

Demo 2

Quần áo

Giày dép

Xin chào đến với shop

Giày thể thao

Giày đá bóng

Giày sandal

Js

JavaScript

Js JavaScript

Created by Brendan Eich in 1995

Make dynamic UI

Similar to Java at the time

Browser needs interpreter to work

File types: *.js, *.map

2 ways to insert Js

- Method 1: Reference using `<script>` tag
 - `<script src="*.js">`
- Method 2: Insert into HTML directly using `<script>` tag
 - `<script>alert('hello')</script>`

Best practice: Add `type="text/javascript"` attribute

Example: `<script type="text/javascript">alert('hello')</script>`

Static website structure

Assets

/ (root)

CSS

*.css

img

*.jpg

*.png

*.svg

js

*.js

*.map

Entry page

index.html

Page

about-us.html

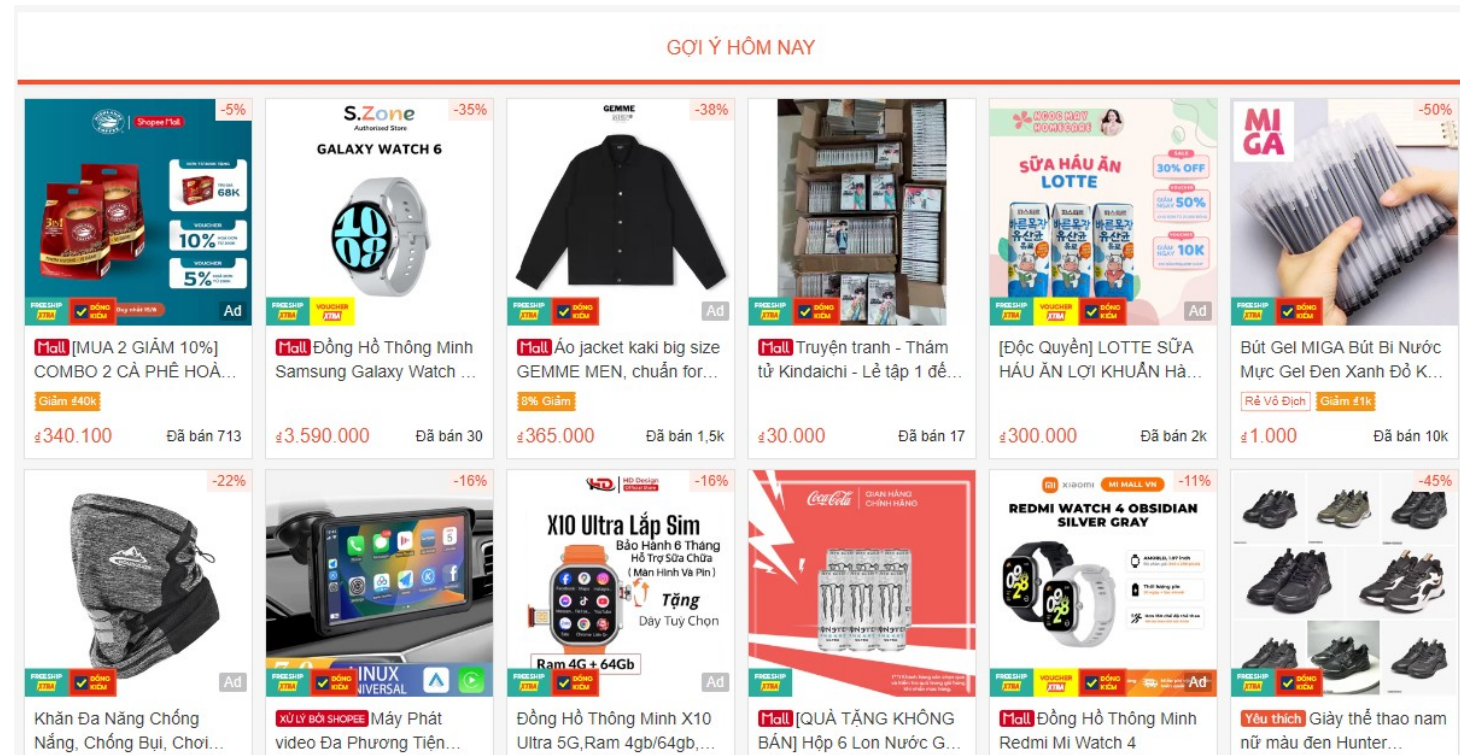
Demo 3

You have 2 choices:

1. Bootstrap

<https://getbootstrap.com/docs/5.3>

2. Flex (CSS3)



Create the grid of commercial product

Day 2

Get to love JavaScript

Lecturer: Msc. Minh Tan Le

What to learn

- I. FontAwesome, jQuery
- II. Animations
- III. How browsers work? A deeper look at requests & responses
- IV. Front-end debugging

