

ES6 MODULES

What? More?

ES6 MODULES

- **ECMAScript 6 (2015) approved a native module system for JavaScript using a new set of keywords:**
 - `import <thing> from '<file>'`
 - `export <thing>`
 - `export default <thing>`

RATIONALE

- **Import/export was designed:**
 - **to enable developers to split their JavaScript code into multiple files or “modules”**
 - **to support both sync and async module loading**
 - **are not dynamic, which allows static analysis (i.e. tools can examine your code without running it)**

DEFAULT EXPORT

a.js

```
const foo = () => { /* etc */ }  
export default foo
```

b.js

```
import foo from './a'
```

DEFAULT EXPORT

a.js

```
const foo = () => { /* etc */ }
```

```
export default foo
```

b.js

```
import foo from './a'
```

There can only be one default export!

NAMED EXPORTS

a.js

```
export const foo = () => { /* etc */ }  
export const bar = 'bar'
```

b.js

```
import {foo, bar} from './a'
```

NAMED EXPORTS

a.js

```
export const foo = () => { /* etc */ }  
export const bar = 'bar'
```

b.js

```
import {foo, bar} from './a'
```

There can be *multiple* named exports!

COMBINING NAMED & DEFAULT EXPORTS

a.js

```
const foo = () => { /* etc */ }  
const bar = 'bar'  
const baz = 42
```

```
export foo  
export bar  
export default baz
```

b.js

```
import {foo, bar}, baz from './a'
```


Single Page Applications & AJAX

Wow. Such buzzwords. Much JavaScript

HTTP REQUESTS IN THE BROWSER

- **URL bar**
- **Links**
- **JavaScript**
 - `window.location.href = "http://www.google.com";`
- **Submitting forms (GET/POST)**

All of the above make the browser navigate and retrieve new documents.



Server



index.html

GET /



User clicks on link . . .



Server



settings.html

GET /settings



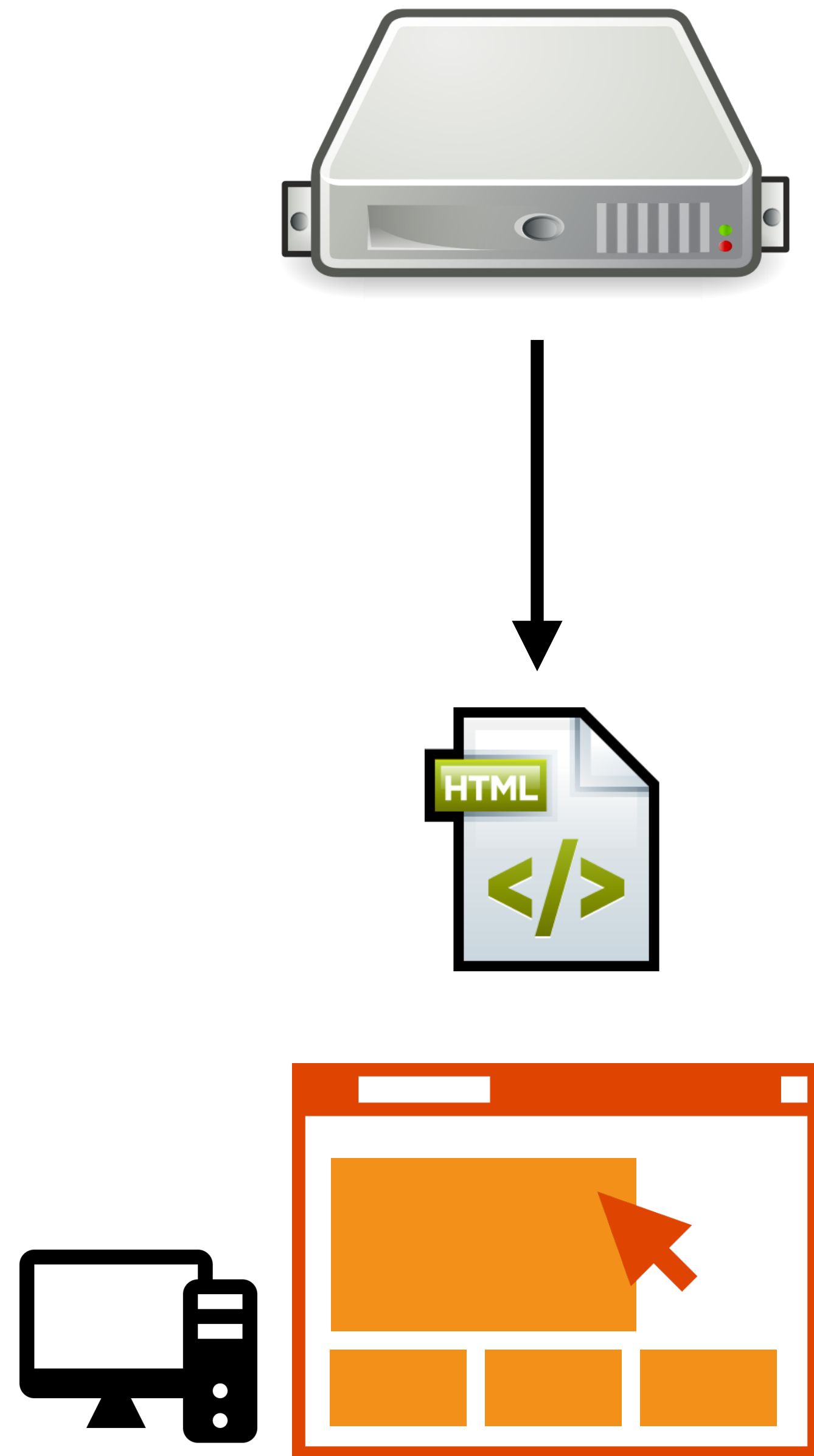
What is SPA?

