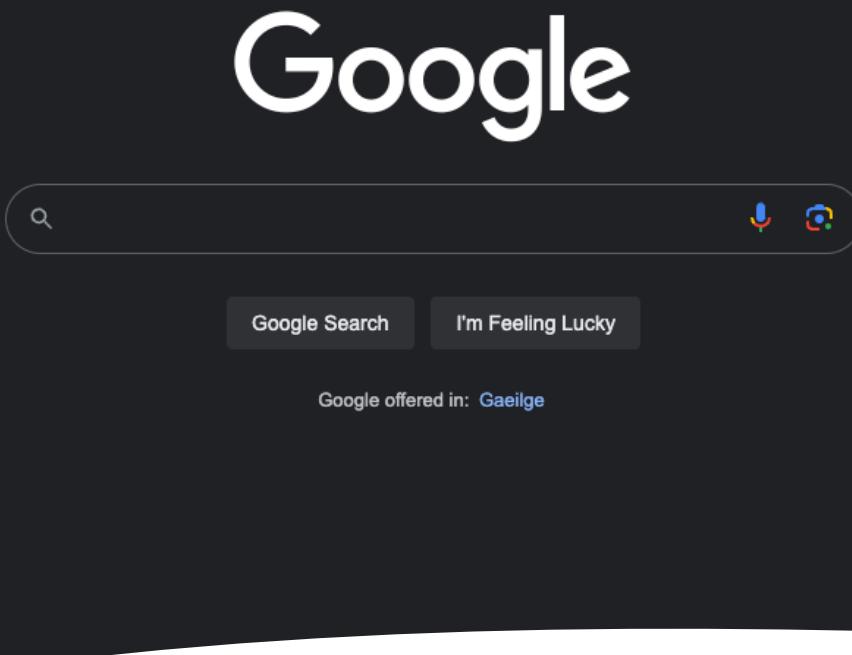


The Beginning

Web Development I



```
<meta content="origin" name="referrer">
<meta content="/images/branding/googleg/1x/googleg_standard_color_128dp.png" itemprop="image">
<title>Google</title>
<script src="https://apis.google.com/_scs/abc-static/_js/k=gapi.gapi.en.GsbA6.../sv=1/d=1/ed=1/rs=AHp0
oo899t-H8Lxb30qzMDuPn6TV_i36ag/cb=gapi.loaded_0" nonce="async"></script>
▶<script nonce="..></script>
▶<script nonce="..></script>
▶<script nonce="..></script>
<script defer src="/xjs/_js/k=xjs.hd.en. CWFpCABYYs.0/am=AAAAAAAAAAAAAAAAGAAAAQII...sjVmc/m=cdo
s_hsm_jsa_mb4ZUb_d_csi_cEt90b_SNUn3_qddgKe_sTsDMc_dtl0hd_eHDf1" nonce="></script>
▶<script nonce="..></script>
▶<style data-iml="1705168738033">..</style>
<script async type="text/javascript" charset="UTF-8" src="https://www.gstatic.com/og/_js/k=og.gtm.en_
US_mgdhWpts9Vo.2019.0/r...qhbr,qhch,qhga,qhid,qhin/d=1/ed=1/rs=AA2YrTtBgtnAo8VhA-iXJlpS07nCpntuXg"
nonce"></script>
<link type="text/css" rel="stylesheet" href="https://www.gstatic.com/og/_ss/k=og.gtm.kysnSxzxLBw.L.W.
0/m=qwid/...,qhga,qhid,qhin/d=1/ed=1/ct=zgms/rs=AA2YrTtVLEaWgxCNs0cfXhalF5hI1DANA">
▶<style data-late-css>..</style>
<script type="text/javascript" charset="UTF-8" src="//www.google.com/js/bg/1_7gewjyGlqc0FIgu0J5AHUn6L-
zJDTVPaBHJ2ADYro.js" nonce="></script>
</head>
▼<body jsmodel="hspDDf" data-dt="1" jSACTION="xjhTIf:.CLIENT;02vyse:.CLIENT;IVKTfe:.CLIENT;Ez7VMc:.CLIEN
T;YUC7He:.CLIENT;hWT9Jb:.CLIENT;WCulWe:.CLIENT;VM8bg:.CLIENT;qqf0n:.CLIENT;A8708b:.CLIENT;YcfJ:.CLIENT;s
zjOR:.CLIENT;JL9QDc:.CLIENT;kWLxhc:.CLIENT;qGMTif:.CLIENT;ydZCDF:.CLIENT">
▶<style data-iml="1705168738033">..</style>
<div class="I3eUgb" data-hveid="1"> (flex
```

- *HTML (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content.*
 - <https://developer.mozilla.org/en-US/docs/Web/HTML>

What is HTML?



HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Simple HTML Example</title>
</head>
<body>
    <h1>Hello, World!</h1>
    <p>This is a very simple HTML document.</p>
</body>
</html>
```

But that doesn't look like
a website!



HTML defines **WHAT** to render and **WHERE** to render it

It doesn't really know **HOW** it'll be rendered

To do that we need.....

Web Browsers

(and CSS but we'll get to that later)



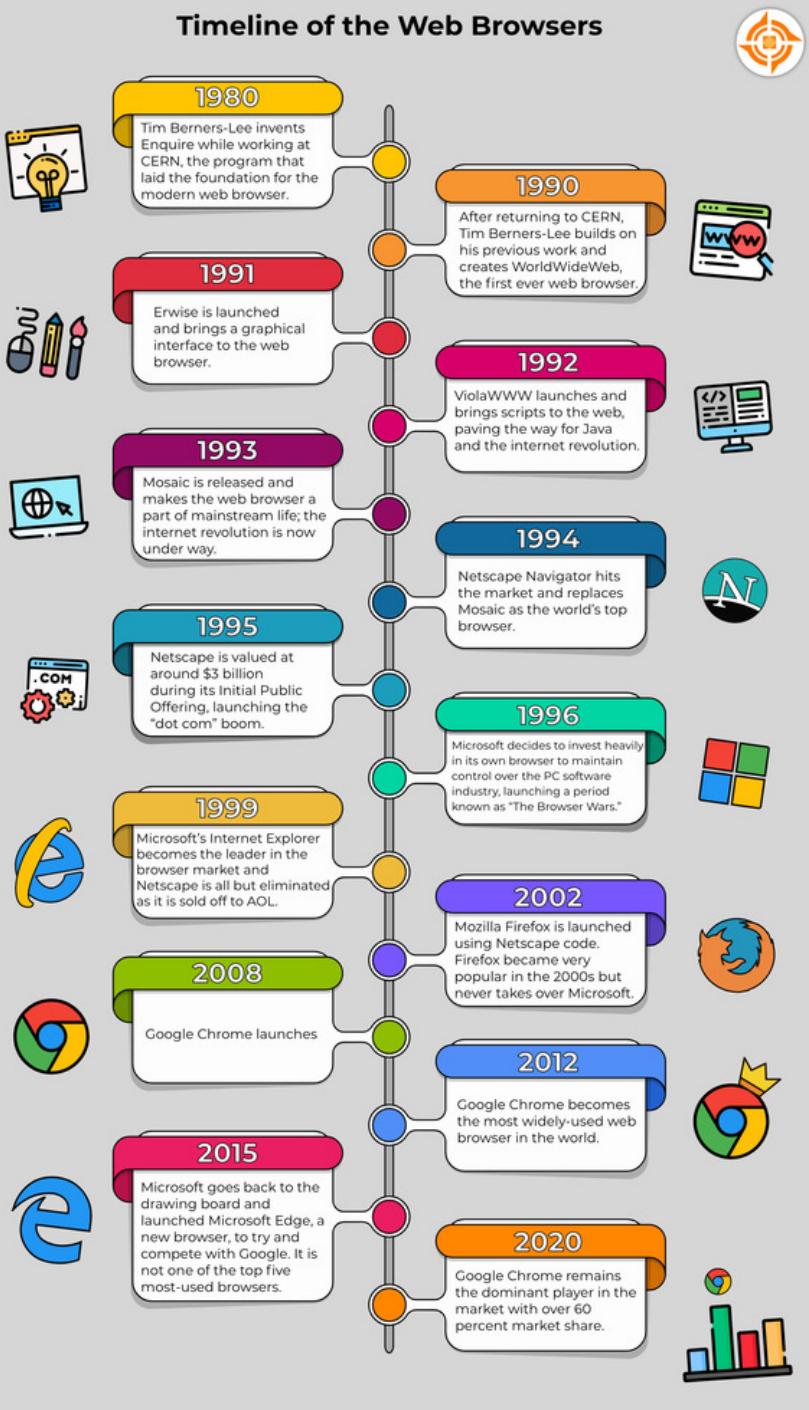
What is a Web Browser?

A web browser is an application that allows users to access and view websites on the internet

A screenshot of a web browser window titled "Simple HTML Example". The address bar shows the URL "bing.com/search?q=Bing+AI&showconv=0&form=MA13FV". The main content area displays the text "Hello, World!" and "This is a very simple HTML document.". To the right of the browser window is the "Elements" tab of the developer tools, which shows the following HTML code structure:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Simple HTML Example</title>
  </head>
  <body> = $0
    <h1 data-bm="156">Hello, World!</h1>
    <p data-bm="157">This is a very simple HTML document.</p>
  </body>
</html>
```

Timeline of the Web Browsers



Lynx
text-based; no graphic content



1992

Netscape Navigator
Replaced Mosaic



1994

Opera



1996

Mozilla FireFox



2004

1990

1993

1995

2000

2003

2008

2015



Mosaic



Internet Explorer



Safari



Google Chrome



Microsoft Edge

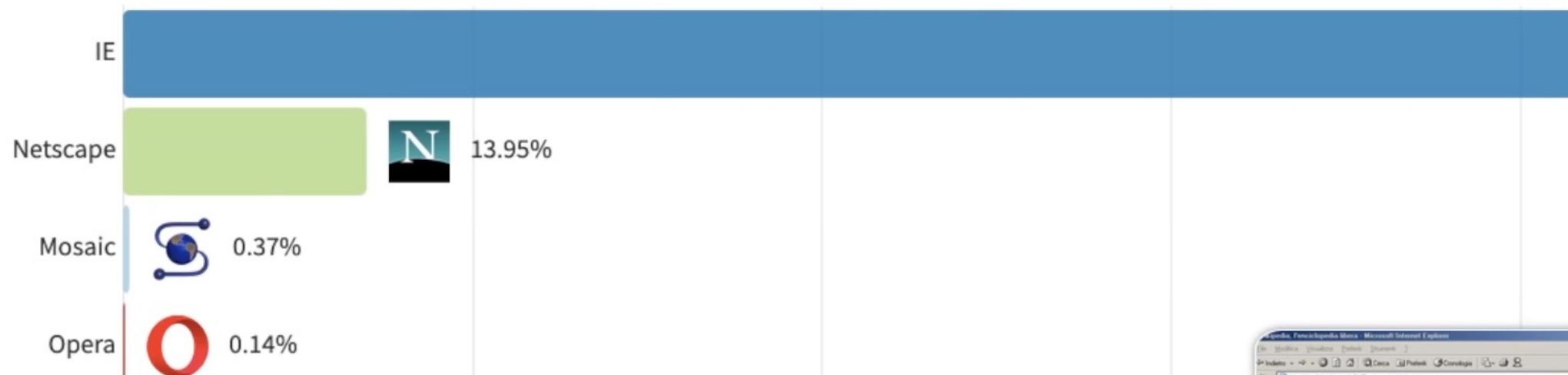
images imbedded in text; "world's first popular browser"

images imbedded in text; "world's first popular browser"

