

# ITP 303 - Full-stack Web Development

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Tue & Thu 2:00pm - 5:35pm @ Zoom

# Hello...

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- My name is Nayeon, pronounced like **nylon without the “l”**
- I studied **computer science** at USC, teaching since 2015
- I’ve been working as a **software engineer** building websites and web applications primarily for entertainment studios such as **Disney, Universal, Fox**, and more



# Your TAs

*aka your best friends in this class*

- Aaqib, Shaden, Victoria, Phillip -

# Course details

- ...this is a heavy workload
- ~8h of lecture every week
- 2 labs and 2 assignments assigned every week.
  - Something is due every Mon, Wed, Fri

# Lectures

- Live lectures on Zoom on T/Th 2-4pm
- Open lab session T/Th 4-5:35pm
- Recorded lectures for you to watch on Wed/Fri on your own time
- Totals to about 8h of lecture per week
- Lots of live coding - if available, put Zoom on a second device or monitor

# Labs/Assignments

- Labs are super short
  - Assigned Tue/Thu, due at 2pm PDT on Wed & Fri
- Assignments are longer
  - Assigned Tue/Thu, due 11:59pm PDT on Mon & Fri
- Must upload assignments to the web server
- Three extensions available
  - One extension per assignment - no combining or partial



# Midterm Exams

- 2 Midterm Exams - 6/11 & 6/30
- Online. 48 hour period for you to take on your own time.

# Final Project

- Final project takes place of the final exam
- Final project is due on **7/7 11:59pm**
- Presentations on 7/7

# Tools we use to keep organized

- **Class website** <http://itpwebdev.com/summer-2020/itp-303/>
  - Lecture notes, lecture video recording
  - Lab and assignment requirements
  - Lab and assignment deadlines
- **Blackboard**
  - Shows your grades
- **Piazza**
  - Post questions on piazza before emailing professor or TAs. More likely to receive a quicker response.
  - Let professor know if you have not received an invite to this class's Piazza

# Previous Final Projects

- COVID19 Report: [http://303.itpwebdev.com/~tranngo/final\\_project/index.html](http://303.itpwebdev.com/~tranngo/final_project/index.html)
- Journaling and sentiment analysis (u: t, pw: t) -  
<http://303.itpwebdev.com/~jeperetz/final/calendar.php>
- Unscramble Game:  
[http://303.itpwebdev.com/~wong935/final\\_project/index.php](http://303.itpwebdev.com/~wong935/final_project/index.php)
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- Superhero Ranker:  
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- Date Deck: <http://303.itpwebdev.com/~aharish/finalproject/home.php>
- Bar Crawler  
- <http://303.itpwebdev.com/~trannhan/barcrawler/barCrawler/index.html>

Let's talk WWW

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facebook.com



google.com



buzzfeed.com



Your computer

*Server*



facebook.com

*Server*



google.com

*Server*



buzzfeed.com



Your computer



*Server*



facebook.com

*Server*



google.com

*Server*



buzzfeed.com



Your computer

Internet Service  
Provider (ISP)

*Server*



facebook.com

*Server*



google.com

*Server*



buzzfeed.com

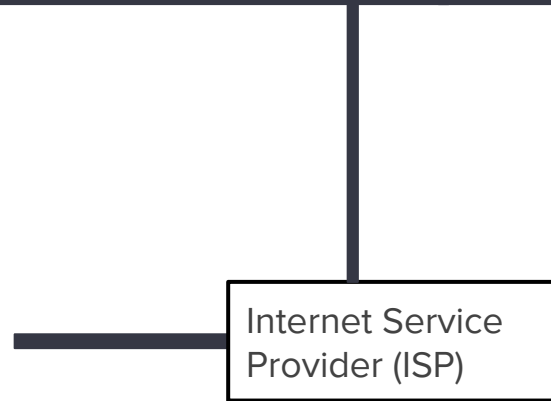


*Client*



Your computer

Internet Service  
Provider (ISP)



*Server*



facebook.com

*Server*



google.com

*Server*



buzzfeed.com

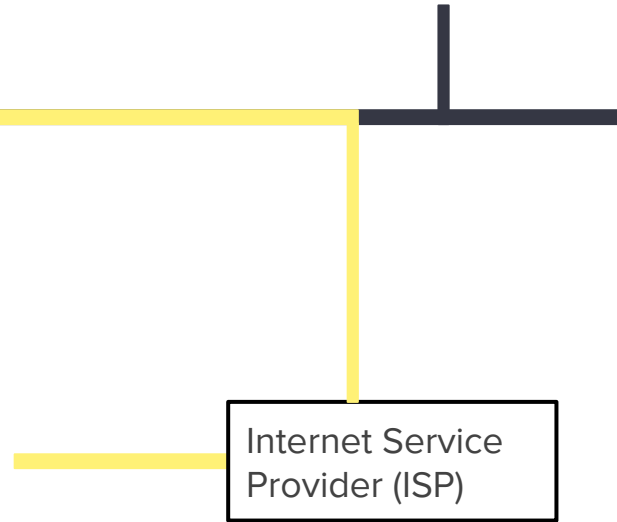


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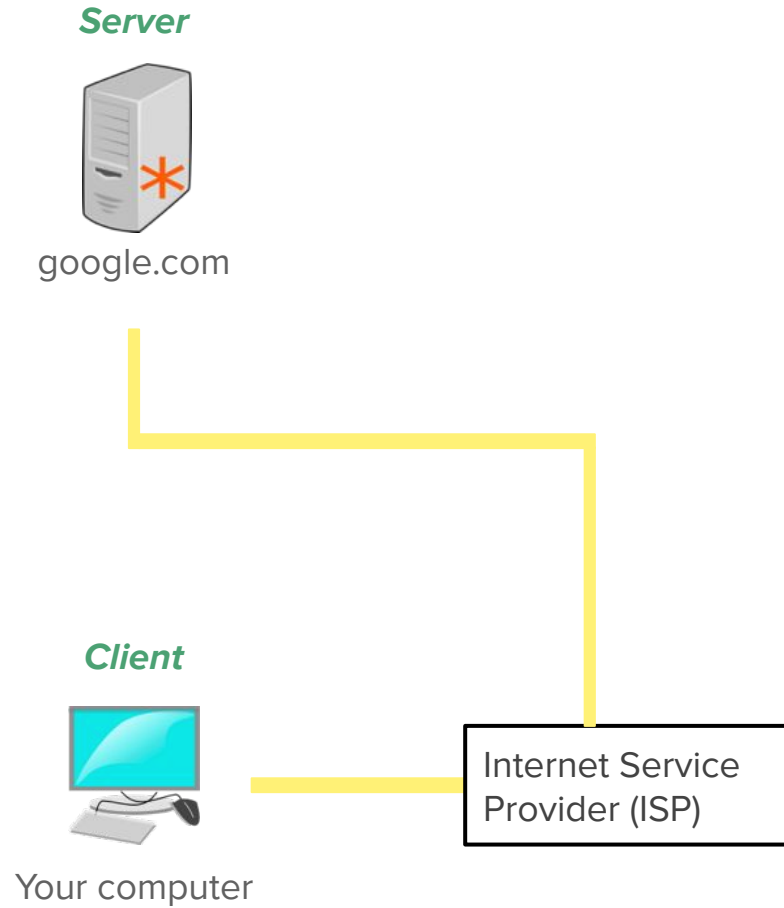
*Client*



