WebAssembly is Cool!*

*finally!

QCon SAN FRANCISCO by InfoQ

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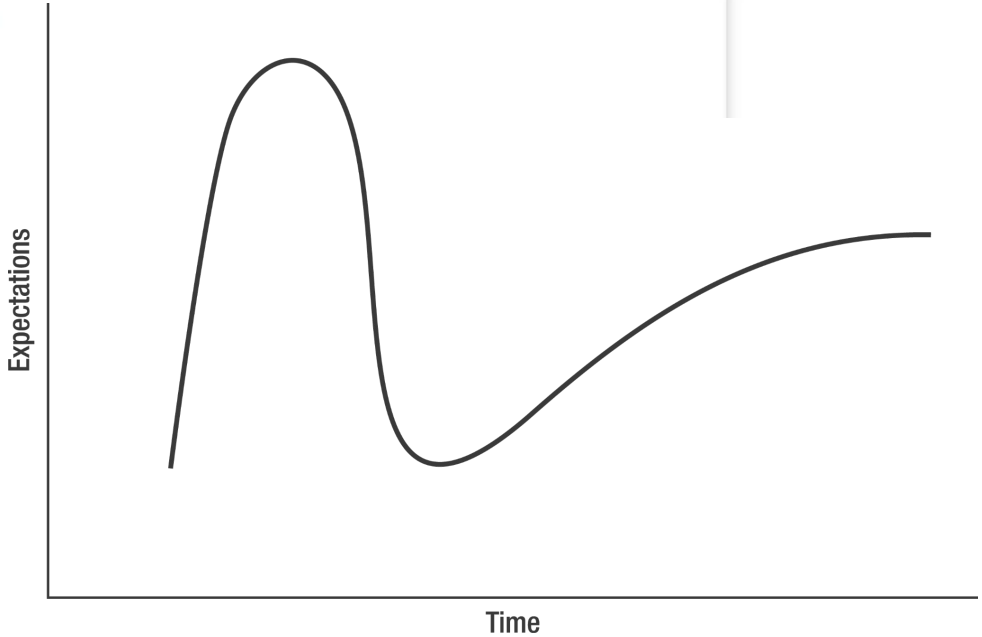
Google