Apple's signature browser

Took over the browser market

0% 20% 40% 60% 80%



83.04%

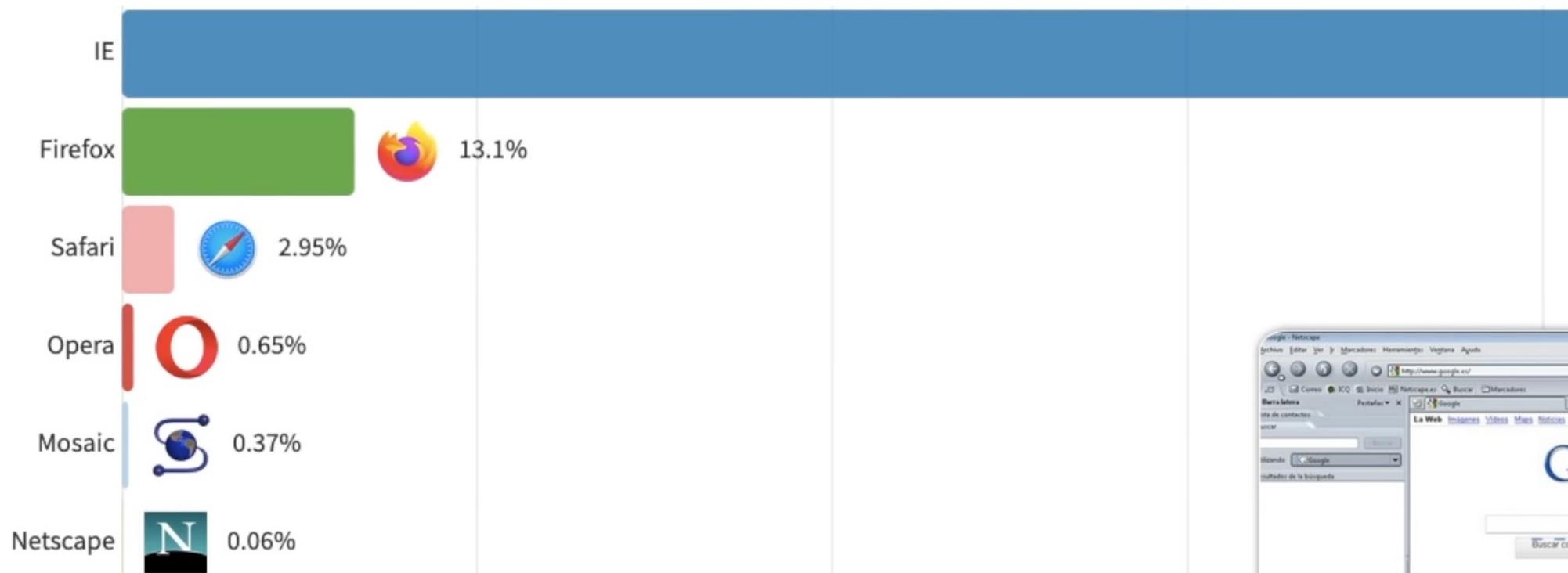
2000
Microsoft was
found guilty
and decided to
split IE from
Windows



2000 Q3



0% 20% 40% 60% 80%



82.11%

2008
Netscape
Ends
Netscape
Navigator is
discontinued



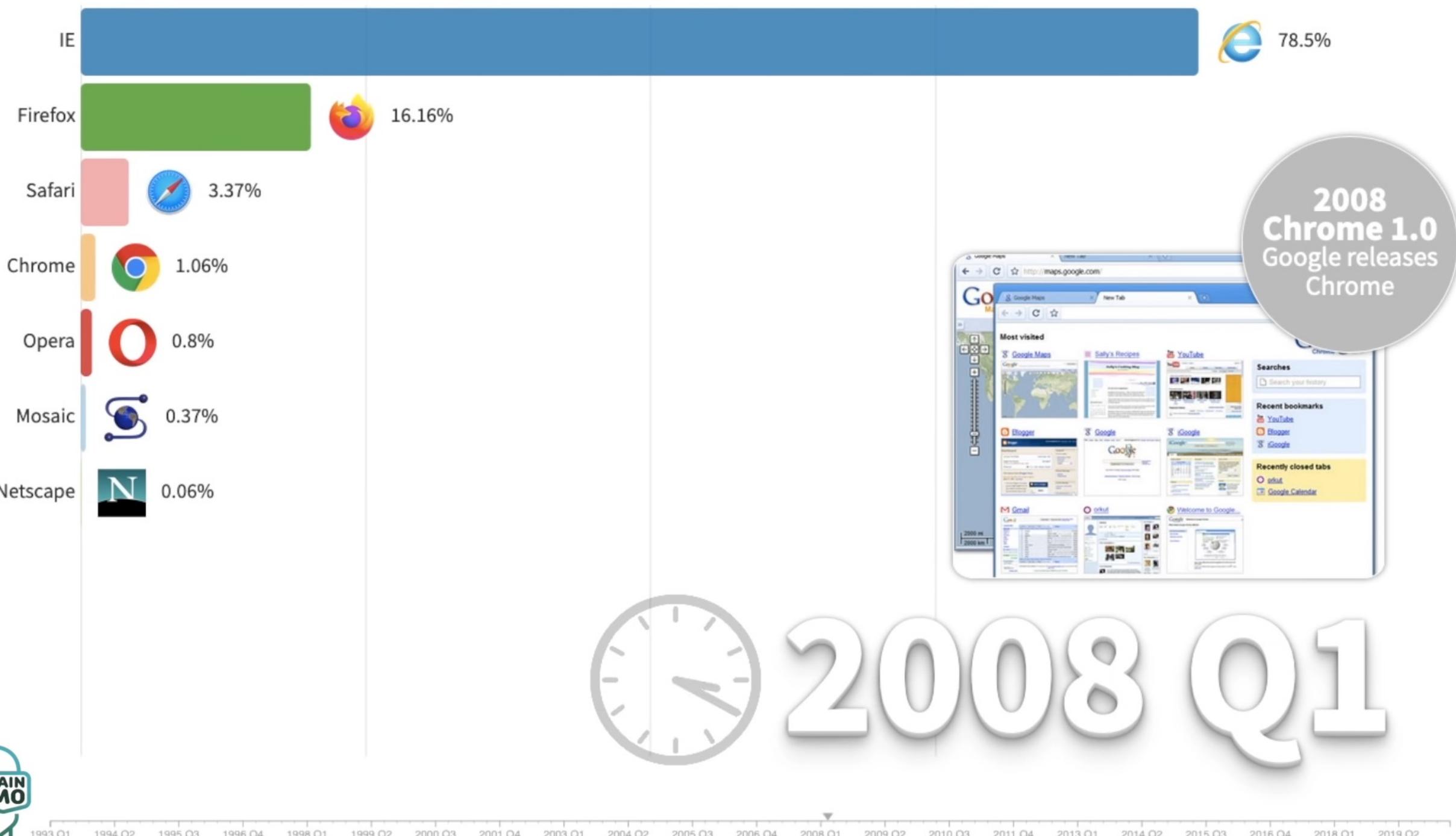
2007 Q2

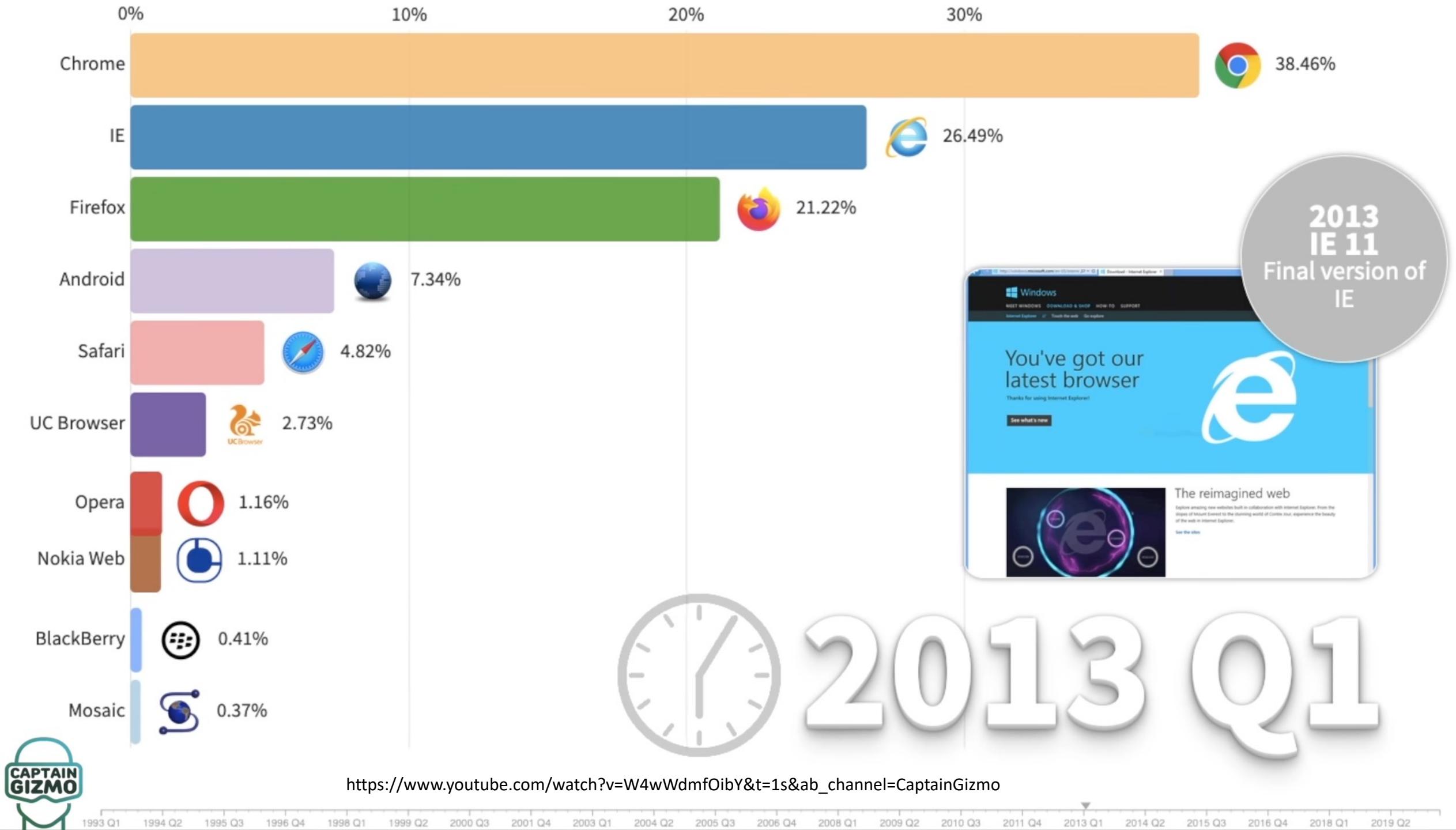
0%

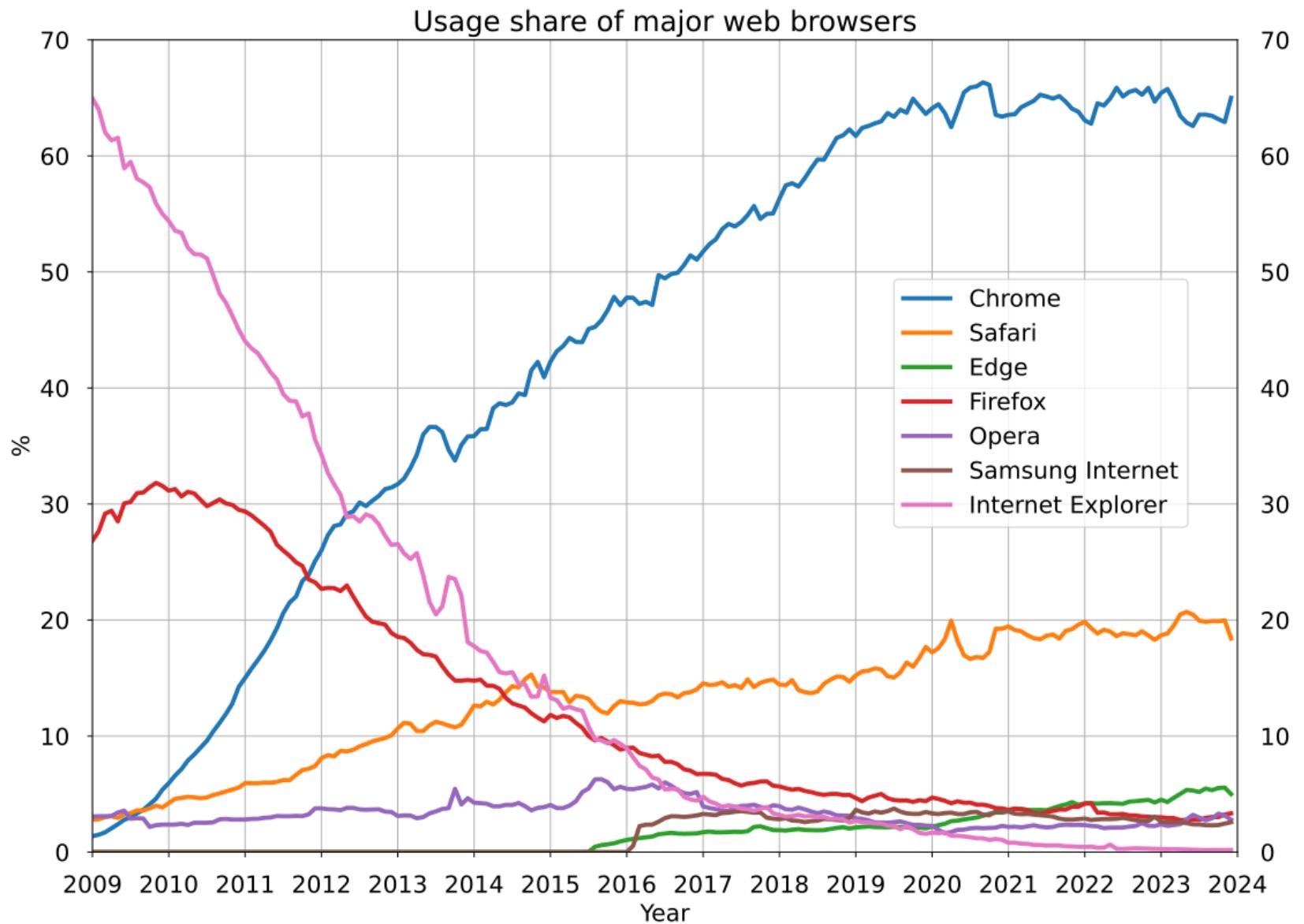
20%

40%

60%







Source: StatCounter



What made Google Chrome so popular?

