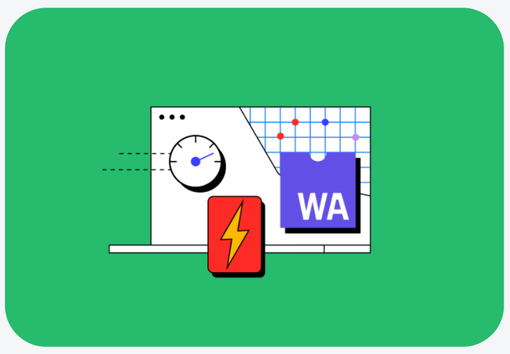
WebAssembly

Enable high-performance applications on web pages.



Overview

WebAssembly (sometimes abbreviated Wasm) defines a portable binary-code format and a corresponding text format for executable programs and software interfaces for facilitating interactions between such programs and their host environment.

The main goal of WebAssembly is to enable high-performance applications on web pages, *"but it does not make any Web-specific assumptions or provide Web-specific features, so it can be employed in other environments as well"*, according to the spec.

It is an open standard and aims to support any language on any operating system, and in practice all of the most popular languages already have at least some level of support.

Introduction

What is WebAssembly and where did it come from?

Compiling mkbitmap to WebAssembly

Coding with WebAssembly

Using WebAssembly threads from C, C++, and Rust

WebAssembly feature detection

Loading WebAssembly modules efficiently

Using asynchronous web APIs from WebAssembly

WebAssembly Garbage Collection (WasmGC)

WebAssembly in practice

WebAssembly performance patterns for web apps

Compiling to and optimizing Wasm with Binaryen

New functionality for developers —brought to you by WebAssembly

SQLite Wasm in the browser backed by the Origin Private File System

Replacing a hot path in your app's JavaScript with WebAssembly

Emscripting a C library to Wasm

Extending the browser with WebAssembly

Emscripten

Drawing to canvas in Emscripten

Emscripten's embind

Embedding JavaScript snippets in C++ with Emscripten

Emscripten and npm

WebAssembly debugging

Debugging WebAssembly with modern tools

Debugging WebAssembly faster

WebAssembly memory inspection

Debugging memory leaks in WebAssembly using Emscripten

WebAssembly case studies

Build in-browser WordPress experiences with WordPress Playground and WebAssembly

Porting USB applications to the web. Part 1: libusb

Porting USB applications to the web. Part 2: gPhoto2

How we're bringing Google Earth to the web

Podcast 🎧

WasmAssembly: Your monthly podcast to geek out about all things WebAssembly