Your computer

Internet Service  
Provider (ISP)

Let's take a  
closer look



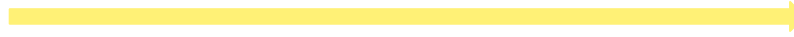
*Client*



Your computer

Web browser

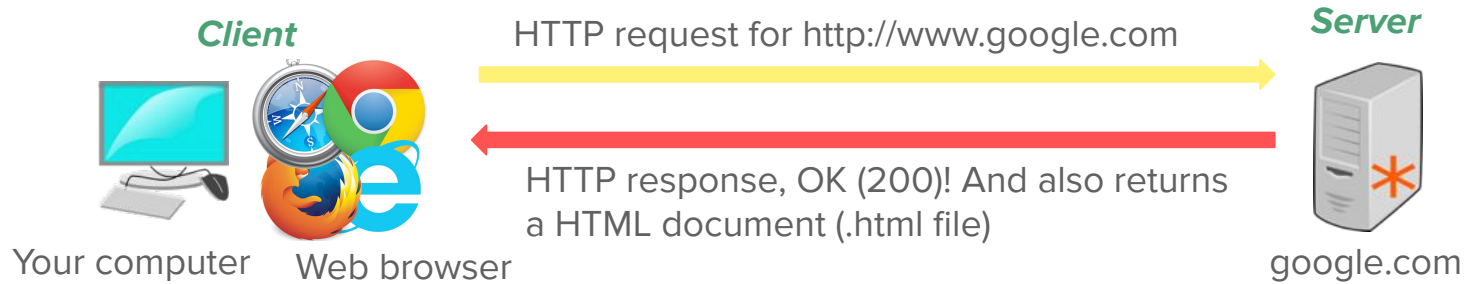
HTTP request for <http://www.google.com>