- Google Chrome was initially very popular for people working in the tech space on launch, e.g. Software Developers
- This is the case because of a few factors:
 - The minimalist UI – search and address bar in one (we take for granted now)
 - JavaScript Performance thanks to the V8 JavaScript Engine – It was FAST
 - WebGL Support
 - Chrome Web Store
 - Rapid Releases allowing adoption of new standards first

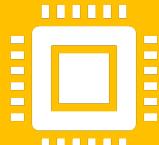
The V8 Engine



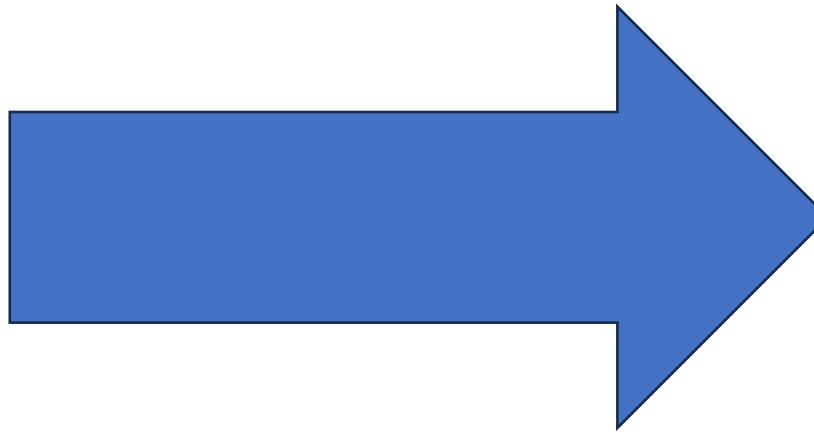
V8 is a free and open-source JavaScript and WebAssembly engine developed by the Chromium Project for Chromium and Google Chrome web browsers.



The project's creator is Lars Bak.



The first version of the V8 engine was released at the same time as the first version of Chrome: 2 September 2008.



- The V8 Engine enabled the creation of Node.js in 2009.
- This changed web development on both the front and backend forever (personal opinion 😊)
- Node JS is my preferred way to create APIs and we'll cover in Web Development II

Chromium

chromium/chromium: The offi x +

github.com/chromium/chromium

PRESUBMIT.py	Revert "Remove outdated TAG length presubmit error"	2 weeks ago
PRESUBMIT_test.py	Revert "Remove outdated TAG length presubmit error"	2 weeks ago
PRESUBMIT_test_mocks.py	Revert "PRESUBMIT.py type annotation for MockFile {Old,...	2 months ago
README.md	Remove accidental space in //README.md	3 weeks ago
WATCHLISTS	swa: Exclude /apps/ directory from the SWA watchlist	3 days ago
codereview.settings	Remove agable from src OWNERS files	4 years ago

[README](#) [Code of conduct](#) [BSD-3-Clause license](#) [BSD-3-Clause license](#)

 **Chromium**

Chromium is an open-source browser project that aims to build a safer, faster, and more stable way for all users to experience the web.

The project's web site is <https://www.chromium.org>.

To check out the source code locally, don't use `git clone`! Instead, follow [the instructions on how to get the code](#).

Documentation in the source is rooted in [docs/README.md](#).

Learn how to [Get Around the Chromium Source Code Directory Structure](#).

For historical reasons, there are some small top level directories. Now the guidance is that new top level directories are for product (e.g. Chrome, Android WebView, Ash). Even if these products have multiple executables, the code should be in subdirectories of the product.

If you found a bug, please file it at <https://crbug.com/new>.

Browsers Based on Chromium



Free and open-source [edit]

- [Brave](#) is a web browser that aims to block website trackers and remove intrusive internet advertisements.
- [Bromite](#) is a Chromium fork for Android with privacy enhancements.
- [Carbonyl](#) is a fork for the [command-line interface](#).^[73]
- [Falkon](#) is an open-source Qt-based GUI, using the Chromium-based QtWebEngine.^[74]
- [qutebrowser](#) a Qt-based GUI with Vim-like keybindings, using the Chromium-based QtWebEngine.^[75]
- [ungoogled-chromium](#) is a privacy-focused browser based on Chromium. Initially developed for [Linux](#), versions for Windows and Mac OS were later added. It removes all Google services and analytics built into Chromium.^[76]

Proprietary software [edit]

- [Arc](#)
- [Amazon Silk](#)
- [Avast Secure Browser](#), developed by [Avast](#).
- [Blink](#) is a browser available for Windows 7 and later, OS X 10.9 and later that aims to provide an array of useful tools for [Web development](#).
- [CodeWeavers CrossOver Chromium](#) is an unofficial bundle of a [Wine](#) derivative and Chromium Developer Build 21 for Linux and macOS, first released on 15 September 2008 by CodeWeavers as part of their CrossOver project.^{[77][78]}
- [Comodo Dragon](#) is a rebranded version of Chromium for 32-bit Windows 8.1, 8, Windows 7 and Vista^[79] produced by the [Comodo Group](#). According to the developer, it provides improved security and privacy features.^[80]
- [Cốc Cốc](#) is a freeware web browser focused on the Vietnamese market, developed by Vietnamese company Cốc Cốc, based on Chromium open-source code for Windows.^[81] According to data published by [StatCounter](#) in July 2013, Cốc Cốc passed [Opera](#) to become one of the top 5 most popular browsers in [Vietnam](#)^[82] within 2 months after its official .^[83]
- [Epic Browser](#) is a proprietary privacy-centric web browser developed by Hidden Reflex of India and based on Chromium source code.^[84]
- [Epic Systems Hyperdrive](#), a chromium end user application for interacting with Epic Systems' [electronic health record](#) software^[85]
- [Microsoft Edge](#) is Chromium-based as of 15 January 2020.^{[86][87]}
- [Naver Whale](#) is a South Korean [freeware web browser](#) developed by [Naver Corporation](#), which is also available in English. It became available on Android on 13 April 2018.
- [Opera](#) began to base its web browser on Chromium with version 15.^[88]
- [Qihoo 360 Secure Browser](#) is a Chromium-based Chinese web browser developed by [Qihoo](#).^[89]
- [Samsung Internet](#) shipped its first Chromium-based web browser on [Galaxy S4](#) in 2013.^[90]
- [Sleipnir](#) is a Chromium derivative browser for Windows and macOS. One of its main features is linking to Web apps (Facebook, Twitter, Dropbox, etc.) and smartphone apps (Google Map, etc.). It also boasts what it calls "beautiful text," and has unique graphical tabs, among other features.^[91]
- [Slimjet](#): A Chromium-based web browser released by FlashPeak that features built-in webpage translation, PDF viewing capability and a PPAPI flash plugin, features usually missing from Chromium-based browsers currently not supported.
- [SRWare Iron](#) is a [freeware](#) release of Chromium for Windows, macOS and Linux, offering both installable and portable versions. Iron disables certain configurable Chromium features that could share information with third parties and additional tracking features that Google adds to its Chrome browser.^[92]
- [Vivaldi](#) is a browser for Windows, macOS and Linux developed by Vivaldi Technologies.^{[93][94]} Chromium-based Vivaldi aims to revive the rich features of the Presto-era Opera with its own proprietary modifications.
- [Yandex Browser](#) is a browser created by the Russian software company [Yandex](#) for macOS, Windows, Linux, Android and iOS.^[95] The browser integrates Yandex services, which include a [search engine](#), a [machine translation](#) service and [cloud storage](#). On Android it provides ability to install chrome extensions on a mobile browser.^[96]

Is that every browser?

- No, browsers such as Firefox and Safari are not Chromium Based
- Firefox runs on the Quantum browser engine built specifically for Firefox
- Safari runs on WebKit



Let's Do 'Do The What Now?' × +

open.spotify.com/show/7HinkS0WZqDuMXYh02EUY1

The John Rellis Podcast
Blindboyboatclub

About

Hosted by Blindboyboatclub, who is an artist and author. An eclectic podcast containing short fiction, interviews and comedy.

Hosted on Acast. See acast.com/privacy for more information.

Following ...

Install App

Elements Console Sources Network Performance Memory

```
y-small lp9Tfm4rsM9_pfbIE0zd" data-encore-id="text">>Podcast
</span> flex
▼<span dir="auto" class="rEN7ncpaUeSGL9z0NGQR" draggable="true" data-testid="entityTitle">
  <h1 class="Text__TextElement-sc-if376j-0 ksSRyh encore-text-headline-large" dir="auto" data-encore-id="text" style="margin: 0.08em 0px 0.12em; visibility: visible; width: 100%; font-size: 2rem;">
    <span data-testid="show-title">The John Rellis Podcast
    </span> = $0
  </h1>
</span>
<span class="Text__TextElement-sc-if376j-0 gYdBJW encore-text-title-medium" data-testid="entityAuthor" data-encore-id="text">
  Blindboyboatclub</span>
</div>
</div>
<div class="CoL04pdSl8LGWyVZA00t" style="background-color: rgb(224, 8, 32);"></div>
▶<div class="os-host os-host-foreign os-theme-spotify os-host-resize-disabled os-host-scrollbar-horizontal-hidden os-host-scrollbar-vertical-hidden os-host-transition">@@</div>
▶<div class="TYB4Y2xQuj07cifhHush contentSpacing">@@</div> grid
</section>
▶<div class="main-view-container__mh-footer-container">@@</div>
</main>
```

Browsers are now a development tool



Always Show Bookmarks Bar ⌘⌘ B
Always Show Toolbar in Full Screen ⌘⌘ F
Always Show Full URLs

Stop ⌘ .
Force Reload This Page ⌘⌘ R

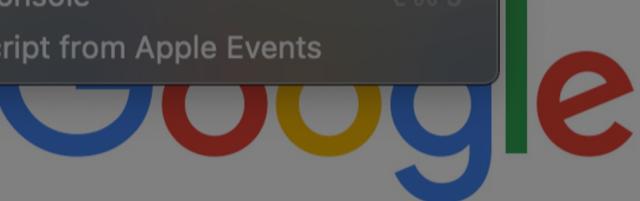
Enter Full Screen ⌘⌘ F
Actual Size ⌘ O
Zoom In ⌘ +
Zoom Out ⌘ -

Cast...