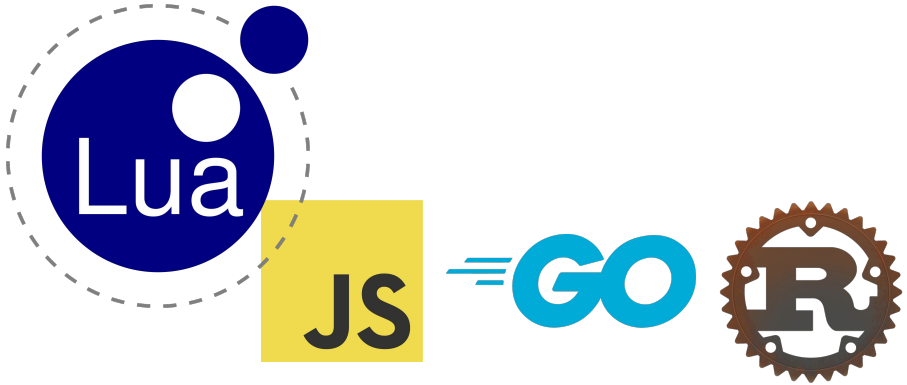
is webasse

is webassembly the future

is webassembly dead



And Then There's This Talk



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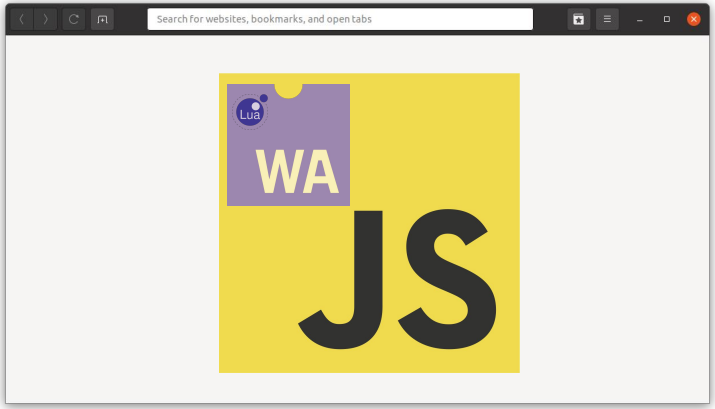
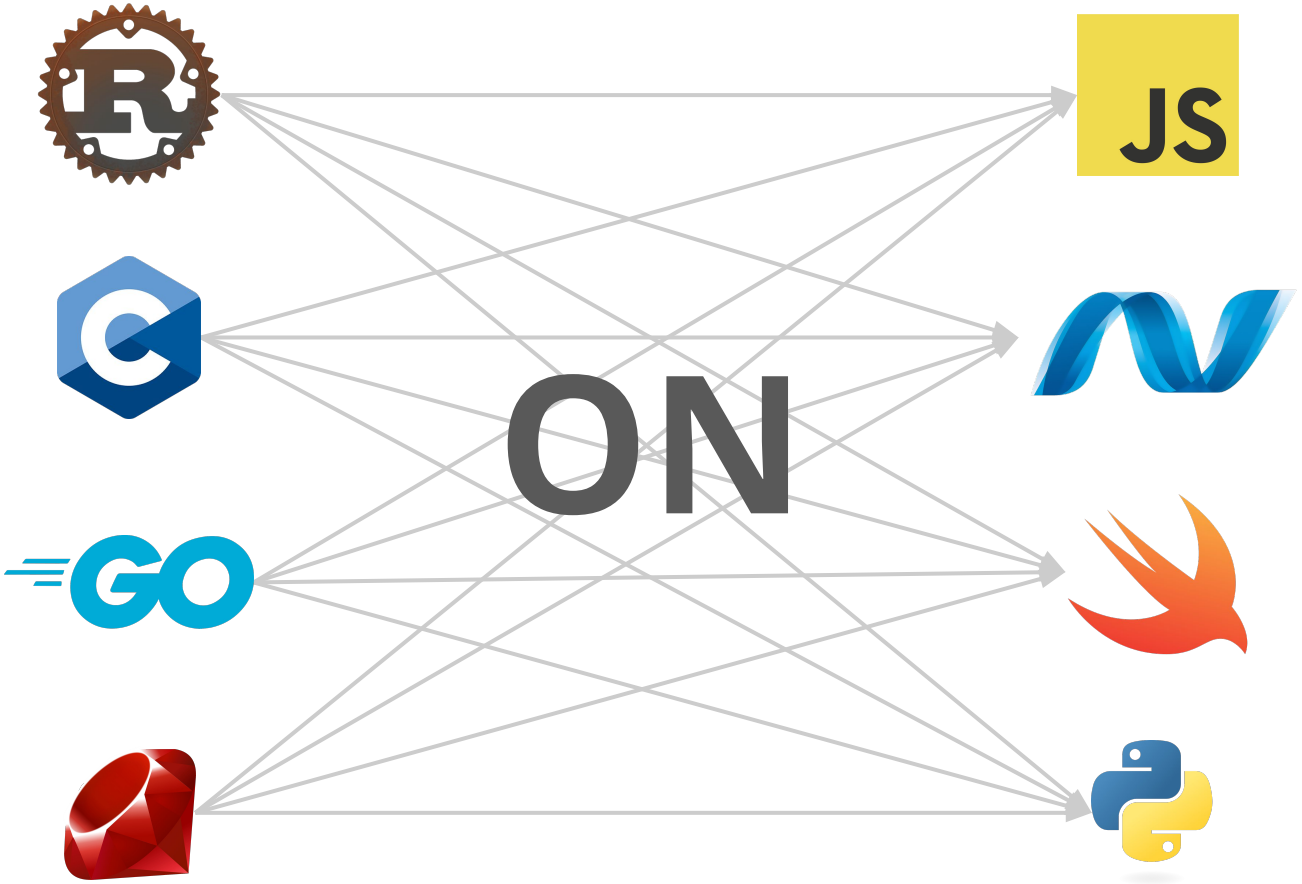


WHY?!

