

# Web Vitals

Metriche essenziali per aumentare la qualità della User Experience su siti Web

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# Web Vitals

Essential metrics for a healthy site



- Un'iniziativa promossa da Google per fornire linee guida per massimizzare la User Experience sul web.
- Semplificare l'ecosistema delle metriche di performance.
- Focalizzarsi sulle metriche che contano di più, le Core Web Vitals.
- Aggiornare a livello annuale le metriche in base alle nuove tecnologie e segnali disponibili.

# UX Pillars

Quali elementi di UX hanno caratterizzato la scelta delle Core Web Vitals

## Loading


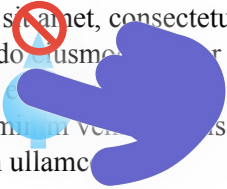
Il sito sta **caricando**?

## Interactivity

Il sito **risponde agli input utente**?

## Layout Stability

Il contenuto si carica **in maniera lineare ed elegante**?

<p>← contentbazaar.co/20160314/pi-way</p> 	<p>← contentbazaar.co/20160314/pi-way</p> <p> Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.</p> 	<p>← contentbazaar.co/20160314/pi-way</p> <p> Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.</p>
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# LCP, FID, CLS sono metriche che si prestano bene alla misurazione RUM (Traffico Reale)

Event Timing API

→ First Input Delay

→ [web.dev/fid](https://web.dev/fid)

Largest Contentful Paint API

→ Largest Contentful Paint

→ [web.dev/lcp](https://web.dev/lcp)

Layout Instability API

→ Cumulative Layout Shift

→ [web.dev/cls](https://web.dev/cls)

Perchè abbiamo scelto queste metriche?

→ [bit.ly/web-vitals-science](https://bit.ly/web-vitals-science)

Perchè la soglia al 75° percentile?

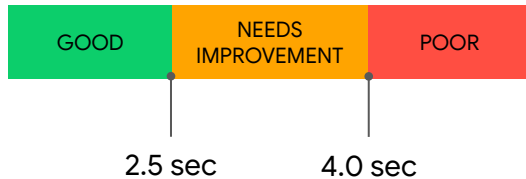
→ [bit.ly/web-vitals-methodology](https://bit.ly/web-vitals-methodology)

# Core Web Vitals

*(Loading)*

## LCP

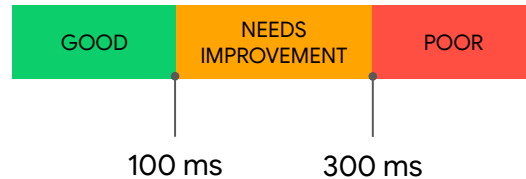
Largest Contentful Paint



*(Interactivity)*

## FID

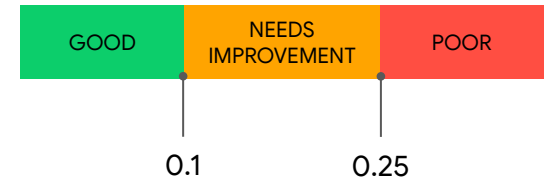
First Input Delay



*(Layout Stability)*

## CLS

Cumulative Layout Shift



Per assicurarsi che questi obiettivi siano raggiunti per la maggior parte dei nostri utenti la soglia consigliata è il 75° percentile di traffico, analizzato attraverso dispositivi Desktop e Mobile.

[SHOP CHLOÉ](#)

[SHOP SEE BY CHLOÉ](#)

[COLLECTIONS](#)

[MAISON](#)

[#CHLOEGIRLS](#)

# Chloé

Meet Daria, our versatile new day bag to accompany you through this season and beyond

AVAILABLE NOW

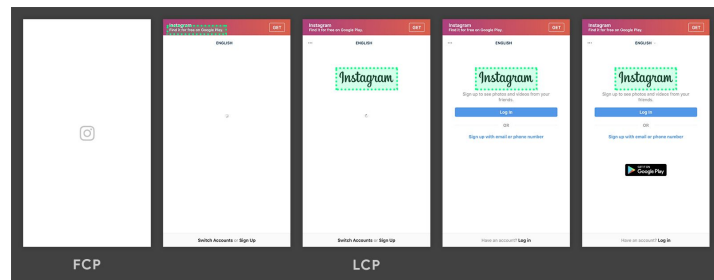
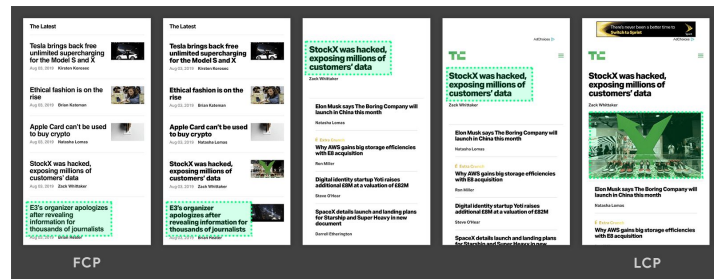
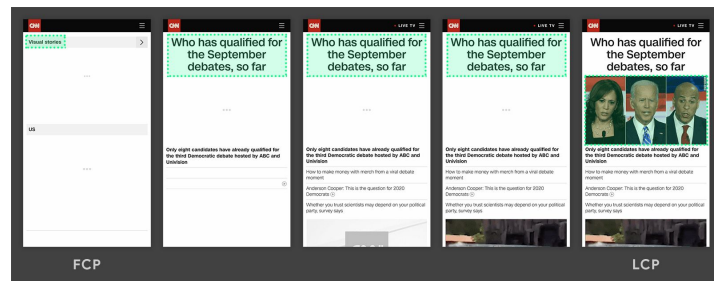
# LCP



2.5 sec

4 sec

Misura il tempo di caricamento dell'elemento più grande (image o blocco di testo) visibile nella viewport.



# LCP alto? Alcune cause comuni



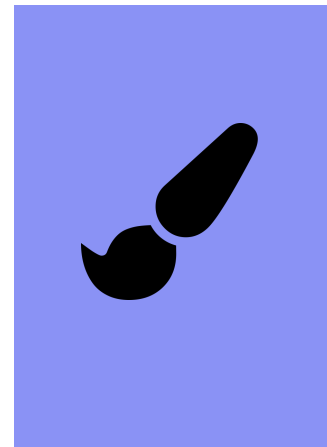
Tempo di risposta  
Server lento



Render-blocking  
JavaScript e  
CSS



Tempo di  
caricamento  
delle risorse  
lento



Client-side  
Rendering



Le immagini rappresentano  
spesso il più grande  
elemento visibile nella  
viewport.

# Identificazione LCP Related Node

The screenshot displays a web browser window with the URL `chloe.com/us/chloe/shop-online/women/bags-new-arrivals`. The page content includes a navigation bar with the Chloé logo, a hero image with the text "NEW BAGS SIGNAL A SHIFT IN SEASONS", and a section for "BAGS NEW ARRIVALS".