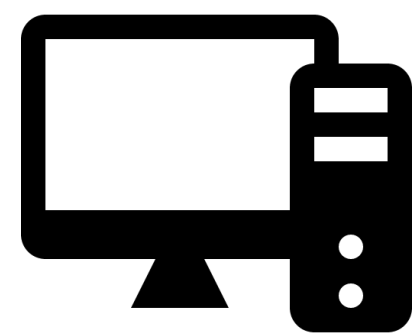
“A single-page application (SPA) is a web application or web site that interacts with the user by dynamically rewriting the current page rather than loading entire new pages from a server.”

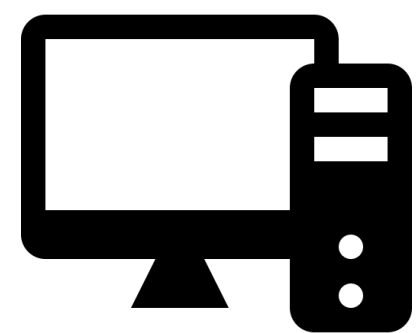
WIKIPEDIA

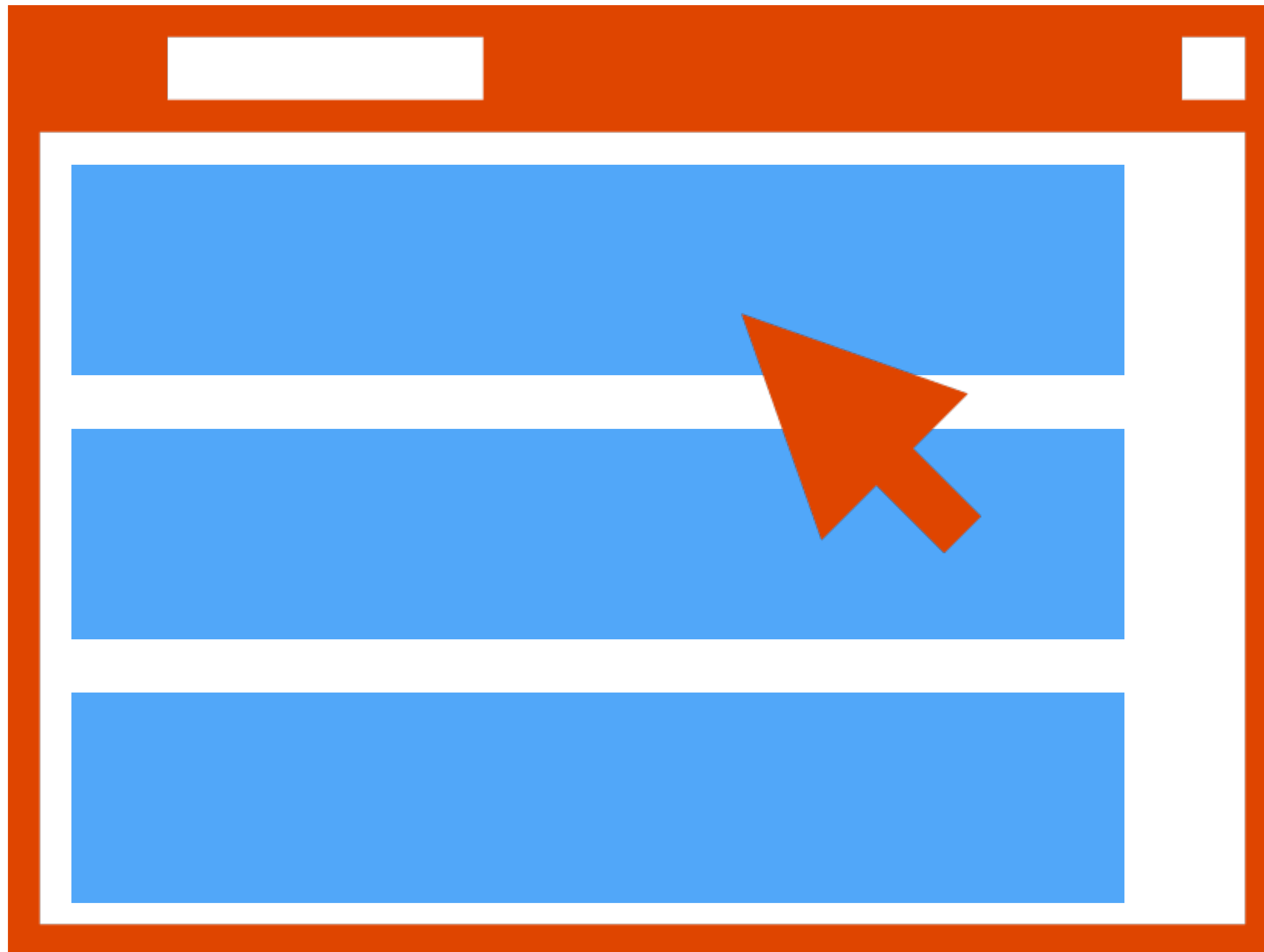
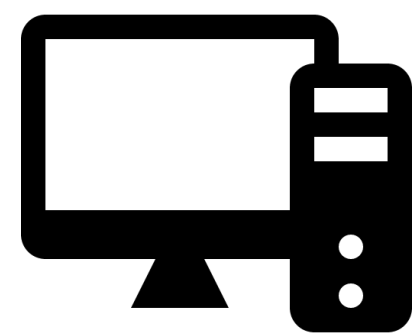
Single Page Applications