Font

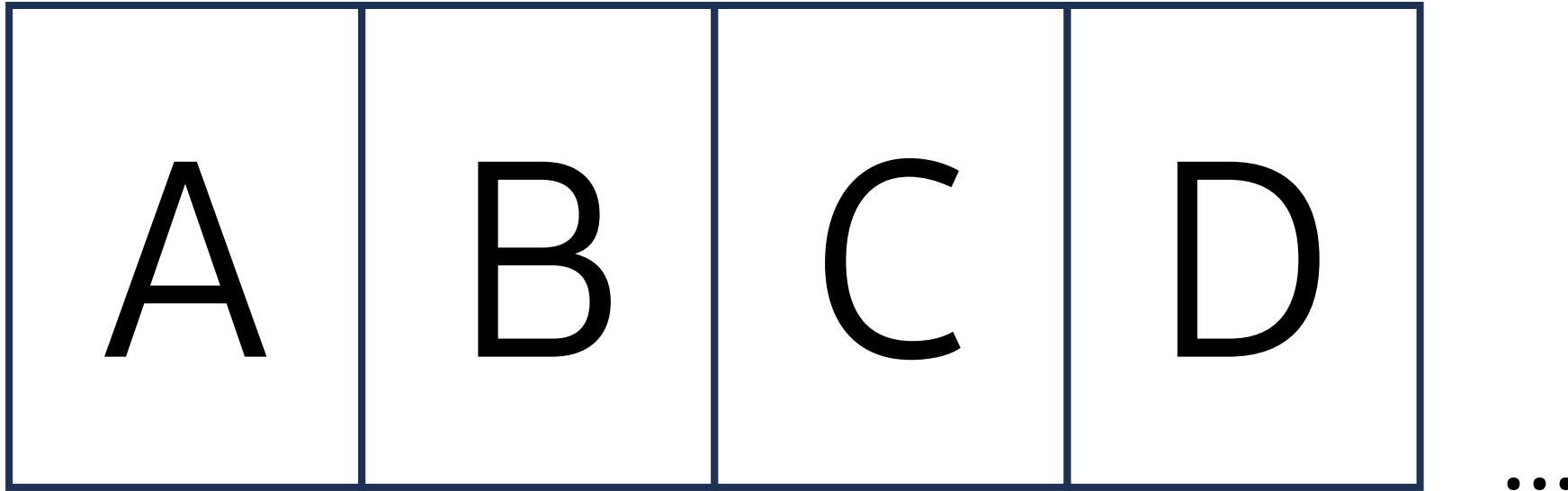
A

A

Font

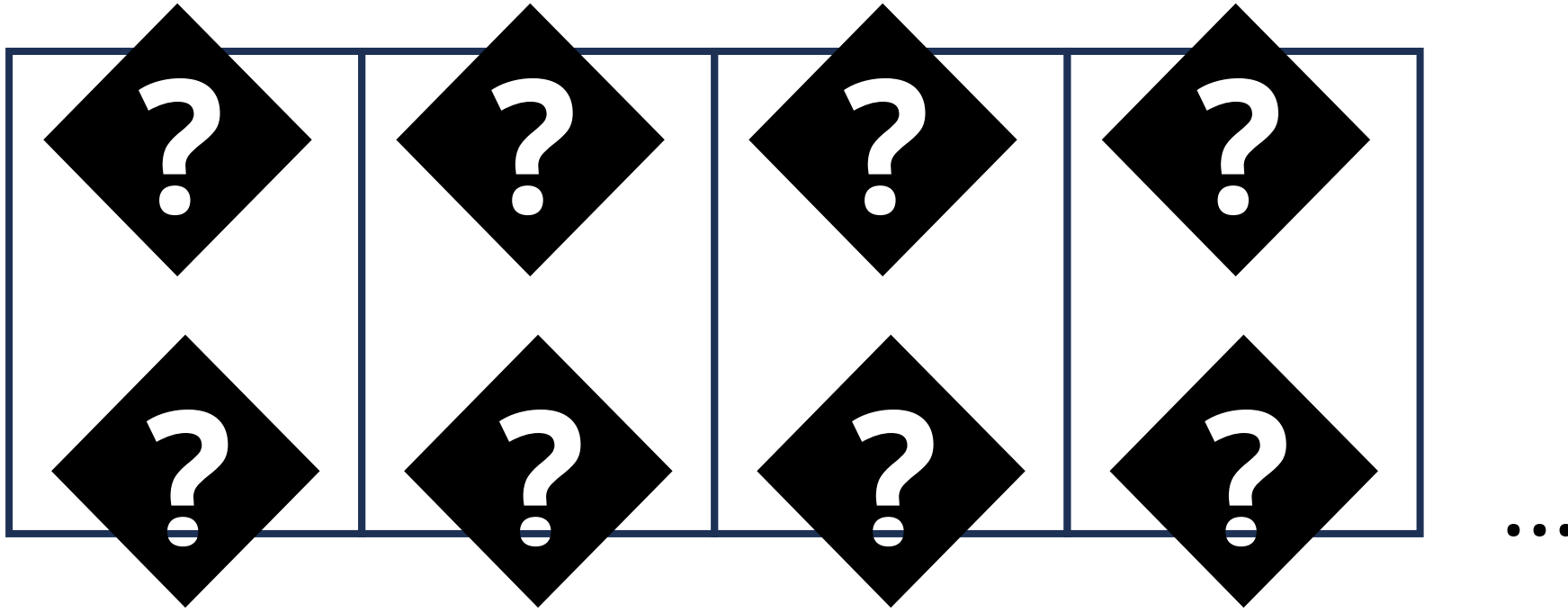
A

F



Glyf
(glyph)

True Type font: <https://developer.apple.com/fonts/TrueType-Reference-Manual/RM06/Chap6.html>



Glyf
(glyph)

True Type font: <https://developer.apple.com/fonts/TrueType-Reference-Manual/RM06/Chap6.html>

Font Awesome = Webfonts + Icons

1. Download FA for the web: <https://fontawesome.com/download>
2. Put files (fonts, css) into appropriate directories.
3. Reference in your pages.

jQuery



Example

```
<div id="mydiv">  
  <label>Welcome, </label>  
  <label>Tan!</label>  
</div>
```

Vanilla Js

```
document.querySelectorAll('#mydiv label').forEach(o =>  
o.style.color='red')
```

jQuery

```
$('#mydiv label').css('color', 'red')
```

II. Animations

In web, there are 2 common types:

- GIF: Rasterized graphics.
- Vector: Vectorized graphics.