*Server*



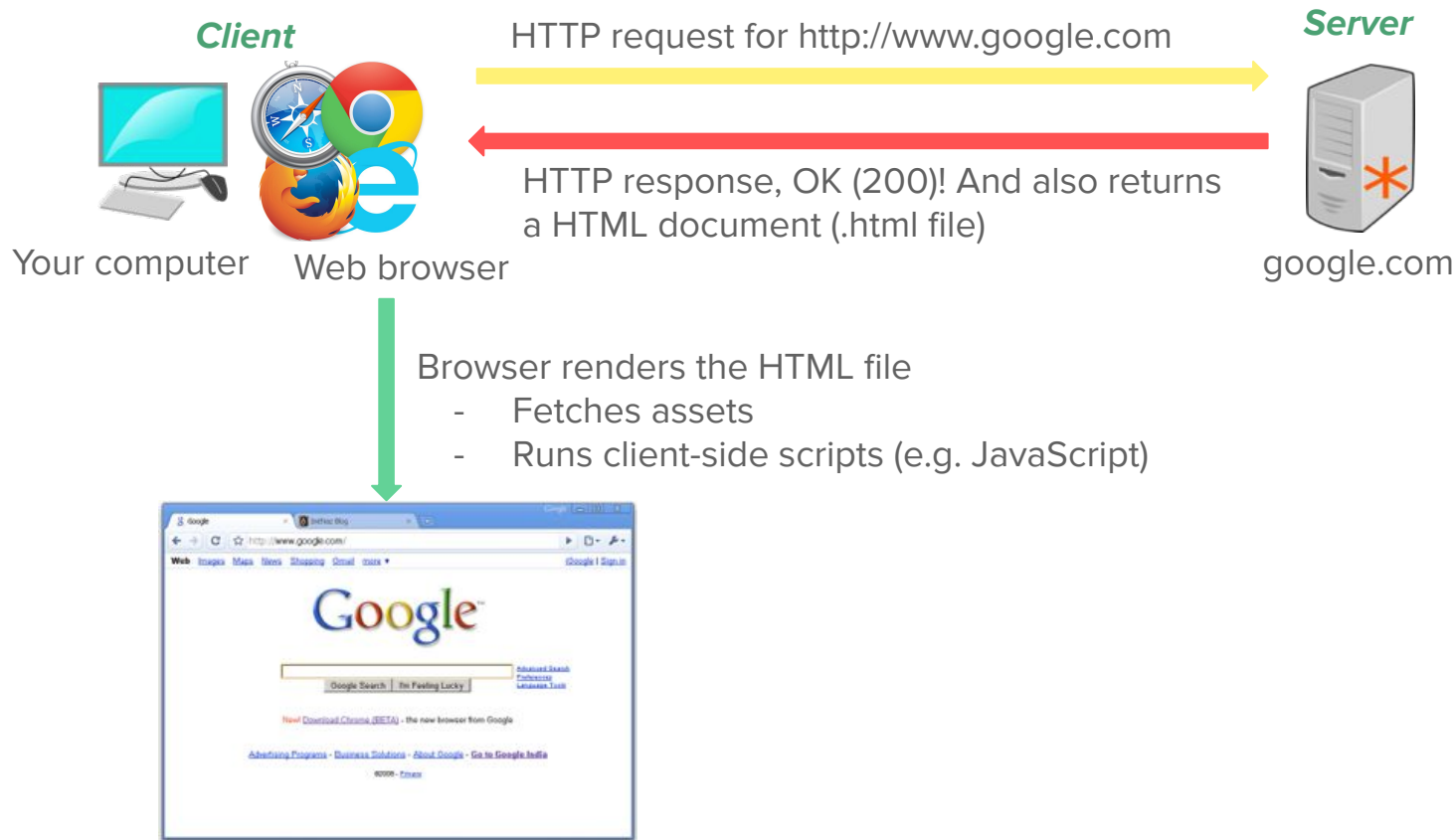
google.com



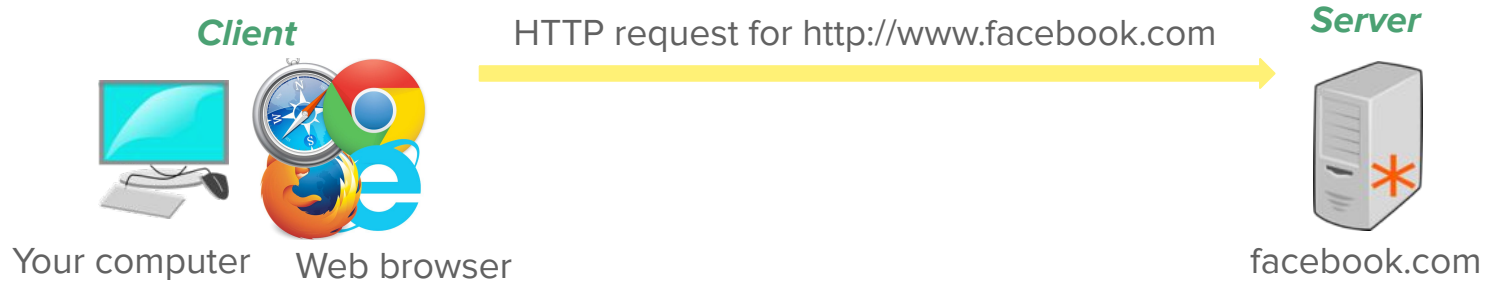
# HTTP Status Codes

- 200 OK
- 301 Moved Permanently
- 302 Not Found
- 304 Not Modified
- 401 Unauthorized
- 403 Forbidden
- 404 Not Found
- 500 Internal Server Error





