



# Nuxtify your Images



By Debbie O'Brien



# Debbie O'Brien

Head Developer Advocate at Bit

- Google Developer Expert
- Microsoft MVP
- GitHub Star
- Media Developer Expert
- Auth0 Ambassador
- Nuxt Ambassador



Experts



# What I will Cover

Nuxt Image



- How to analyze your site
- How Nuxt Image can improve your performance
- How to compare new and old analysis



Debbie O'Brien

Streams Interviews Podcasts Courses Talks Featured Posts Blog

# DEBBIE O'BRIEN

18:50:47 - debbie.codes

https://debbie.codes/

Performance 100 Accessibility 100 Best Practices 100 SEO 100 PWA 100 Progressive Web App

0-49 50-89 90-100

## Performance

Metrics

First Contentful Paint	0.4 s	Time to Interactive	1.3 s
Speed Index	0.5 s	Total Blocking Time	10 ms
Largest Contentful Paint	0.6 s	Cumulative Layout Shift	0





# A page with images



The screenshot shows a web browser displaying a blog page for Debbie O'Brien. The page title is "Welcome to my blog" and the content describes various blog posts related to Frontend and JavaScript, specifically mentioning Nuxt. The browser's developer tools are open to the Lighthouse performance audit, which highlights a "Properly size images" issue. A progress bar indicates a score of 54 out of 100, with a time penalty of 19.2 seconds. A table lists the resources that are too large, including several images from Unsplash and Cloudinary.

URL	Resource Size	Potential Savings
...blog/IMG_8227_bav9rh.webp (res.cloudinary.com)	1,511.2 KiB	1,414.1 KiB
/photo-144...?ixid=... (images.unsplash.com)	510.9 KiB	418.6 KiB
/photo-160...?ixlib=... (images.unsplash.com)	413.3 KiB	338.6 KiB
...blog/Screenshot_2020-12-31_at_18.14.59_sbfsen.png (res.cloudinary.com)	400.1 KiB	277.1 KiB
/photo-150...?ixlib=... (images.unsplash.com)	284.3 KiB	253.4 KiB
/photo-158...?ixid=... (images.unsplash.com)	295.0 KiB	241.7 KiB
...blog/Screenshot_2021-01-29_at_18.03.52_yuqsr3.png (res.cloudinary.com)	262.5 KiB	215.7 KiB
/photo-151...?ixid=... (images.unsplash.com)	229.4 KiB	168.3 KiB



# WebpageTest

Test. Optimize. Repeat.

Advanced Testing

NEW Web Vitals

Simple Testing

Visual Comparison

Traceroute

debbie.codes/blog

Start Test →

Test Location

Paris - EC2

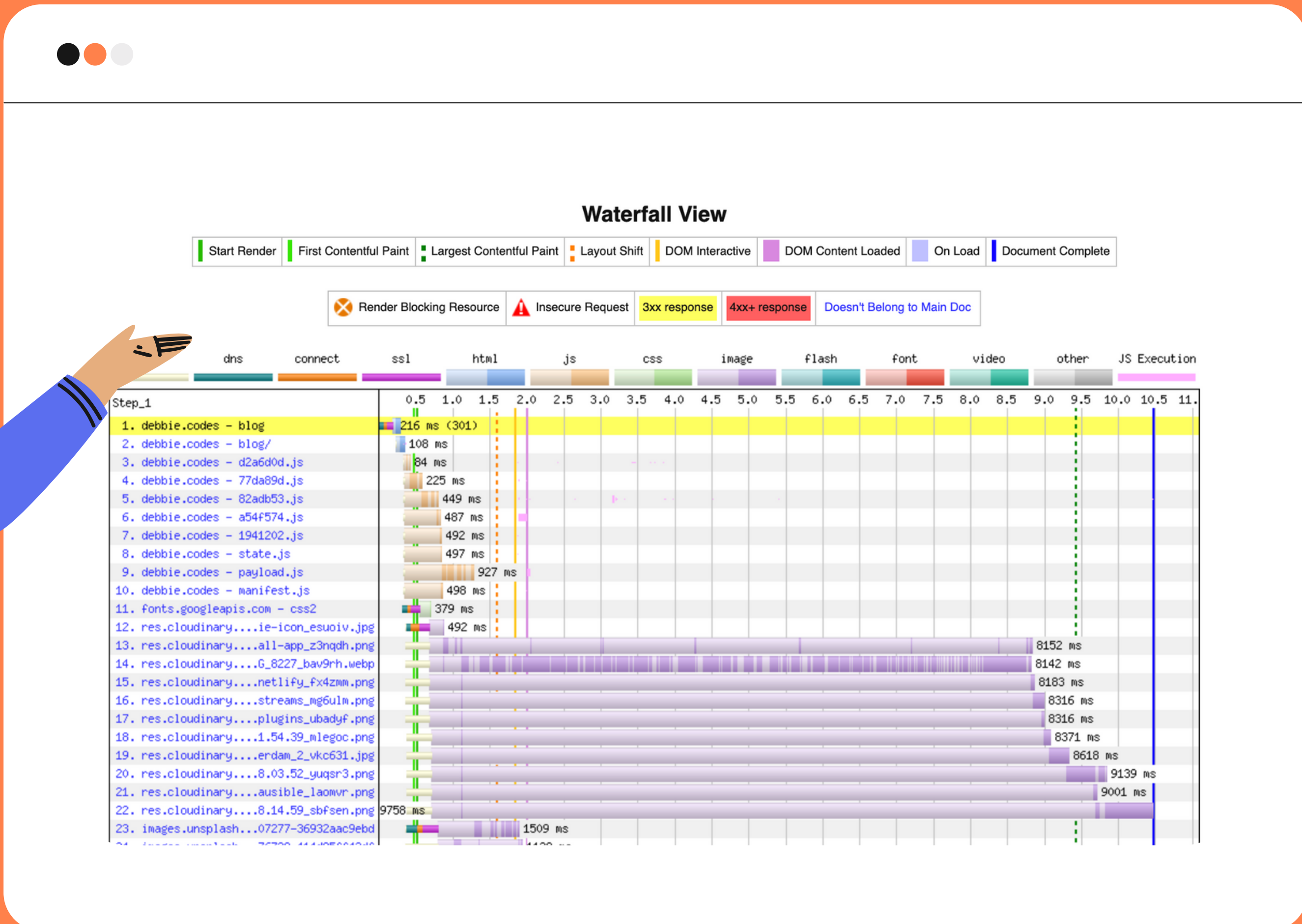
Select from Map

Browser

Chrome

Advanced Settings >

3 runs, First View only, Cable connection



Largest Contentful Paint

**9416 ms**

Cumulative Layout Shift

**0.001**

Total Blocking Time

**409 ms**

## Largest Contentful Paint (9416 ms)

[View as Filmstrip](#) - [View Video](#) - [About Largest Contentful Paint \(LCP\)](#)



8000 ms



9300 ms



9300 ms

### LCP Event Summary

[See full details](#)

Time	9416 ms
Size	110164px <sup>2</sup>





(Loading)

# LCP

Largest Contentful Paint



(Interactivity)

# FID

First Input Delay



(Visual Stability)

# CLS

Cumulative Layout Shift



- [Largest Contentful Paint \(LCP\)](#): measures *loading* performance. To provide a good user experience, LCP should occur within 2.5 seconds of when the page first starts loading.
- [First Input Delay \(FID\)](#): measures *interactivity*. To provide a good user experience, pages should have a FID of 100 milliseconds or less.
- [Cumulative Layout Shift \(CLS\)](#): measures *visual stability*. To provide a good user experience, pages should maintain a CLS of 0.1. or less.

