

A WASM Primer for the Java Architect



2026

What is WebAssembly

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

<https://en.wikipedia.org/wiki/WebAssembly>

WASM for the Web



- **Speed** for CPU-heavy tasks
- **Secure** execution through sandboxing
- **Standard** as part of the W3C

WASM on the Server Side



- **Standard** as part of the W3C
- **Secure** enables running untrusted code
- **Polyglot** supports many programming languages
- **Embeddable** in many host runtimes

Embeddable with JNI

- **Distribution** : Makes your app platform-specific
- **Runtime** : Execution leaves safety and observability of the JVM

with WASM

- Guaranteed Memory Safety
- Fault Isolation
- Self-contained

WASM Users



WASM for You

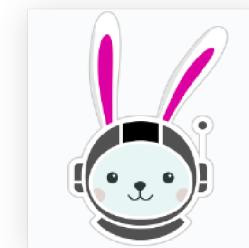
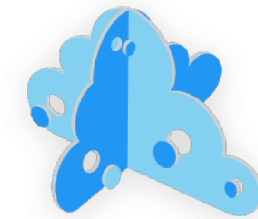
- Application Extensions/Plugin
- Dynamic Loading
- Untrusted code execution

Chicory



- Interpreter
- Compiler (runtime/build-time)

Chicory Users



Pre-built Libraries

- Open Policy Agent
- SQLite4j
- QuickJs4J
- Protobuf4j
- Proxy-Wasm
- ...

chicory.dev