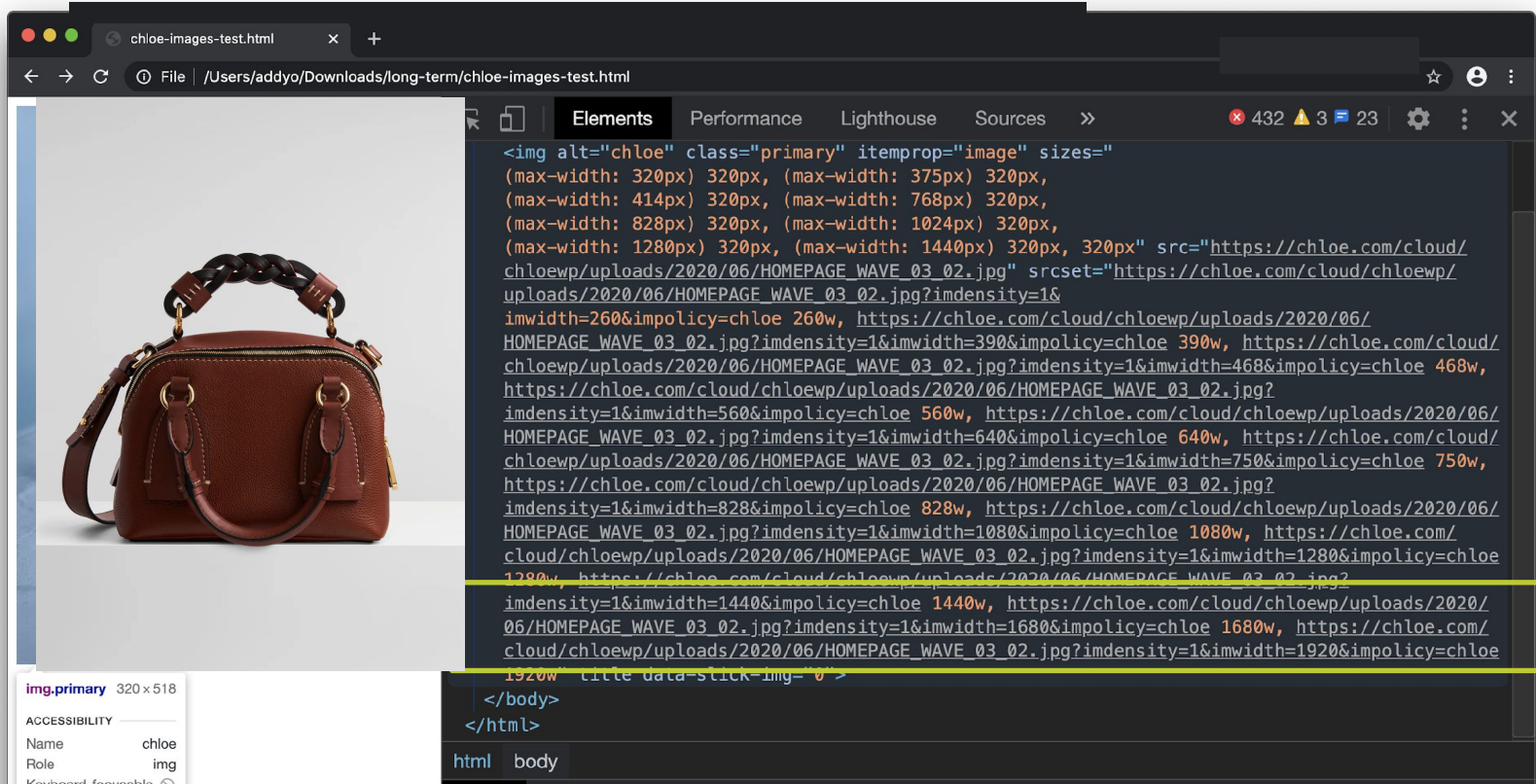
The Performance tab is open, showing a timeline of the page load. The Largest Contentful Paint (LCP) node is highlighted, with a duration of 510.8 ms. The related node is `img.primary.lz_loading`, which has a size of 524686 bytes and a type of image.

The Accessibility panel is also visible, showing the role of the image as `img` and the role as `Keyboard-focusable`.

**Performance Summary:**

- Summary: Bottom-Up, Call Tree, Event Log
- Node: `img.primary.lz_loading`
- Type: image
- Size: 524686
- Timestamp: 510.8 ms
- Details: [Learn more about largest contentful paint.](#)
- Related Node: `img.primary.lz_loading`

# Ridimensionare correttamente le immagini (e.g 1920w)



The screenshot shows a web browser window with a tab titled "chloe-images-test.html". The address bar shows the file path: "/Users/addyo/Downloads/long-term/chloe-images-test.html". The browser's developer tools are open, displaying the "Elements" panel. The HTML code for the image is shown, with a list of sizes for different screen widths. The size "1920w" is highlighted in yellow in the original image.

```

```

The image shows a brown leather handbag with a braided handle and a shoulder strap. The browser's developer tools show the HTML code for the image, including the `sizes` and `srcset` attributes. The `1920w` size is highlighted in yellow in the original image.

**img.primary** 320 x 518

**ACCESSIBILITY**

- Name chloe
- Role img
- Keyboard focusable

**html** body

# Ridimensionare correttamente le immagini

Non andare oltre 2x Density

NEW ARRIVALS

div.image 152.83 x 203.25



BETTY RAIN BOOT

PVC  
Black  
\$565



CHECK BLOUSE

Windowpane print on silk crêpe  
Soft rose  
\$1,850



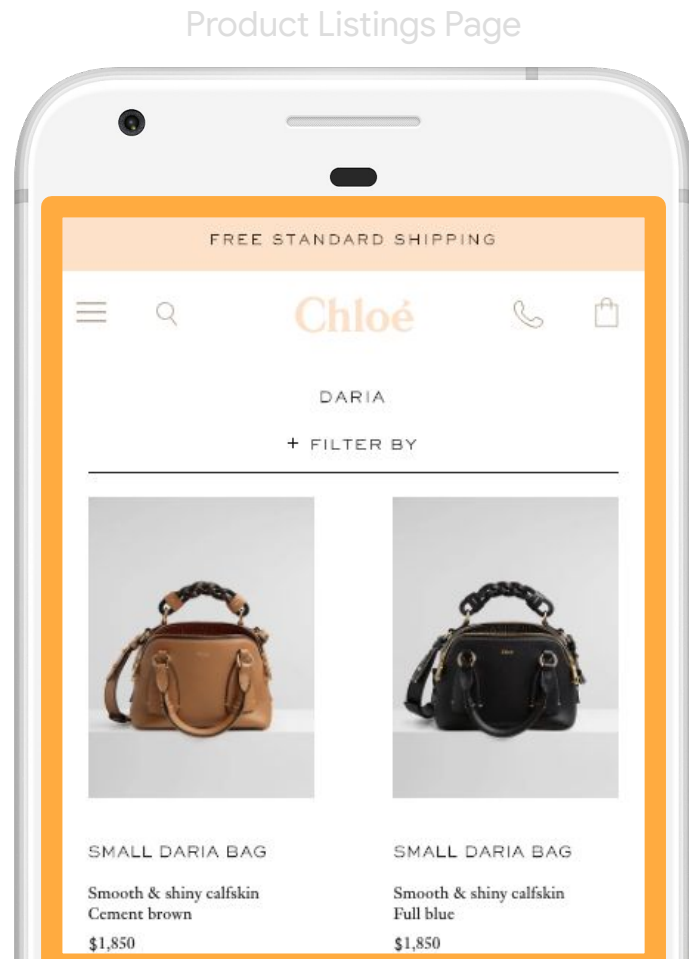
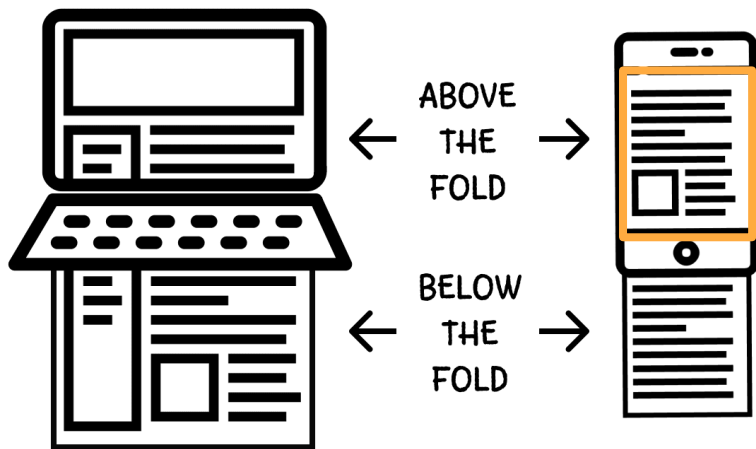
2x: 282x376px, 14KB