# Load Time

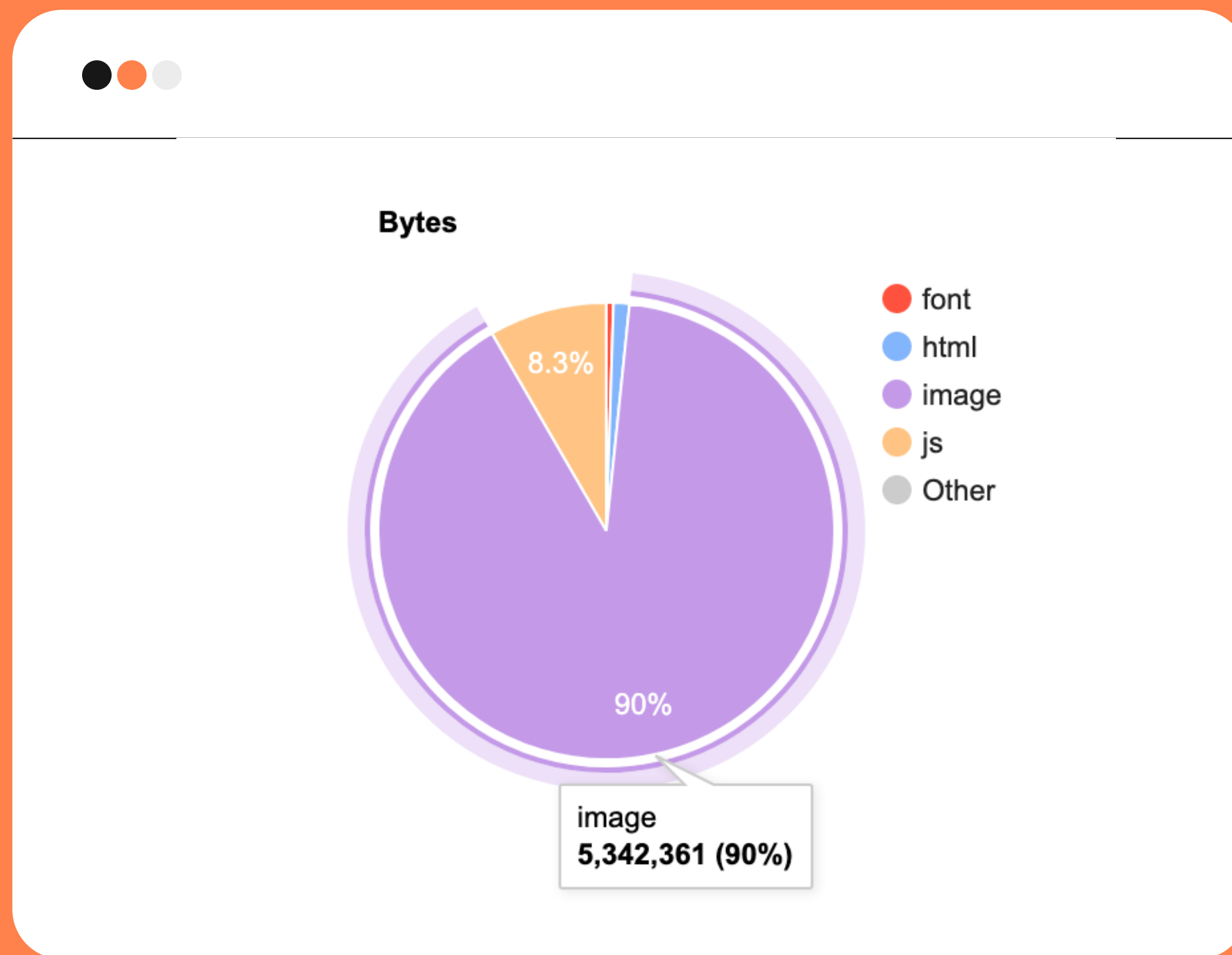
9.3

What the F\*\*\*

debbie.codes/blog

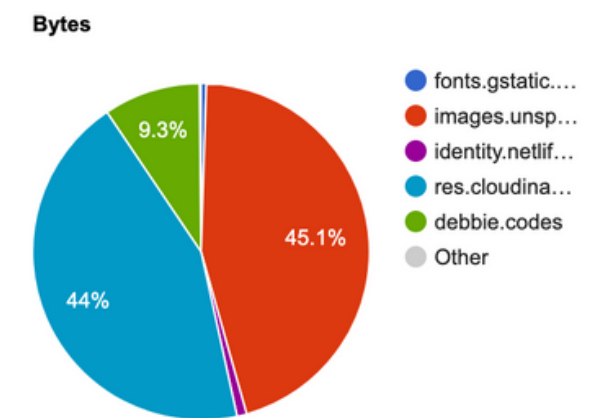
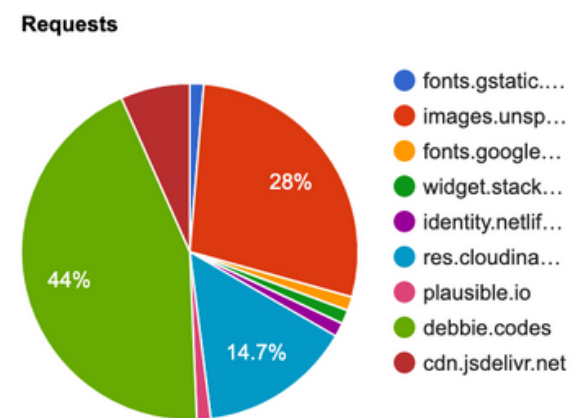
0.0





# Unsplash

# Cloudinary



Domain	Requests
debbie.codes	33
images.unsplash.com	21
res.cloudinary.com	11
cdn.jsdelivr.net	5
fonts.gstatic.com	1
fonts.googleapis.com	1
widget.stackbit.com	1
identity.netlify.com	1

Domain	Bytes
images.unsplash.com	2,678,942
res.cloudinary.com	2,611,532
debbie.codes	550,507
identity.netlify.com	54,686
fonts.gstatic.com	29,980
cdn.jsdelivr.net	7,939
widget.stackbit.com	1,010
fonts.googleapis.com	513

# Image Analysis Results

https://debbie.codes/blog

[Share Results](#)

## Page Image Score



Mediocre

## Image Weight Comparison

Current Images

3.7 MB

235.8 KB

Potential after Smart Compression ⓘ

## Total Images Analyzed

31

## Total Image Weight

4MB

## Potential Compressed Weight ⓘ

6.3%

Tested on browser



Chrome

From location



ec2-eu-west-3

Viewport size



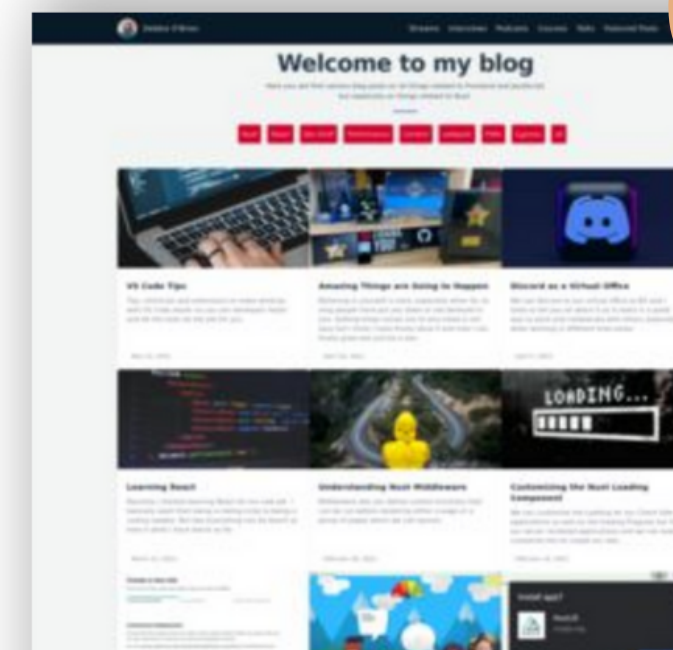
1920 x 1200 px

Device DPI



96 DPI

Integrated with



# What Does My Site Cost?

Find out how much it costs for someone to use your site on mobile networks around the world.

<https://debbie.codes/blog> weighs 5.64MB. Here's what that costs around the globe.

Want to make things better? Check out the [full results and recommendations at WebPageTest.org](#).

Cost in USD

Cost in USD, PPP

Cost as % of GNI, PPP

Postpaid

Prepaid

## Cost in USD (PREPAID DATA)

This is the cost of the site based on data from the [ITU](#), without any adjustment for purchasing power or relative affordability. Prices were collected from the operator with the largest marketshare in the country, using the least expensive plan with a (minimum) data allowance of 500 MB over (a minimum of) 30 days. Prices include taxes. Because these numbers are based on the least expensive plan, they are **best case scenarios**.

Country	Cost (in USD)
United States	\$0.55
Ireland	\$0.45
Botswana	\$0.38



Rendered size: 480 × 256 px

Rendered aspect ratio: 15:8

Intrinsic size: 4032 × 3024 px

Intrinsic aspect ratio: 4:3

File size: 1.5 MB

Current source: [https://res.cloudinary.com/debsobrien/upload...1619366231/debbie.code/MG\\_8227\\_bav9rh.webp](https://res.cloudinary.com/debsobrien/upload...1619366231/debbie.code/MG_8227_bav9rh.webp)







