Single Page Applications & AJAX

Wow. Such buzzwords. Much JavaScript

HTTP REQUESTS IN THE BROWSER

- **Browser navigation**
  - URL bar
  - Links
  - window.location.href = “http://www.google.com”;
- **Submitting forms (GET/POST)**
- **All the above makes the browser navigate and retrieve new documents.**

Server

index.html

GET /

User clicks on link . . .

Server

settings.html

GET /settings

NOT single page applications

- Views stored on the server, served up as HTML pages.
- When user goes to a new page, the browser navigates in totality, navigating, refreshing and retrieving a brand new HTML.
- Each page, since it is a new page, retrieves stylesheets, script files, etc.

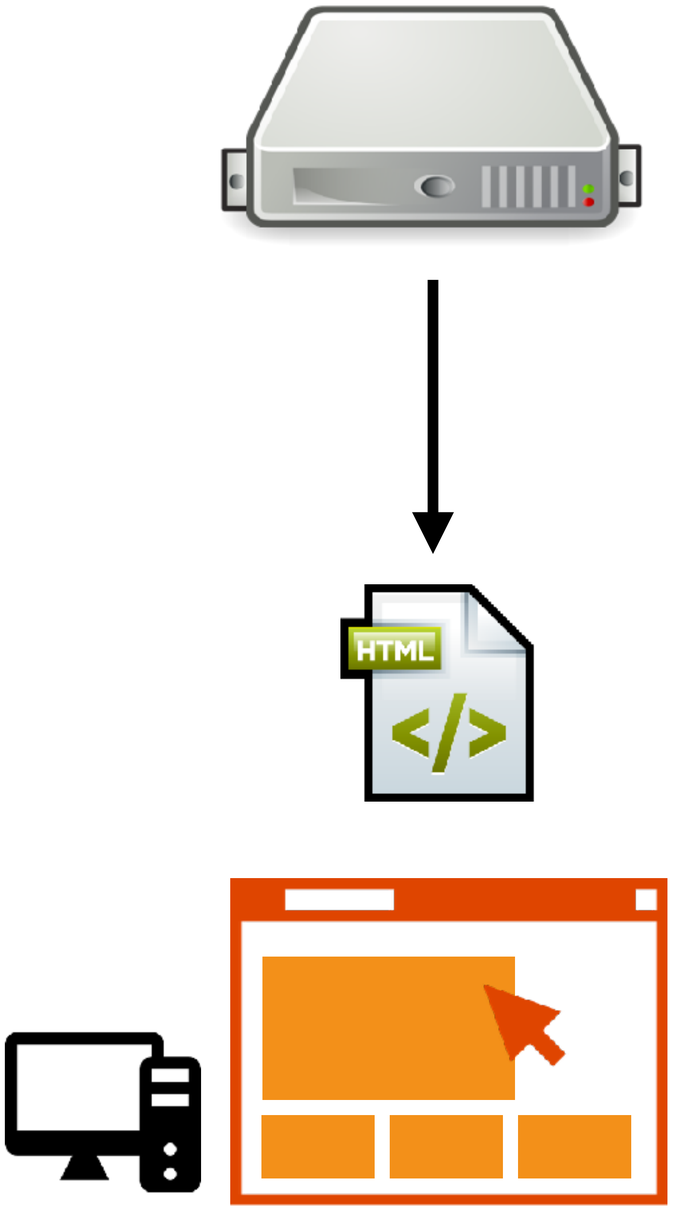
What is
SPA?