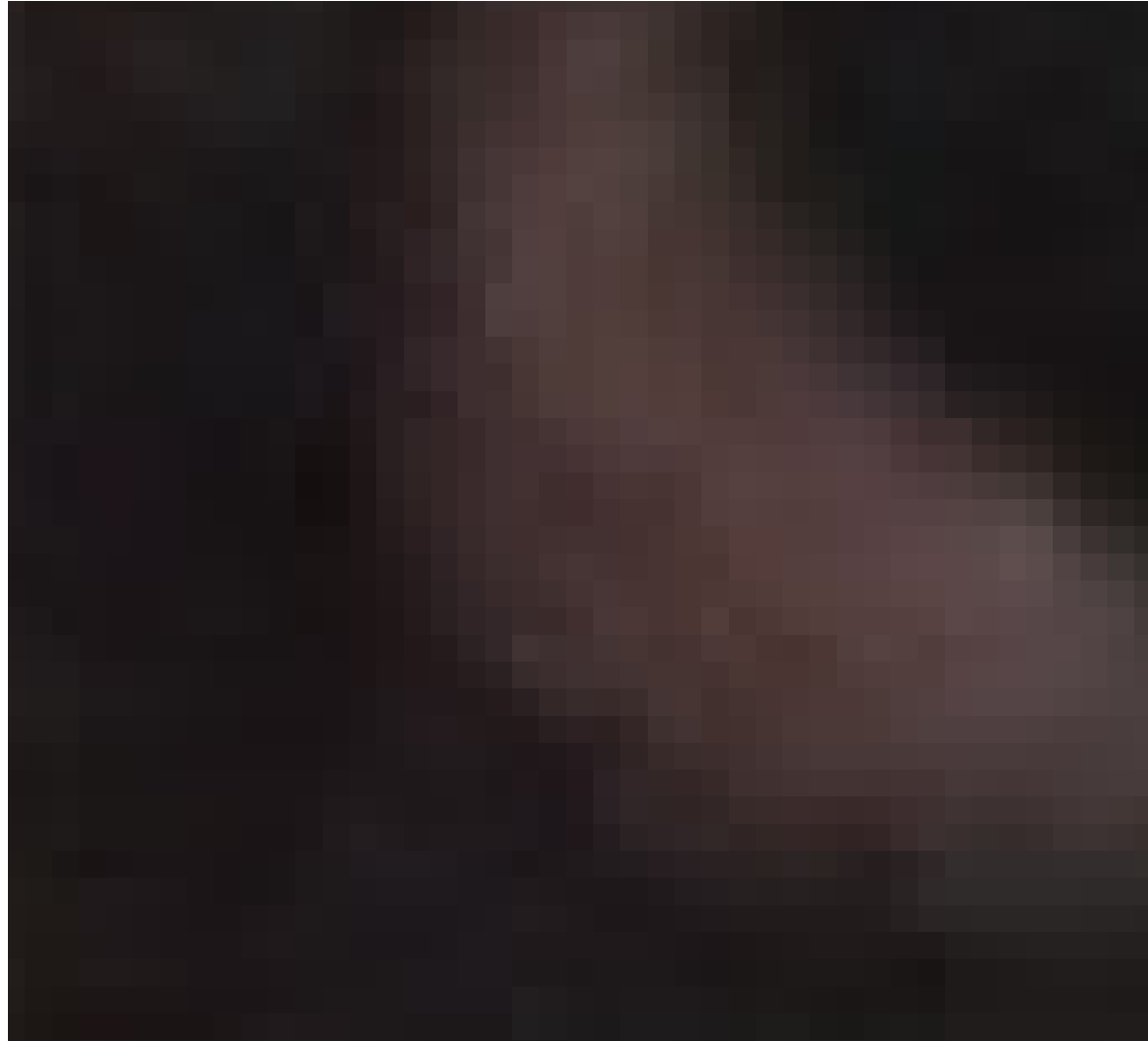
Rasterized graphics



Rasterized graphics



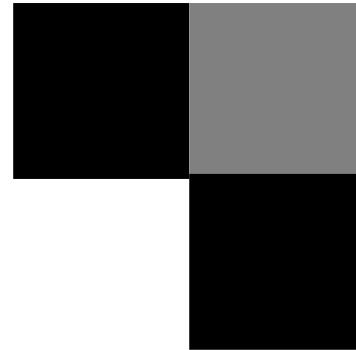
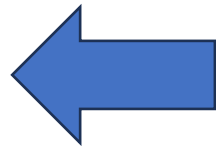
Rasterized graphics



Rasterized graphics

sample

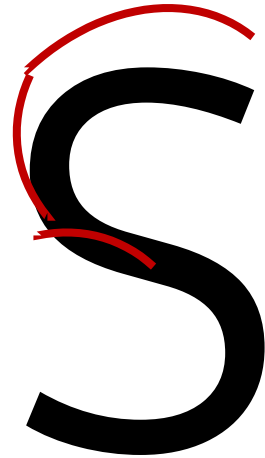
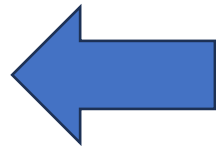
sample



...

Vectorised graphics

Sample



Airbnb's Lottie

- A multi-platform library for animation.
- We use Lottie Web Player or [Lottie Web](#) to generate web code.
- Animation files:
 - *.JSON: Universal, big.
 - *.LOTTIE: Small, narrow, paid only.



Demo

III. Requests/responses

- What is a request? What is a response?
- How does browser interact with server?
- How they process the data?

<https://tuoitre.vn/the-thao/manchester-united-thua-dau-o-phut-90-5-20240824181414583.htm?fbid=...&...>

Scheme

host

https://tuoitre.vn/the-thao/manchester-united-thua-
dau-o-phut-90-5-20240824181414583.htm?fbid=...&...