**I need to  
fix this**



# Optimized images for Nuxt

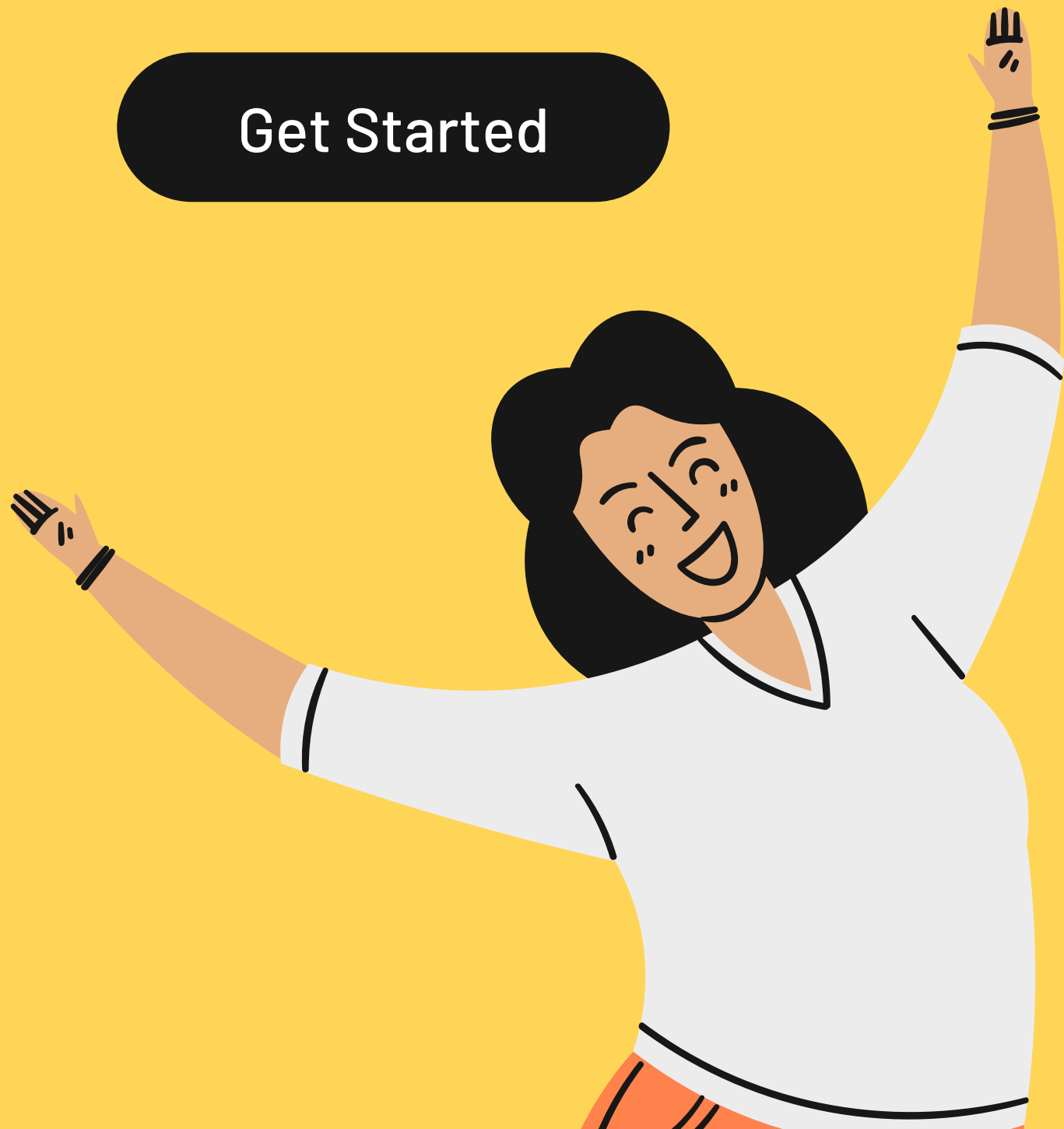
Plug-and-play image optimization for Nuxt apps. Resize and transform your images in your code using built-in optimizer or your favorite images CDN.

Get started

Play online

# Nuxt Image

Get Started



yarn npm

```
yarn add --dev @nuxt/image
```

Add the module to `buildModules` in your `nuxt.config`:

```
export default {  
  target: 'static',  
  buildModules: [  
    '@nuxt/image',  
  ],  
}
```

PostsCard.vue

```
<NuxtImg
  :provider="item.provider"
  :src="item.image"
  :alt="item.title"
  :loading="item.loading ? item.loading : 'lazy'"
  preset="blog"
  width="640"
  height="480"
  sizes="sm:355px md:320px lg:480px"
  class="w-full h-64 object-cover"
/>
```



nuxt.config.js

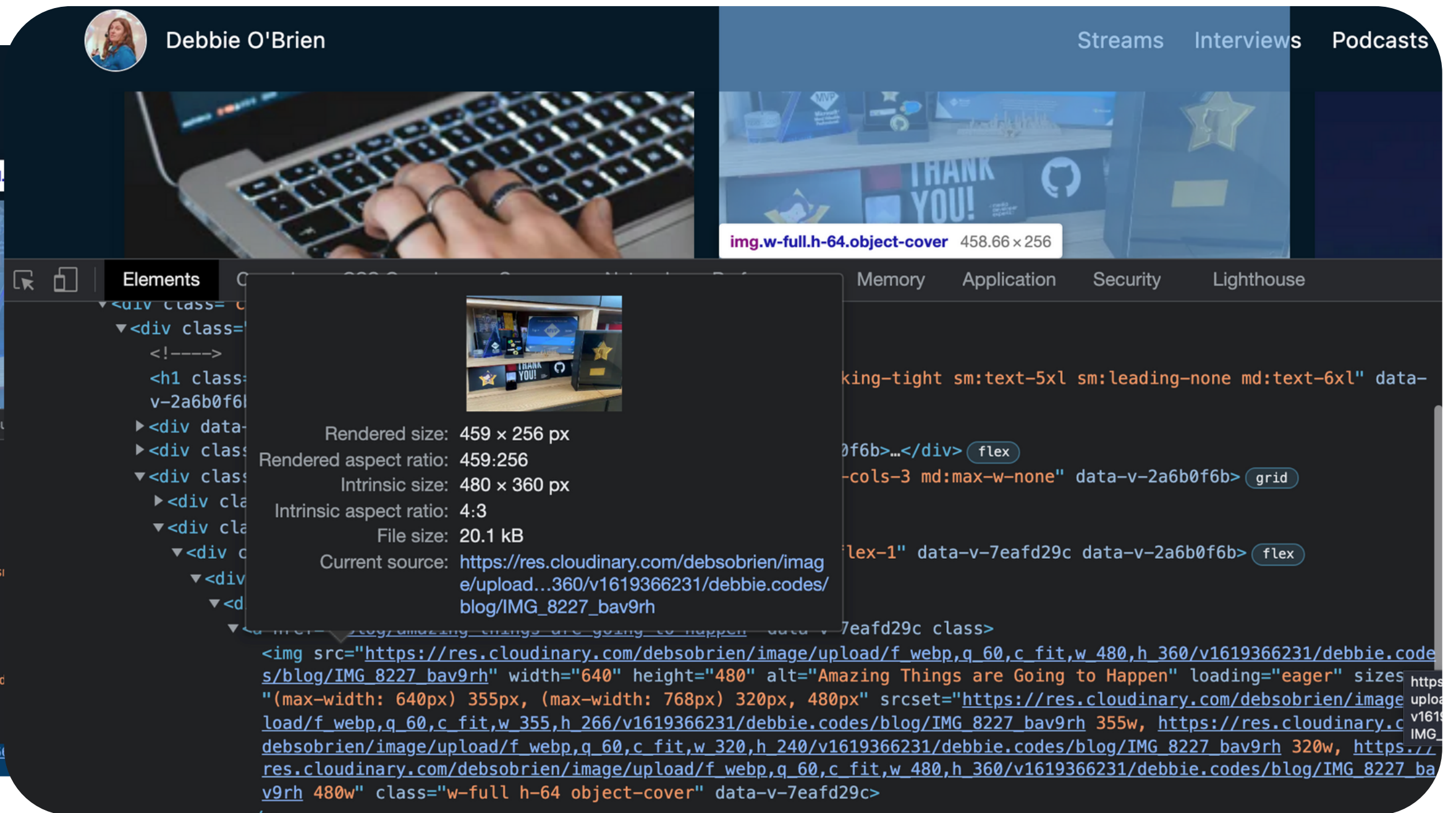
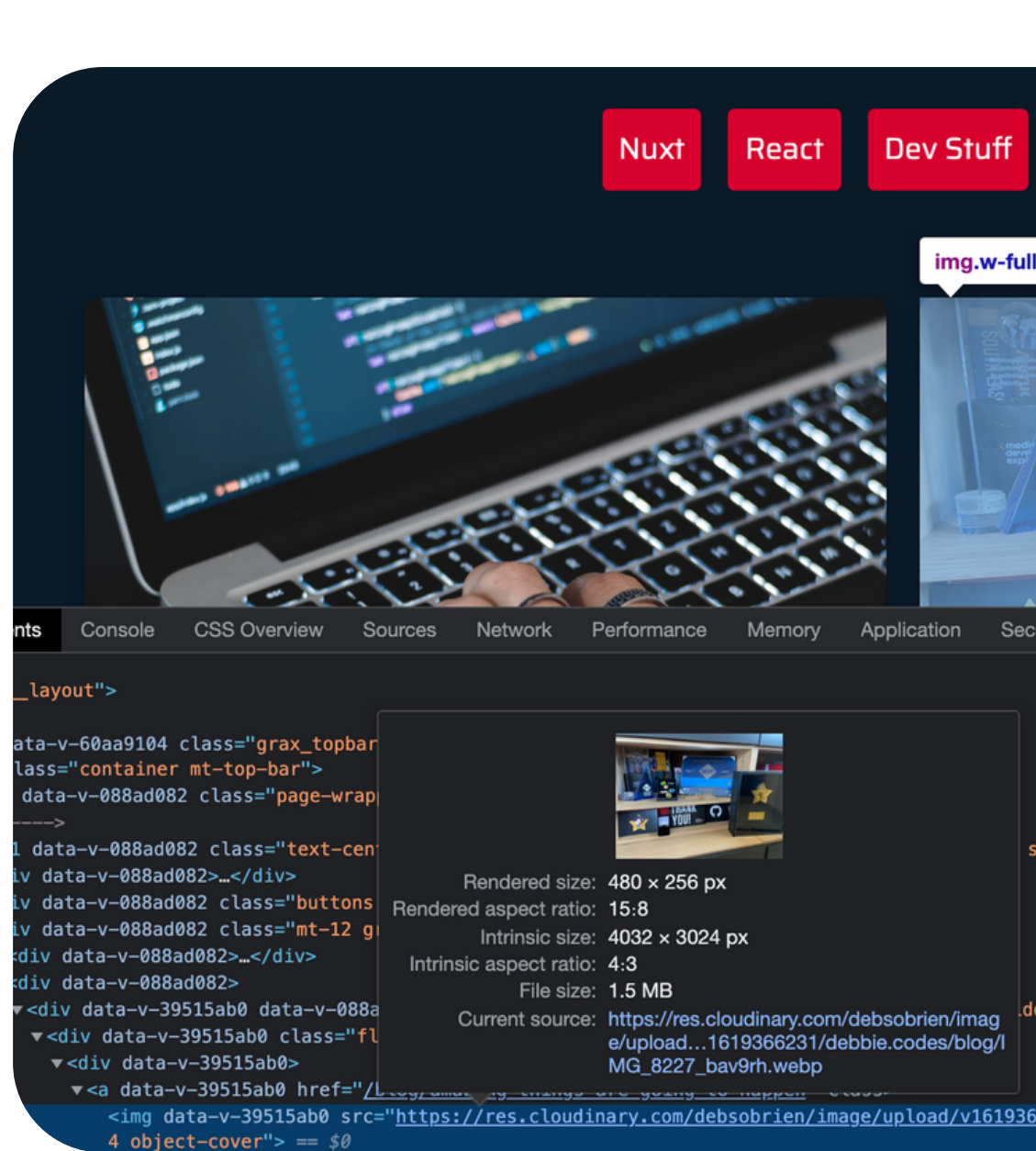
```
image: {  
  cloudinary: {  
    baseURL: 'https://res.cloudinary.com/debsobrien/image/upload/'  
  },  
  
  imgix: {  
    baseURL: 'https://images.unsplash.com/'  
  },  
  
  presets: {  
    blog: {  
      modifiers: {  
        format: 'webp',  
        fit: 'cover',  
        quality: '60'  
      }  
    }  
  }  
},
```