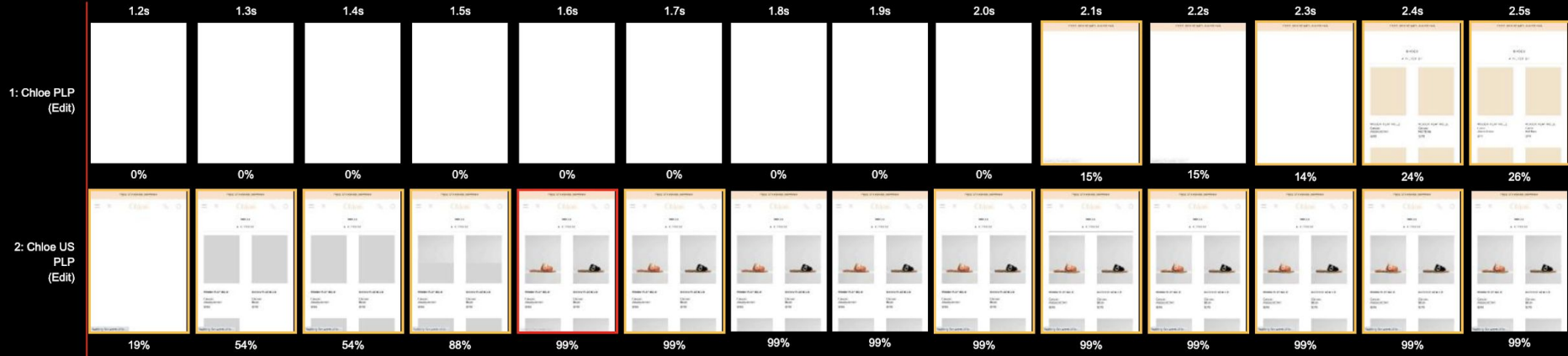
3x: 600x800, 47KB

Caricamento Deferred di JS  
e CSS non critici per  
migliorare il caricamento  
della pagina.

# Critical CSS



# Prima e dopo: CSS Critico



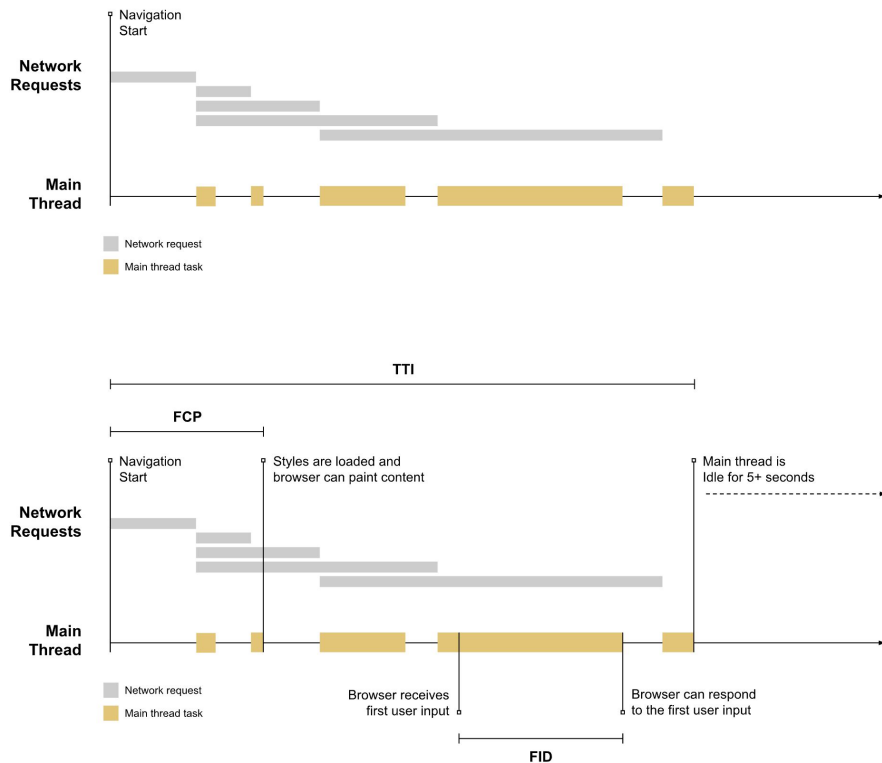
Inlined critical CSS

Deferred load of non-critical CSS

# FID



Misura l'intervallo di tempo tra quando l'utente interagisce con il sito per la prima volta e quando il browser riesce effettivamente a rispondere all'interazione..





## What causes poor FID?



JS Long Tasks



Tempo di  
esecuzione JS  
elevato

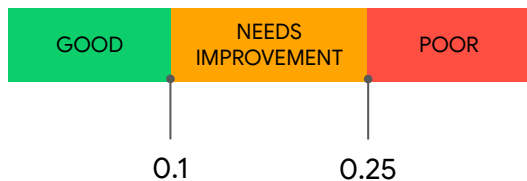


Large JavaScript  
Bundles

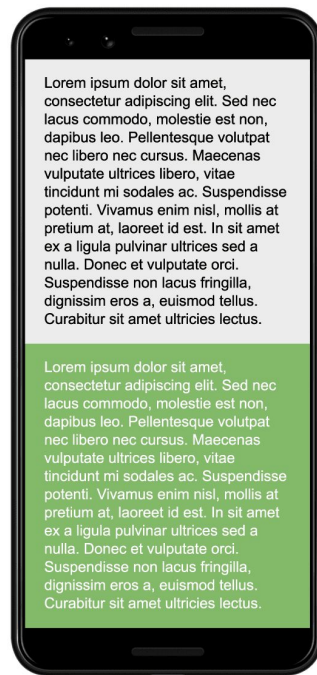


Render-blocking  
JavaScript

# CLS



Misura la somma di tutti i salti di contenuto imprevisti lato utente che accadono durante tutta la durata della navigazione di una pagine web.