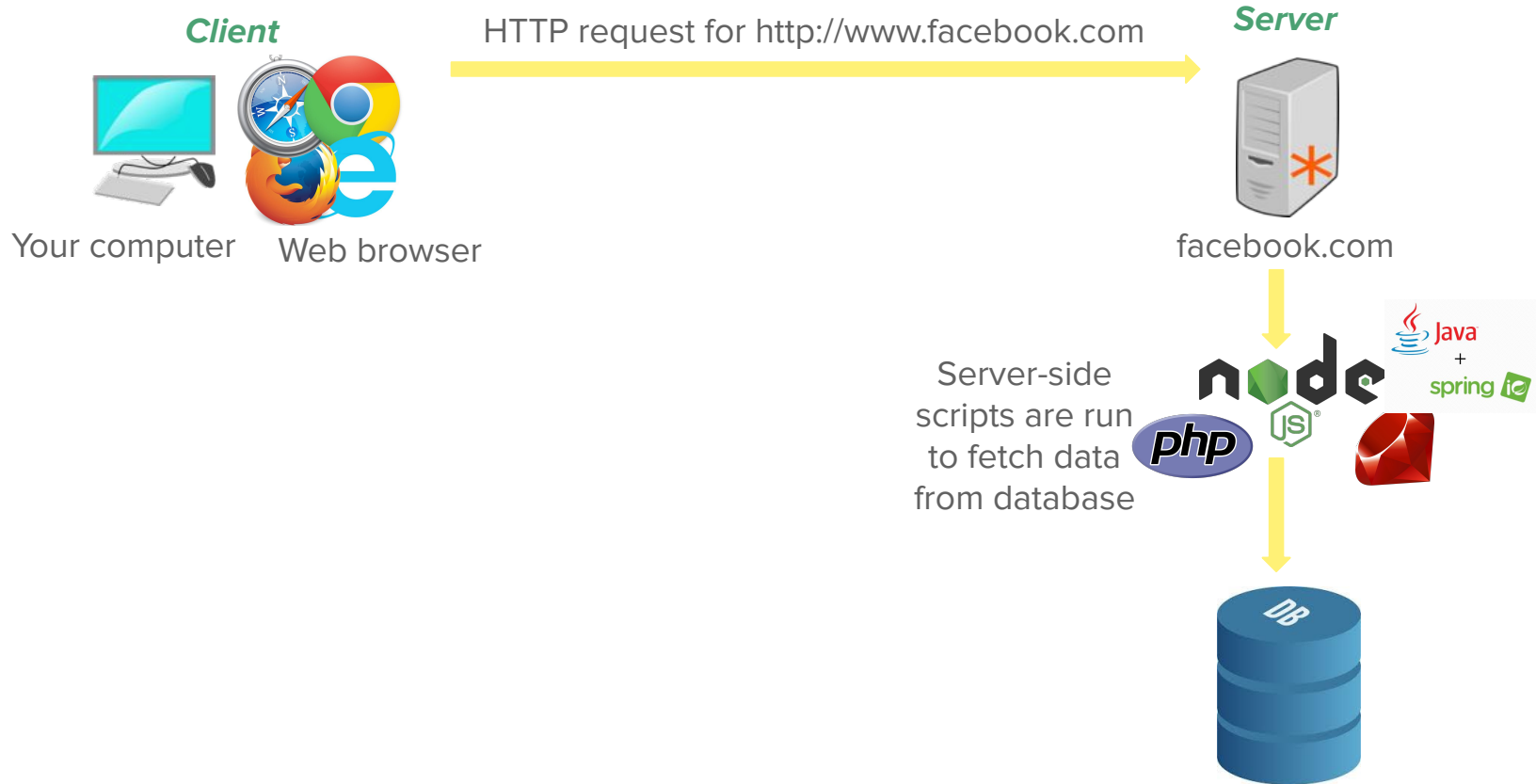
# A dynamic website



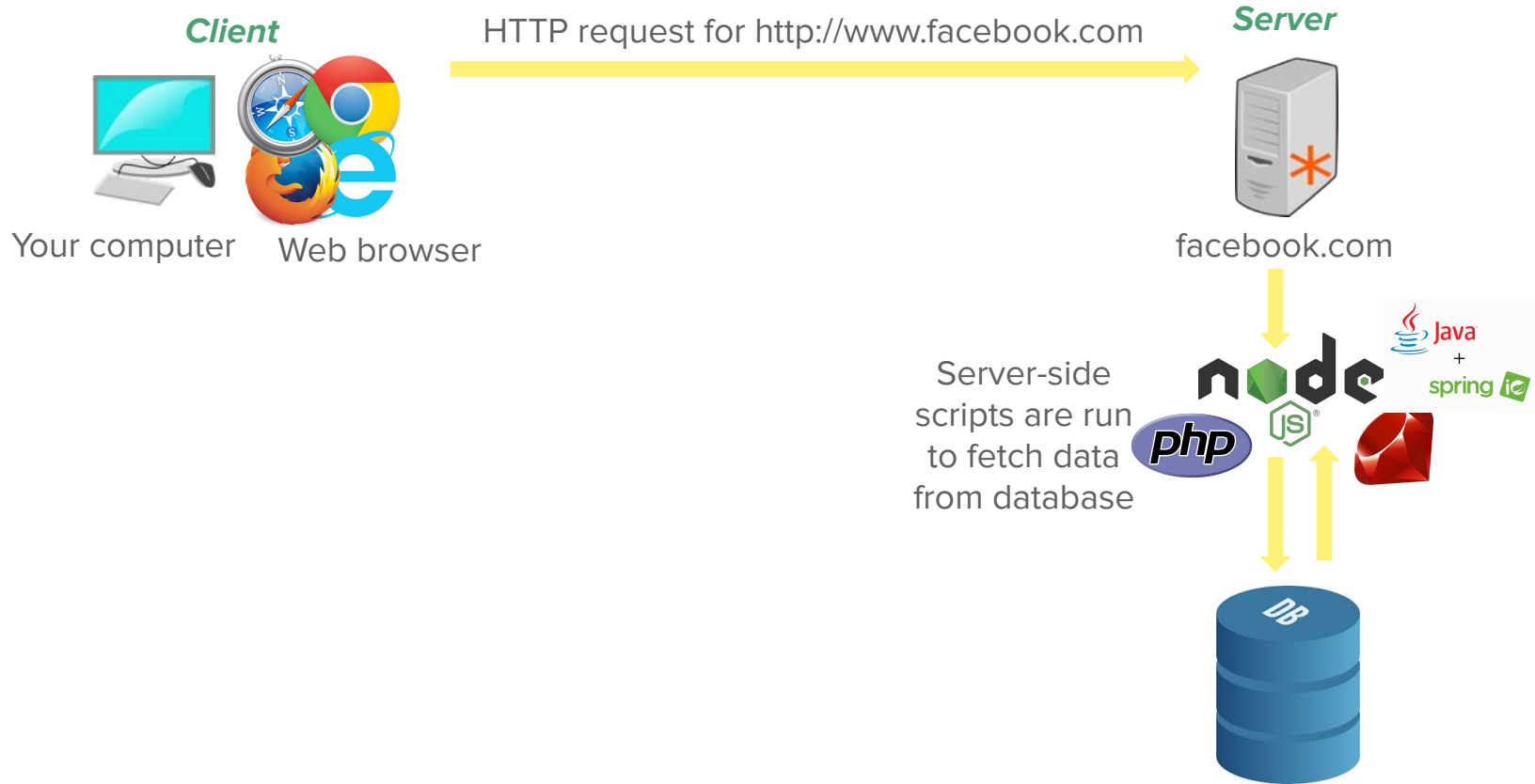
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