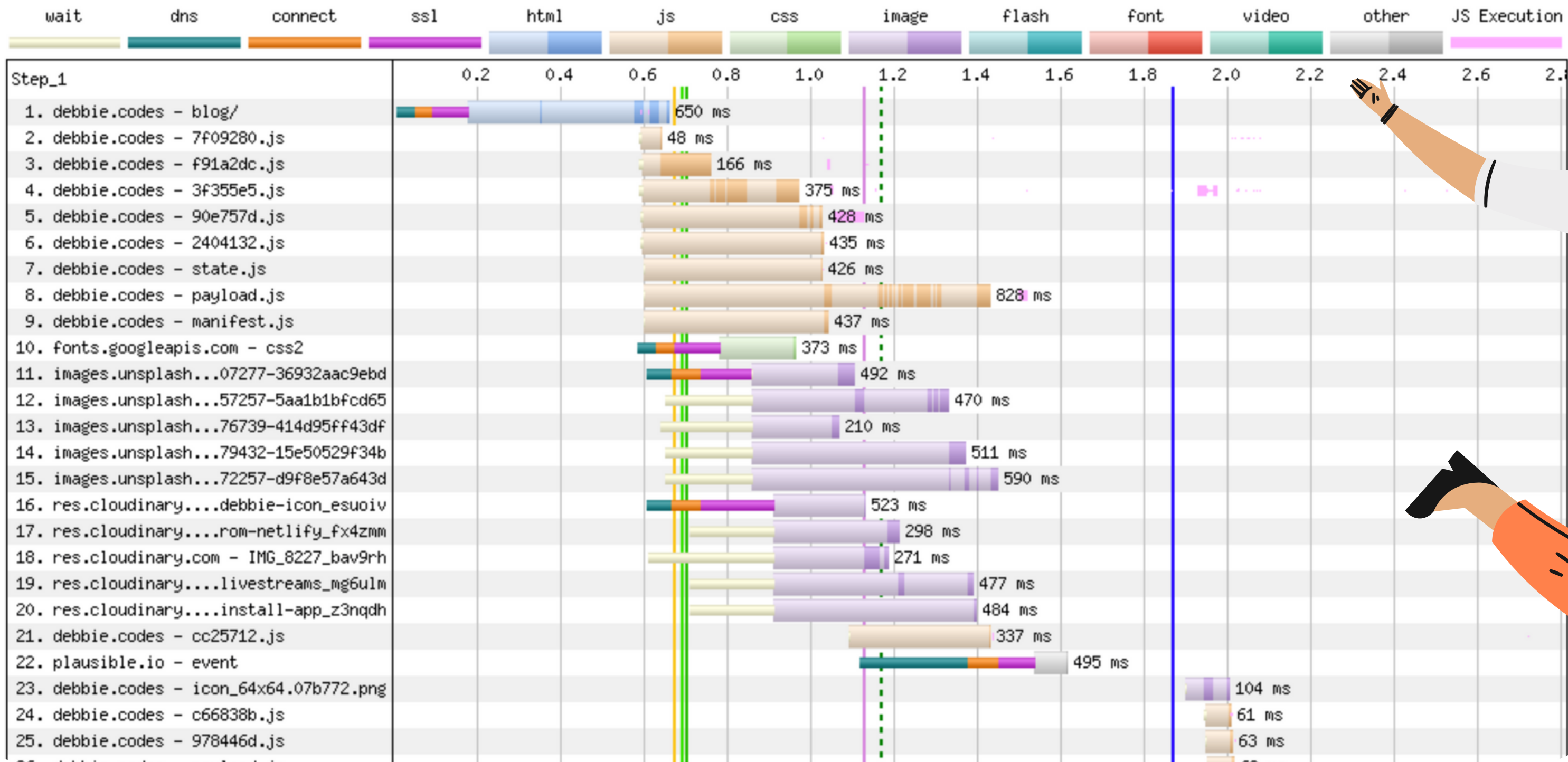
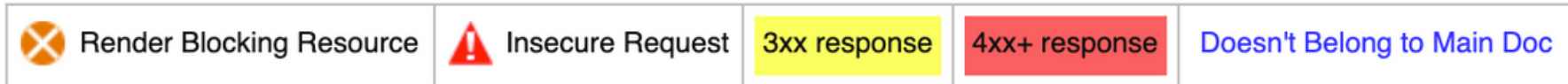




# Before

# After







Largest Contentful Paint

**1167 ms**

Cumulative Layout Shift

**0**

Total Blocking Time

**296 ms**

## Largest Contentful Paint (1167 ms)

[View as Filmstrip](#) - [View Video](#) - [About Largest Contentful Paint \(LCP\)](#)



700 ms



1200 ms



1300 ms

### LCP Event Summary

[See full details](#)

Time	1167 ms
	101704 ms



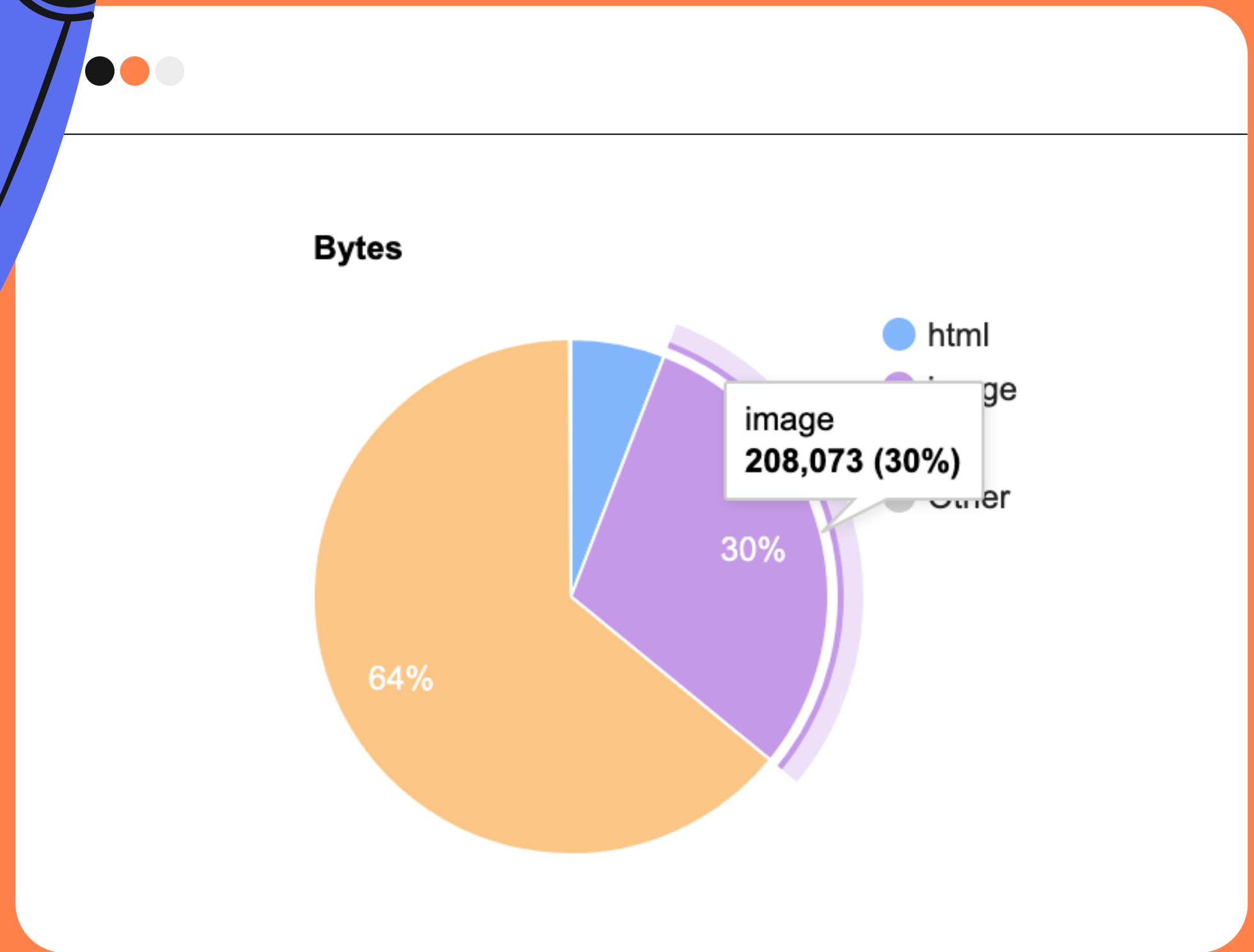
# Load Time

1.3

Amazing :)