# Cumulative Layout Shift

## Order confirmation

You have selected **56** items. Is this correct?

Yes, place my order

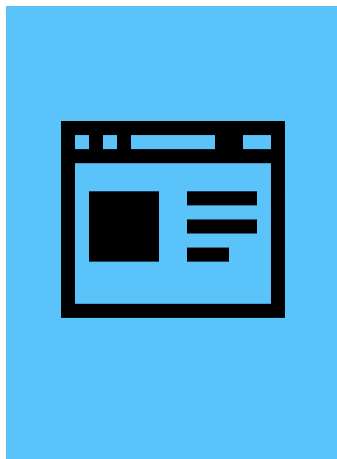
No, go back



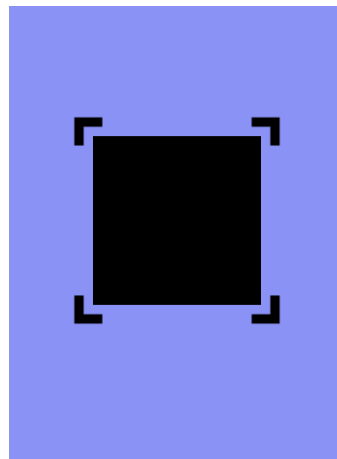
# CLS alto? Alcune cause comuni



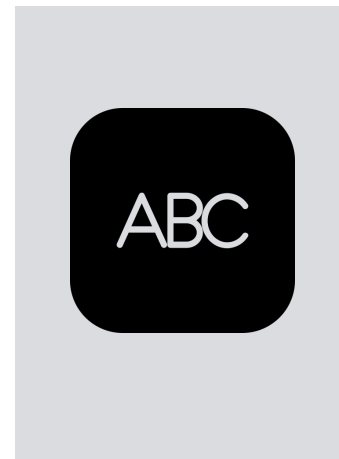
Immagini senza  
dimensione



Ads, Embeds,  
iFrames senza  
dimensione



Contenuti  
iniettati in  
pagina  
dinamicamente



Web Fonts che  
causano  
FOIT/FOUT

CLS: Includere sempre gli attributi Width e Height su elementi Immagini e Video.

```
<!-- Old best practice -->
```

```

```

```
<!-- Old best practice -->
```

```

```

```
<!-- Then came responsive design practice -->
```

```

```

```
<style>
```

```
img {
```

```
    width: 100%; /* or max-width: 100%; */
```

```
    height: auto;
```

```
}
```

```
</style>
```

```
<!-- The UA stylesheets of browsers will add a default  
aspect ratio based on the element's existing width and  
height attributes -->
```

```
<style>
```

```
img {
```

```
    aspect-ratio: attr(width) / attr(height);
```

```
}
```

```
</style>
```



```
<!-- Modern best practice -->
```

```
<!-- e.g set a 640:360 i.e a 16:9 - aspect ratio -->
```

```

```

Image Aspect Ratio = ratio of width to height

360px



? px

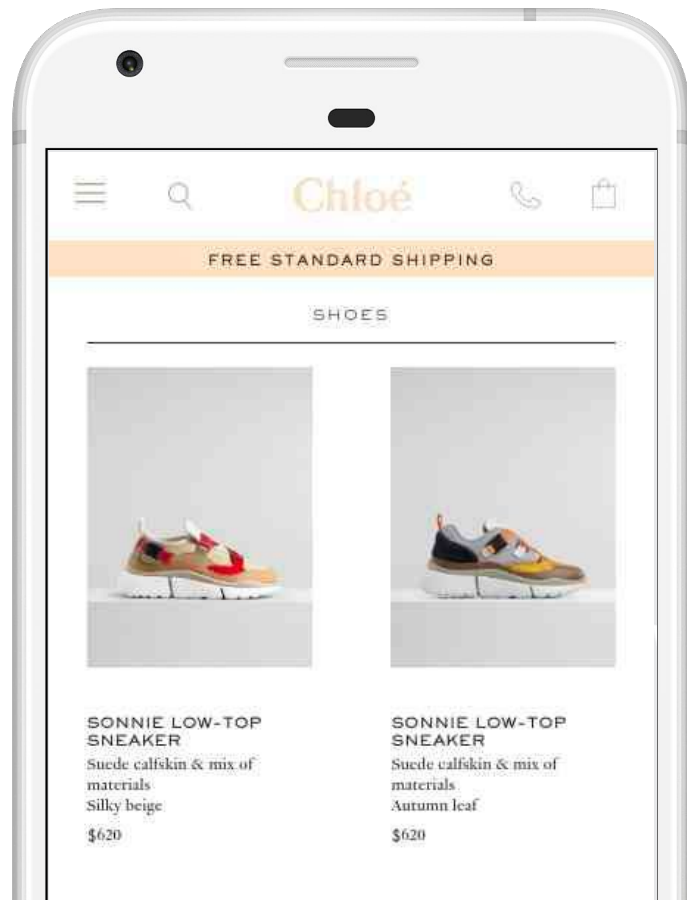
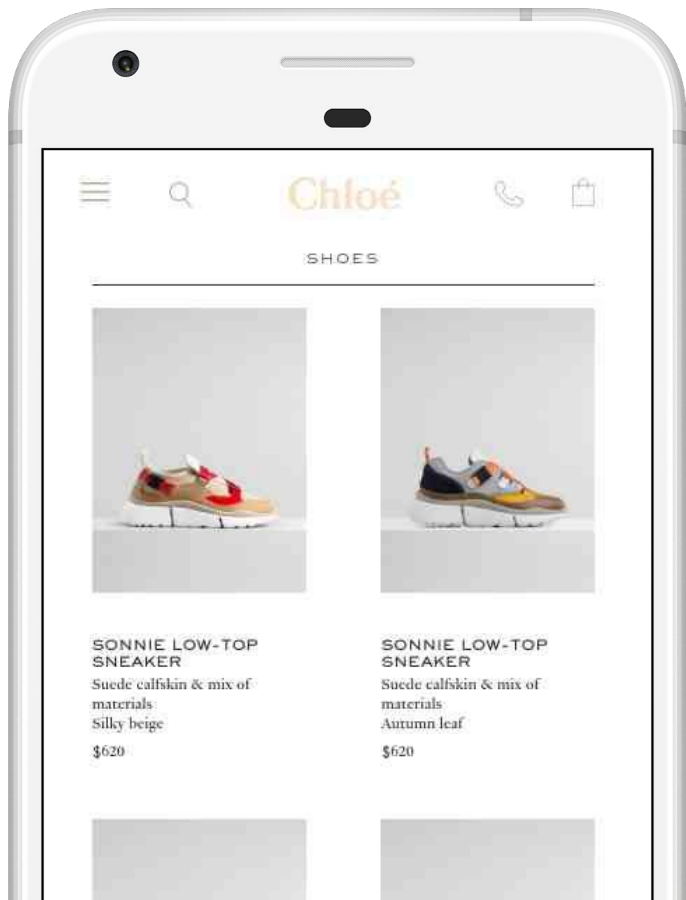
Want a 16:9 ratio?

