

# Single Page Applications & AJAX

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*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”*

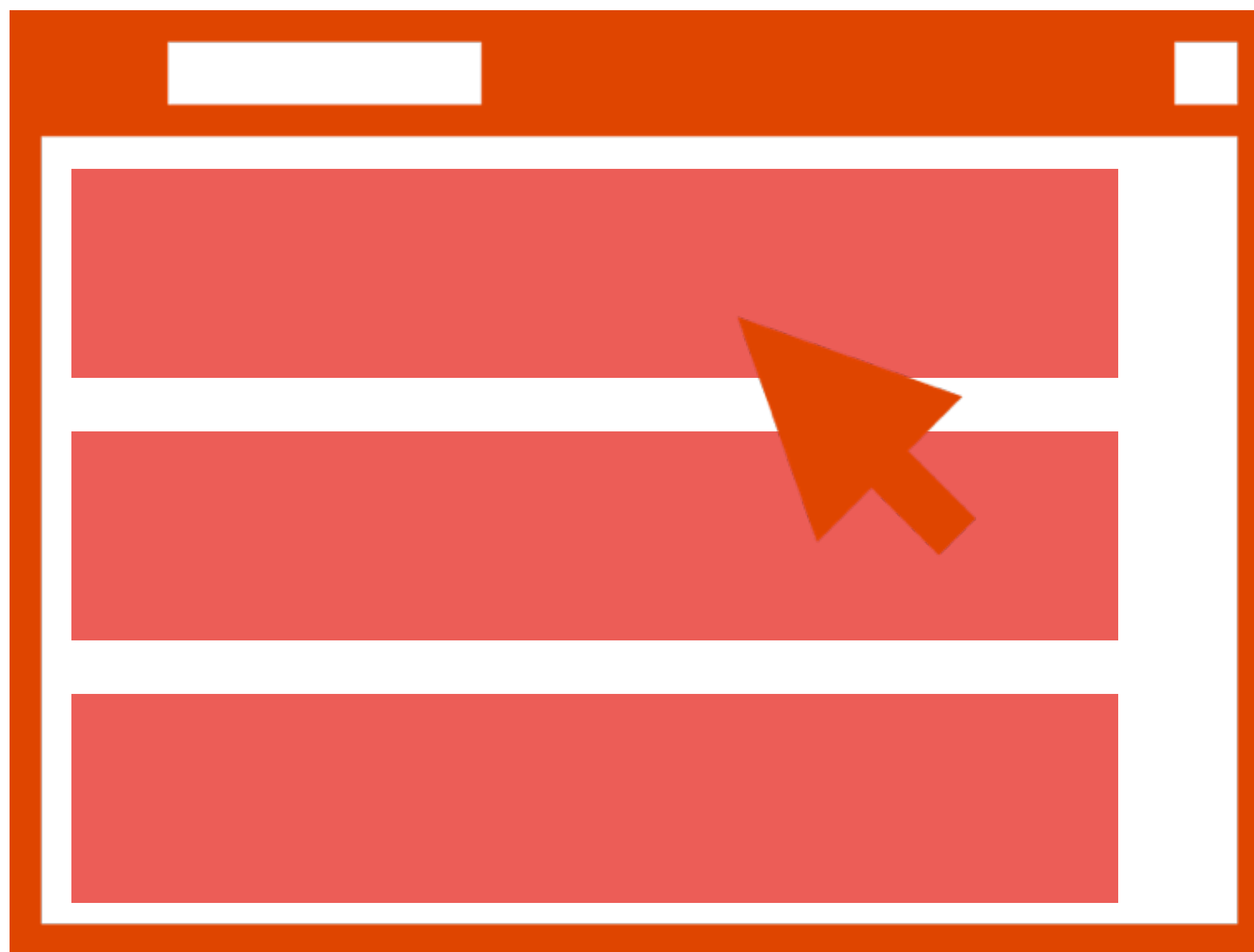
WIKIPEDIA



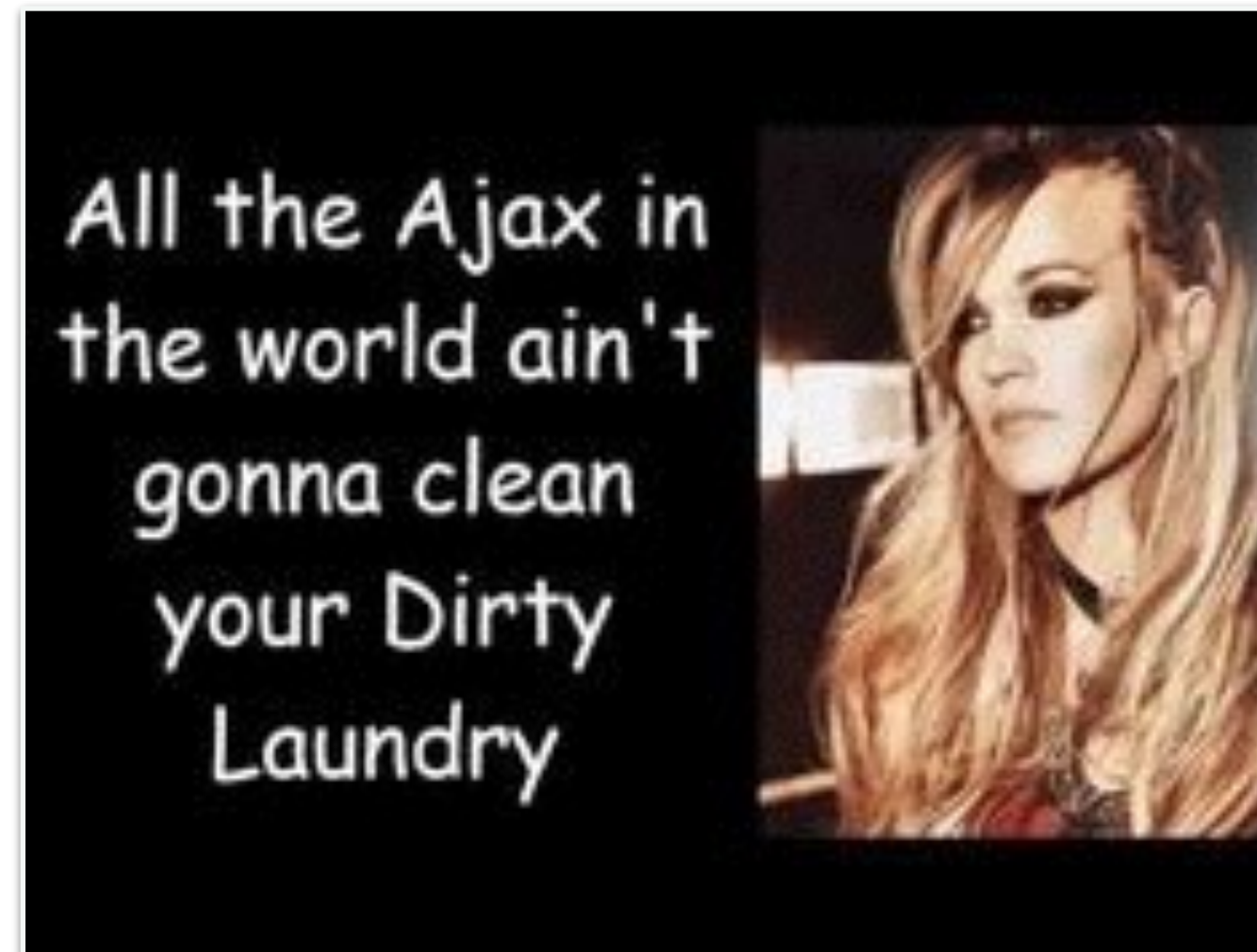