Developer

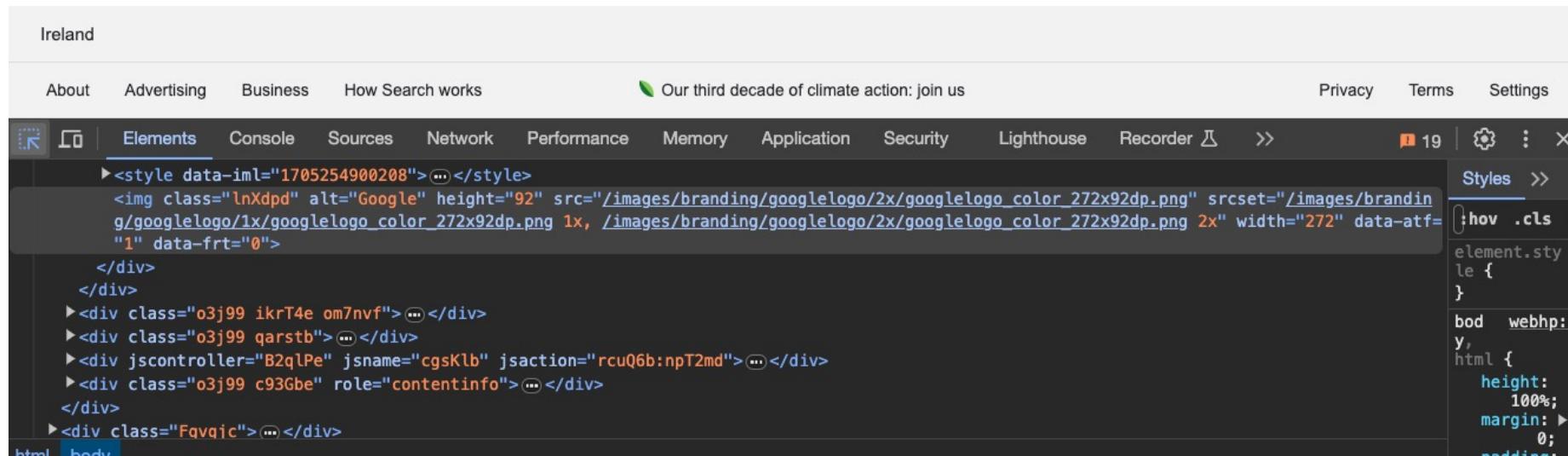
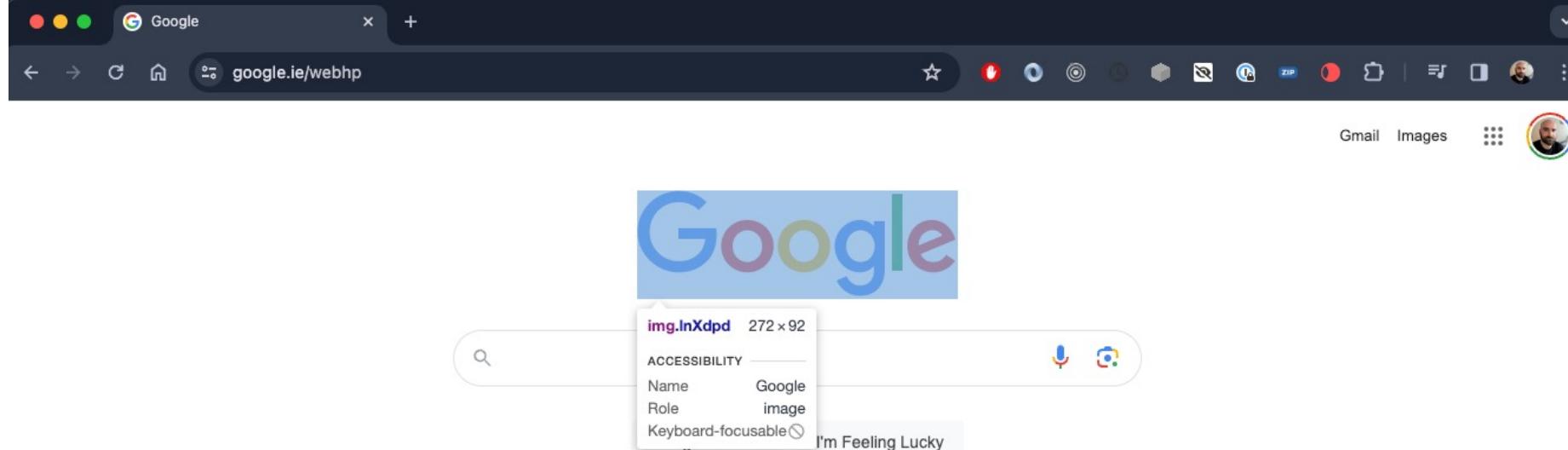
View Source ⌘⌘ U
Developer Tools ⌘⌘ I
Inspect elements ⌘⌘ C
JavaScript Console ⌘⌘ J
Allow JavaScript from Apple Events

Developer Tools



Google Search

I'm Feeling Lucky



A close-up photograph of a computer motherboard. The board is blue with a complex network of silver-colored metal traces and capacitors. Several grey RAM modules are installed in slots along the left edge. In the center, a large black central processing unit (CPU) is mounted on a heatsink with a gold-colored heat spreader. The background is dark, making the blue of the board stand out.

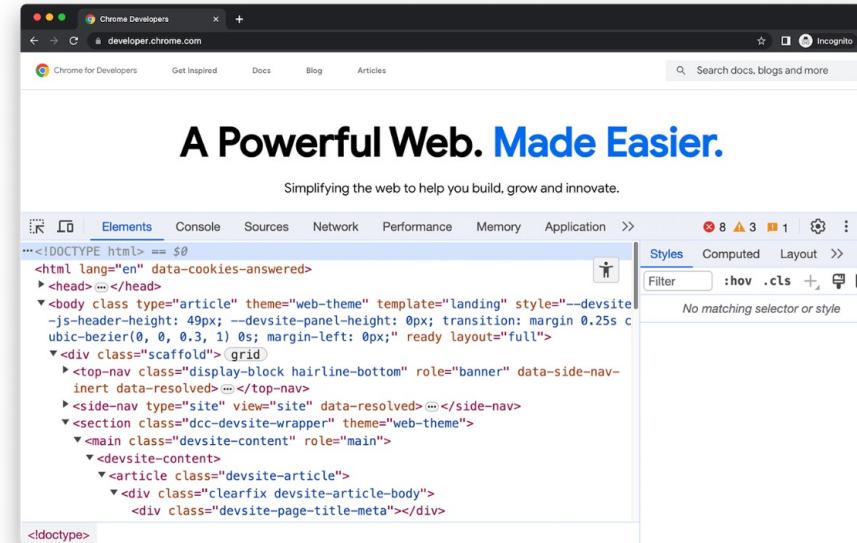
Dev Tools Demo

DevTools

DevTools Panels ▾ More panels ▾ Settings Accessibility

DevTools

Chrome DevTools is a set of web developer tools built directly into the Google Chrome browser. DevTools can help you edit pages on-the-fly and diagnose problems quickly, which helps you build better websites, faster.

[Get started](#)

Open DevTools

All of the ways that you can open Chrome DevTools.



What's New in DevTools

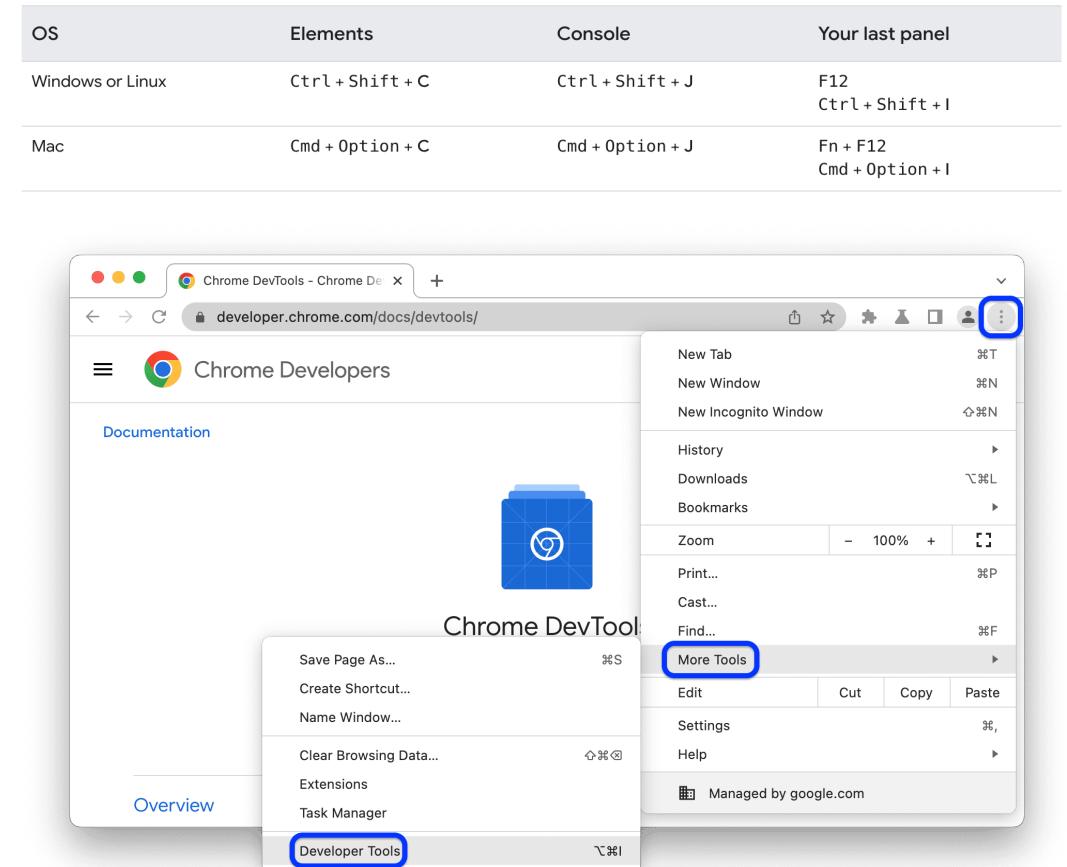
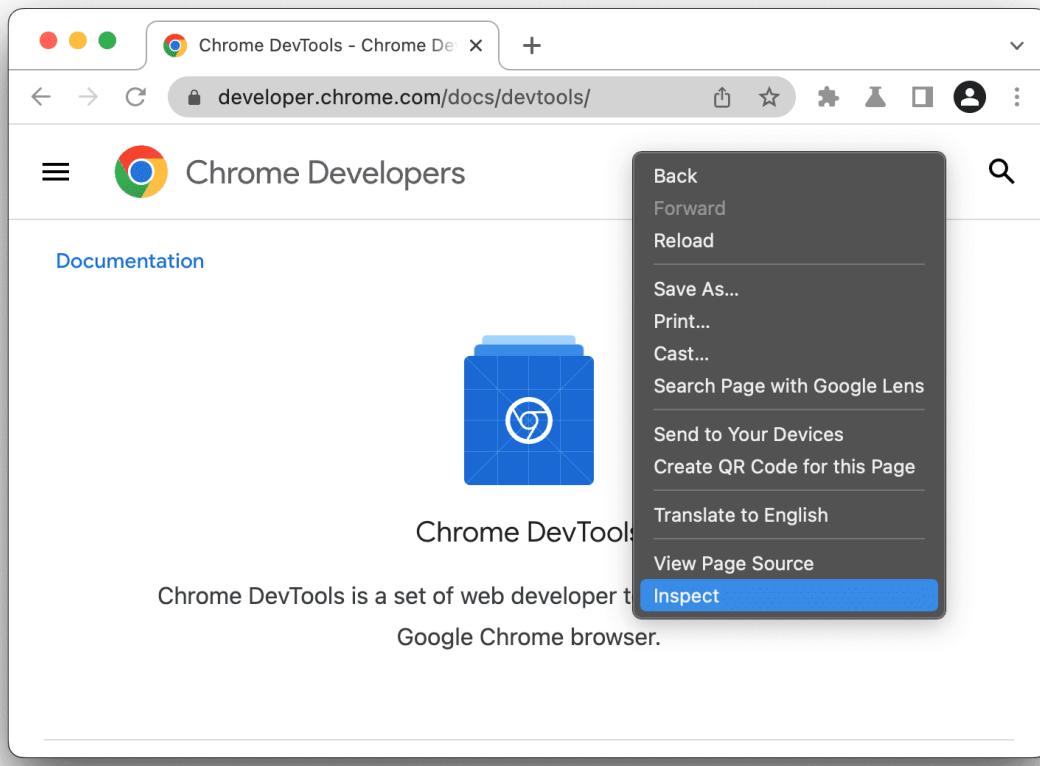
Stay up to date with the latest