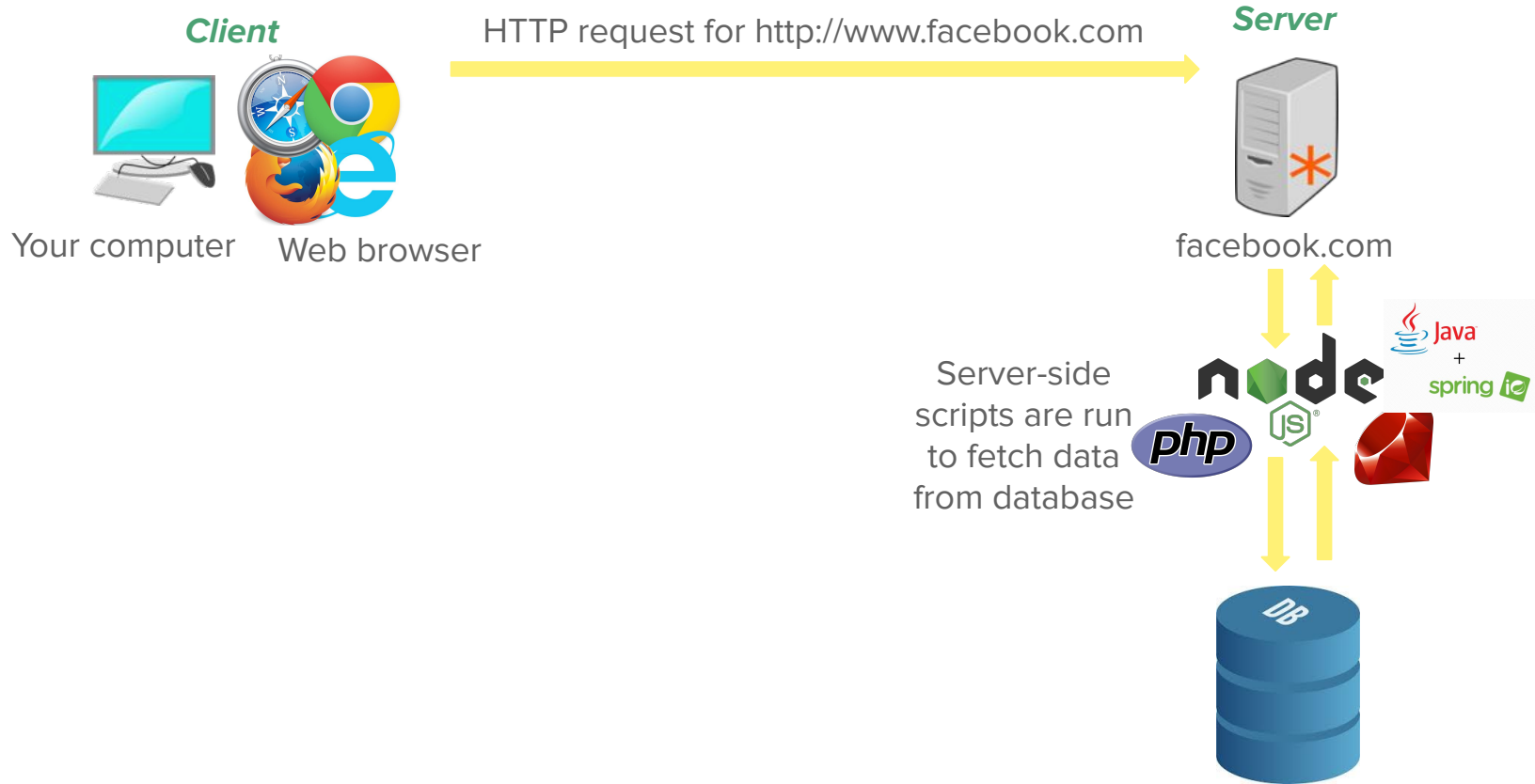
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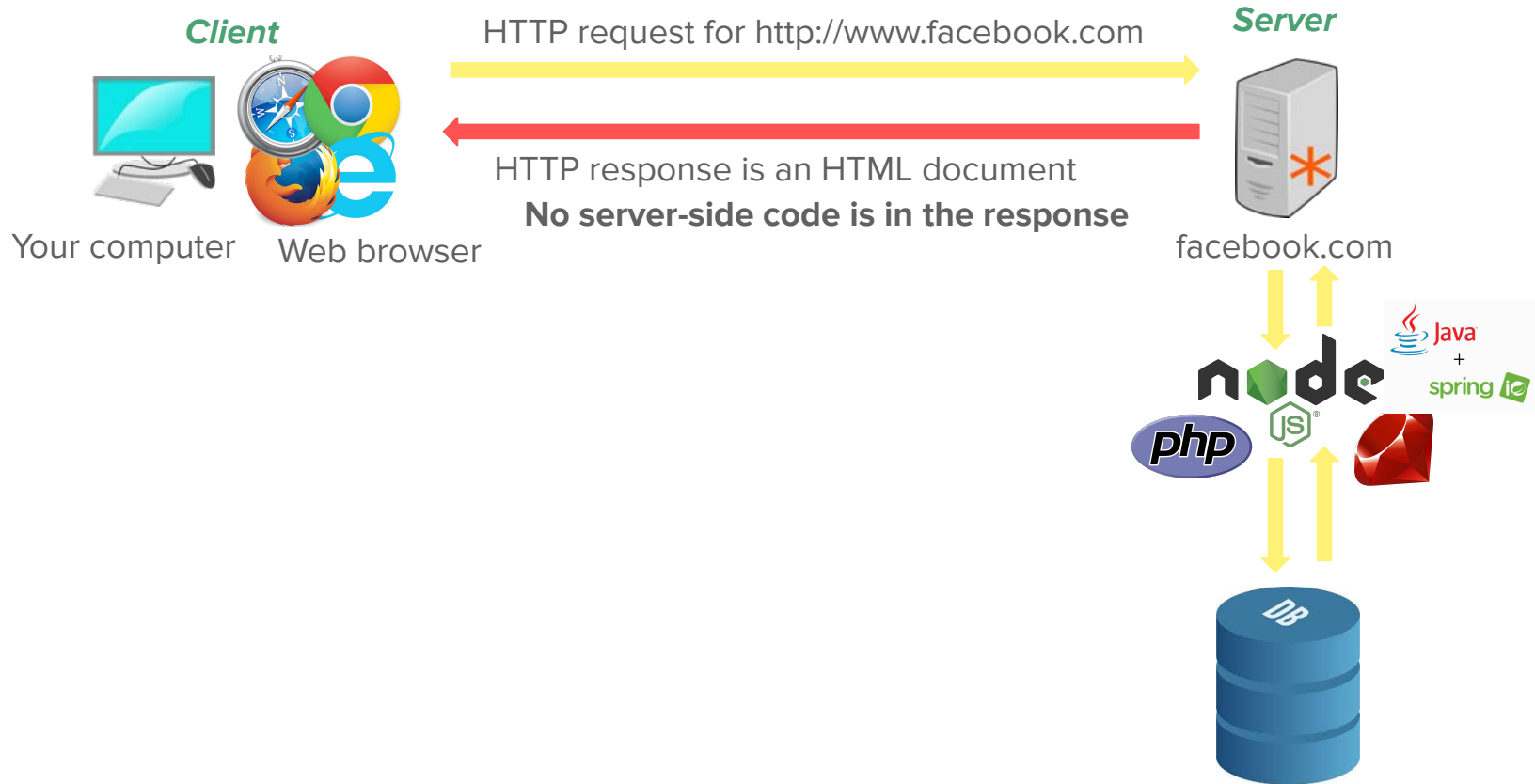
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