



WAGENTO GUIDES

How to Improve Website Speed Using Google Lighthouse

One of the most important aspects of running an online business is making sure your website is functioning at its very best. Site speed and performance can affect everything from bounce rates to SEO rankings to customer loyalty, so it's key to monitor and optimize these metrics whenever possible. Google Lighthouse is one of the best free tools to help business leaders identify potential issues and improve their web performance.

What Is Google Lighthouse?

Google Lighthouse is a free, open-source software tool that can audit any webpage's SEO and accessibility features. Its main purpose is to improve website performance and track the three Core Web Vitals:

- **Largest Contentful Paint (LCP):** The length of time it takes for the largest content element to load above the fold.
- **First Input Delay (FID):** How long it takes for a page to respond after a user interacts with it.
- **Cumulative Layout Shift (CLS):** How much content moves while the page is still loading.

Google Lighthouse will audit your site according to these metrics automatically based on the average device and connection a user would have. If you want to view more customized insights, you can specify certain types of devices and connections before running the test. Once the tool is finished analyzing your site, it will give you a report of areas that need improvement.

How It Works

Since your customers may be visiting your site from around the world, using a wide range of different devices, Google Lighthouse takes this information into account. It operates differently than a simple website speed check. Instead, Google Lighthouse simulates your website's loading speed with 3G internet to account for mobile users who don't have access to 4G or 5G connections yet after running a Google Lighthouse test, your results will be shown in a 5-part report. These sections include:

- **Performance:** This section of the report will reveal content or other elements that are slowing down your page loading speeds, such as unoptimized images or dynamic content.

- **Accessibility:** This part of the report details how user-friendly and accessible your website is for users, especially for those using assistive technology.
- **Best practices:** Here, you'll be able to view web elements that don't conform to the best practices and guidelines recommended by web development experts.
- **SEO:** This tool will point out any major issues with a webpage's SEO, but it may not catch all potential elements that could be optimized. Nonetheless, it's a good place to start!
- **Progressive Web App:** If applicable, this section will highlight any issues found with your PWA, including performance or implementation problems.

How to Improve Google Lighthouse Score

- **Optimize Images:** One aspect of your website that must never be overlooked is image optimization. It is crucial to use only quality, original artwork or photos and ensure that they are all resized and compressed. Additionally, make sure to use image-related metadata, such as alt descriptions and captions.
- **Reduce Redirects:** Redirects prolong the HTTP request and response process, so eliminating unnecessary redirects will help improve your website speed and performance. You can use the [Screaming Frog](#) tool to identify all your website's redirects and where they lead to. Once you figure out which ones aren't serving a purpose, you can delete them through your site's .htaccess file.
- **Reduce Page Bloat:** Many website speed and performance can be heavily affected by plugins, third-party scripts, add-ons, and other "extras" that need to load along with the rest of any page's content. Eliminating unnecessary plugins or things that are out-of-date or unused may help your website be less sluggish and perform better.
- **Cache Pages:** Caching website pages will help to improve pages speed by storing copies of your site's files, therefore reducing the effort required for the server to generate and deliver a page to a user's browser. Caching will lower your Time to First Byte (TTFB) by utilizing less resources to load pages. There are a couple different plugins available to help with caching, such as [W3 Total Cache](#) and [WP Rocket](#).

- **Async & Defer Loading:** Utilize asynchronous and defer loading (also called lazy loading) for CSS and JavaScript files. Asynchronous loading permits multiple files to load at the same time rather than loading files in the order they appear on the page. Various plugins like WP Rocket can help you achieve this by eliminating render-blocking resources. Additionally, lazy loading will identify essential vs. non-essential code to only load and display critical elements first.

After reading this report, you should have a better understanding of how you can boost your loading speeds, how your users interact with your site, and what you can do to improve the customer experience.

More Resources

Want more help optimizing your online store? Reach out to our team at Wagento to get customized solutions tailored to your exact needs. Tell us about your business goals and get started on your project with the help of an expert developer today!

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