Path

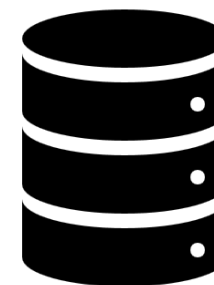
Query string

URL



<https://tuoitre.vn/thethao...>

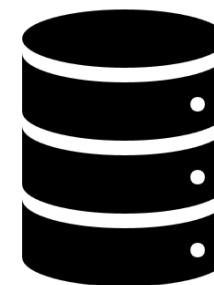




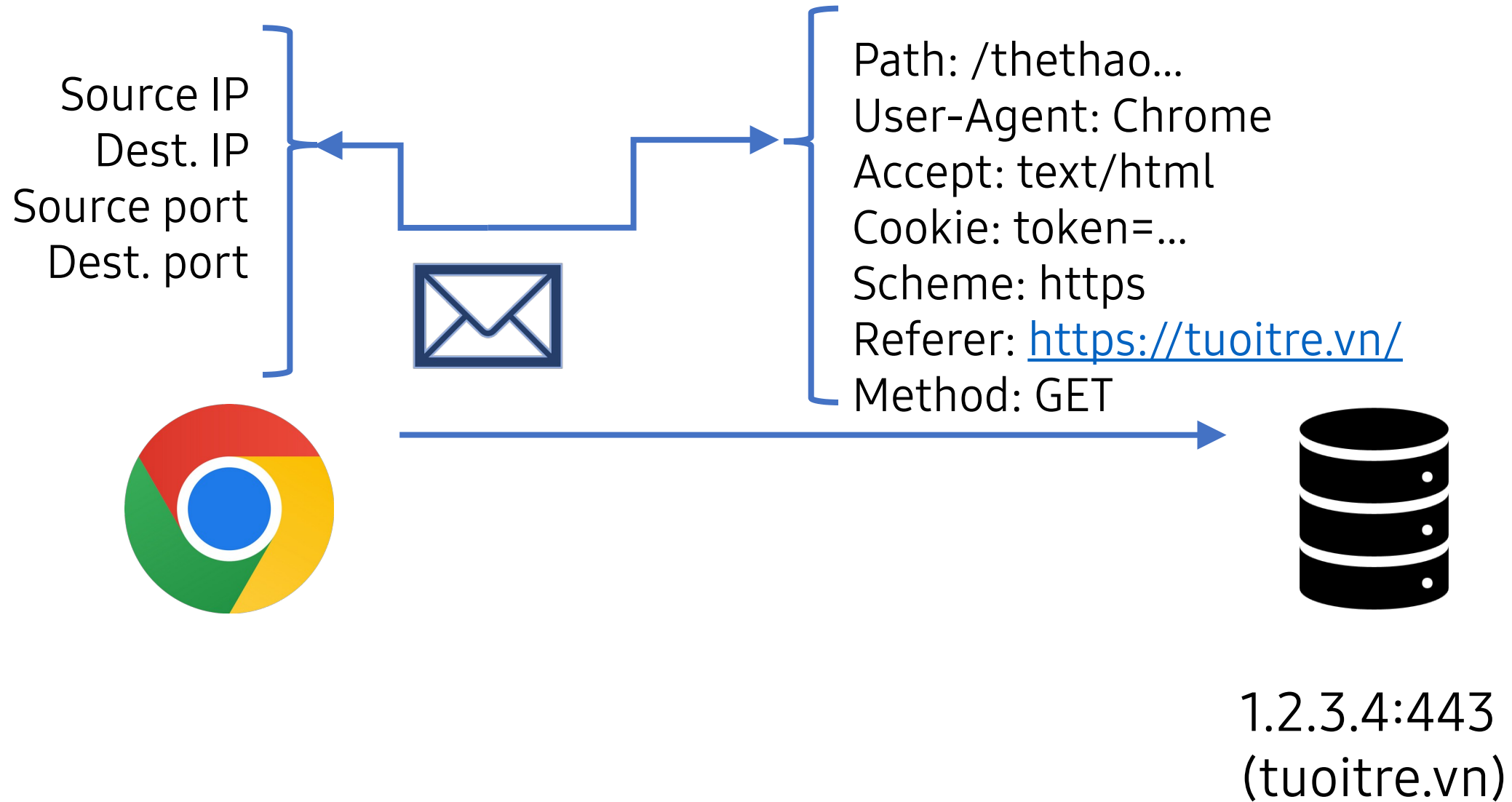
1.2.3.4:443
(tuoitre.vn)