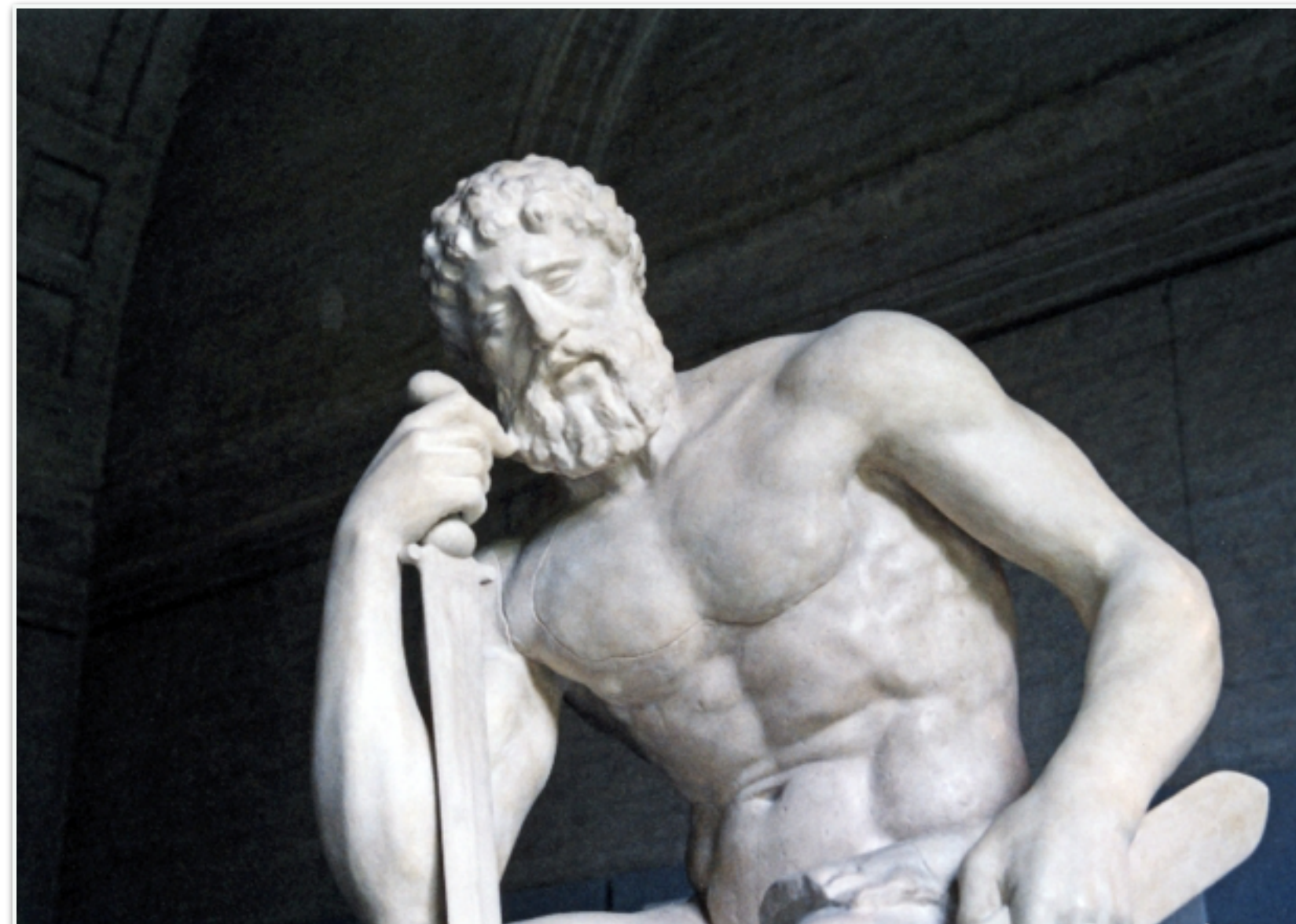








*What is  
AJAX?*



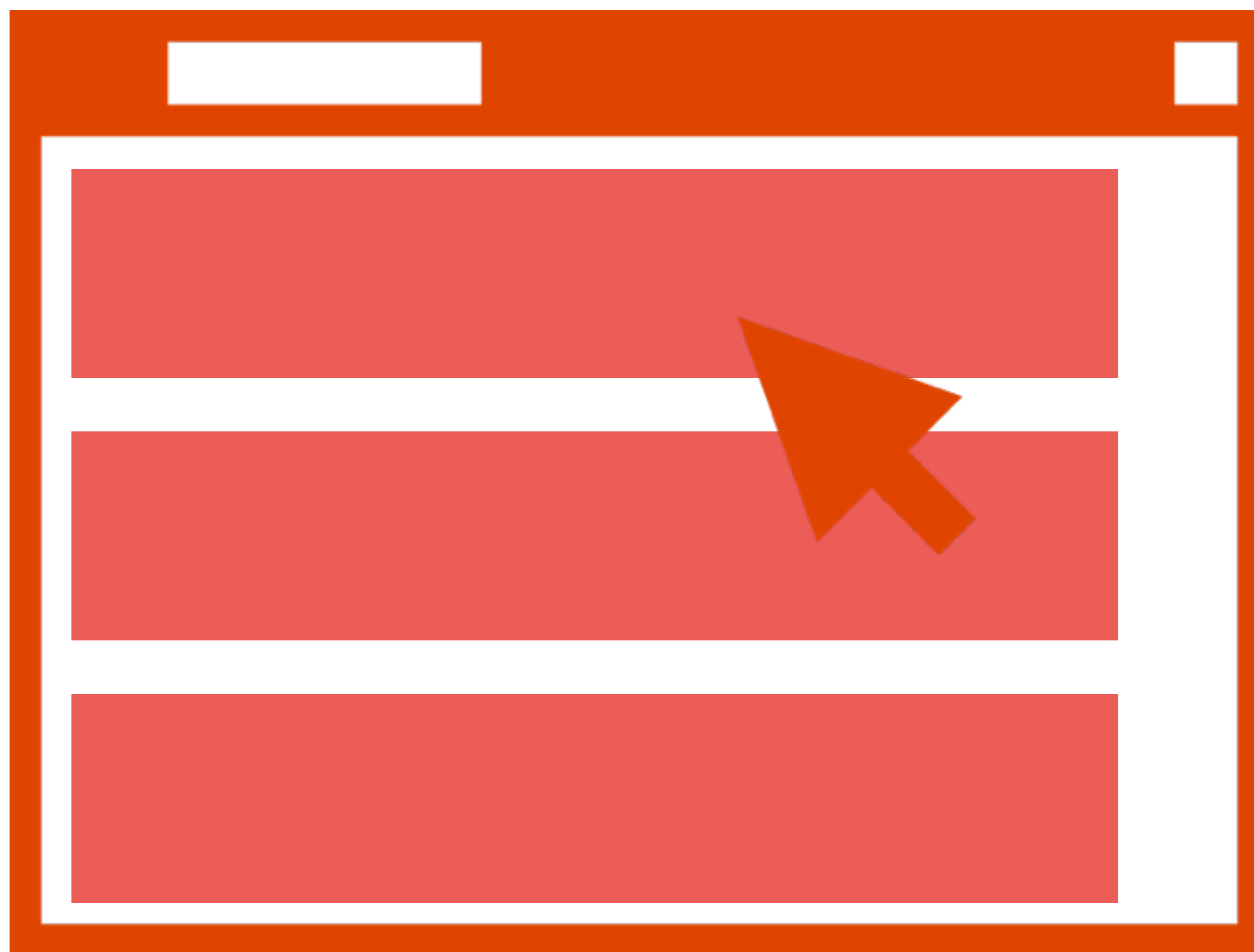