If dress.jpg has 360px height...

$$\text{width} = 360 * (16 / 9) \\ = 640\text{px}$$

CLS: Riserva spazio a sufficienza per visualizzare contenuti a caricamento dinamico come Ads e messaggi promozionali.

Esempio di CLS causato da contenuti dinamici



# Esempio di CLS causato da contenuti dinamici

Il banner veniva richiamato da una chiamata Ajax utilizzando il JS

Request #51 Details Request Response Raw Details Object

URL: https://www.chloe.com/YTos/Plugins/PromotionPlugin/RenderDynamicPromotions?promotionsOptions.PromotionLayoutTypes=3&promotionsOptions.SliderPeriodMs=3000&promotionsOptions.SlidingPeriodMs=7000

Loaded By: https://media.yooy.biz/ytos/resources/BASE/js/jQuery/jquery-2.2.3.min.js:3

Host: www.chloe.com

IP: 104.98.164.59

Error/Status Code: 200

Priority: MEDIUM

Protocol: HTTP/2

HTTP/2 Stream: 13, weight 220, depends on 11, EXCLUSIVE

Request ID: 1000047184.117

Client Port: 33636

Request Start: 6.998 s

Time to First Byte: 672 ms

Content Download: 1 ms



Muovendo questa informazione Server Side ha permesso di riservare lo spazio di contenuto.

Pixel 2 XL 411 x 823 94%

Elements Console Sources

FREE STANDARD SHIPPING

div.promotions-wrapper 411x40

SHOES

+ FILTER BY

```
<!DOCTYPE html>
<html lang="en" class="js smartphone to
objectfit object-fit" itemscope itemtype=
schema.org/WebPage" prefix="og: http://og
//ogp.me/ns/fb#">
  <head>...</head>
  <body id="search" class="festive grid
isPromotion search season_p us retina m
point2 portrait ytos-loaded" ouchsta
  <div class="header-wrapper mobile-he
style laif-loaded" data-laif-opt="{
"immediate": true
}" data-laif-wc="headerIndex">
    <style type="text/css">...</style>
  <div class="promotions-wrapper"> =
...
  <section class="selfUpdater prom
data-ytos-ctrl="promotion.selfUpda
opt="{options":{"settings":{"IsS
false,"PromotionsCount":1},"data"
{"PromotionsOptions":{"PromotionLa
3,"SliderPeriodMs":7000,"SlidingE
750,"ShowTitle":false,"ShouldRefre
true,"PrintNoPromotionsLabel":fals
null,"PromotionApplied":3}}}" data
"promotionalEngine" data-ytos-ver=
  <ul class="promotionList" data
promotionsList>
```

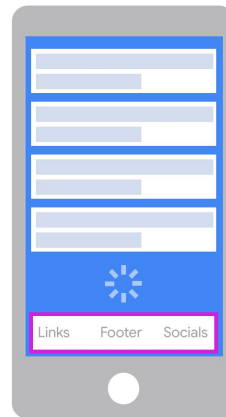


# CLS ed Infinite Scrolling

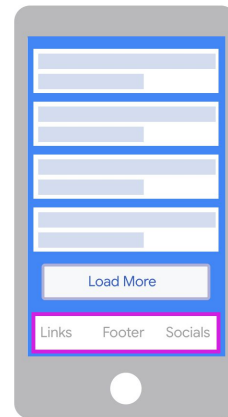
Caricamenti attraverso Infinite Scrolling o Load More Buttons possono causare un CLS score elevato.

Infinite scrolling per esempio non permette all'utente di raggiungere il footer in alcune tipologie d'utilizzo. *Si verificano in questi casi molti salti di contenuto dovuti al footer che cambia la sua posizione iniziale.*

Layout Shift  
as content  
loads



**Infinite Scroll**



**Load More**

# Altre metriche Web Vital

- Metriche ausiliarie e di supporto per investigare su problematiche legate alle metriche Core Web Vitals.
- TTFB e FCP rappresentano momenti chiave del caricamento di una pagina e forniscono spunti utili a risolvere problematiche relative alla metrica LCP.
- In maniera analoga TBT e TTI sono delle metriche sintetiche o di laboratorio che permettono di investigare meglio problematiche relative alla metrica FID.



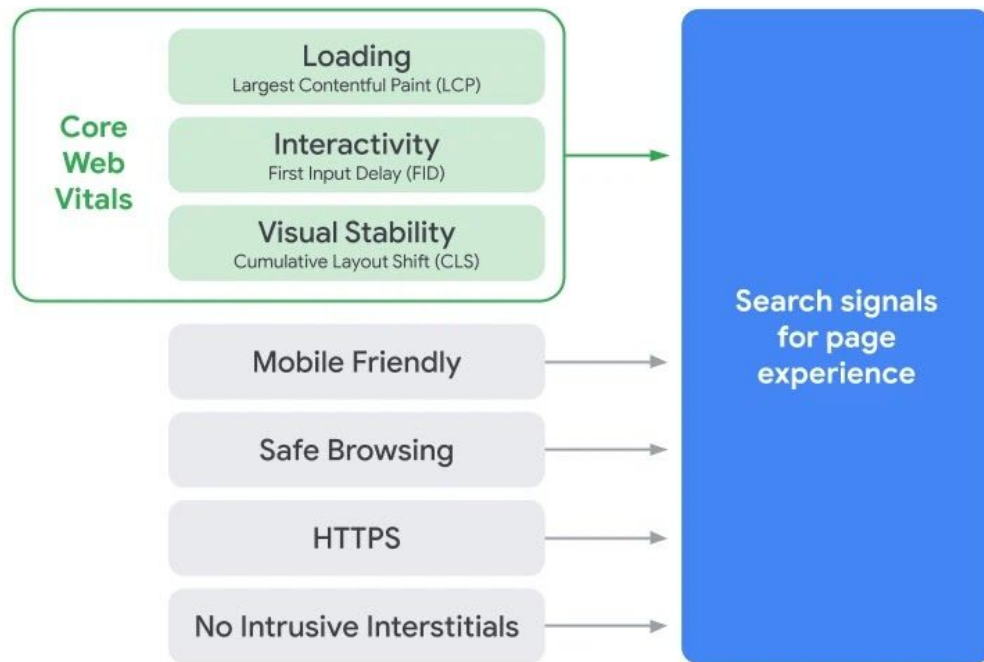
*Abbiamo analizzato milioni di visite web per comprendere meglio come queste metriche e come influenzano il comportamento utente.*

***Se un sito raggiunge queste soglie (Core Web Vitals), la probabilità che l'utente abbandoni la pagina prima che possa osservare il Primo Paint diminuisce del 24%.***

Chromium blog: [The Science Behind Web Vitals](#)

# Page experience ranking signals

- L'esperienza utente diventerà sempre più importante in Search.
- Unifica i precedenti sforzi per condividere segnali precisi con gli sviluppatori di cosa è importante ottimizzare su un sito web.