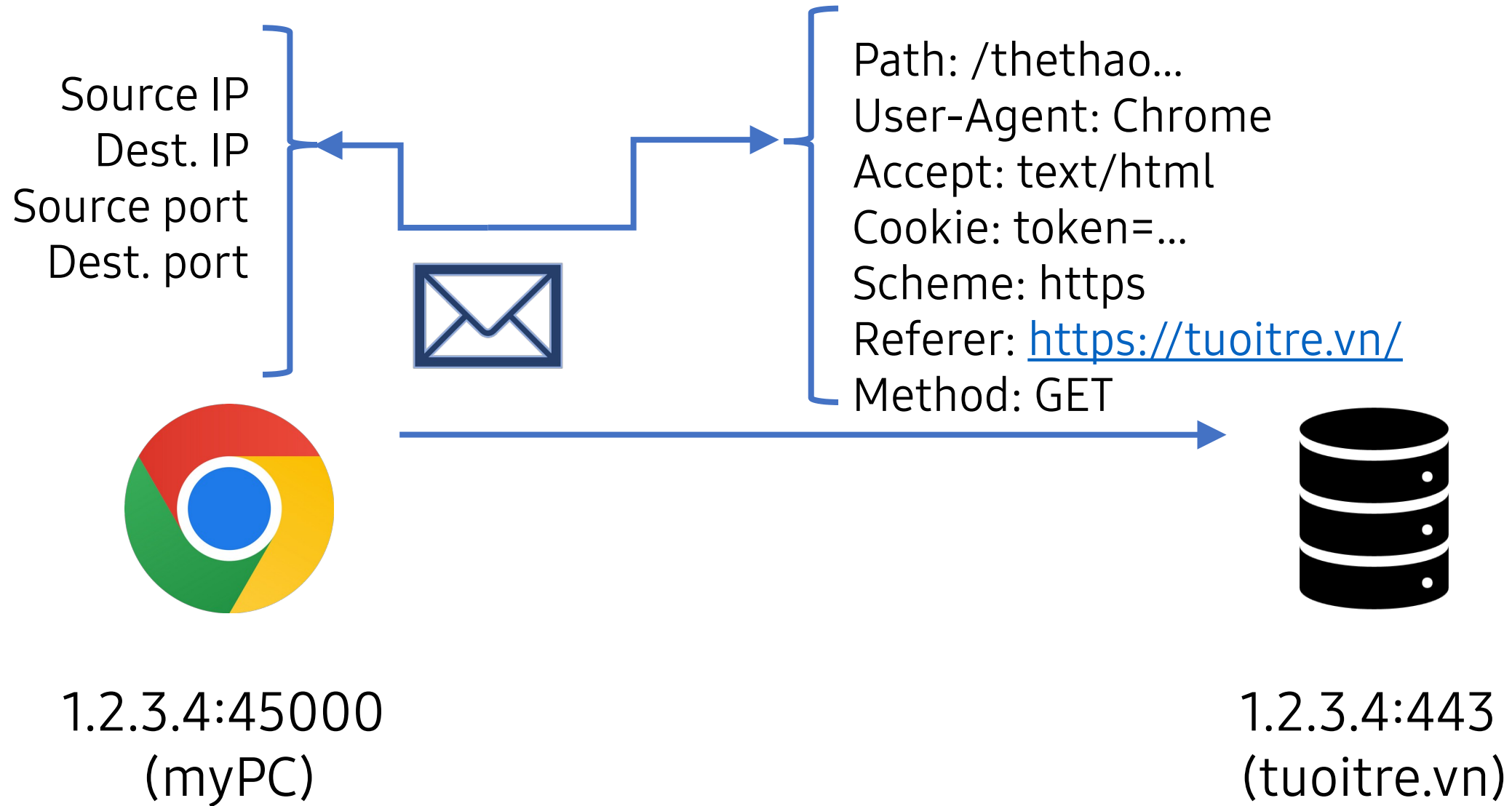


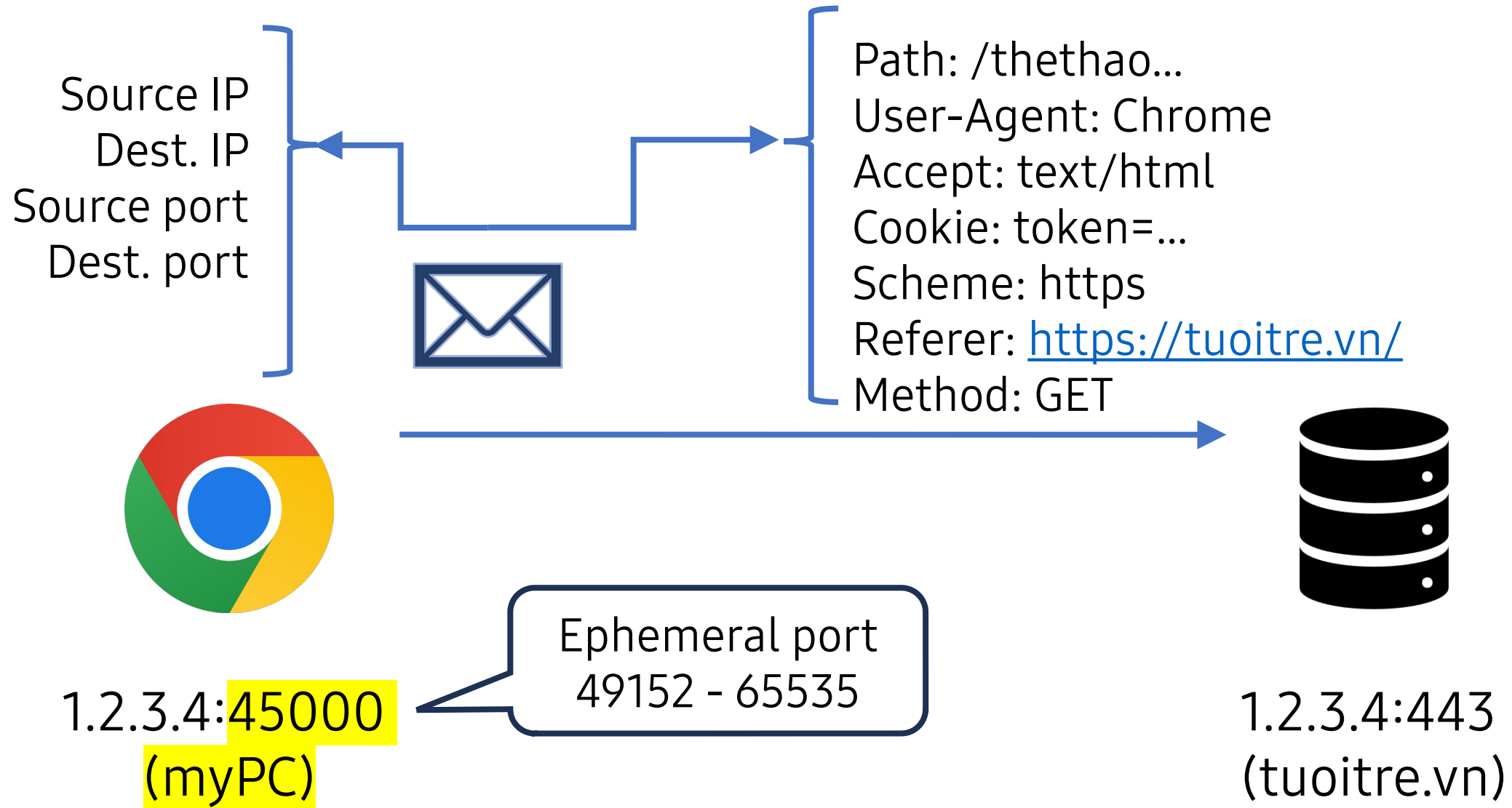
Path: /thethao...
User-Agent: Chrome
Accept: text/html
Cookie: token=...
Scheme: https
Referer: <https://tuoitre.vn/>
Method: GET