# Single Page Applications

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

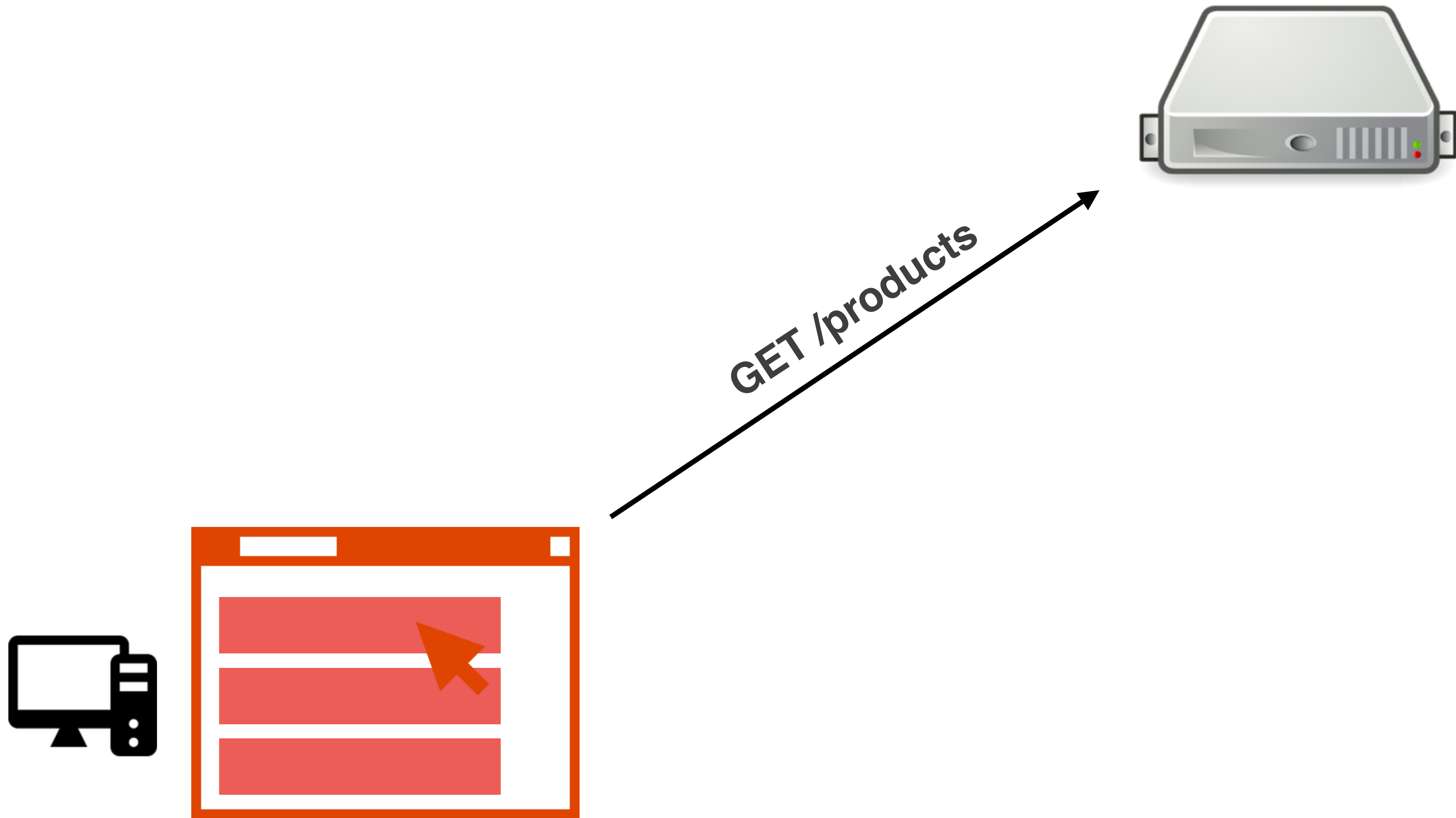
# AJAX

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