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



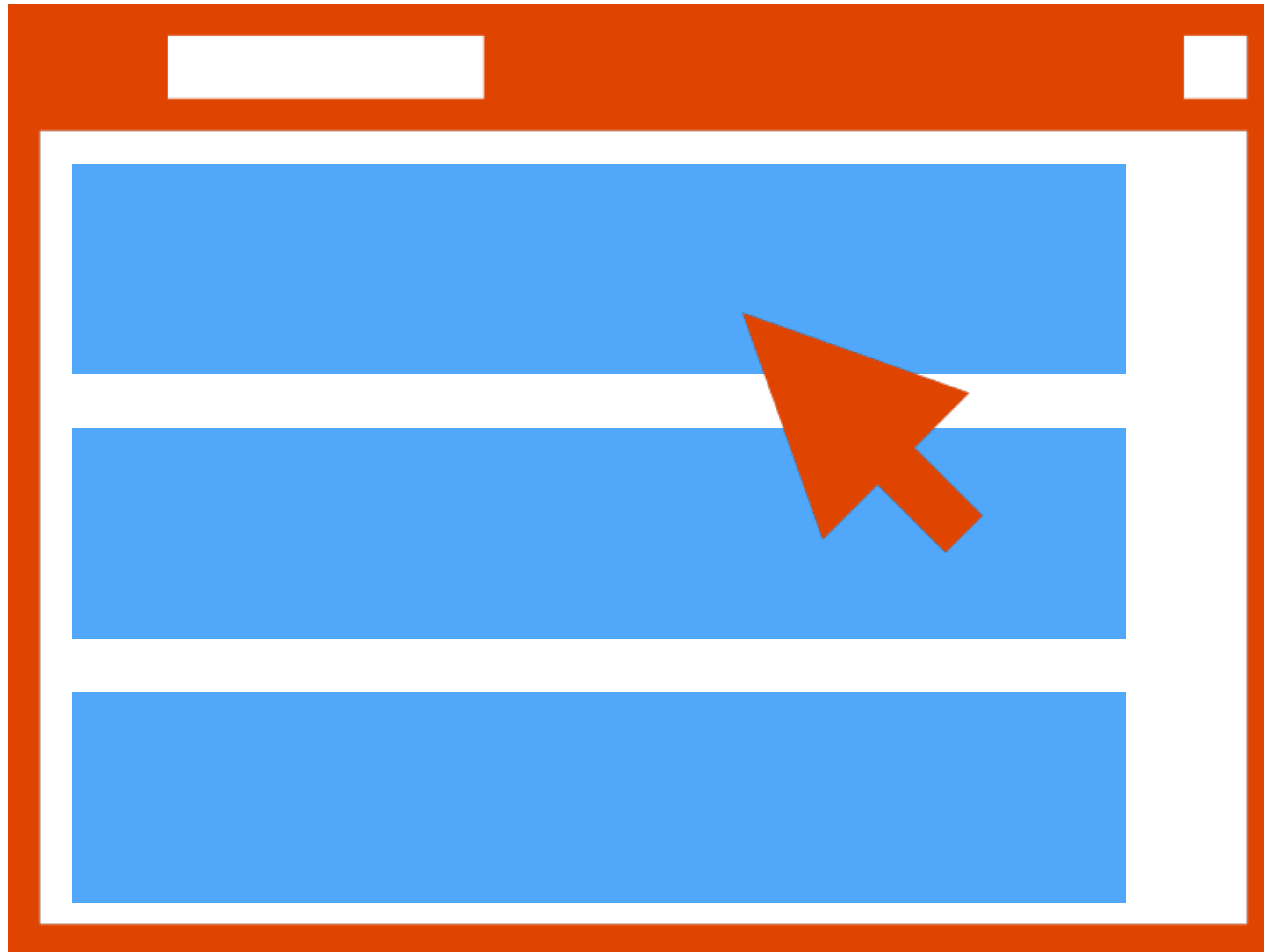
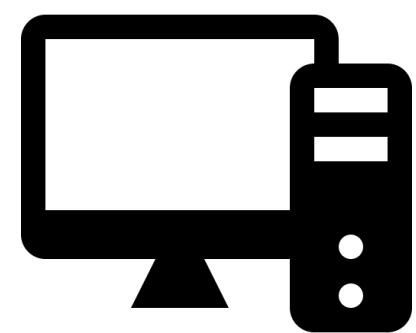