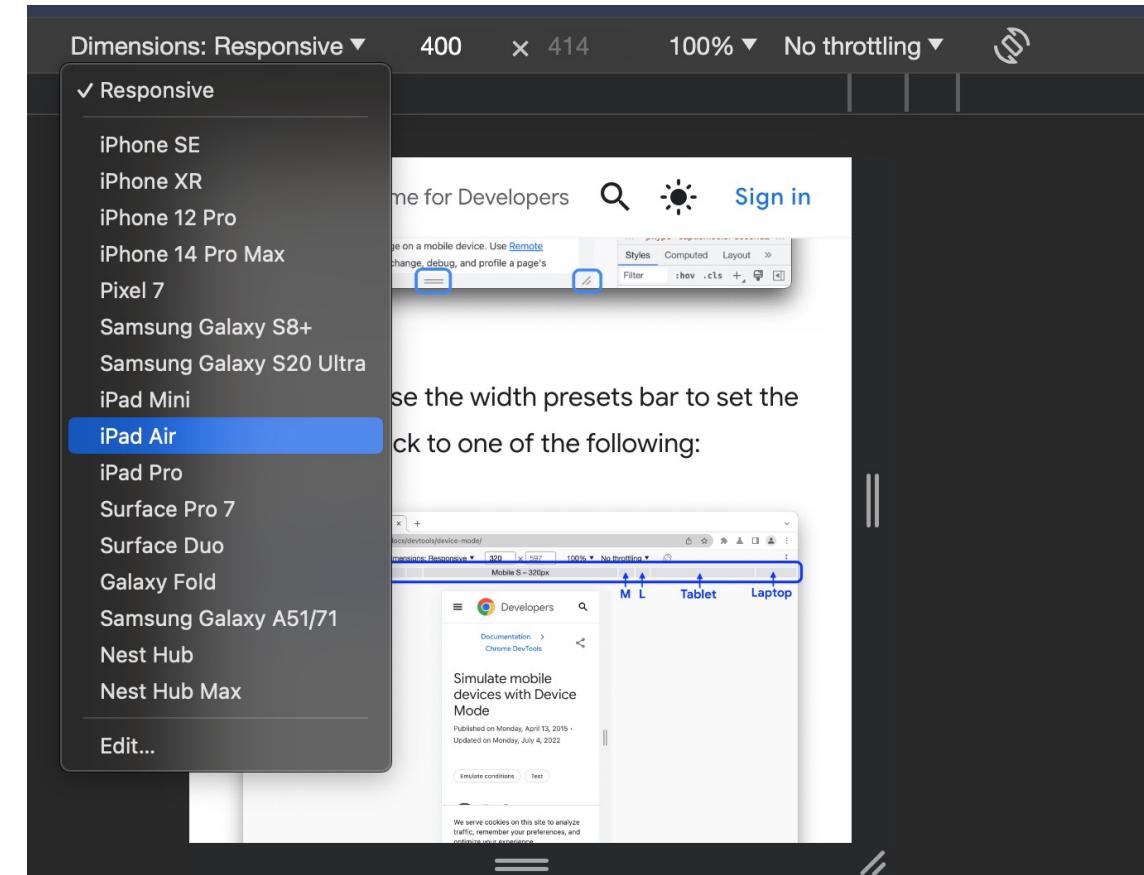
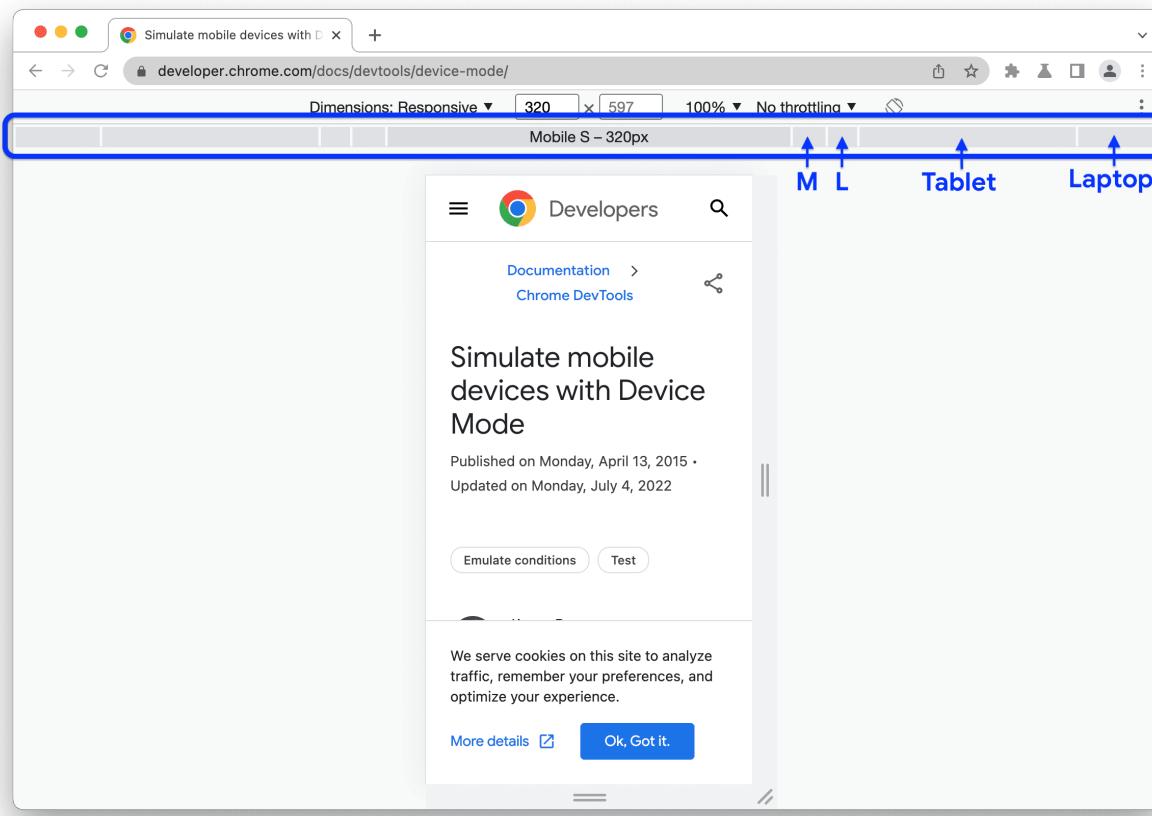
DevTools Tips

A series of bite-size videos to help you to learn features in DevTools.

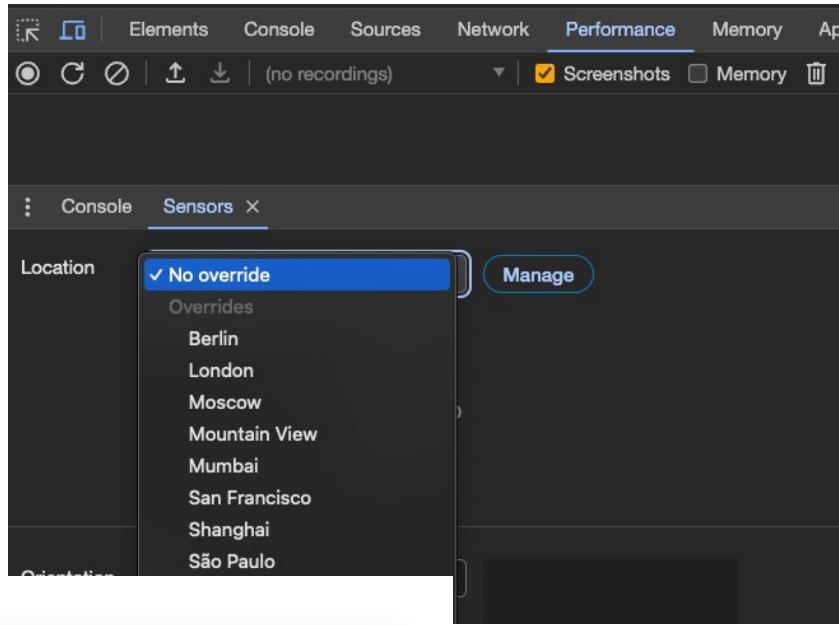
Opening Chrome Dev Tools



Simulate a Mobile Device



Override Sensors



This screenshot shows the Sensors panel in the Chrome DevTools console tab. The Orientation dropdown is open, displaying options like Off, Custom orientation..., Presets, Portrait, and Portrait upside down. The 'Portrait upside down' option is currently selected. The main interface shows a simulated iPhone 5/SE device with the developer tools interface displayed.

This screenshot shows the Sensors panel in the Chrome DevTools console tab. The More tools menu is open, listing various developer tools and features: Animations, Changes, Coverage, JavaScript Profiler, Shortcuts, Settings, Layers, Network conditions, Performance monitor, Quick source, Remote devices, Rendering, Request blocking, Search, Sensors, and What's New. The 'Sensors' option is highlighted.

Filter

Get started

Overview

Open Chrome DevTools

What's New in DevTools

Customize DevTools

DevTools Tips

Commands and shortcuts

Run commands in the
Command Menu

Home > Docs > DevTools > More panels

Was this helpful?

Get started with viewing and changing the DOM

On this page

[View DOM nodes](#)

[Inspect a node](#)

[Navigate the DOM Tree with a keyboard](#)

[Scroll into view](#)

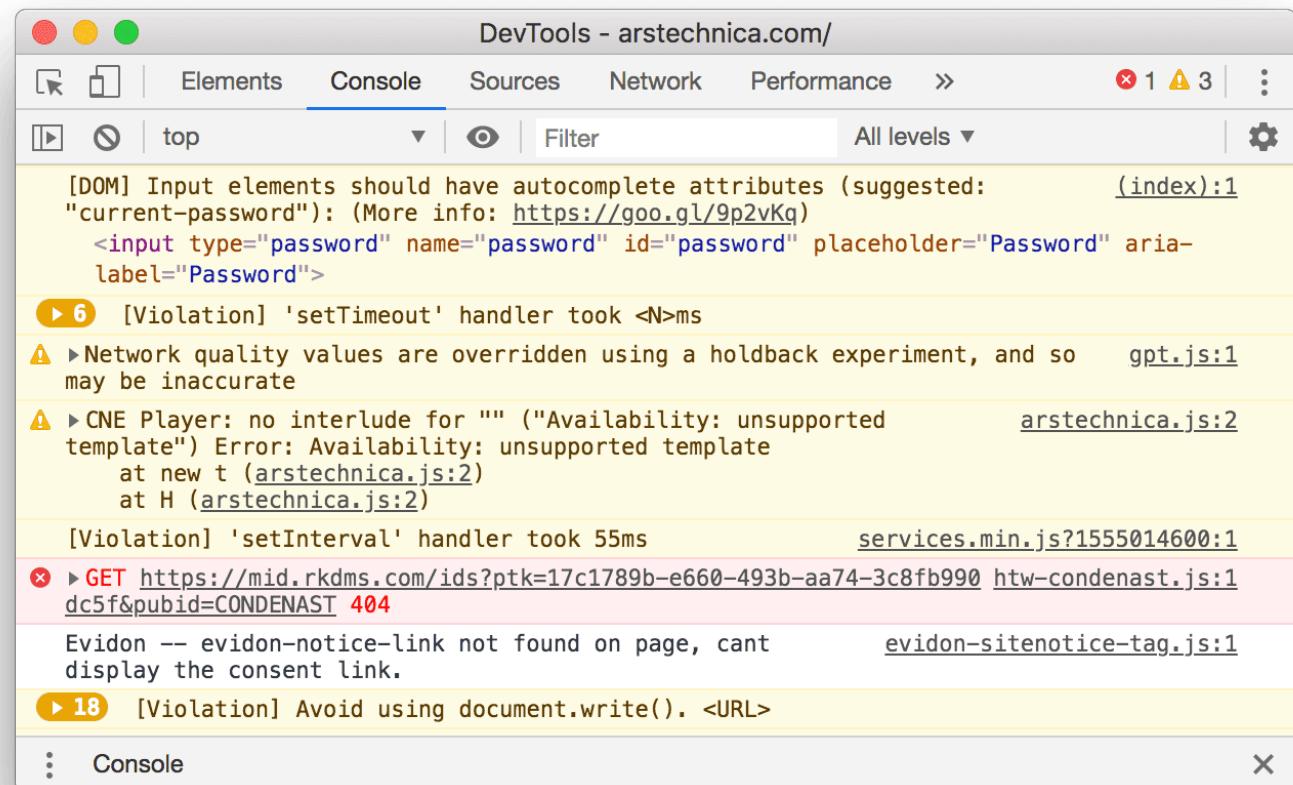
[Show rulers](#)

...