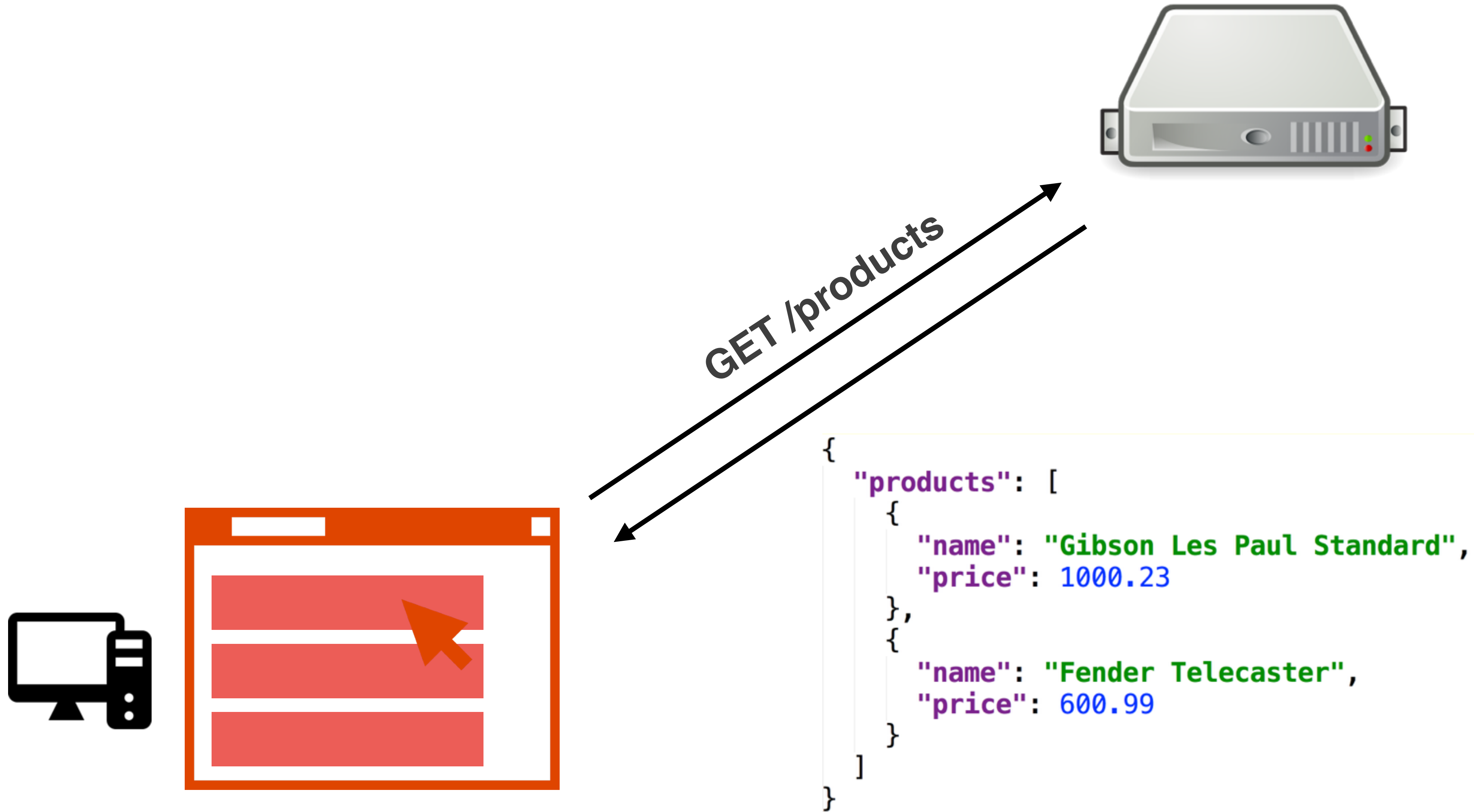


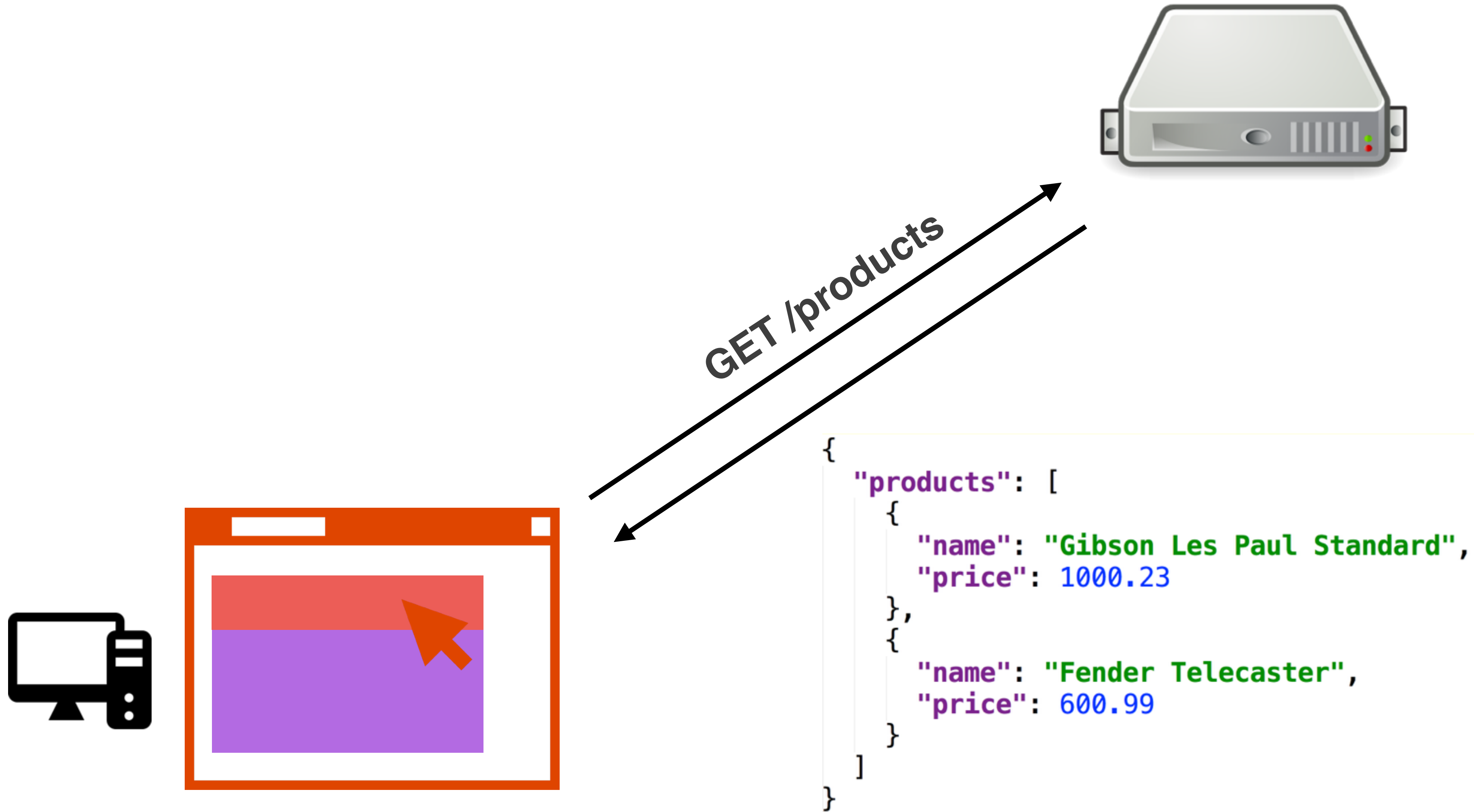












# ASYNCHRONOUS JAVASCRIPT AND XML