[bit.ly/page-experience](https://bit.ly/page-experience)



# Core Web Vitals Tools

# Core Web Vitals

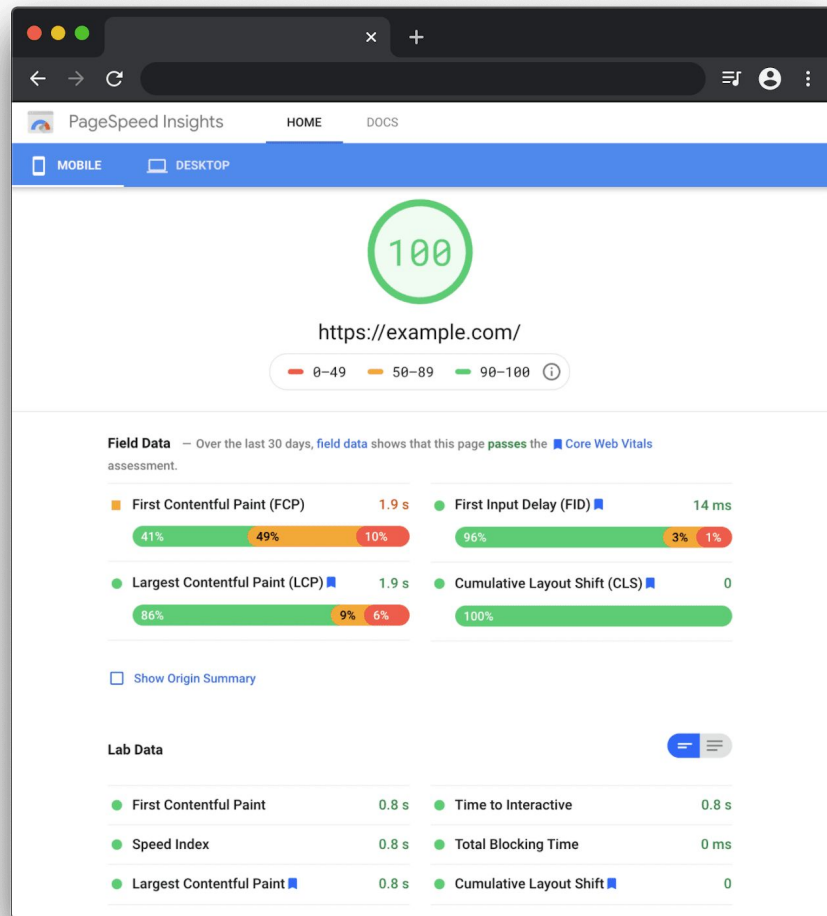
	LCP	FID	CLS
 PageSpeed Insights	✓	✓	✓
 Chrome UX Report Brand new API, BigQuery and Dashboard	✓	✓	✓
 Search Console	✓	✓	✓
 Chrome DevTools	✓	TBT	✓
 Lighthouse	✓	TBT	✓
 Web Vitals Extension	✓	✓	✓

LCP = Largest Contentful Paint, FID = First Input Delay, CLS = Cumulative Layout Shift, TBT = Total Blocking Time

Maggiori informazioni -> [web.dev/vitals-tools/](https://web.dev/vitals-tools/)

# PageSpeed Insights

- PageSpeed Insights e PSI API
- Include dati Sintetici e di traffico Reale.
- Core Web Vitals identificati con una bandiera blu.

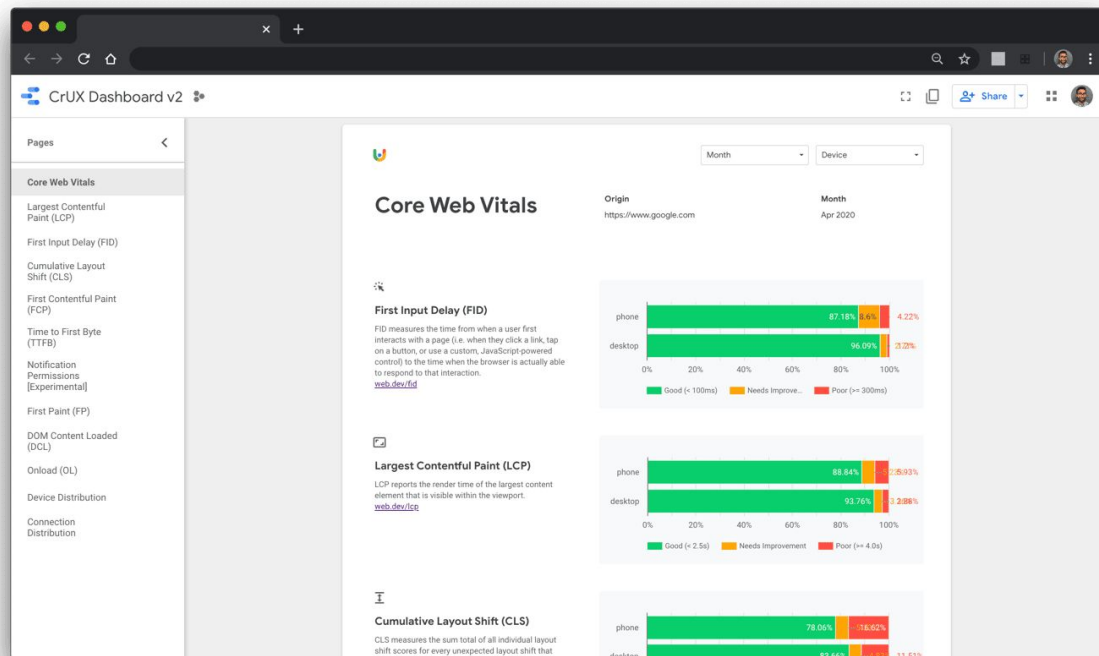


# Chrome UX Report

- Dashboard disponibile presso

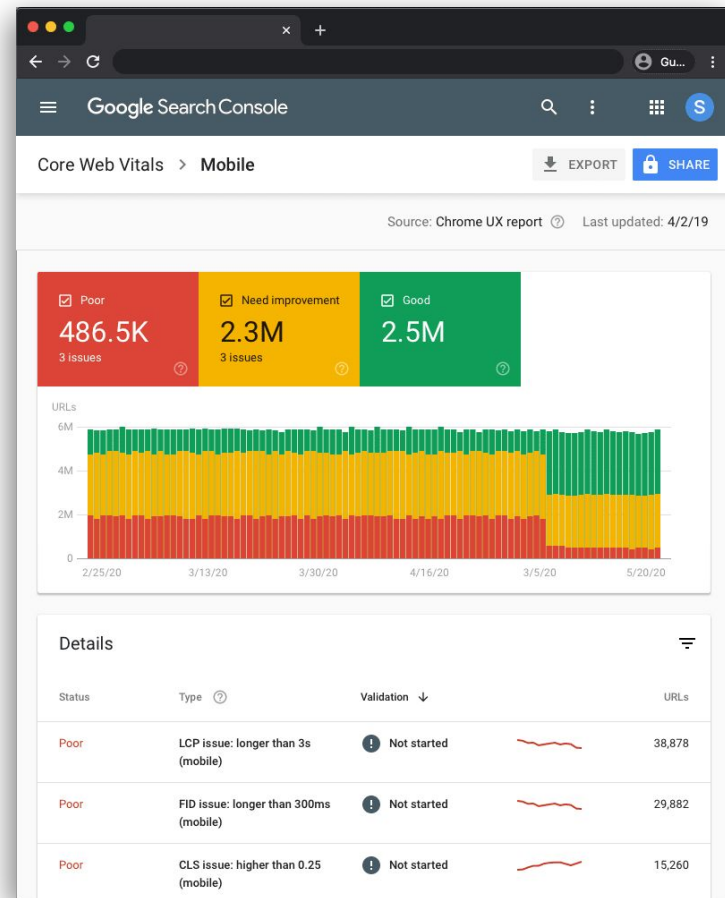
[g.co/chromeuxdash](https://g.co/chromeuxdash)