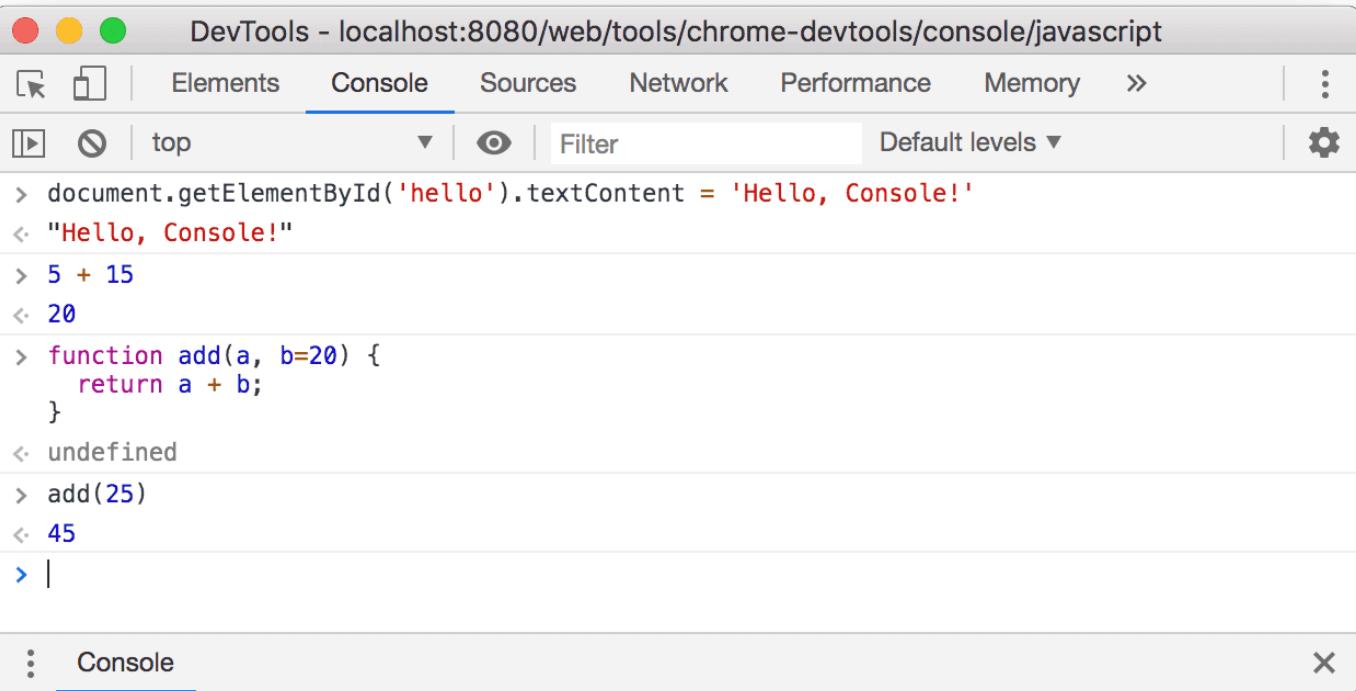
View and Edit your Page.... Live!

```
</devsite-book-nav>
<div class="devsite-book-nav-blur" fixed style="--devsite-j
s-book-nav-scrollbar-width: 8px;"></div>
▶<button class="devsite-book-nav-toggle" aria-haspopup="men
u" fixed aria-label="Hide side navigation" data-title="Hid
e side navigation" aria-expanded="true">...</button> flex
▶<section id="gc-wrapper" style="margin-top: 157px;">...
</section> flex
</section>
<devsite-sitemask></devsite-sitemask>
<devsite-snackbar data-cookie-notice="0" style="bottom: 0px;
"> </devsite-snackbar>
<devsite-tooltip></devsite-tooltip>
<devsite-heading-link></devsite-heading-link>
▶<devsite-analytics analytics-iframe>...</devsite-analytics>
<devsite-badger></devsite-badger>
▶<script nonce="...></script>
...
<devsite-a11y-announce aria-live="assertive" aria-atomic="tr
ue">The new page has loaded..</devsite-a11y-announce> == $0
▶<script type="text/javascript" id="...></script>
</body>
</html>
html body devsite-a11y-announce
Styles Computed Layout Event Listeners DOM Breakpoints >>
Filter :hov .cls +, , ,
```

The Console



The Console
Run
Javascript



DevTools - localhost:8080/web/tools/chrome-devtools/console/javascript

Elements Console Sources Network Performance Memory » :

top Filter Default levels ▾

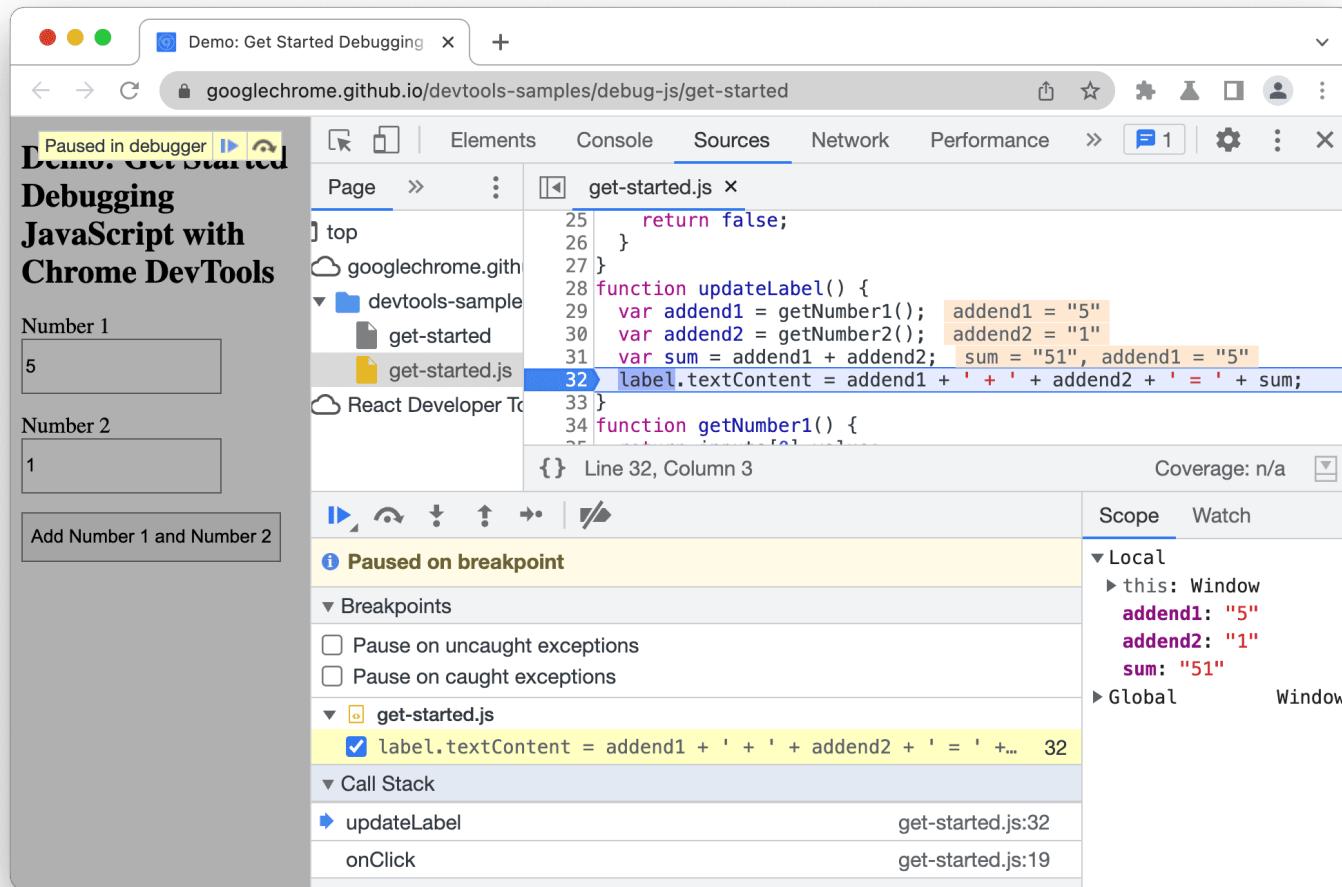
```
> document.getElementById('hello').textContent = 'Hello, Console!'
< "Hello, Console!"
> 5 + 15
< 20
> function add(a, b=20) {
    return a + b;
}
< undefined
> add(25)
< 45
> |
```

⋮ Console X

The screenshot shows the Chrome DevTools JavaScript Console interface. The title bar reads "DevTools - localhost:8080/web/tools/chrome-devtools/console/javascript". The tabs at the top are Elements, Console (which is selected), Sources, Network, Performance, and Memory. Below the tabs are buttons for back, forward, and search, followed by "top", "Filter", and "Default levels". The main area displays a session of JavaScript code execution:

- A comment or assignment statement: `document.getElementById('hello').textContent = 'Hello, Console!'` followed by its output: `< "Hello, Console!"`.
- An arithmetic operation: `5 + 15` followed by its result: `< 20`.
- A function definition: `function add(a, b=20) { return a + b; }` followed by its output: `< undefined`.
- A call to the function: `add(25)` followed by its result: `< 45`.
- An empty line starting with a greater than sign: `> |`.

Debug and Stop Live Javascript



Inspect Network Activity

The screenshot shows the Chrome DevTools Network tab with the URL <https://devtools.glitch.me/network/getstarted.html>. The title bar says "Inspect Network Activity Demo". Below the title, there's a "Get Data" button. The Network tab is selected. A blue box highlights the table below, which lists network requests:

Name	Status	Type	Initiator	Size	Time	Waterfall
getstarted.html	200	document	Other	1.3 KB	302 ms	
main.css	200	stylesheet	getstarted.html	691 B	109 ms	
getstarted.js	200	script	getstarted.html	330 B	124 ms	
96.png	200	png	getstarted.html	7.3 KB	11 ms	
48.png	200	png	Other	3.1 KB	17 ms	

At the bottom of the Network tab, it says "5 requests | 12.7 KB transferred | Finish: 458 ms | DOMContentLoaded: 400 ms | Load: 437 ms".

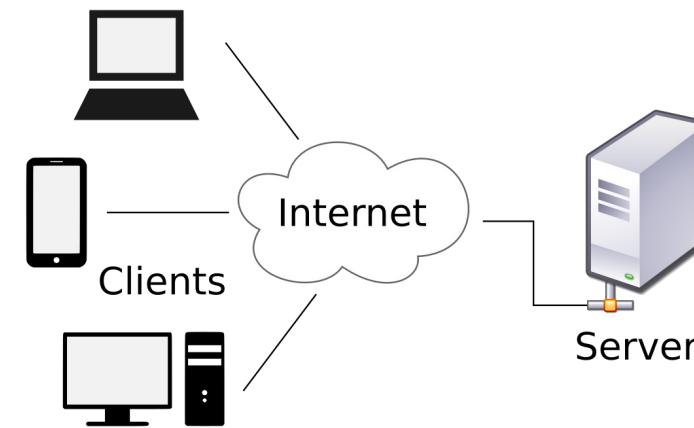


My website is having issues!

- What do you do first?
 - Check the dev tools console for errors!
 - Check the dev tools network monitor for slow or failed network requests!
- You will do this almost EVERY DAY OF YOUR CAREER (if you are developing web apps that is)

Where does the content come from?

The browser renders HTML and websites from where?



Client Server

Your device, (phone, computer, laptop etc) is the client

The "Server" can be many things

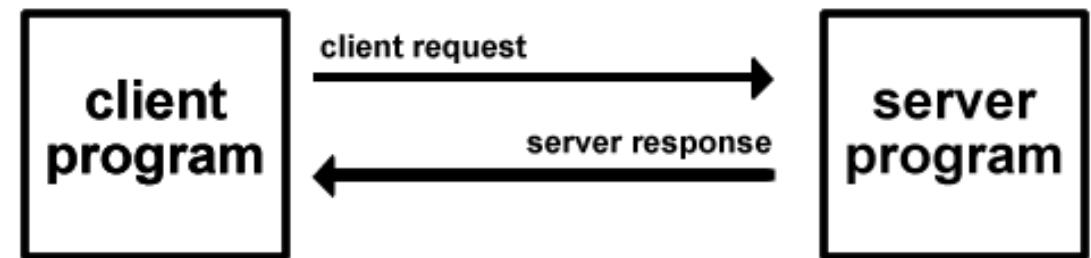
A computer in the cloud

A computer in the datacenter

Even a computer in someone's house

Clients and Servers

- Client/Server Computing:
 - The interaction between two programs when they communicate across a network.
 - A program at one site sends a request to a program at another site and awaits a response.
 - The requesting program is called a client; the program satisfying the request is called the server.