# 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~~

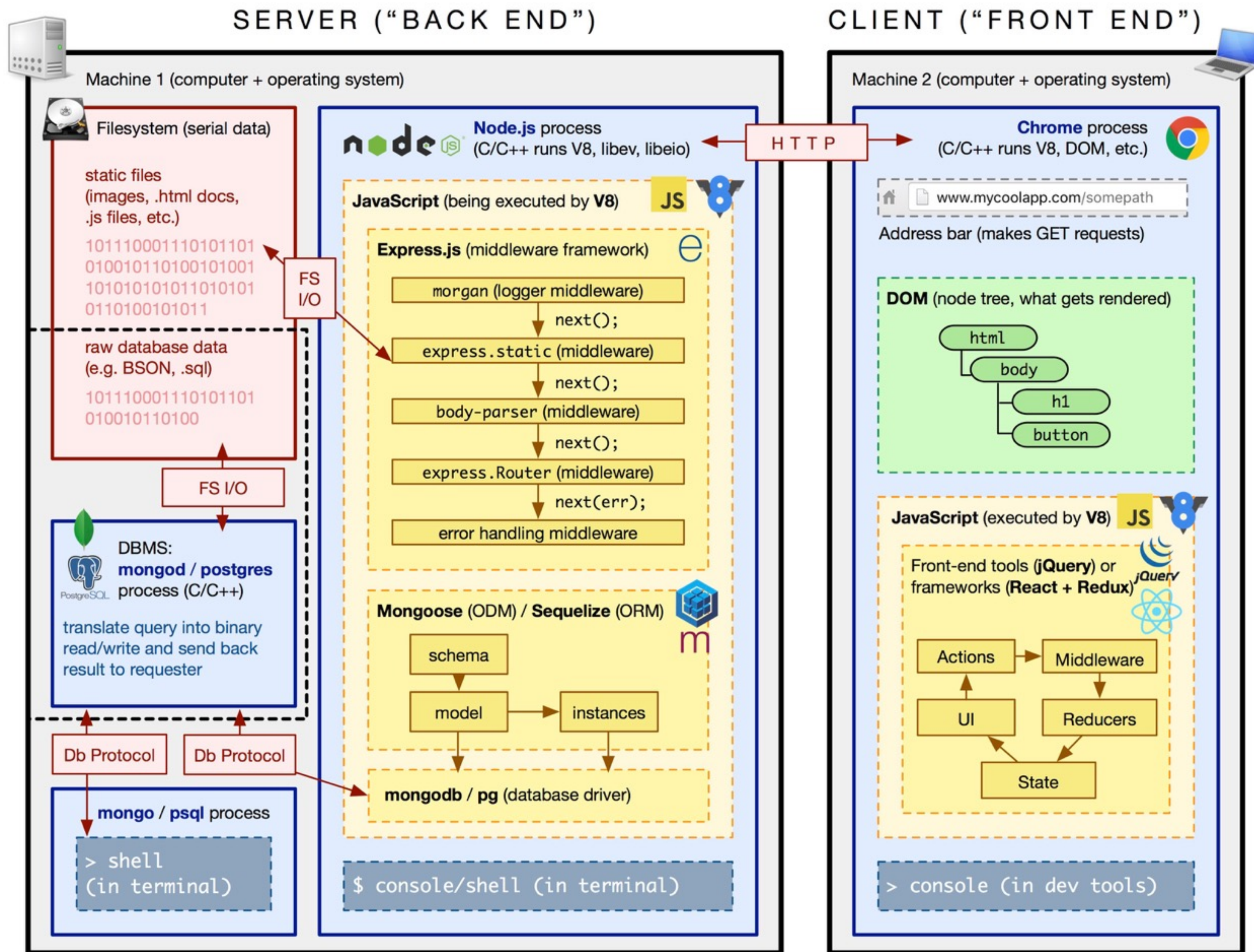
# ASYNCHRONOUS JAVASCRIPT AND JSON



# 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).**







# window.fetch()