debbie.codes/blog/

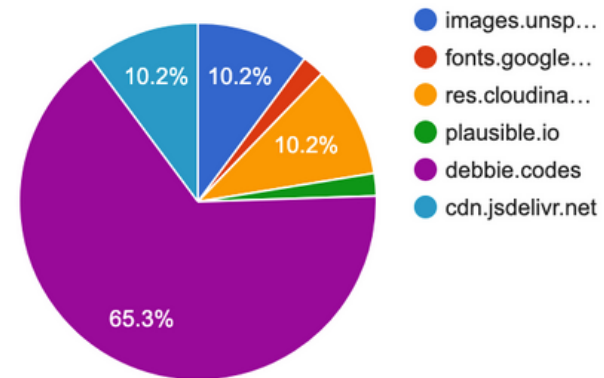
0.0



# Unsplash

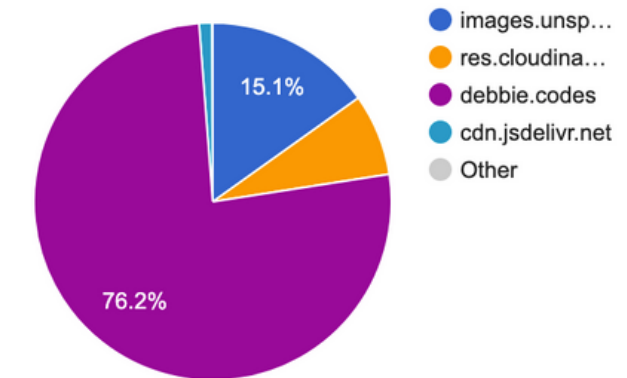
# Cloudinary

Requests



Domain	Requests
debbie.codes	32
images.unsplash.com	5
res.cloudinary.com	5
cdn.jsdelivr.net	5
fonts.googleapis.com	1
plausible.io	1

Bytes



Domain	Bytes
debbie.codes	528,345
images.unsplash.com	104,978
res.cloudinary.com	51,208
cdn.jsdelivr.net	7,939
fonts.googleapis.com	513
plausible.io	0

# Image Analysis Results

https://debbie.codes/blog/

[Share Results](#)

## Page Image Score

**B**

Good

## Image Weight Comparison

Current Images

156.2 KB

83.4 KB

 Potential after Smart Compression ⓘ

## Total Images Analyzed

 10

## Total Image Weight

 156KB

## Potential Compressed Weight ⓘ

 53.4%

Tested on browser



Chrome

From location



ec2-eu-west-3

Viewport size



1920 x 1200 px

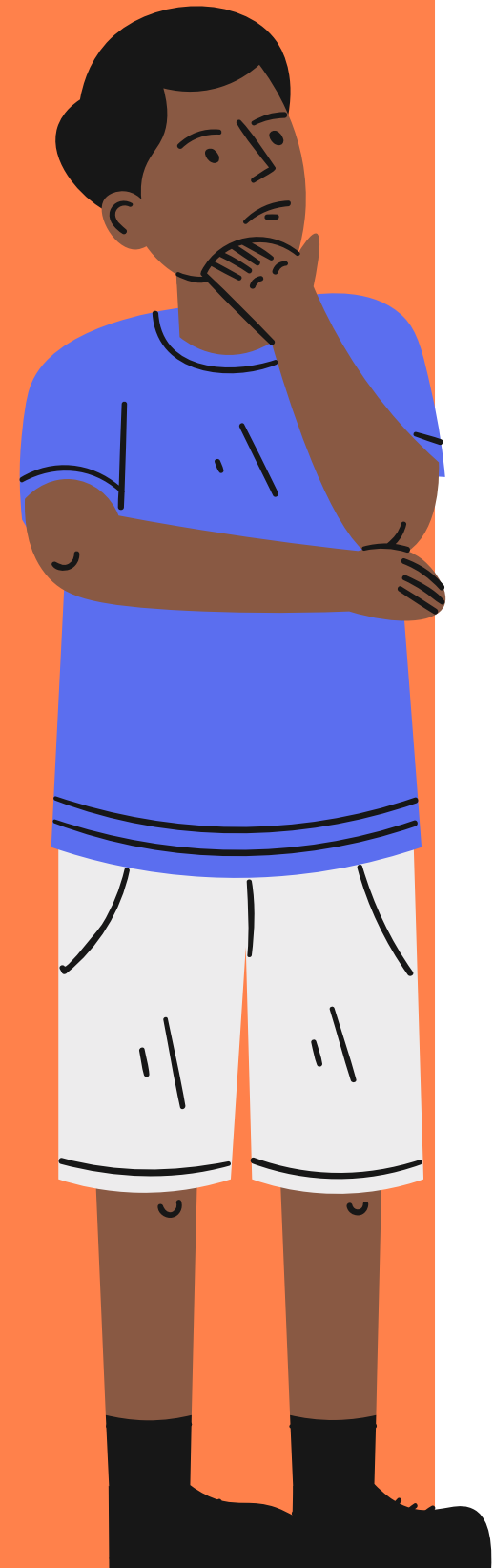
Device DPI



96 DPI

Integrated with





# What Does My Site Cost?

Find out how much it costs for someone to use your site on mobile networks around the world.

<https://debbie.codes/blog/> weighs 0.66MB. Here's what that costs around the globe.

Want to make things better? Check out the [full results and recommendations at WebPageTest.org](#).

Cost in USD

**Cost in USD, PPP**

Cost as % of GNI, PPP

Postpaid

Prepaid

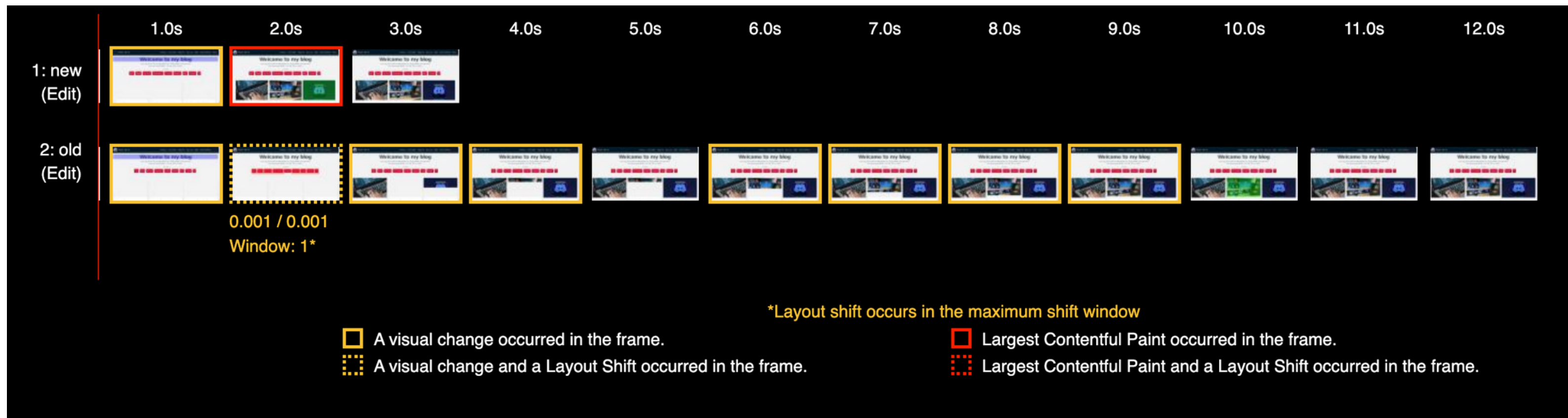
## Cost in USD, PPP (PREPAID DATA)