- Novita! [CrUX API](#)



# Search Console

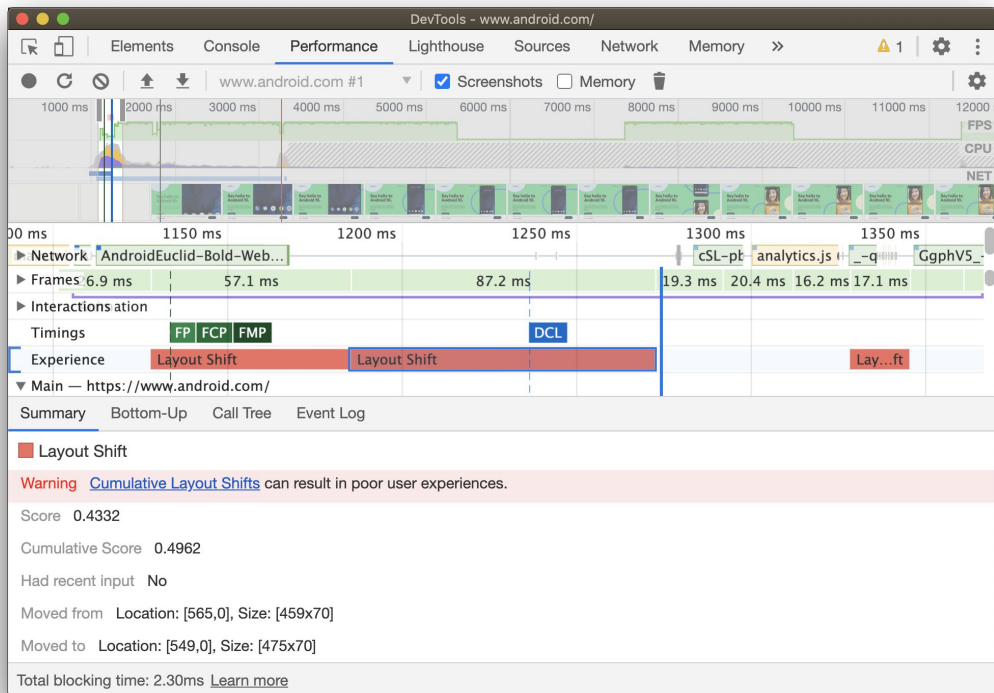
- Core Web Vitals CrUX (RUM).
- Report diviso per Device.
- URL performance raggrupata per gruppi di URL simili.



Read more at [support.google.com/webmasters/answer/9205520](https://support.google.com/webmasters/answer/9205520)

# Chrome DevTools

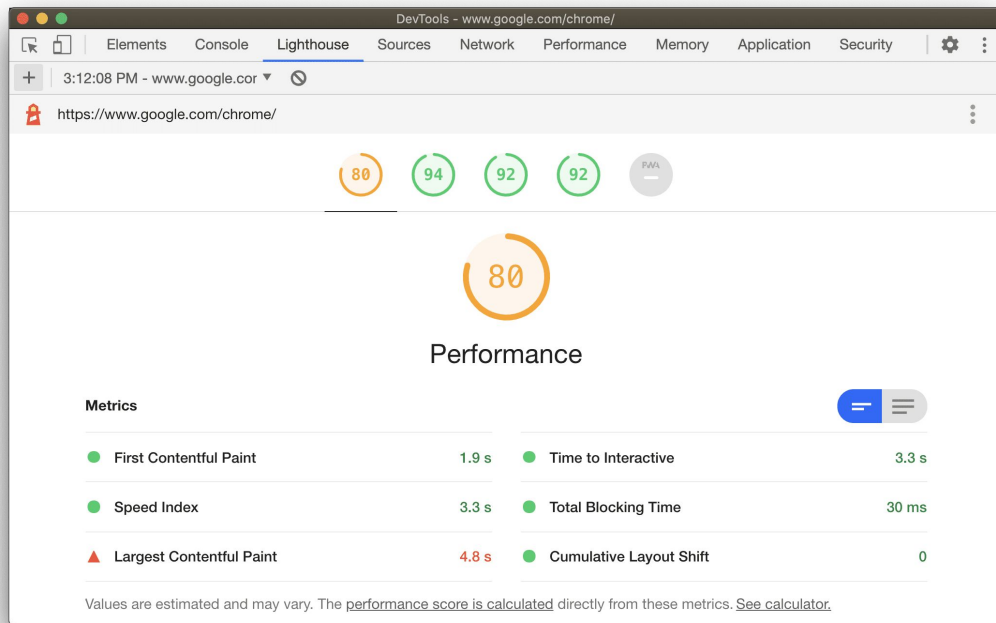
- LCP, CLS e TBT
- Novità! Sezione Experience per CLS debugging.
- Related Nodes per LCP debugging.





# Lighthouse

- V6 release
- Nuovi test, metriche e peso punteggi.
- La metrica di laboratorio TBT si correla con FID in traffico reale.



Read more at [web.dev/lighthouse-whats-new-6.0/](https://web.dev/lighthouse-whats-new-6.0/)

● **Largest Contentful Paint element** — 1 element found



This is the element that was identified as the Largest Contentful Paint. [Learn More](#)

Element

This domain is for use in illustrative examples in documents. You may use this ...

```
<p class="paragraph">
```

● **Avoid large layout shifts** — 4 elements found



These DOM elements contribute most to the CLS of the page.