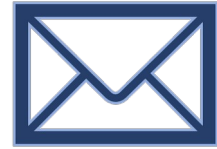
1.2.3.4:443
(tuoitre.vn)







Source IP
Dest. IP
Source port
Dest. port

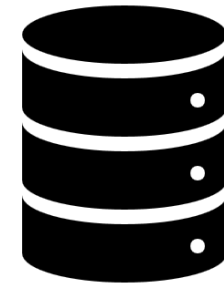


Path: /thethao...
User-Agent: Chrome
Accept: text/html
Cookie: token=...
Scheme: https
Referer: <https://tuoitre.vn/>
Method: GET



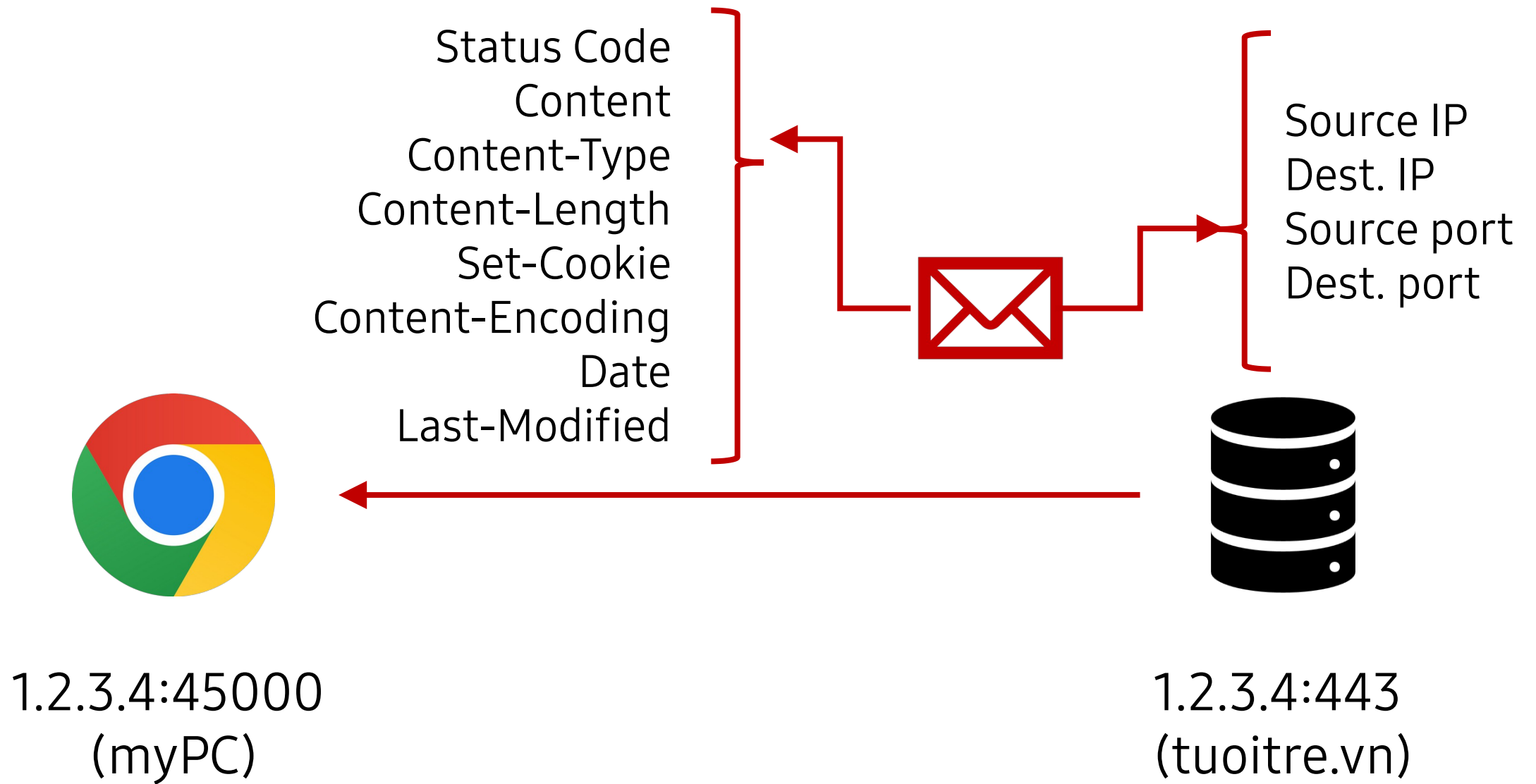
1.2.3.4:45000
(myPC)

Ephemeral port
49152 - 65535



1.2.3.4:443
(tuoitre.vn)

Time out



Questions

1. How do browsers remember who you are?
2. Can a website work with any browsers?
3. Are there difference between PC & Mobile browsers?

demo

Tricks with X- header



HTML, CSS, JS



HTML



CSS



JS



Server
program



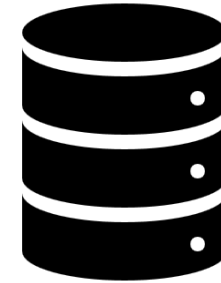
Static websites



Form, shop order, sign in/out,...