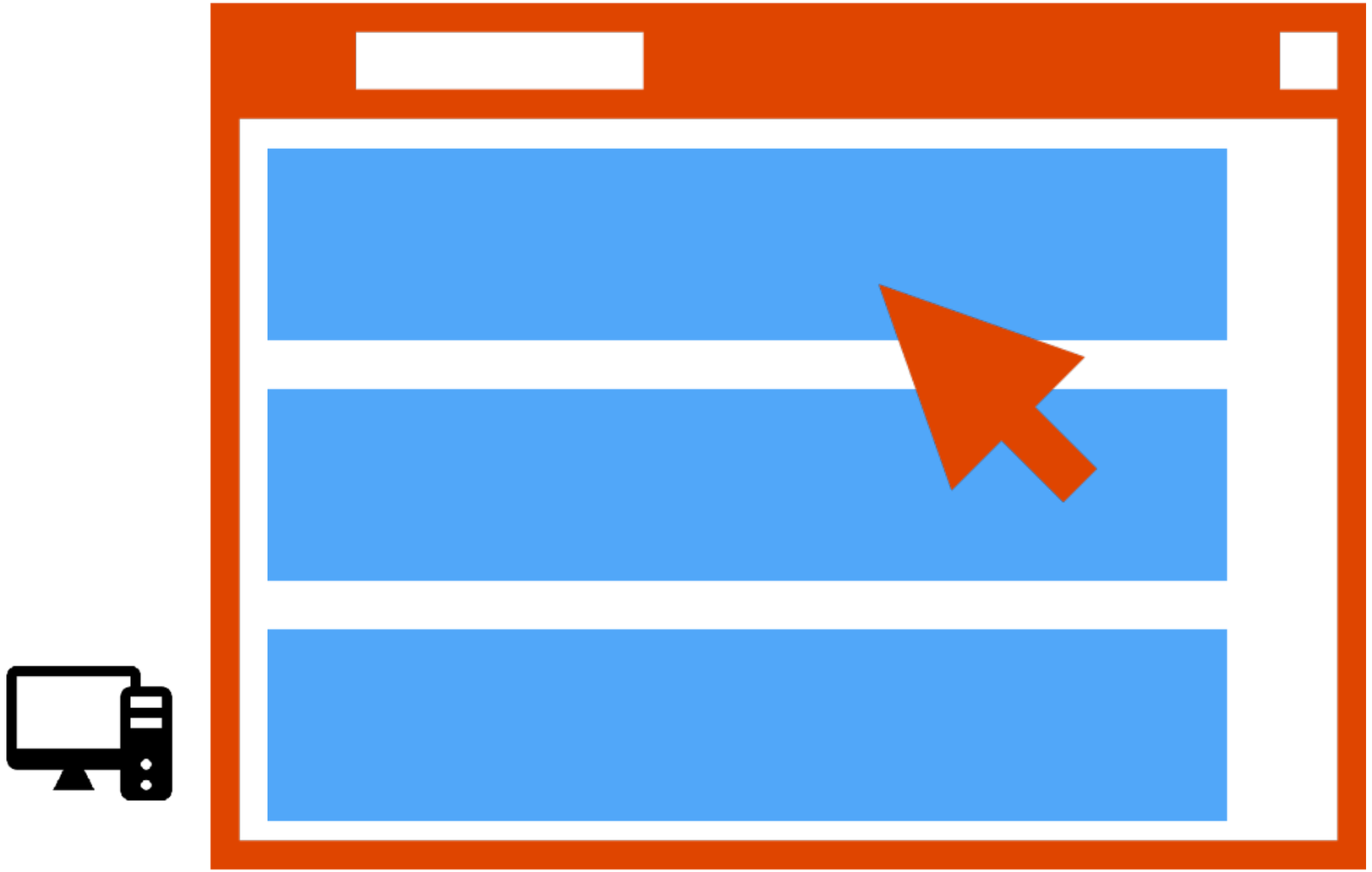
“SPA is a web site that fits on a single web page with the goal of providing a more fluid user experience”

WIKIPEDIA

Single Page Applications

- **No reload or “refresh” within the user interface**
  - JavaScript manipulates the DOM as the user interacts
- **User experience similar to a native application**