A New Primitive


ON
JS
GO

What the Host Sees

main.go

```go
package main

import "github.com/extism/go-pdk"
import "github.com/Shopify/go-lua"

//export execLua
func execLua() int32 {
  input := pdk.Input()
  output := ""

  l := lua.NewState()
  lua.OpenLibraries(l)

  lua.DoString(l, "function sandbox() " + input + " end")
  l.Global("sandbox")
```

index.ts

JS

```ts
import {load} from 'fengari-web';

export function execLua() {
  const code = Host.inputString();
  const chunkId = `chunk${
    Math.random().toString(36).substring(7)
    }${Date.now()}`;
  const result = load(code, chunkId)();
  Host.outputString(result);
}
```

lib.rs

```rust
use extism_pdk::*;
use mlua::*;

#[plugin_fn]
pub fn execLua(code: String) -> FnResult<String> {
    let lua = Lua::new();
    let result = lua.load(code).eval::<String>()?,
    Ok(result.unwrap().to_string())
}
```

build.sh

```
# Build Go
tinygo build -o plugin.wasm -target wasi main.go

# Build JavaScript
pnpm build

# Build Rust
cargo build --target wasm32-unknown-unknown
```

Building the wasm

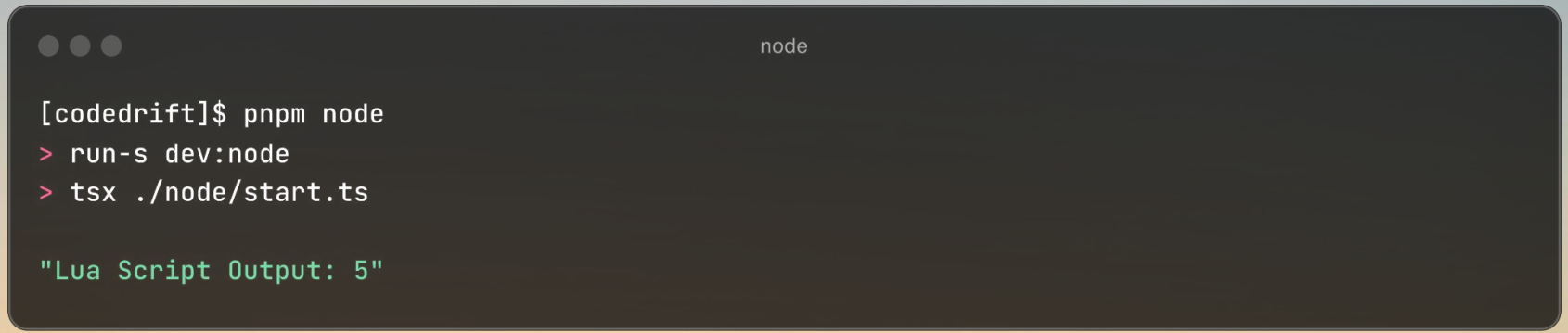
lua.ts


```ts
import { createPlugin } from "@extism/extism";
import { base64ToUint8Array } from "uint8array-extras";

export const createEngine = async (source: string | Uint8Array) => {
  const plugin = await createPlugin(
    {
      wasm: [
        {
          data: typeof source === "string" ? base64ToUint8Array(source) : source,
        },
      ],
    },
    { useWasi: true },
  );

  const run = async (code: string) => {
    const output = await plugin.call("execLua", code);
    return output?.text();
  };

  return run;
};
```


node
[codedrift]$ pnpm node
> run-s dev:node
> tsx ./node/start.ts
"Lua Script Output: 5"