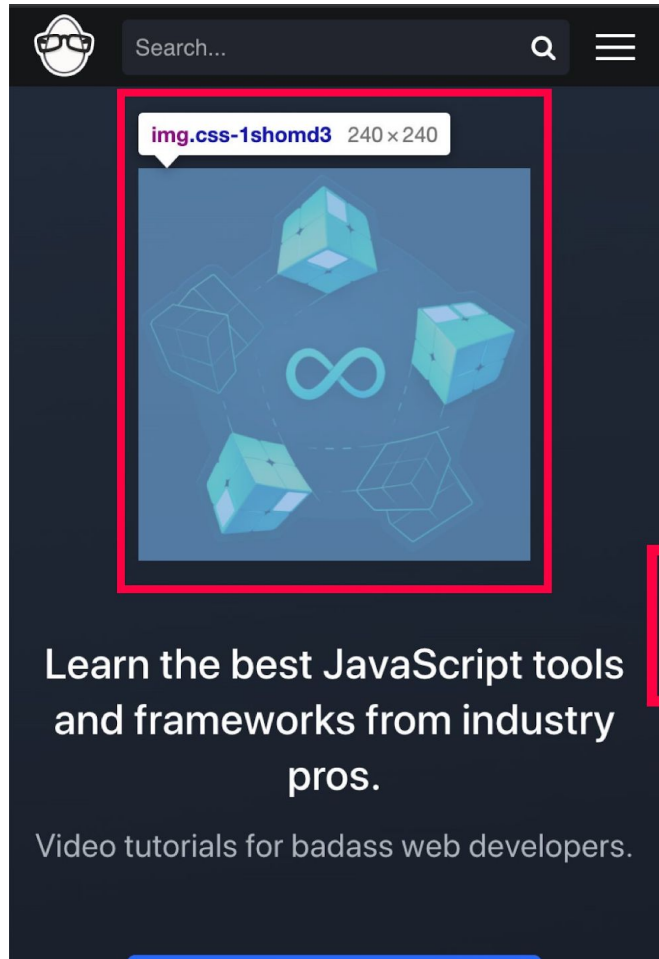
Element

Debugging Node.js with Chrome DevTools

```
<h5>
```

The canonical guide to using the Chrome DevTools UI for debugging Node.js. It d...

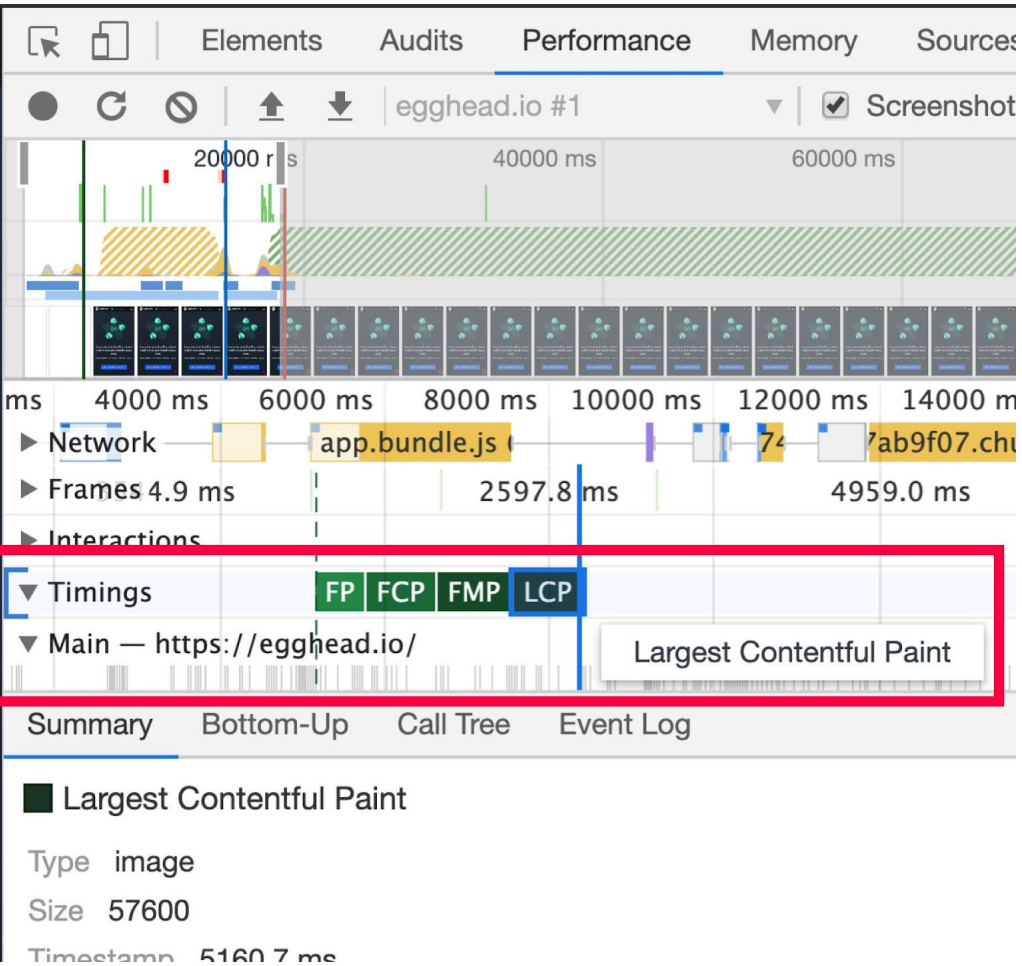
```
<p>
```



img.css-1shomd3 240 x 240

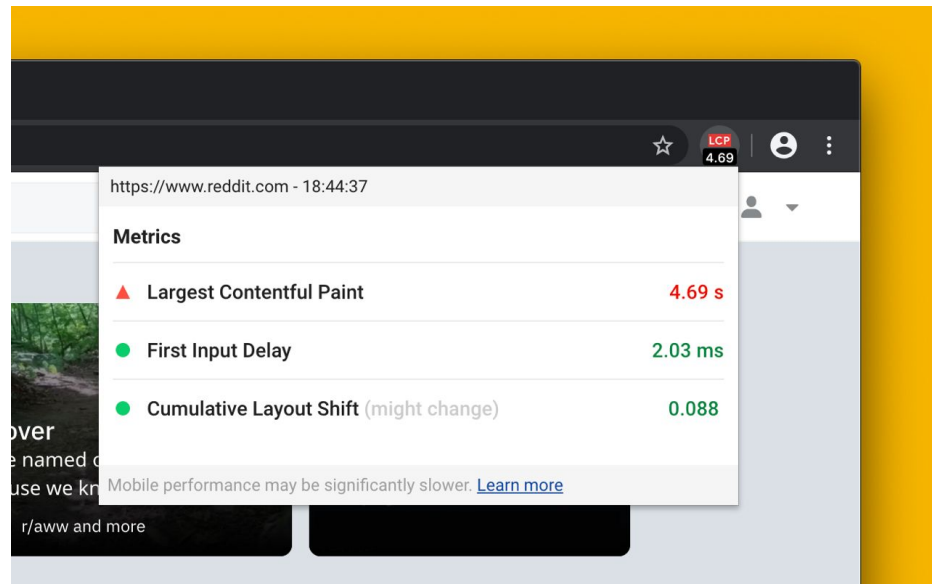
## Learn the best JavaScript tools and frameworks from industry pros.

Video tutorials for badass web developers.



# Estensione e Libreria WebVitalsJS

- Libreria JS per tracciare le performance di metriche Core Web Vitals su traffico reale attraverso il tuo analytics provider
- Estensione Chrome per test locali.



# Web Vitals

Essential metrics for a healthy site



- [web.dev/vitals](https://web.dev/vitals)
  - [web.dev/lcp](https://web.dev/lcp) e [web.dev/optimize-lcp](https://web.dev/optimize-lcp)
  - [web.dev/cls](https://web.dev/cls) e [web.dev/optimize-cls](https://web.dev/optimize-cls)
  - [web.dev/fid](https://web.dev/fid) e [web.dev/optimize-fid](https://web.dev/optimize-fid)
- [web.dev/vitals-tools](https://web.dev/vitals-tools)



Q&A



Grazie