JavaScript Bootup Time Is Too High

Overview

This audit measures the total impact of JavaScript on your page's load performance. JavaScript can slow down your page in many ways:

- Network cost. More bytes equals longer download times.
- Parse and compile cost. JavaScript gets parsed and compiled on the main thread. When the main thread is busy, the page can't respond to user input.
- Execution cost. JavaScript is also executed on the main thread. If your page runs a lot of code before it's really needed, that also delays your Time To Interactive, which is one of the key metrics related to how users perceive your page speed.
- Memory cost. If your JavaScript holds on to a lot of references, it can potentially consume a lot of memory. Pages appear janky or slow when they consume a lot of memory. Memory leaks can cause your page to freeze up completely.

See JavaScript Start-Up Optimization by Addy Osmani for more data.

Recommendations

> **Transmission size is critical for low-end networks. Parse time is important for CPU-bound devices. Keeping these low matters.** — *JavaScript Start-Up Optimization*

- Only send the code that your users need.
- Minify your code.
- Compress your code.
- Remove unused code.
- Cache your code to reduce network trips.

See JavaScript Start-Up Optimization by Addy Osmani for more guidance.

More information

Audit source

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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