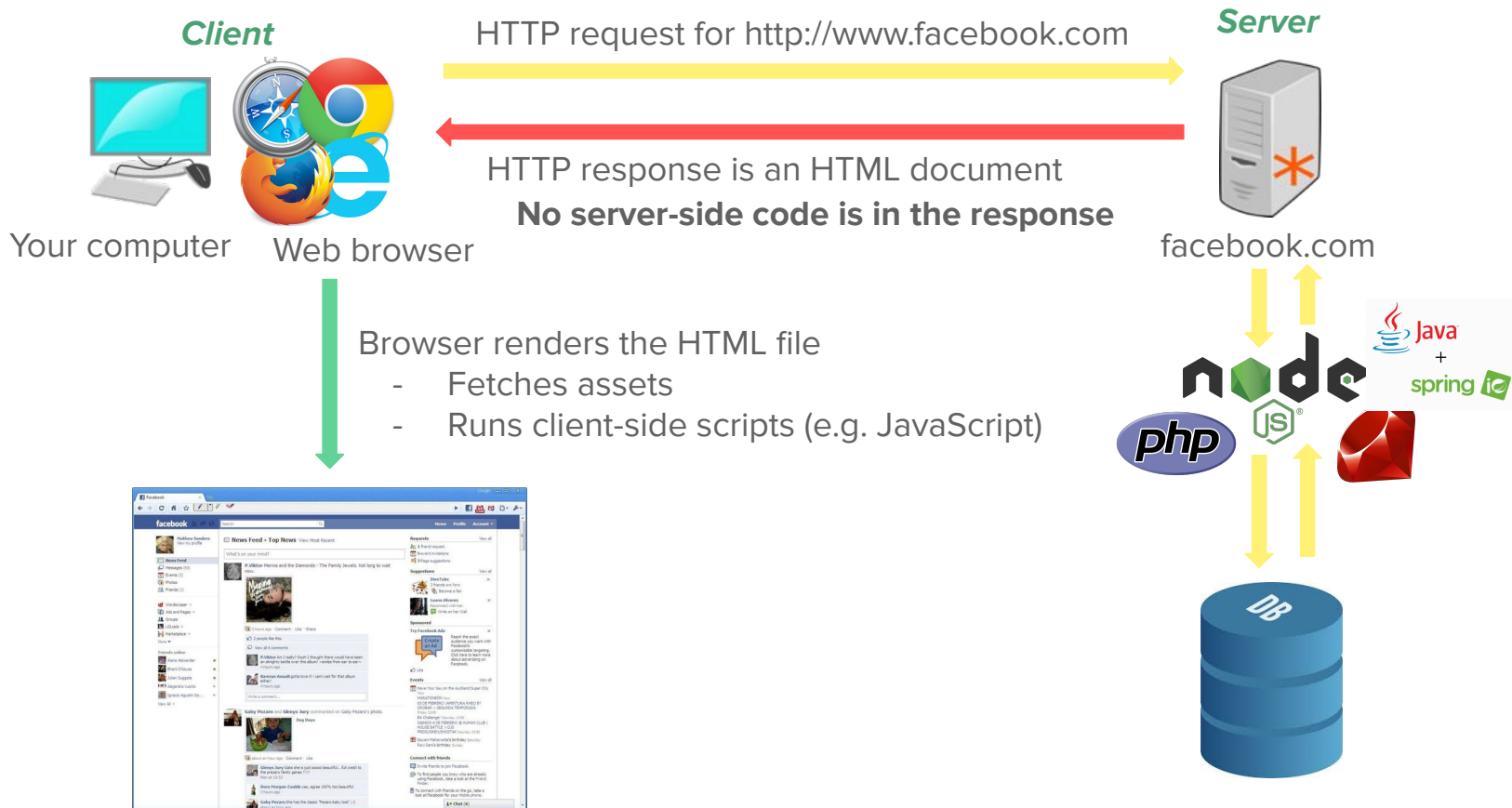
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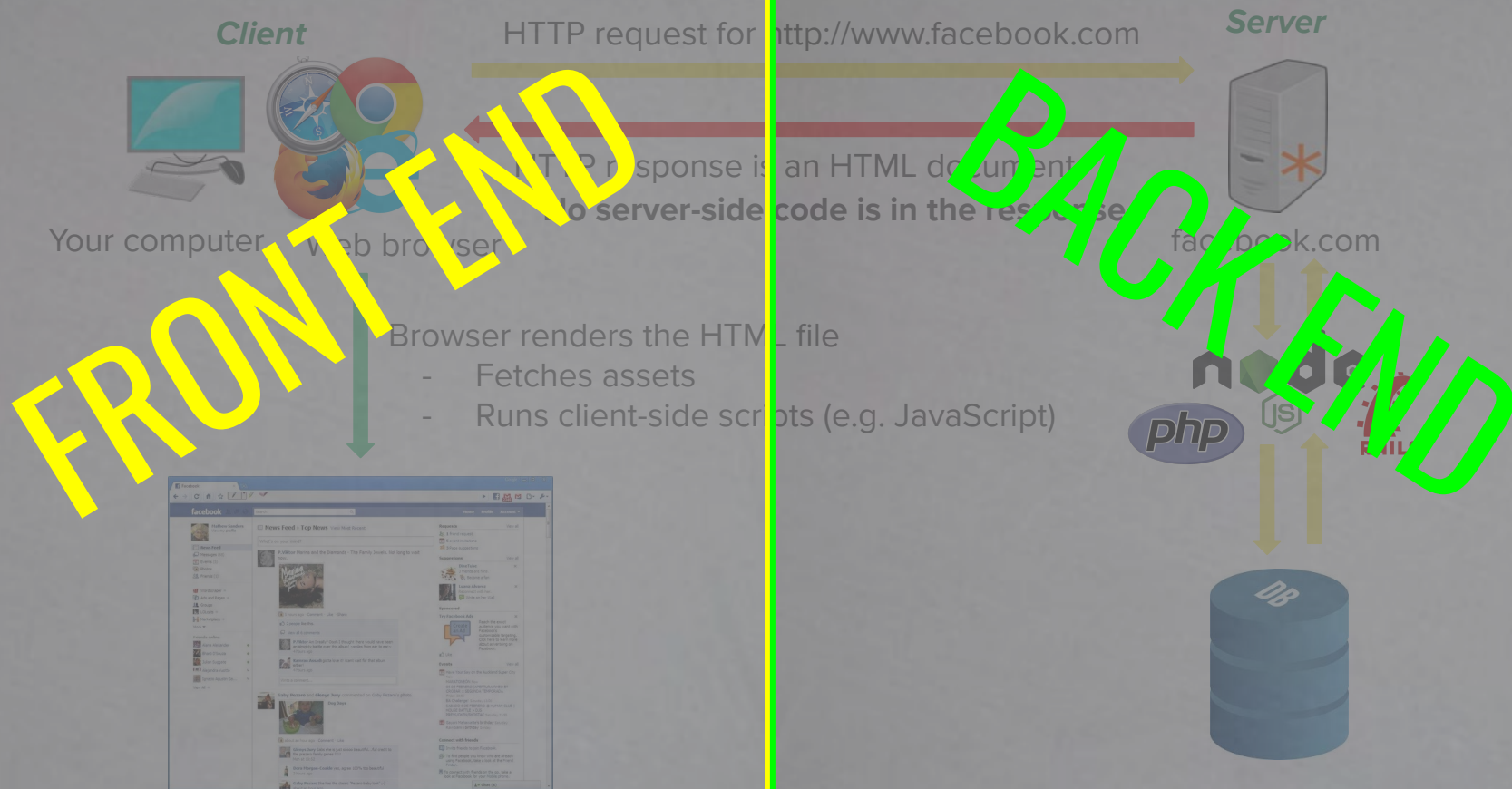