HTML, CSS, JS



HTML



CSS



JS



Server
program



...



Dynamic websites

or

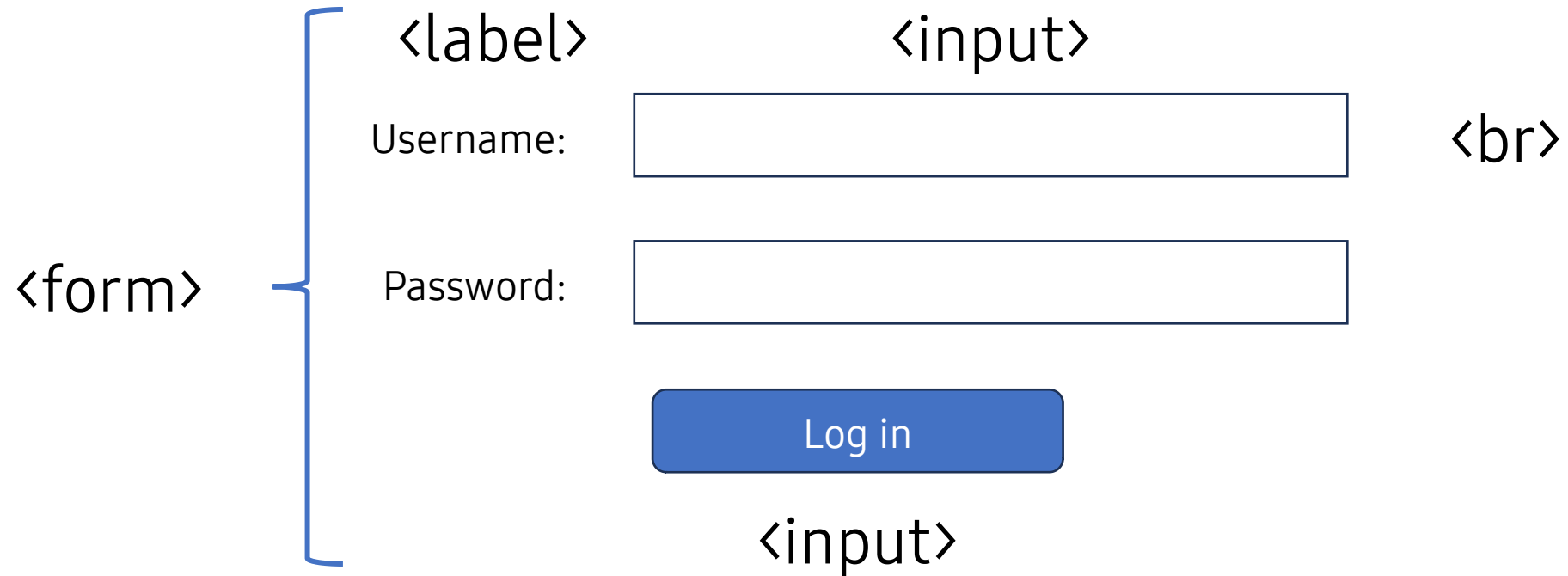
HTML Form

Username:

Password:

Log in

HTML Form



`<form>`

`<label>`

Username:

`<input>`

`
`

Password:

`<input>`

Log in

`<input>`

```
<form action="/login" method="post">
  <label>Username: </label>
  <input type="text" name="username"><br>
  <label>Password: </label>
  <input type="password" name="pw"><br>
  <input type="submit" value="Log in">
</form>
```

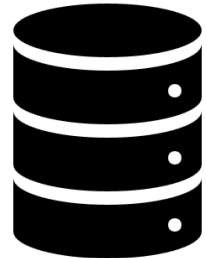
Username:

Password:

Log in



Server
program



Open port

Process
reqs/resps

Security

Server
program



Support
developing
process

Standardize

New
technologies
implemented

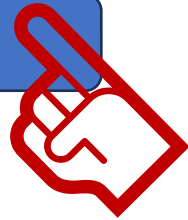
Multipurpose Internet Mail Extensions (MIME)

application/x-www-form-urlencoded

Username:

Password:

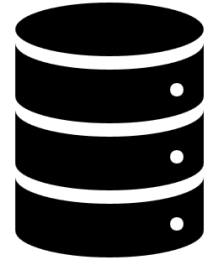
Log in



multipart/form-data



Server
program



What to focus

- Action URL (endpoint)
- Method (GET/POST/DELETE/PUT)
 - HEAD/OPTIONS/PATCH
- Content
- MIME

RESTful API

RESTful API

#1 Uniform interface: Req/resp must have resource identified.

#2 Statelessness: Each request is independent.

#3 Layered system: If A, B and C are 3 layers where C is the server, a request can be successfully processed from both A and B.

#4 Cacheability: Some contents can be cached.

#5 Code on demand: Server can command the UI when necessary.