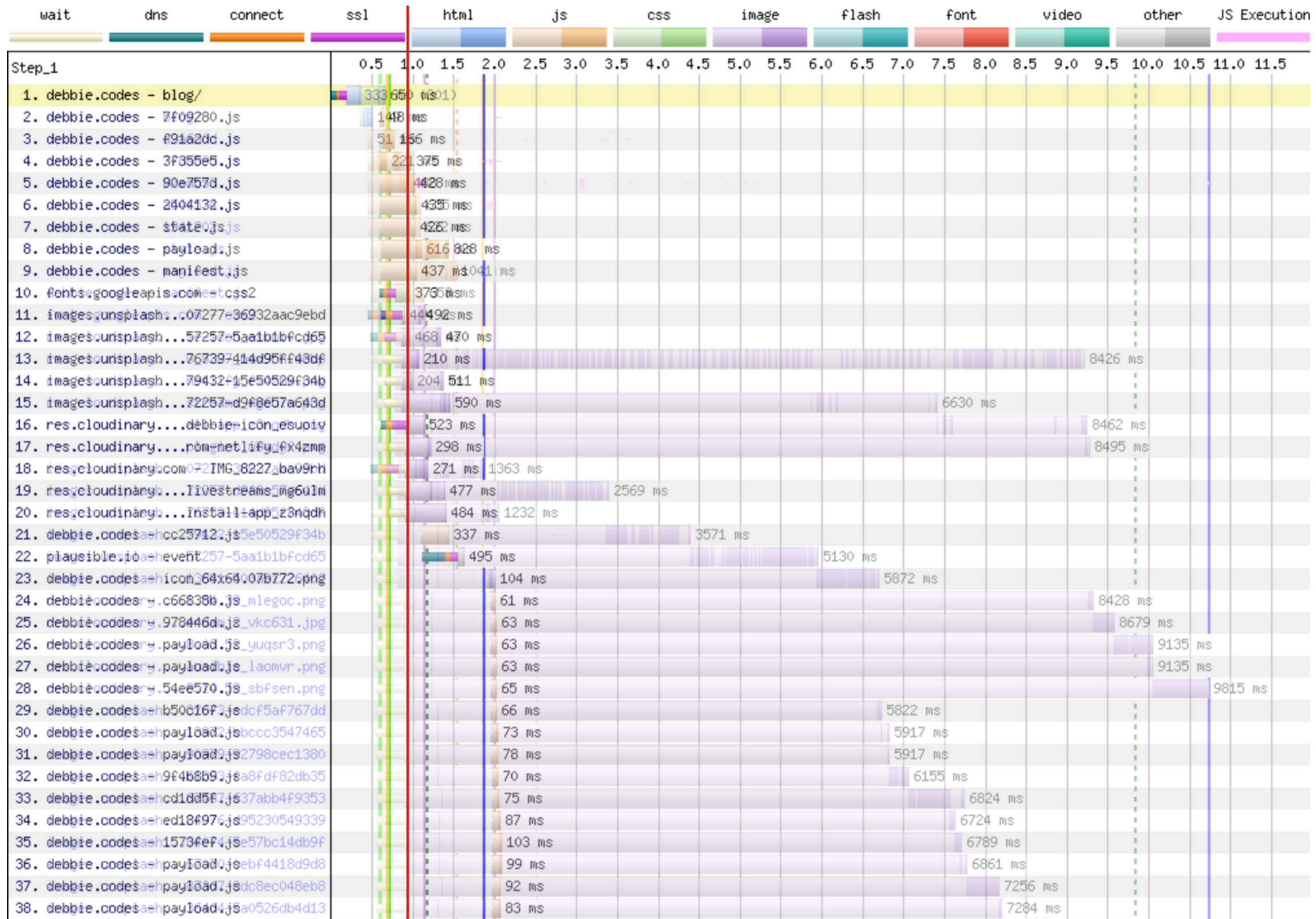
This is the cost of the site based on data from the [ITU](#) and [World Bank](#). The cost of data is standardized based on the [PPP](#) factor. Prices were collected from the operator with the largest marketshare in the country, using the least expensive plan with a (minimum) data allowance of 500 MB over (a minimum of) 30 days. Prices include taxes. Because these numbers are based on the least expensive plan, they are **best case scenarios**.

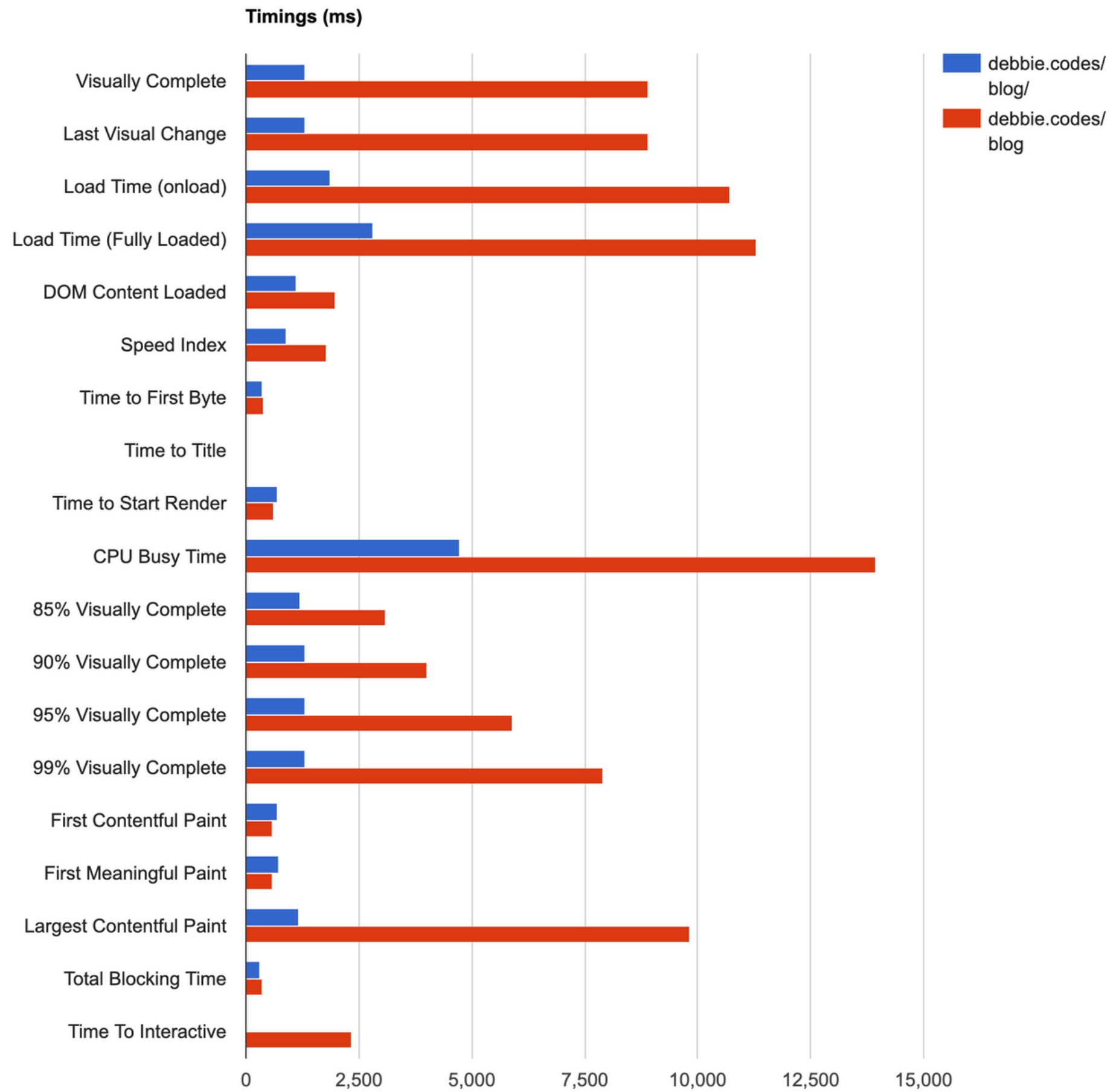
Country	Cost (in USD, PPP)
United States	\$0.06
Switzerland	\$0.06
Ireland	\$0.06
Canada	\$0.04
Vanuatu	\$0.04
Germany	\$0.03