Who is the server?????

All Together Now
August Bank Holiday Weekend 1-4/08/2024
Curraghmore Estate, Co Waterford

The screenshot shows the Network tab of the developer tools. A request for `https://www.alltogethernow.ie/` is selected. The General section shows the following details:

Name	Request URL	Request Method	Status Code	Remote Address	Referrer Policy
www.alltogethernow.ie	https://www.alltogethernow.ie/	GET	200 OK	198.185.159.144:443	origin

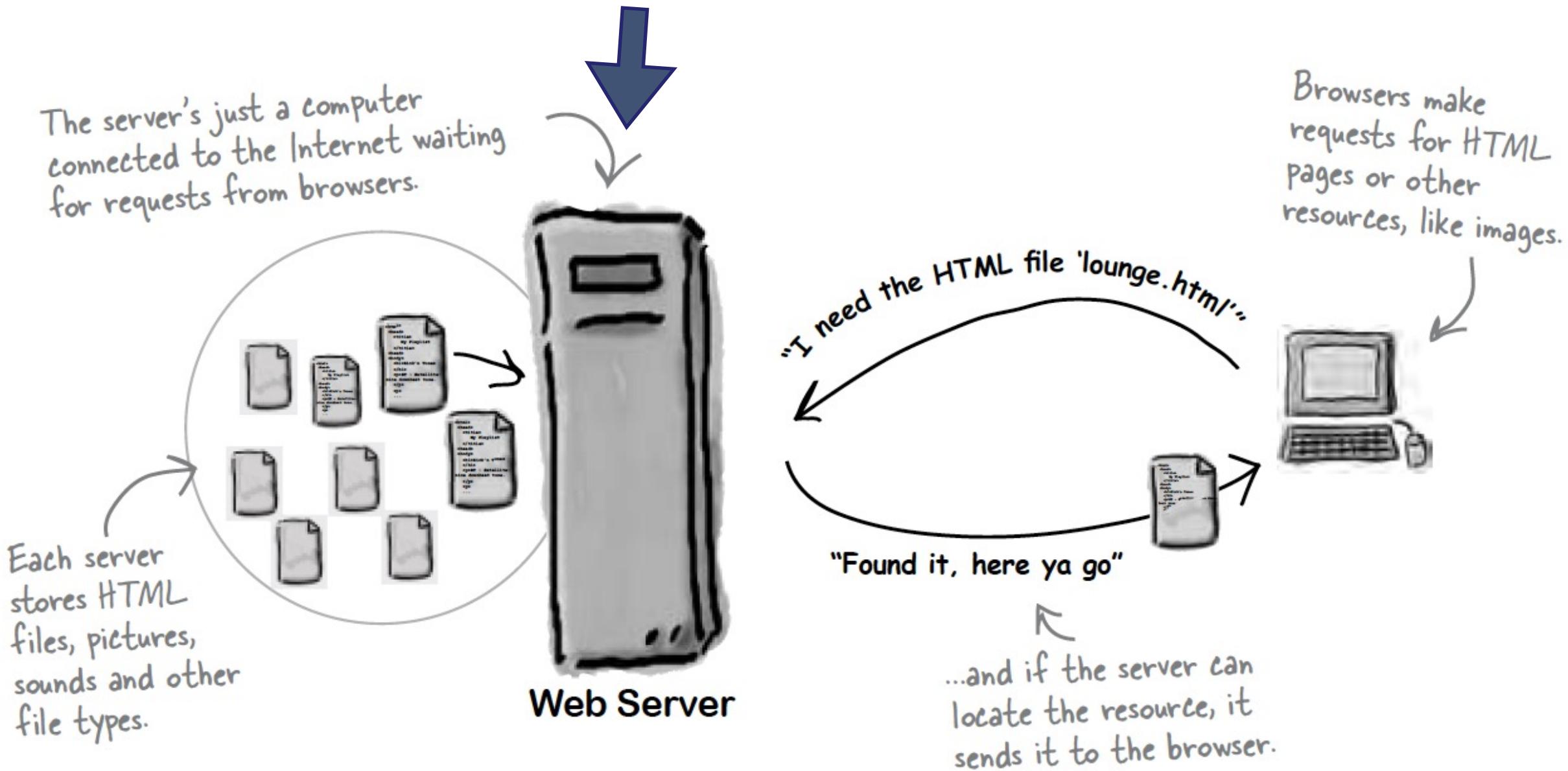
The Response Headers section shows the following headers:

Header	Value
Accept-Ranges	bytes
Age	27612
Content-Encoding	gzip
Content-Length	47663
Content-Type	text/html; charset=utf-8
Date	Mon, 15 Jan 2024 03:18:57 GMT
Etag	W/"d6c56f686154d4b6fb6d568dc0c
Expires	Thu, 01 Jan 1970 00:00:00 GMT
Server	Squarespace
Strict-Transport-Security	max-age=0
Accept-Encoding	

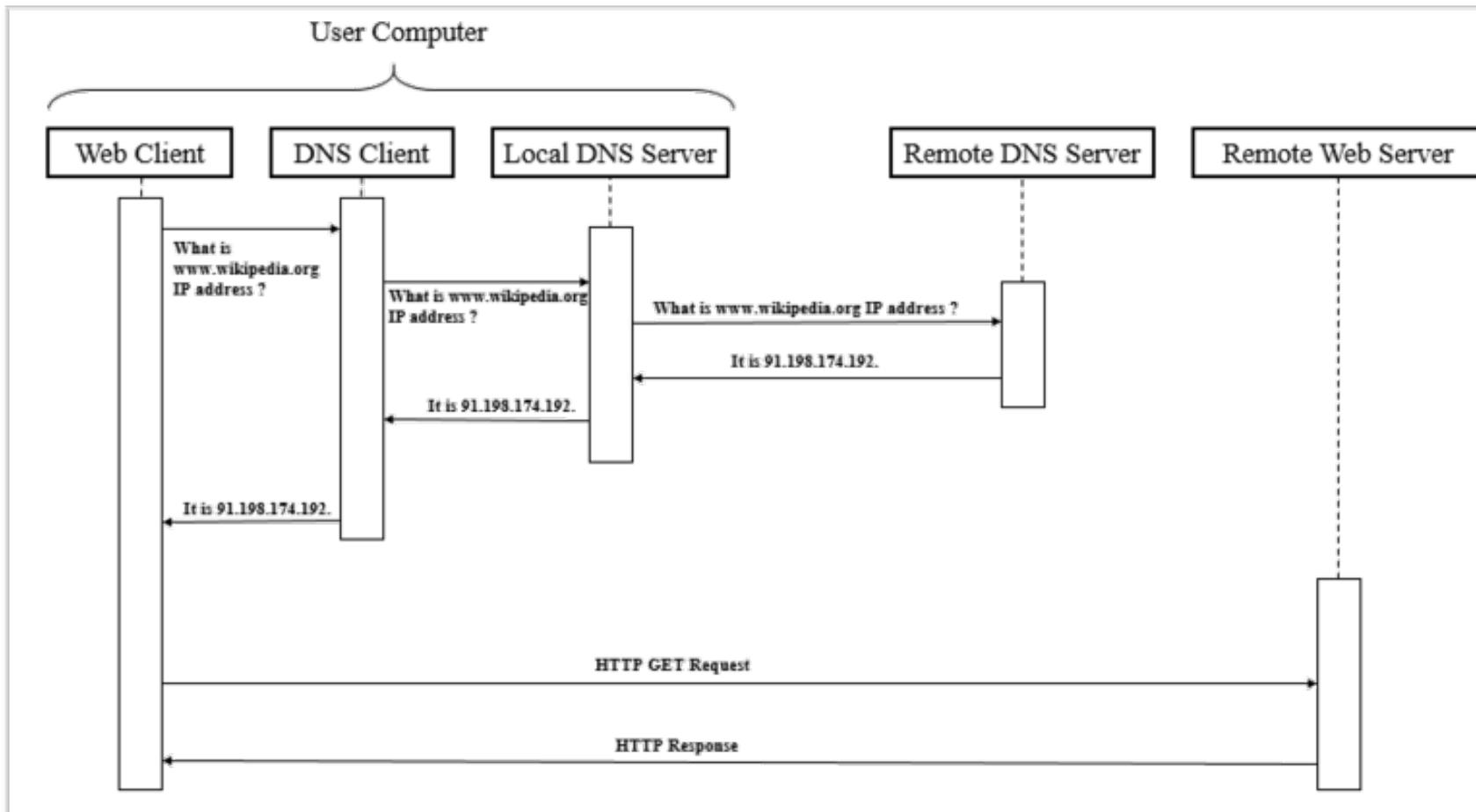
Request URL: `https://video.squarespace-cdn.com/content/v1/5a2488598a02c7c08b0db4bb9edbe70d-6e53-4a1e-b858-38824aa2dfc/playlist.m3u8`
Request Method: GET
Status Code: 200 OK
Remote Address: 151.101.0.238:443
Referrer Policy: strict-origin-when-cross-origin

The screenshot also shows a Google search result for "whois 198.185.159.144" which points to Squarespace Inc.

The Server



Where did that IP Address come from?



DNS = Domain Name Server or Domain Name System

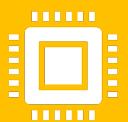
In Brief (Very much simplified)



When you type in a website into your browser



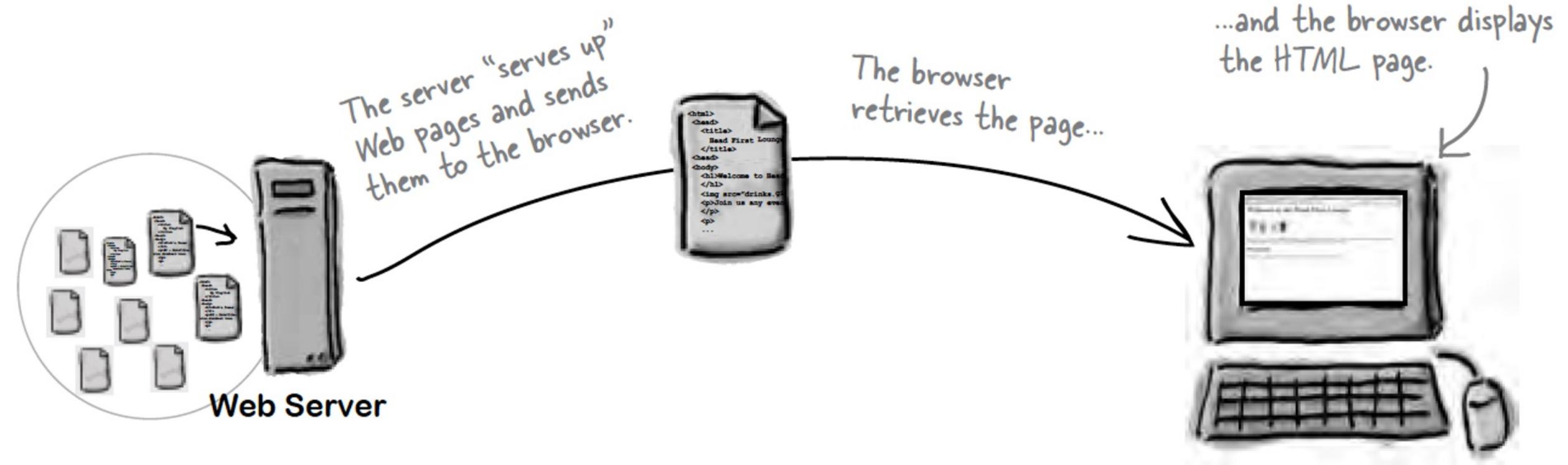
The name of the website, or URL is resolved by DNS to an IP (Internet Protocol) Address



Your browser now performs a HTTP GET on port 80 or 443 (depending on HTTP and HTTPS) on that IP address

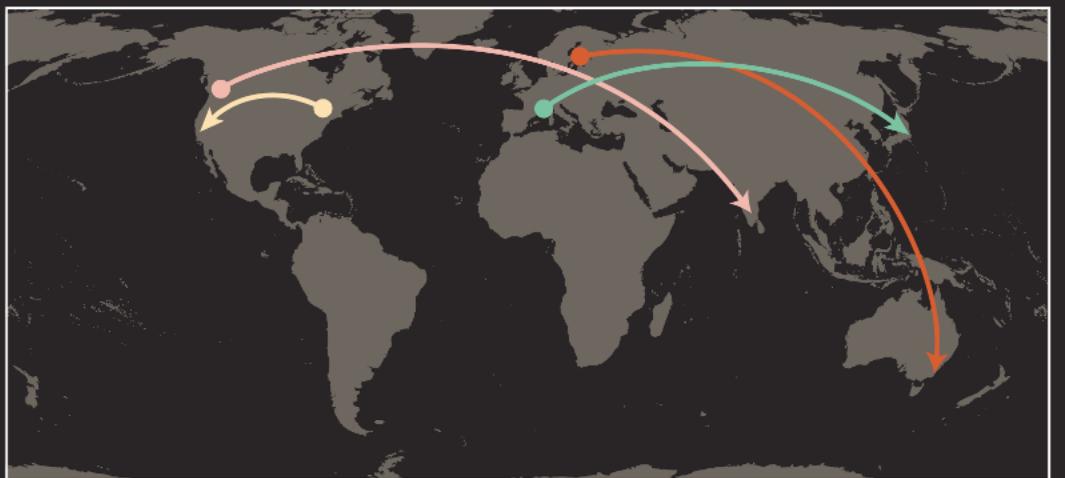


Your browser will download index.html and render it



HOW THE WEB WORKS

When you visit a website, the web server hosting that site could be anywhere in the world. In order for you to find the location of the web server, your browser will first connect to a Domain Name System (DNS) server.