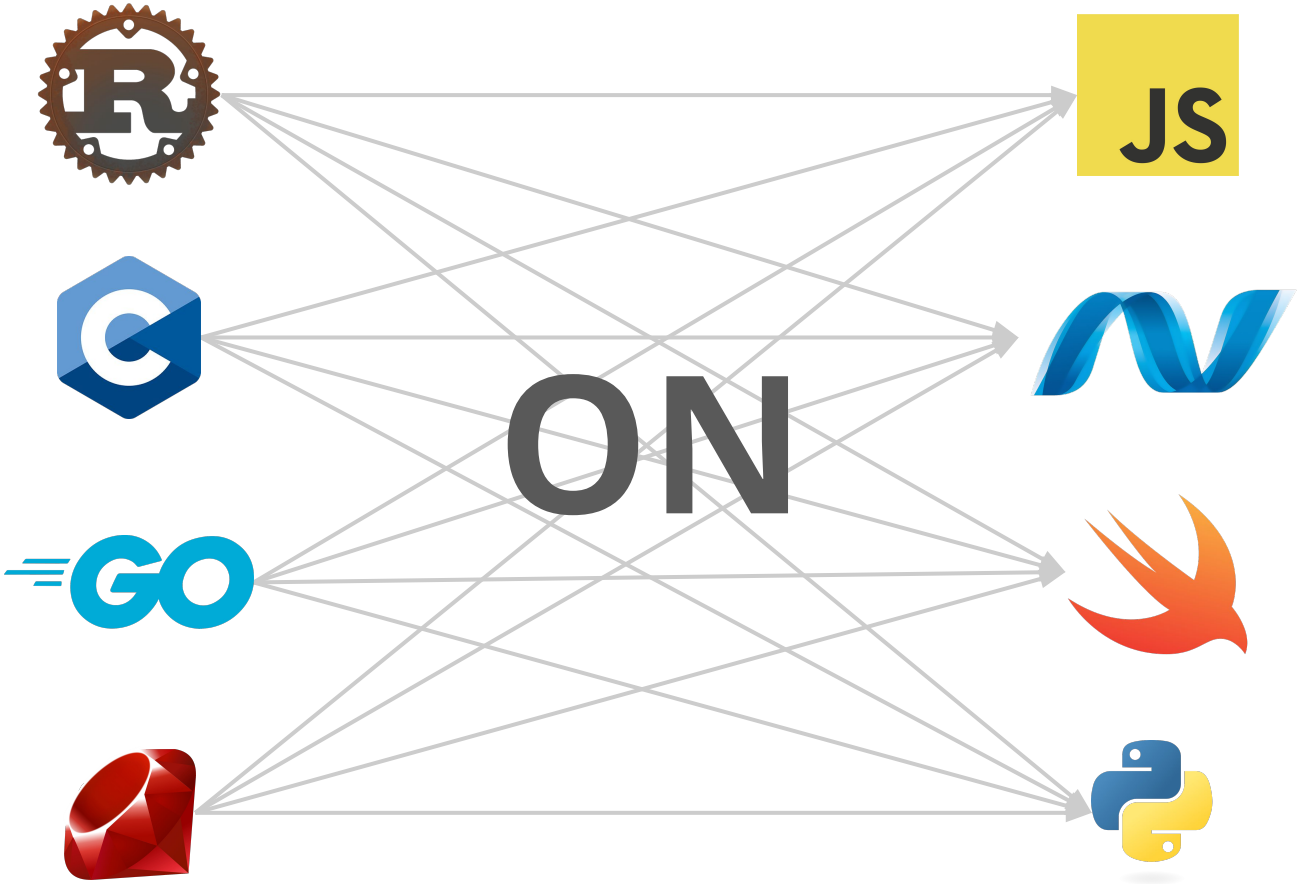
Lua (wasm) In the Browser

```
function add(a, b)
  return a + b
end

return add(2, 3)
```

run

Lua Script Output: 5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