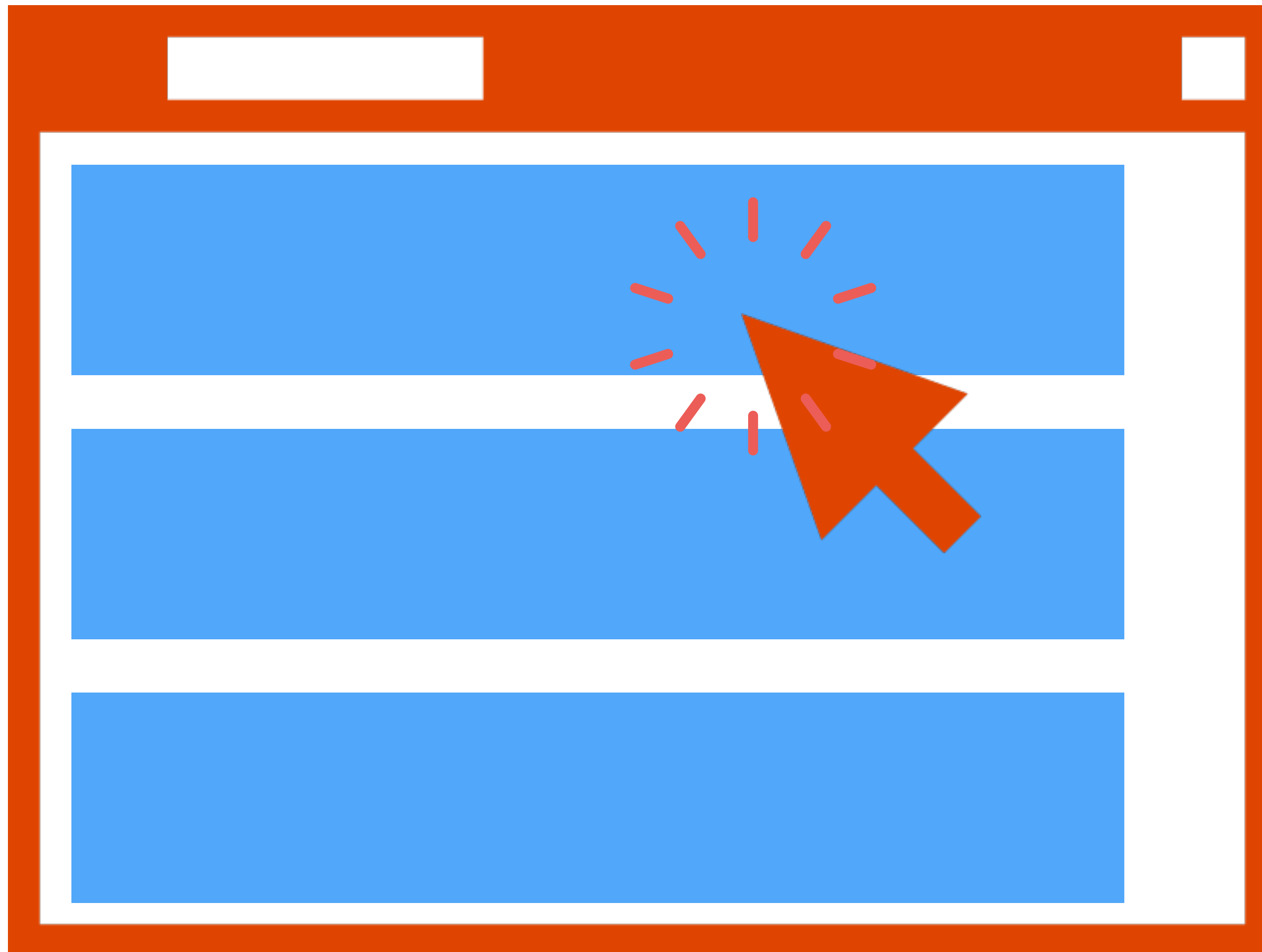
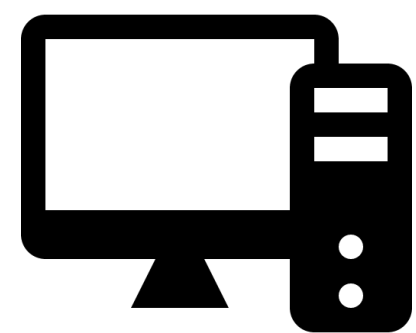