# A dynamic website





# A dynamic website



# A dynamic website



# Front End vs Back End

- **Front End (aka client side)**

- Stuff you see in the browser
- Page layout, user interface, animations, user event listeners
- Consume APIs
- Key languages: HTML, CSS, JavaScript
- Need to also be aware of:
  - Cross browser issues (i.e. IE is death)
  - Client-side performance (i.e. images need to load asap)
  - Basic visual design and color theory

- **Back End (aka server side)**

- Make sure the right data gets sent out to the browser
- Languages: PHP, JavaScript (node), Java, Ruby, Python, .NET
- Database tools like MySQL to update, create, and delete data
- Database design
- Consume & develop APIs

# The “Stack” in this class

## Front End

HTML

CSS

JavaScript

## Back End

PHP

SQL

MySQL databases

# The “Stack” in this class

## Front End

HTML

CSS → Bootstrap Framework

JavaScript → jQuery library, VueJS

Framework (intro)

## Back End

PHP → Laravel Framework (intro)

SQL

MySQL databases

# The “Stack” in this class

## Front End

HTML

CSS → Bootstrap Framework

JavaScript → jQuery library, VueJS

Framework (intro)

## Back End

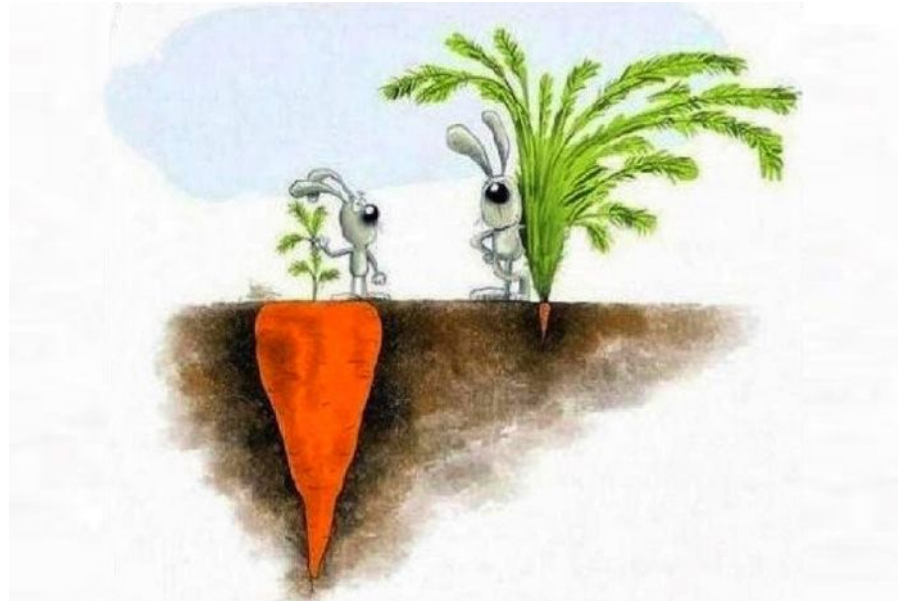
PHP → Laravel Framework (intro)

SQL

MySQL databases

**Goal:** To build a solid foundations of web technologies in the simplest, lowest-hanging fruit way. Not to be inundated with cumbersome set-up tools or trendy frameworks and libraries, but still equipped to pick up the latest developments in web technologies.

# Fundamentals.



Excelled in CSCI 201 or did some web dev already? Consider

# ITP 404

Covers more recent developments in front-end  
web technologies such as React, Ember, etc

Syllabus: <https://web-app.usc.edu/soc/syllabus/20203/31835.pdf>



Excelled in CSCI 201 or did some web dev already? Consider

# ITP 405

Covers more recent developments in back-end web technologies such as Laravel, Node, etc

Syllabus: <https://web-app.usc.edu/soc/syllabus/20201/32074.pdf>

# Course Timeline

- Front End Fundamentals (Week 1 - 4)
  - HTML, CSS, JavaScript
  - Responsive web design, CSS frameworks
- Back End Fundamentals (Week 5 - 7)
  - PHP, MySQL
  - Intro to back end frameworks: Laravel
- Extra topics (Week 7)
  - Membership, APIs, AJAX, etc
- Final Project due **7/7**

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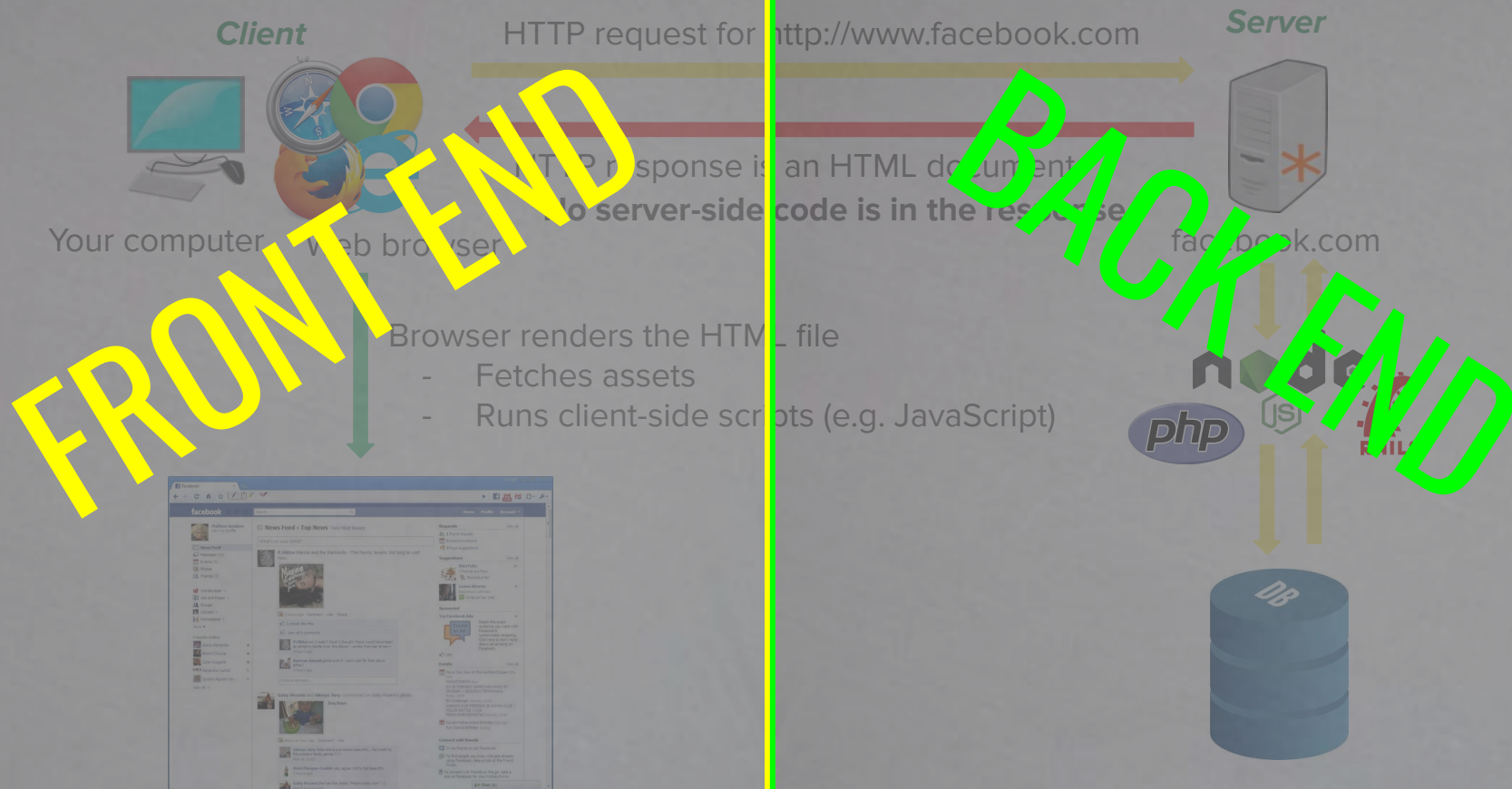
# Intro to HTML & CSS