<https://aws.amazon.com/what-is/restful-api/>

Summary

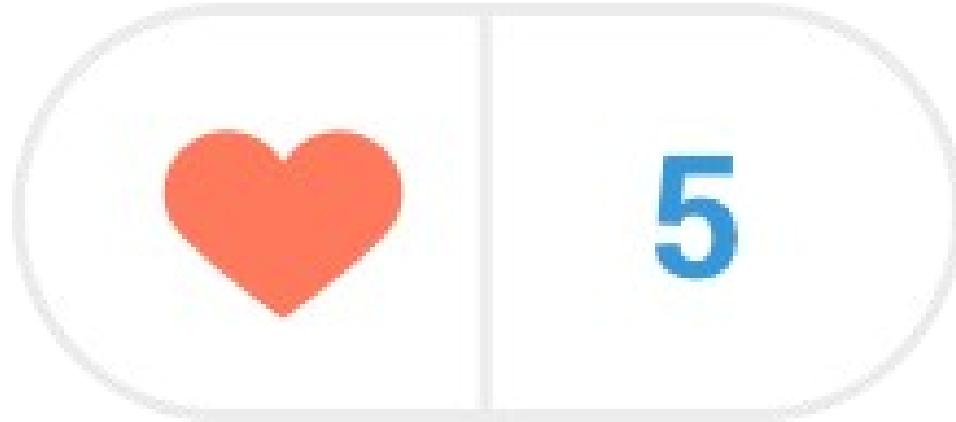
- If there's a request, there's a response.
- Request must strictly identify one or some resources.
- Method priority: GET, POST, DELETE, PUT,...
- Processing result included. Ex: code & message.
- For multimedia, take of of the cache.

```
{  
  "code": "SUCCESS",  
  "message": "",  
  ...  
}
```

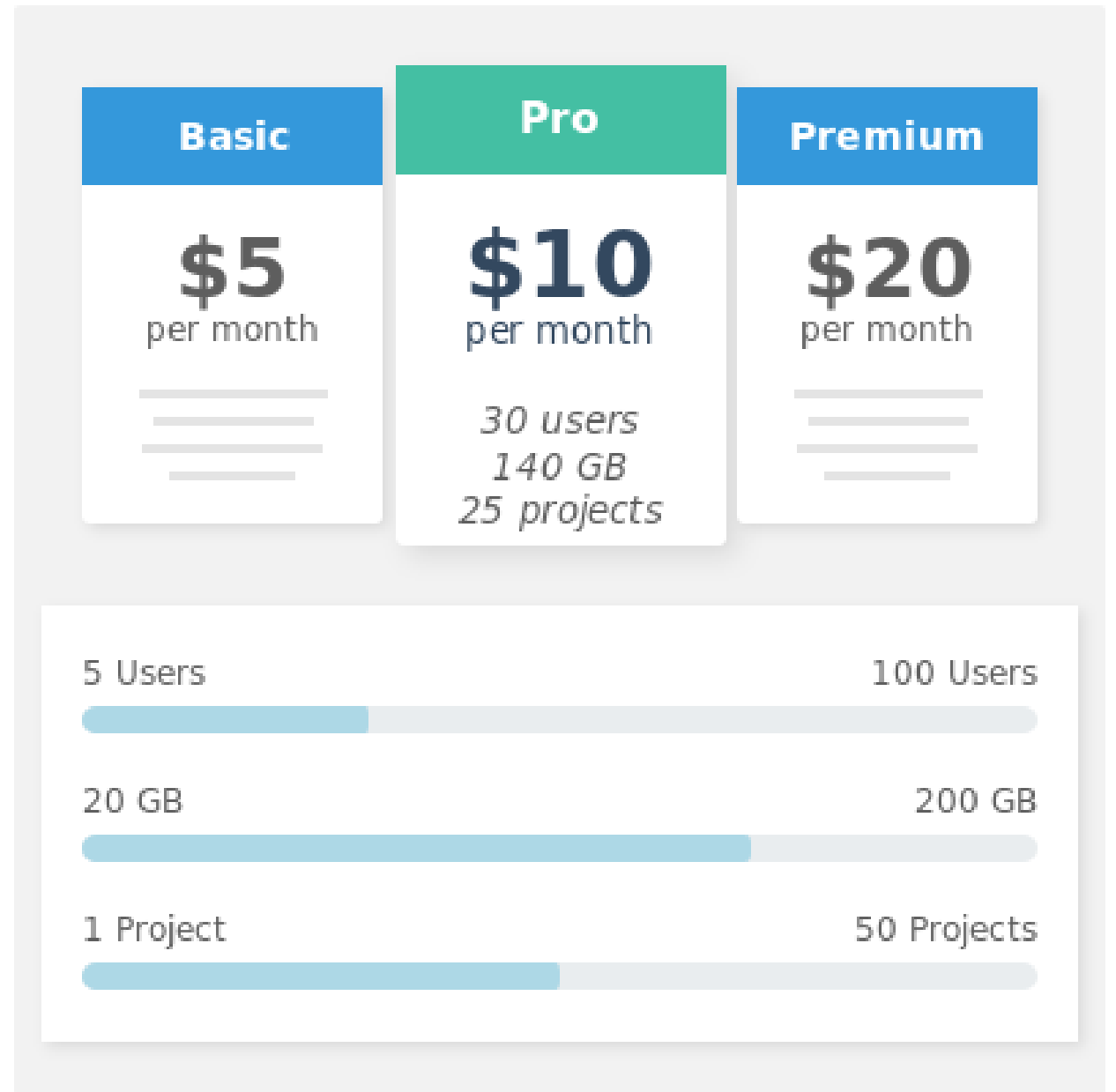
Notes: Some misinterpreted concepts

- Website: A group of multiple web pages & related content of same domain.
- Web app: Dynamic website or web API.
- Ugly codes make browser slower.

Homework #1



Homework #2



Homework #2

Basic

\$5
per month

Pro

\$10
per month

Premium

\$20
per month

2-day homework (group)

- Finish 2 static websites as described.
- Download initial files here:
- Don't change teacher's codes.
- You can use Js if necessary.