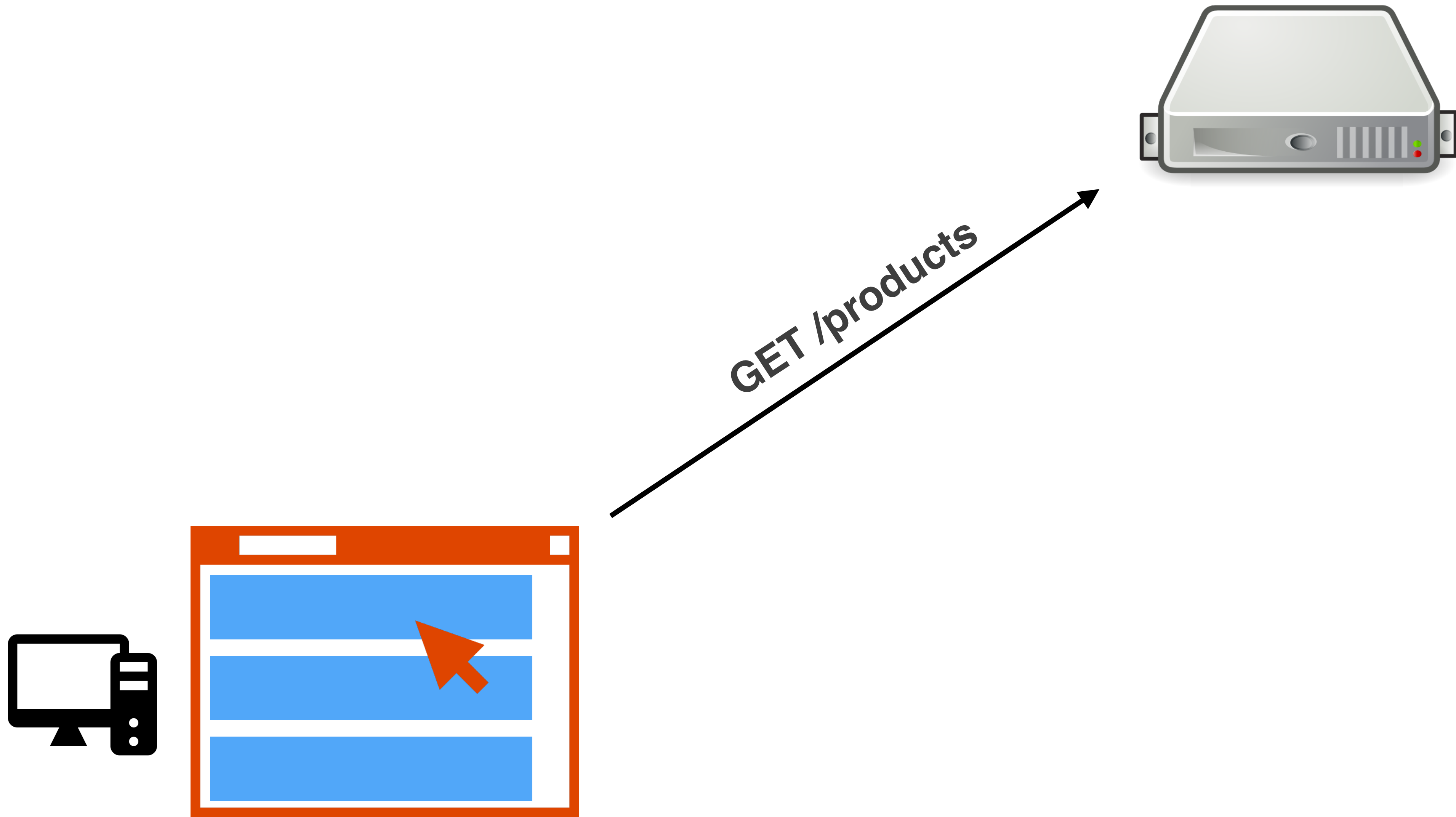


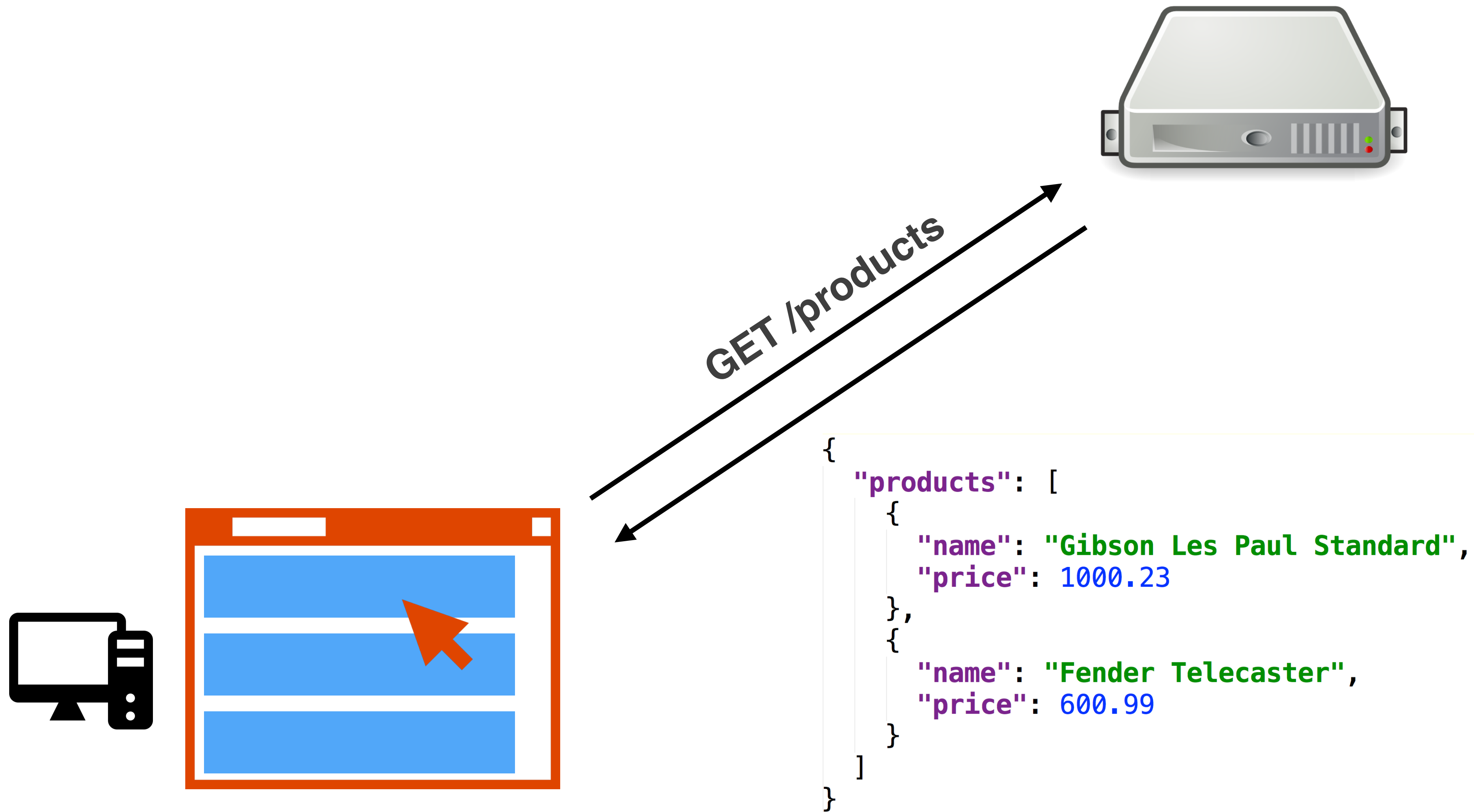