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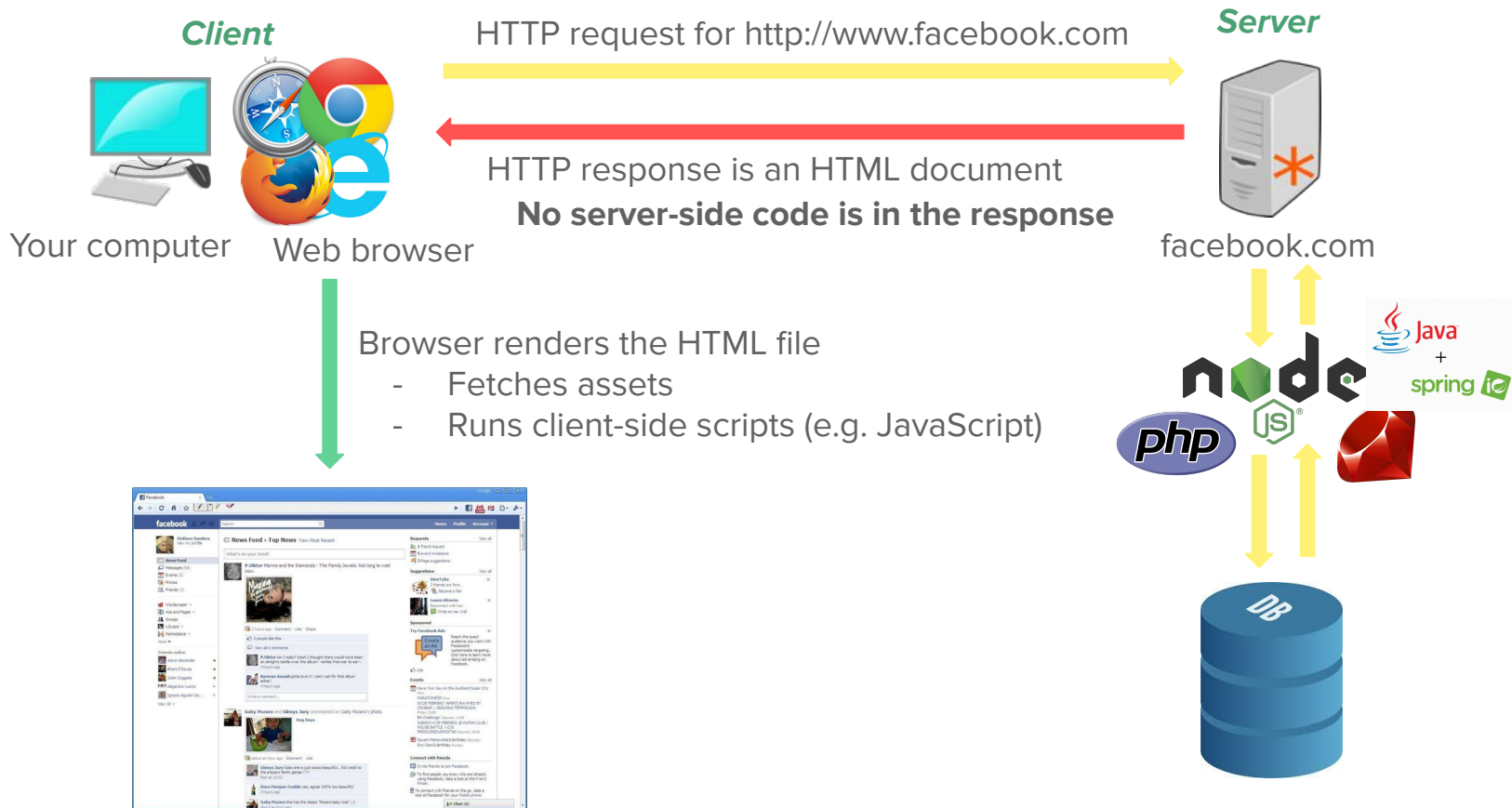
# Key Takeaways Today

1. HTML basic concepts and syntax (tags, attributes, etc)
2. CSS basic concepts and syntax (properties, values, etc)
3. `<div>` tag
4. CSS float

# A dynamic website



# A dynamic website



# Inside a HTML file

- **HTML** (Hyper Text Markup Language) - used to **structure** the content of the page
- **CSS** (Cascading Stylesheet) - used to control the **look and feel** of the page
- Web **browsers** like Chrome, Safari, etc open the HTML file and render it as it is coded