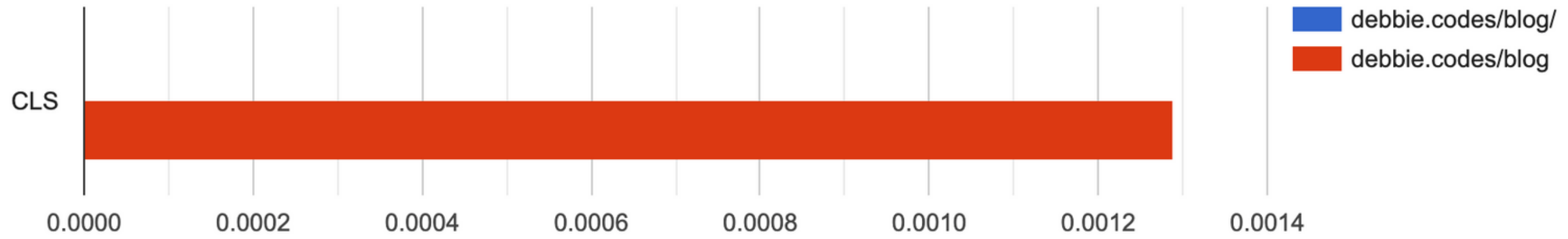
# Comparing before and after



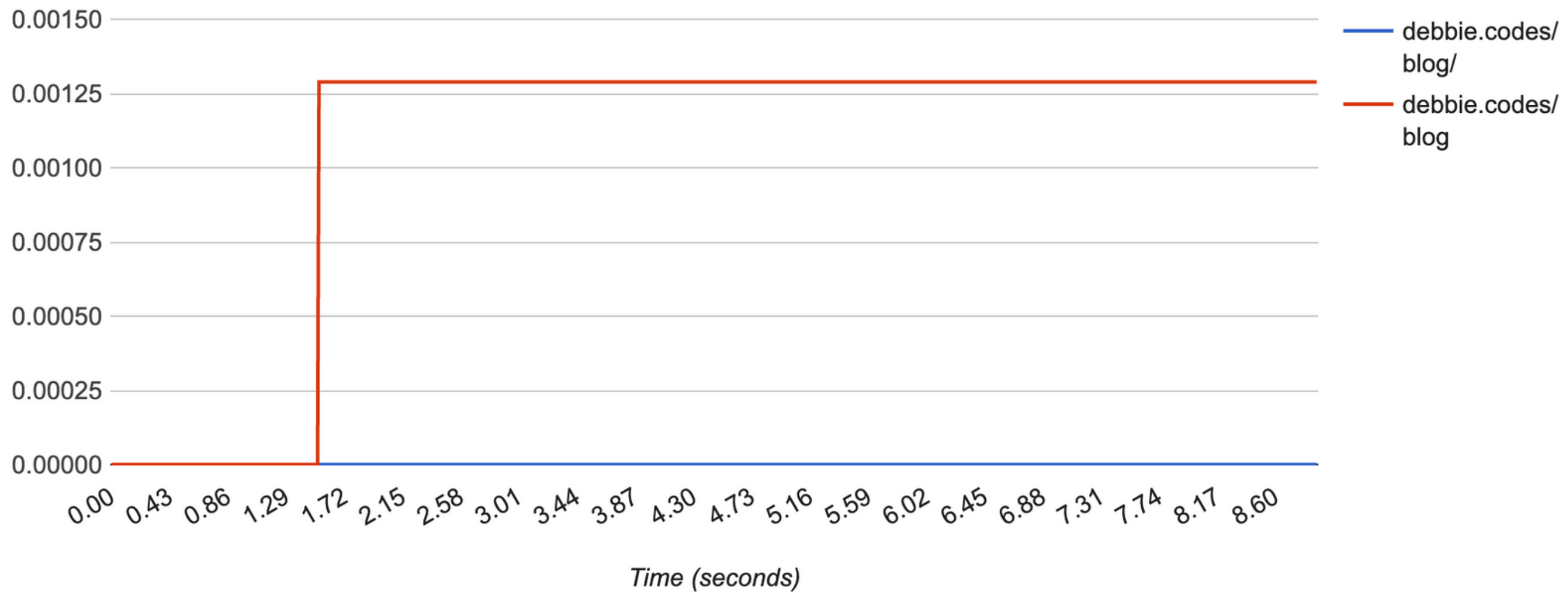




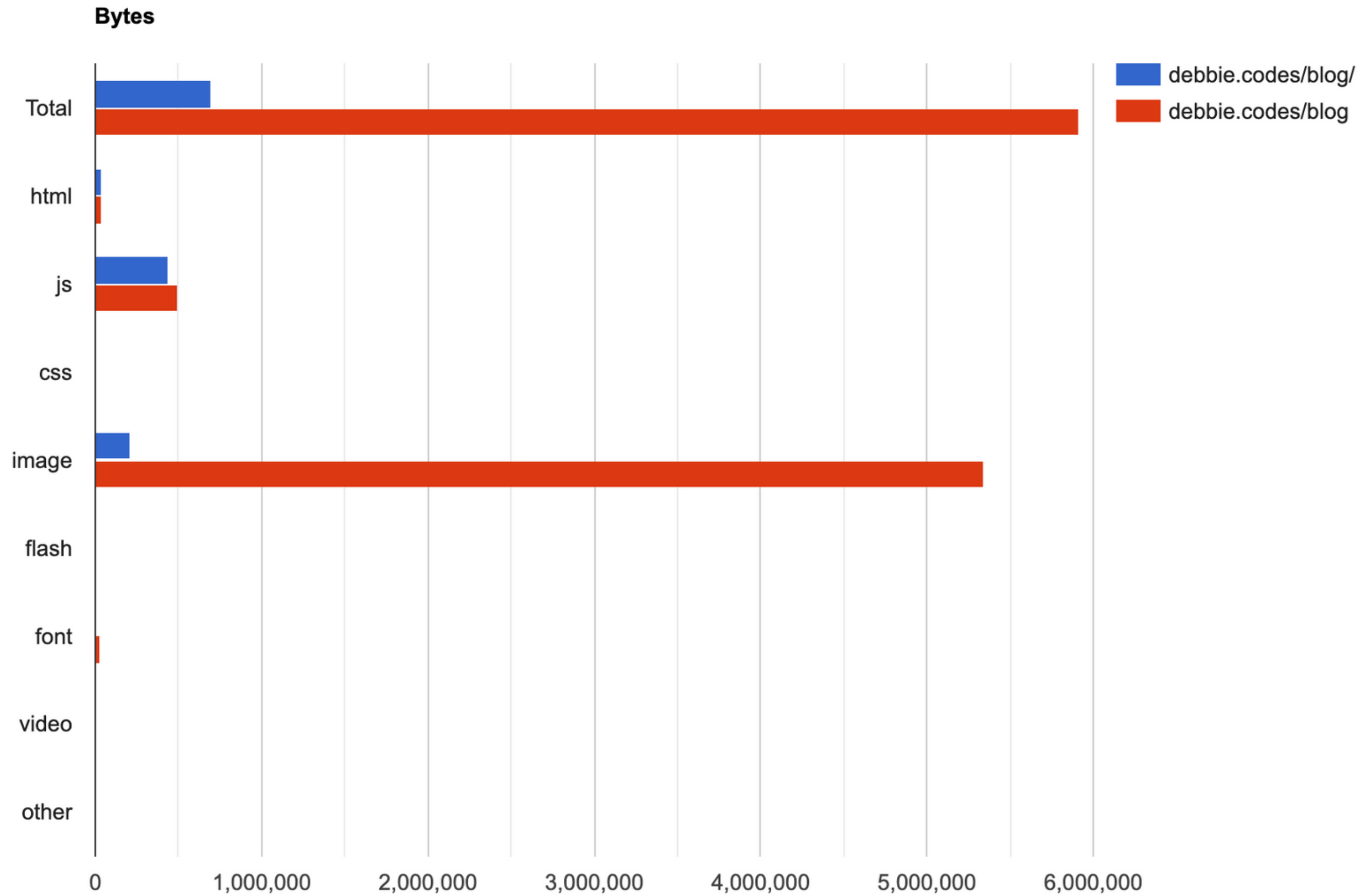
### Cumulative Layout Shift



### Layout Shifts







Debbie O'Brien

Streams Interviews Podcasts Courses Talks Featured Posts Blog

# Welcome to my blog

Here you will find various blog posts on all things related to Frontend and JavaScript but especially on things related to Nuxt.

