

# Render-Blocking Resources

## Overview

Fast page loads result in higher user engagement, more pageviews, and improved conversion.

You can improve your page load speed by inlining links and scripts that are required for first paint, and deferring those that aren't.

## Recommendations

In your report, Lighthouse lists all of the render-blocking links or scripts that it has detected. The goal is to reduce this number.

Lighthouse flags three types of render-blocking links: scripts, stylesheets, and HTML imports. How you optimize depends on what type of resource you're working with.

**Note:** When a resource is referred to as "critical" below, it means that the resource is required for first paint or is crucial to the page's core functionality.

- For critical scripts, consider inlining them in your HTML. For non-critical scripts, consider marking them with the `async` or `defer` attributes. See [Adding Interactivity with JavaScript](#) to learn more.
- For stylesheets, consider splitting up your styles into different files, organized by media query, and then adding a `media` attribute to each stylesheet link. When loading a page, the browser only blocks the first paint to retrieve the stylesheets that match the user's device. See [Render-Blocking CSS](#) to learn more.
- For non-critical HTML imports, mark them with the `async` attribute. As a general rule, `async` should be used with HTML imports as much as possible.

## More information

Lighthouse identifies three types of blocking resources.

A `<script>` tag that:

- Is in the `<head>` of the document.
- Does not have a `defer` attribute.
- Does not have an `async` attribute.

A `<link rel="stylesheet">` tag that:

- Does not have a `disabled` attribute. When this attribute is present, the browser does not download the stylesheet.
- Does not have a `media` attribute that matches the user's device.

A `<link rel="import">` tag that:

- Does not have an `async` attribute.

## Feedback

Was this page helpful?

YES

NO

Great! Thank you for the feedback.

Sorry to hear that. Please [open an issue](#) and tell us how we can improve.

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