HTML

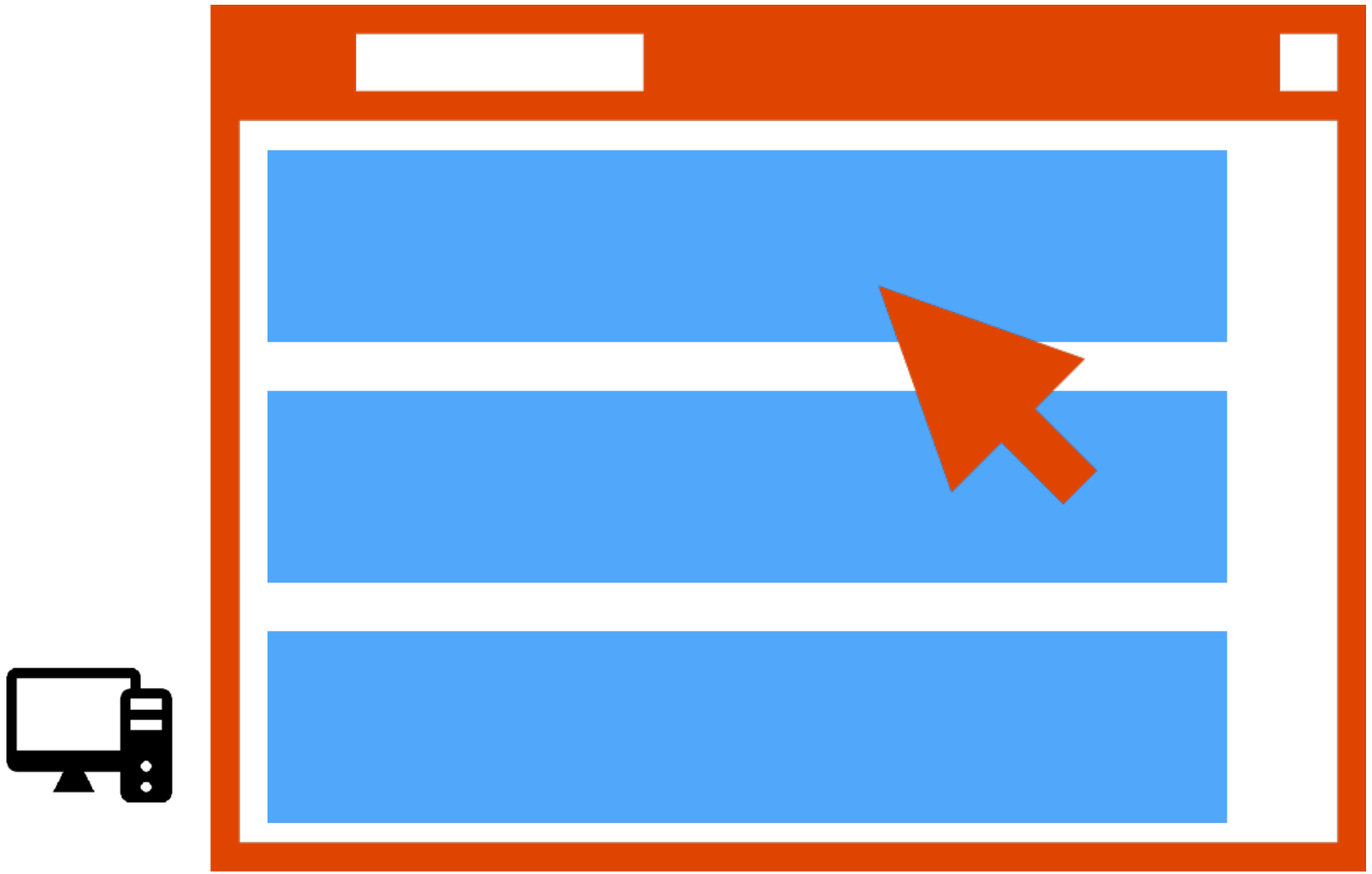


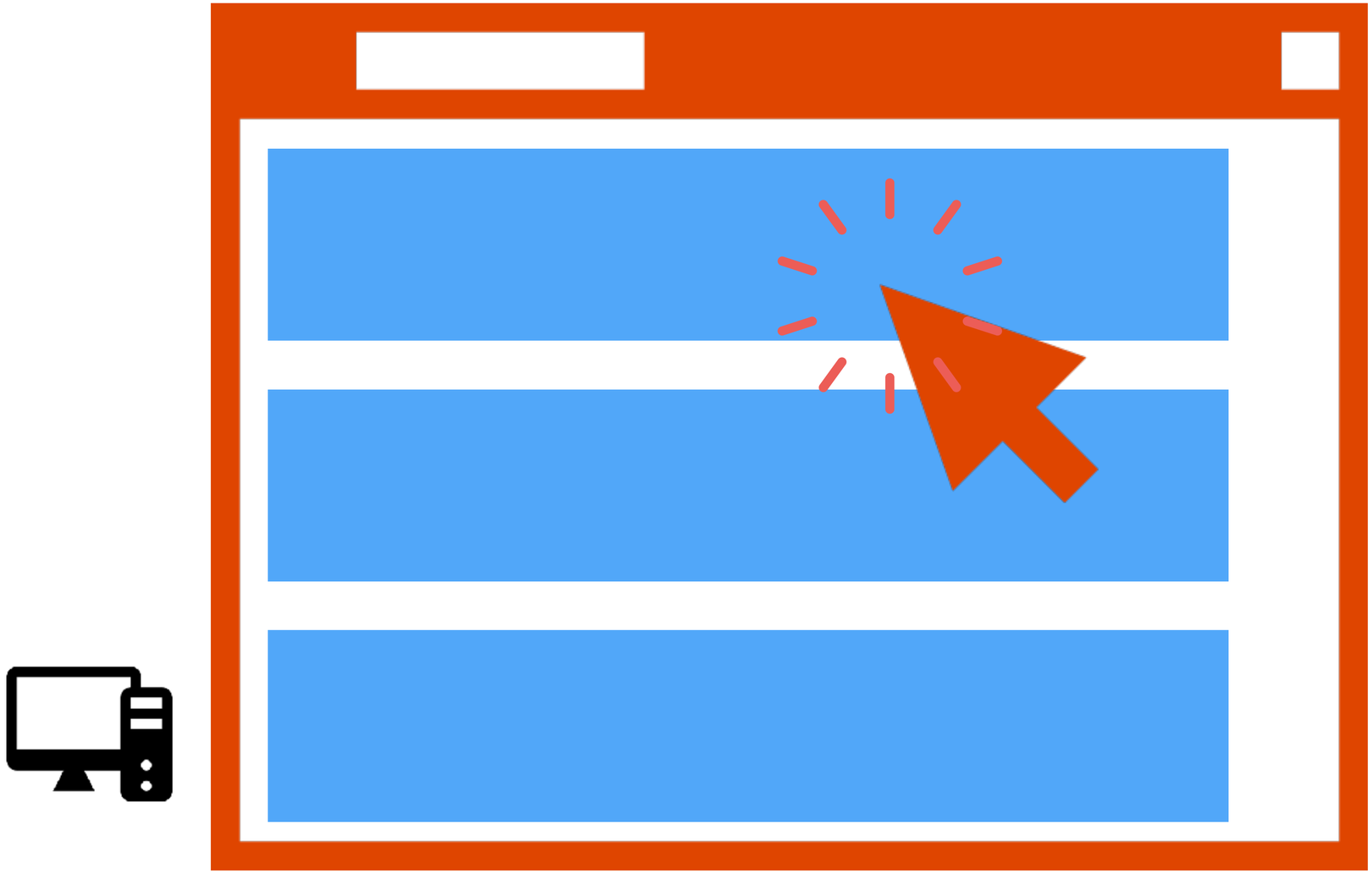
KILLS
99.9%
OF GERMS
AJAX
SPRAY n WIPE
ocean fresh
5IN1 multipurpose
Kills 99.9% of Germs
Cuts Grease
Lifts Stains
Lasting Shine
Fresh Fragrance
500ml