On this page you can see examples that demonstrate how the web server that hosts the website you are visiting can be anywhere in the world. It is the DNS servers that tell your browser how to find the website.

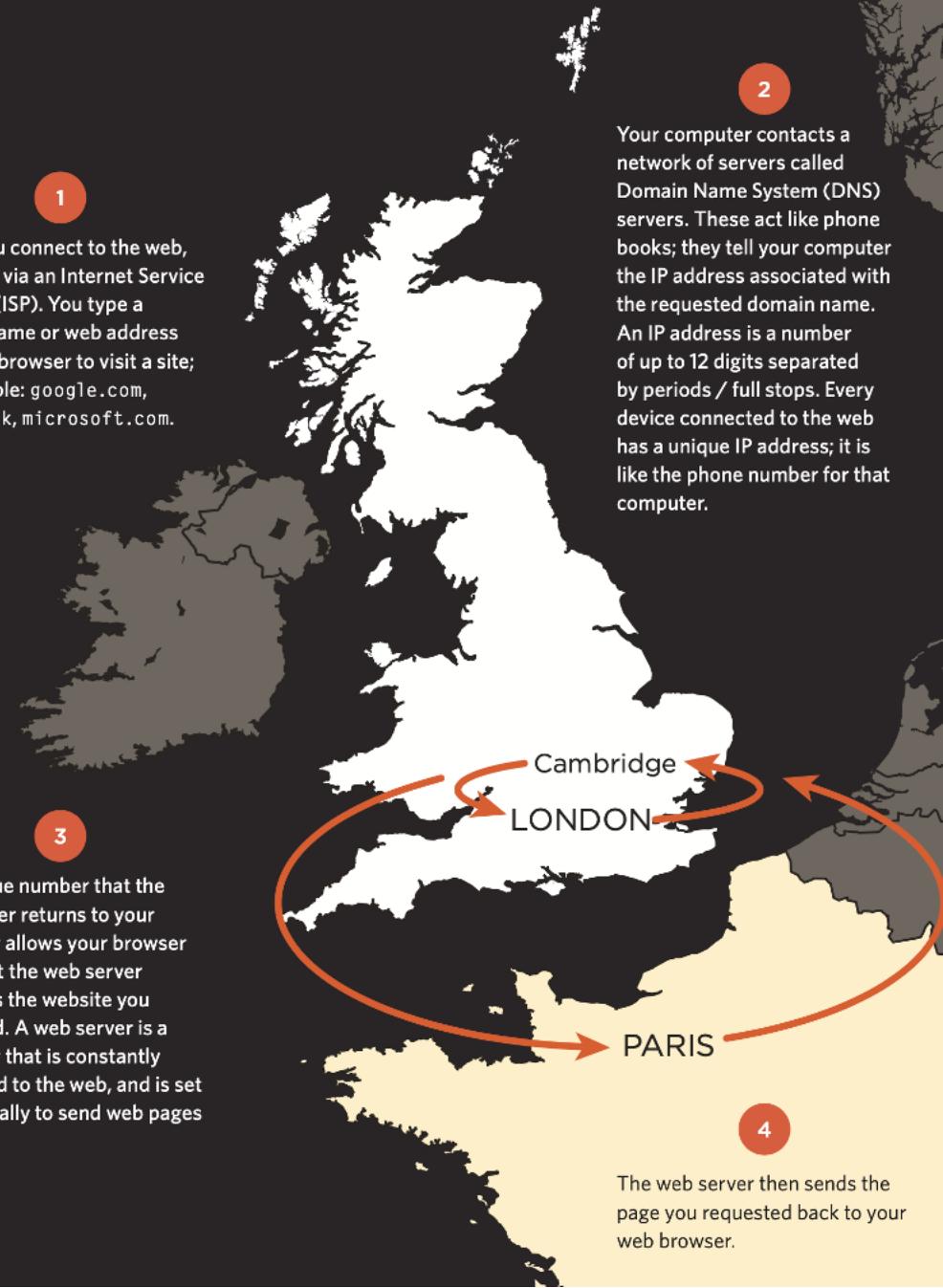
- A user in Barcelona visits sony.jp in Tokyo
- A user in New York visits google.com in San Francisco
- A user in Stockholm visits qantas.com.au in Sydney
- A user in Vancouver visits airindia.in in Bangalore

On the right you can see what happens when a web user in England wants to view the website of the Louvre art gallery in France which is located at www.louvre.fr. Firstly, the browser in Cambridge contacts a DNS server in London. The DNS server then tells the browser the location of the web server hosting the site in Paris.

1 When you connect to the web, you do so via an Internet Service Provider (ISP). You type a domain name or web address into your browser to visit a site; for example: google.com, bbc.co.uk, microsoft.com.

2

Your computer contacts a network of servers called Domain Name System (DNS) servers. These act like phone books; they tell your computer the IP address associated with the requested domain name. An IP address is a number of up to 12 digits separated by periods / full stops. Every device connected to the web has a unique IP address; it is like the phone number for that computer.



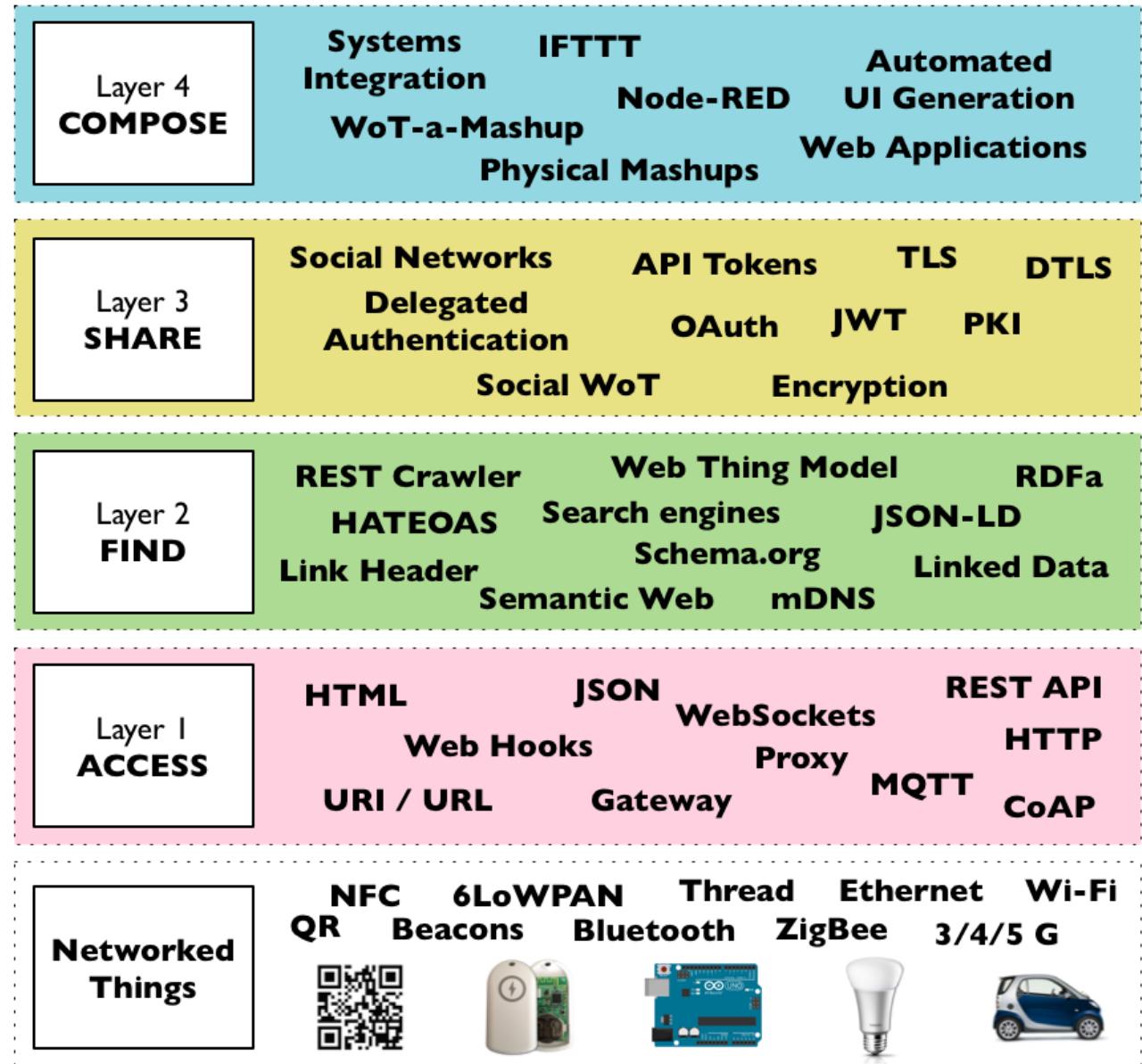
3 The unique number that the DNS server returns to your computer allows your browser to contact the web server that hosts the website you requested. A web server is a computer that is constantly connected to the web, and is set up especially to send web pages to users.

4

The web server then sends the page you requested back to your web browser.

Wait, HTTP?

- Protocols & Standards
 - Protocol : agreed vocabulary to enable two programs to communicate
 - Standard: an agreed definition of the structure and meaning of a document
- Web Protocol
 - Hyper Text Transfer Protocol - HTTP
- Web Standard
 - Hyper Text Markup Language – HTML
 - Cascading Style Sheets - CSS
- Web Servers and Web Browsers use HTTP to exchange HTML documents



Source: Building the Web of Things: book.webofthings.io
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Web 1.0

- Web 1.0 is a retronym referring to the first stage of the World Wide Web's evolution, from roughly 1989 to 2004.
- "content creators were few in Web 1.0 with the vast majority of users simply acting as consumers of content"
- Personal web pages were common, consisting mainly of static pages hosted on ISP-run web servers, or on free web hosting services such as Tripod and the now-defunct GeoCities.

Web 2.0

- Web 2.0 (also known as participative (or participatory) web and social web) refers to websites that emphasize user-generated content, ease of use, participatory culture and interoperability (i.e., compatibility with other products, systems, and devices) for end users.

Web 3.0

- The Semantic Web, sometimes known as Web 3.0 (not to be confused with Web3), is an extension of the World Wide Web through standards set by the World Wide Web Consortium (W3C).
- The goal of the Semantic Web is to make Internet data machine-readable.

But Web3????

- Web3 is an idea for a new iteration of the World Wide Web which incorporates concepts such as decentralization, blockchain technologies, and token-based economics.
- Some technologists and journalists have contrasted it with Web 2.0, wherein they say data and content are centralized in a small group of companies sometimes referred to as "Big Tech".
- The term "Web3" was coined in 2014 by Ethereum co-founder Gavin Wood, and the idea gained interest in 2021 from cryptocurrency enthusiasts, large technology companies, and venture capital firms.
- The concepts of Web3 were first represented in 2013

The End of the Beginning

Web Development I