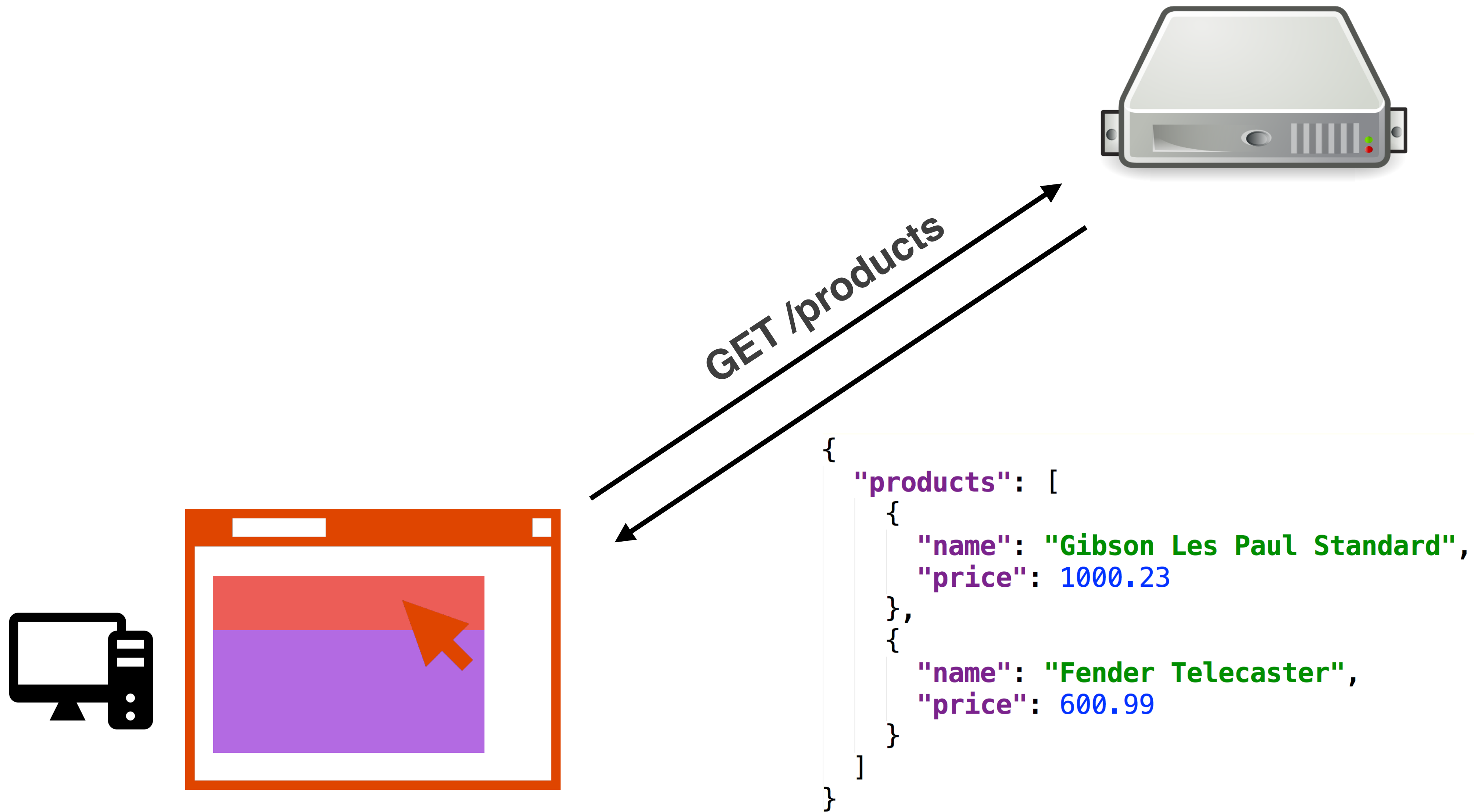
*What is
AJAX?*











DATA SERIALIZATION

ASYNCHRONOUS JAVASCRIPT AND XML

ASYNCHRONOUS JAVASCRIPT AND JSON