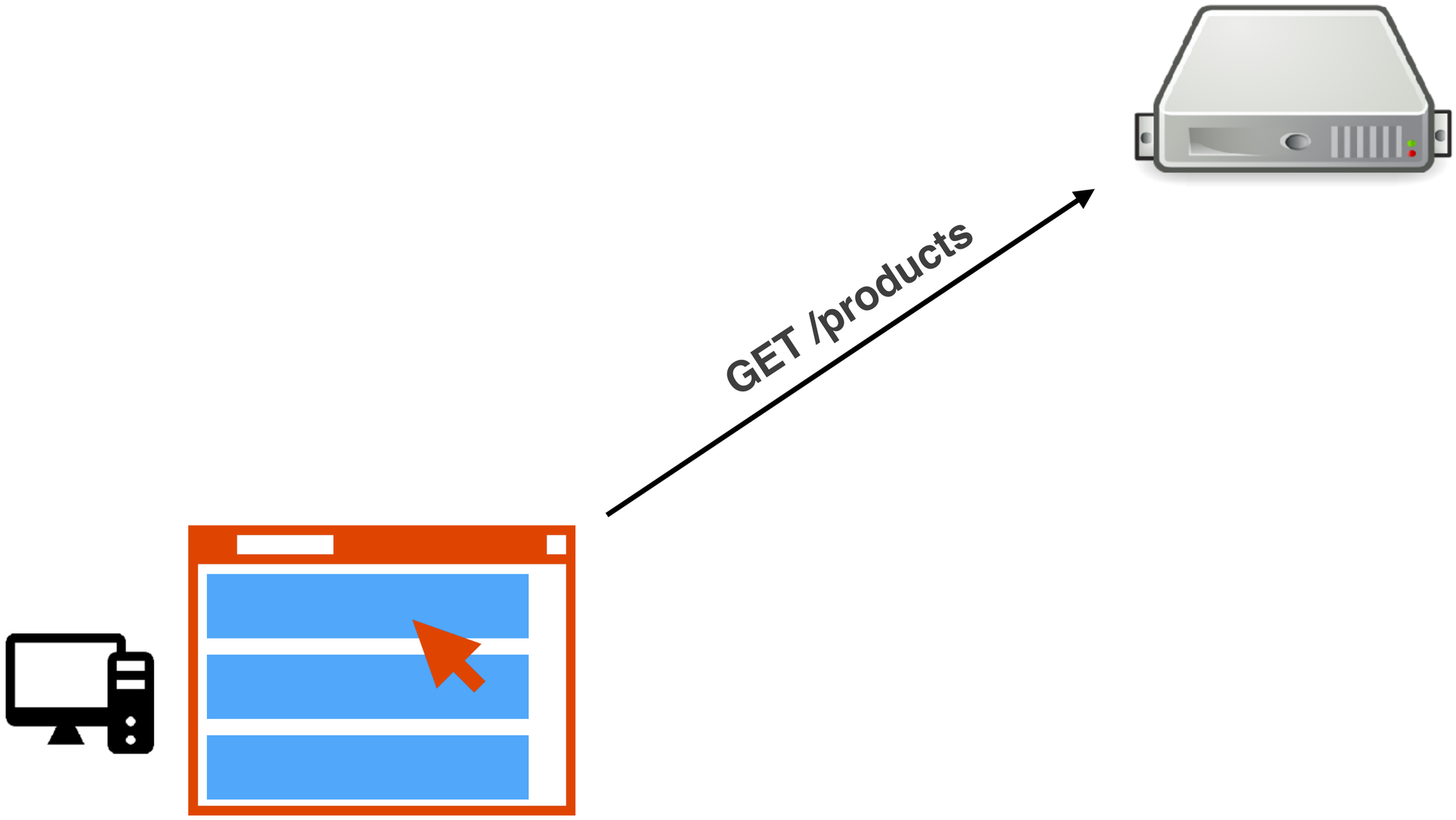
What is AJAX?

AJAX

- Making background HTTP requests using JavaScript
- Handling the response of those HTTP requests with JavaScript
- No page refresh necessary






GET /products

GET /products


```
{
  "products": [
    {
      "name": "Gibson Les Paul Standard",
      "price": 1000.23
    },
    {
      "name": "Fender Telecaster",
      "price": 600.99
    }
  ]
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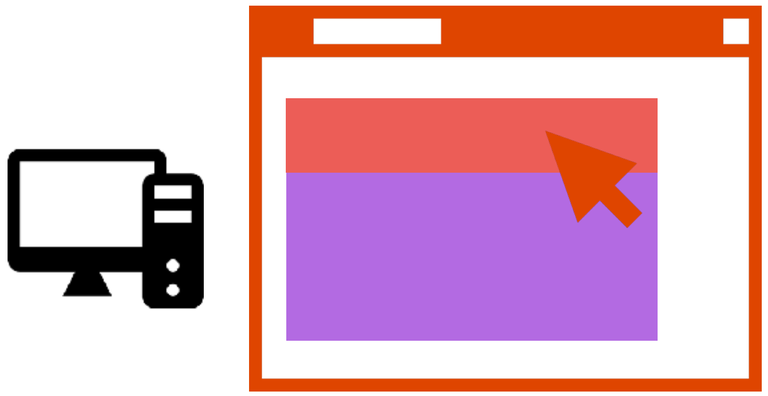

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ASYNCHRONOUS JAVASCRIPT AND XML

DATA SERIALIZATION

DATA SERIALIZATION FORMATS

- How real data is transported or stored
- Used for delivery of data over limited transports, like HTTP.
- Examples: JSON, XML, YAML

ASYNCHRONOUS JAVASCRIPT AND XML

ASYNCHRONOUS JAVASCRIPT AND JSON

RECAP

- **AJAX is the method of sending background HTTP requests with JavaScript**
- **Single Page Applications load a single HTML page and dynamically update the DOM as the user interacts with the app or data gets fetched from the server (using AJAX).**
- **The** Network **tab in Developer Tools is your friend**

window.fetch()