&end_date=" + enddate + "&api-key=" + apiKey;  
  
JSONObject nytData = loadJSONObject.parse(url );
```

JSON

```
{
  "menu": {
    "id": "file",
    "value": "File",
    "popup": {
      "menuitem": [
        {"value": "New", "onclick": "CreateNewDoc()"},
        {"value": "Open", "onclick": "OpenDoc()"},
        {"value": "Close", "onclick": "CloseDoc()"}
      ]
    }
  }
}
```


Examples

- **Google request**
- **New York Times**
- **Radio 2**



Parsing JSON

```
JSONObject nytData = laodJSONObject(url);
JSONObject response = nytData.getJSONObject("response");
JSONArray docs = response.getJSONArray("docs");
//println(docs.size());

for (int i = 0; i < docs.size(); i++) {
    JSONObject o = docs.getJSONObject(i);
    println(o.getString("snippet"));
}
```


Play

- http://ws.audioscrobbler.com/2.0/?method=track.getInfo&api_key=fbfa856cc3af93c43359b57921b1e64e&format=json&artist=Santana&track=Samba%20pa%20ti

USB driver ADB

C:\Users\

