

# SecWasm: Information Flow Control for WebAssembly

## Abstract

In this talk I will present SecWasm, a fully-fledged information flow control system for WebAssembly.

WebAssembly (Wasm) is a young, low-level language, initially designed for high-performance web applications, but used now in other domains such as the IoT and smart contracts. Current Wasm security guarantees include a memory-safe sandboxed execution environment, a memory free of out-of-bounds accesses, and control flow integrity. However, Wasm fails to ensure a secure flow of information through its applications, and we design SecWasm to fill in this gap. SecWasm is a hybrid system which enforces termination-insensitive noninterference and which overcomes the challenges posed by the uncommon characteristics for machine languages of Wasm in an elegant and thorough way.

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