Nuxt React Dev Stuff Performance Content webpack PWA Cypress all

Console Sources Network Performance Memory Application Security Lighthouse

codes

es/blog/

100 Performance 100 Accessibility 100 Best Practices 100 SEO PWA Progressive Web App

▲ 0-49 ■ 50-89 ● 90-100

100 Performance

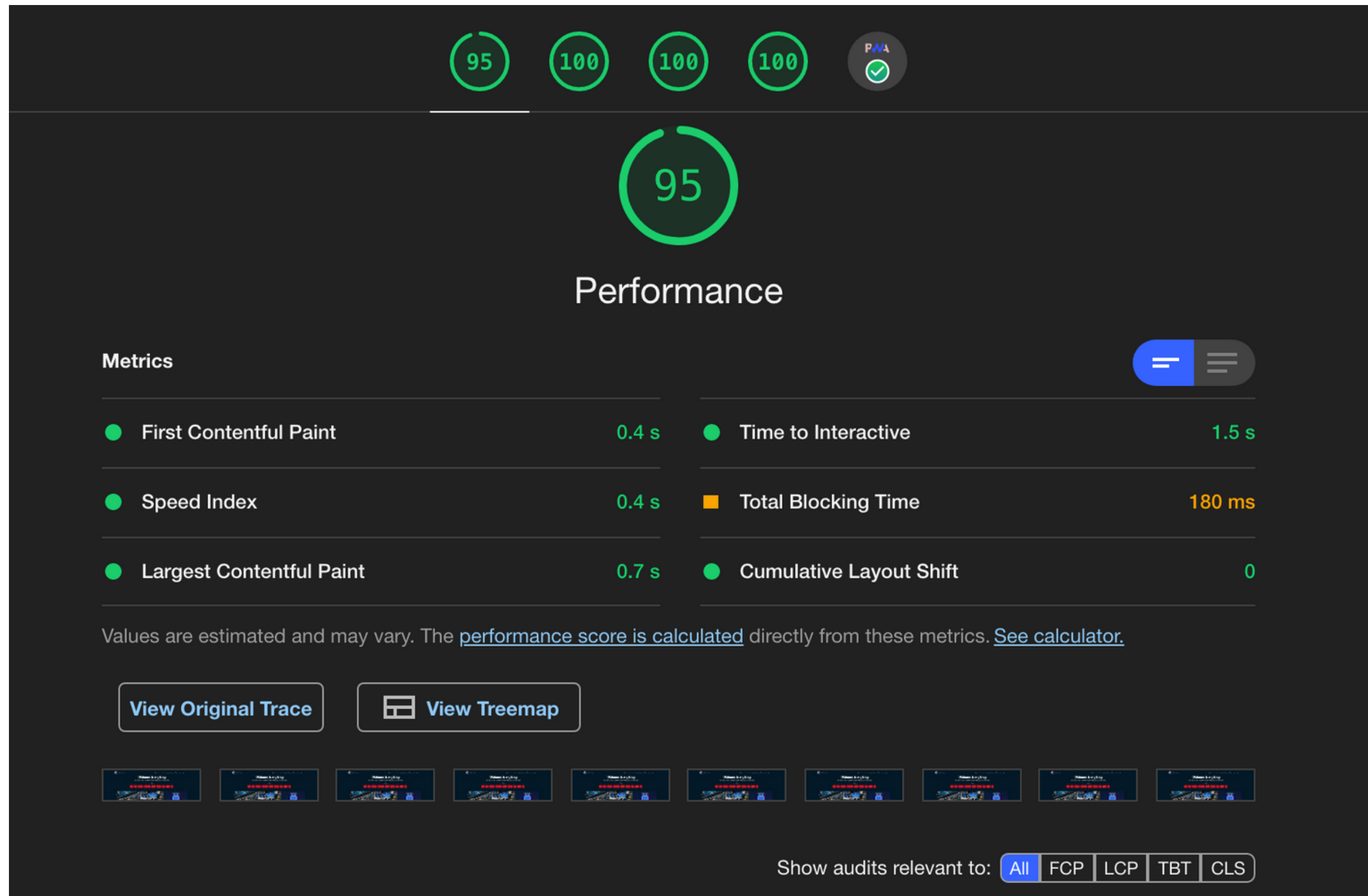
Metrics

● First Contentful Paint	0.3 s	● Time to Interactive	1.2 s
● Speed Index	0.3 s	● Total Blocking Time	70 ms
● Largest Contentful Paint	0.3 s	● Cumulative Layout Shift	0.001

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)



# Show audits relevant to:



The screenshot shows the Performance tab in Chrome DevTools. At the top, there are five circular progress indicators with scores: 95, 100, 100, 100, and PWA (with a checkmark). Below these is a large circular progress indicator showing a score of 95. The word "Performance" is centered below the score. On the left, there is a "Metrics" section with a toggle switch set to "=". Below this is a table of metrics:

Metric	Value	Metric	Value
First Contentful Paint	0.4 s	Time to Interactive	1.5 s
Speed Index	0.4 s	Total Blocking Time	180 ms
Largest Contentful Paint	0.7 s	Cumulative Layout Shift	0

Below the table, there is a note: "Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)"

At the bottom, there are two buttons: "View Original Trace" and "View Treemap". Below these are several small thumbnail images of performance traces. At the very bottom, there is a filter bar: "Show audits relevant to: All FCP LCP TBT CLS". The "All" filter is currently selected.



# Run the test full page

The image shows a side-by-side comparison of a blog page and its Lighthouse performance audit. On the left is the blog page, and on the right is the Lighthouse audit interface.

**Blog Page:**

- Author: Debbie O'Brien
- Navigation: Streams, Interviews, Podcasts, Courses, Talks, Featured Posts, Blog
- Header: "Welcome to my blog"
- Text: "Here you will find various blog posts on all things related to Frontend and JavaScript but espeically on things related to Nuxt."
- Filter buttons: Nuxt, React, Dev Stuff, Performance, Content, webpack, PWA, Cypress, all
- Blog Posts:
  - VS Code Tips** (May 13, 2021): Tips, shortcuts and extensions to make working with VS Code easier so you can developer faster and let the tools do the job for you.
  - Amazing Things are Going to Happen** (April 26, 2021): Believing in yourself is hard, especially when for so long people have put you down or not believed in you. Getting those voices out of your head is not easy but I think I have finally done it and now I can finally grow and just be a star.
  - Discord as a Virtual Office** (April 3, 2021): We use Discord as our virtual office at Bit and I have to tell you all about it as it really is a great way to work and collaborate with others especially when working in different time zones.

**Lighthouse Audit:**

- URL: https://debbie.codes/blog/
- Overall Score: 91
- Category Scores:
  - Performance: 91
  - Accessibility: 100
  - Best Practices: 100
  - SEO: 100
  - Progressive Web App: PWA (checkmark)
- Legend: 0-49 (red), 50-89 (orange), 90-100 (green)
- Performance Section:
  - Score: 91
  - Metrics:
    - First Contentful Paint: 0.4 s
    - Speed Index: 0.4 s
    - Largest Contentful Paint: 0.8 s
    - Time to Interactive: 1.9 s
    - Total Blocking Time: 240 ms
    - Cumulative Layout Shift: 0
  - Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.
  - Buttons: View Original Trace, View Treemap
  - Visualizations: Performance trace thumbnails
  - Filter: Show audits relevant to: All, FCP, LCP, TBT, CLS
  - Diagnostics:
    - Keep request counts low and transfer sizes small — 55 requests • 918 KiB
    - Largest Contentful Paint element — 1 element found
    - Avoid long main-thread tasks — 7 long tasks found
    - Avoid non-composited animations — 2 animated elements found



# View the treemap

Lighthouse Treemap

<https://debbie.codes/blog/>

All Scripts

All (2.4 MiB) Unused Bytes (235.1 KiB) Duplicate Modules (N/A)















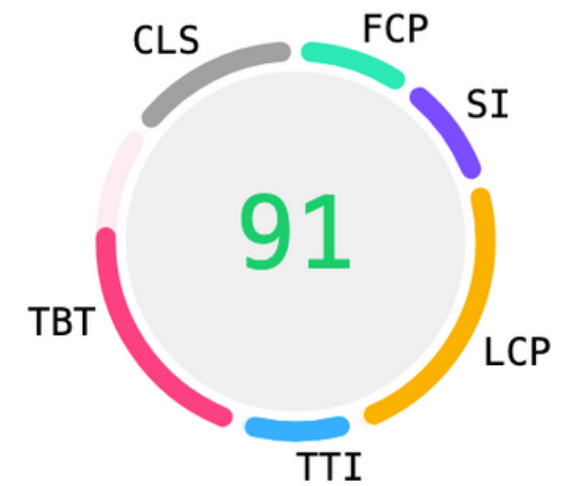
Name	Resource Bytes	Unused Bytes	Coverage
/_nuxt/static/1630913902/blog/discord-virtual-office/payload.js	653.8 KiB	0 B	100%
/_nuxt/static/1630913902/blog/amazing-things-are-going-to-happen/payload.js	604.7 KiB	0 B	100%
/_nuxt/static/1630913902/blog/payload.js	585.3 KiB	0 B	100%
/_nuxt/3f355e5.js	244.0 KiB	95.1 KiB	~40%
/_nuxt/f91a2dc.js	207.3 KiB	83.1 KiB	~40%
/_nuxt/90e757d.js	53.2 KiB	9.1 KiB	~15%
/_nuxt/static/1630913902/resources/featured-posts/payload.js	14.1 KiB	0 B	100%
/_nuxt/static/1630913902/resources/interviews/payload.js	10.9 KiB	0 B	100%

# 🚦 Lighthouse Scoring Calculator

Device type:  Versions:

latest  
[v8](#)

	Value	Metric Score	Weighting
● FCP (First Contentful Paint)	 399 ms	 100	10%
● SI (Speed Index)	 399 ms	 100	10%
● LCP (Largest Contentful Paint)	 782 ms	 98	25%
● TTI (Time to Interactive)	 1,907 ms	 97	10%
■ TBT (Total Blocking Time)	 239 ms	 72	30%
● CLS (Cumulative Layout Shift)	 0.00	 100	15%



## Lighthouse 6

Audit	Weight
<a href="#">First Contentful Paint</a>	15%
<a href="#">Speed Index</a>	15%
<a href="#">Largest Contentful Paint</a>	25%
<a href="#">Time to Interactive</a>	15%
<a href="#">Total Blocking Time</a>	25%
<a href="#">Cumulative Layout Shift</a>	5%

## Lighthouse 8

Audit	Weight
<a href="#">First Contentful Paint</a>	10%
<a href="#">Speed Index</a>	10%
<a href="#">Largest Contentful Paint</a>	25%
<a href="#">Time to Interactive</a>	10%
<a href="#">Total Blocking Time</a>	30%
<a href="#">Cumulative Layout Shift</a>	15%

# Nuxt Image

Improve your image performance



Image width

Format

Image Height

Sizes

Quality

Lazy loading

Clouinary + Imgix Provider



# Gotchas

Lighthouse v8.4

Detect when the LCP element is lazy-loaded

Nuxt Image in Nuxt Content

Don't use Self Closing Tags

# Tips

- Learn: [web.dev/lighthouse-performance/](https://web.dev/lighthouse-performance/)
- Test in profile with no extensions
- WebpageTest.org : Test History, Compare results
- Ask for a Pay rise

# This Mission: Get Started with Nuxt



Instructor: Debbie O'Brien



Learn the essentials for how to build and deploy a Nuxt site!

## WHAT YOU'LL LEARN

- ◆ Nuxt Introduction
- ◆ Nuxt Project Setup
- ◆ Nuxt Routing and Links
- ◆ Nuxt Dynamic Routes
- ◆ Nuxt Data Fetching
- ◆ Nuxt SEO
- ◆ Nuxt Auto Components and Lazy Loading
- ◆ Nuxt Global Styles and Transitions
- ◆ Nuxt Generate and Deploy
- ◆ Nuxt Next Steps

Nuxt.js is a Vue framework for building static and server-side rendered sites. This mission will walk you through the essentials of building a Nuxt.js site from the ground up.

In this mission, we assume you have a solid understanding of:

- HTML
- CSS
- JavaScript



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