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GO-ING SERVERLESS WITH WEBASSEMBLY

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AGENDA

- WebAssembly Intro

- The Tour Of Spin

- Building Serverless Apps with TinyGo

- Running Serverless Apps

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WebAssembly Intro
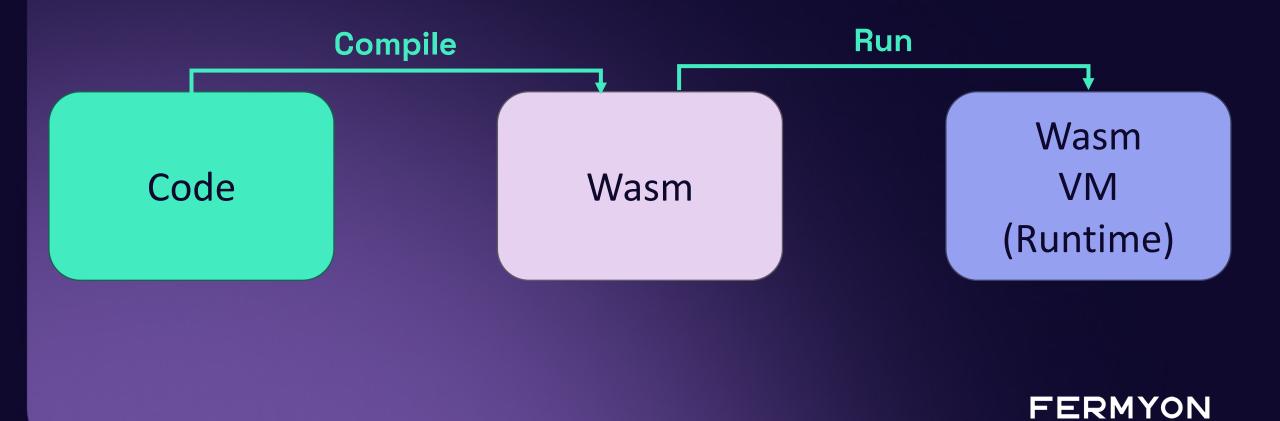
What / Why / How

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WebAssembly Intro

- **Wasm** is just another name for WebAssembly

- Specification of a binary instruction format, executed in a stack based virtual machine

- Wide language support (still emerging)

- Initially invented for the browser

- Designed as a portable compilation target

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WebAssembly Intro

Compile

Run

Code

Wasm

Wasm
VM
(Runtime)

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WebAssembly Intro

- **Small**: Wasm Apps `(.wasm)` are tiny (especially when compared to things like containers)

- **Secure**: Every application is executed in a strict sandbox, and we must explicitly grant permissions to allow apps using resources

- **Fast**: Apps run with near-native performance

- **Portable**: Wasm Apps are compiled once and can run on any platform / operating system

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The Tour Of Spin

Streamlined DX For Building Serverless WebAssembly Apps

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The Tour of Spin

- Open-Source Project https://github.com/fermyon/spin

- The Three Pillars of Spin

    - Top Notch Developer Tooling (The spin CLI)

    - Lightweight language specific SDKs to drive developer productivity

    - Runtime for running Spin Apps locally

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DEMO

Let's get started with Spin and TinyGo

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Building Serverless Apps With TinyGo

Hands-On

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Hands-On Spin & TinyGo

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Running Serverless Apps

Cloud | Kubernetes

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Running Serverless Apps

- **Fermyon Cloud**: A fully managed, NoOps Cloud you can use to run your apps (https://cloud.fermyon.com)

- **SpinKube**: An open-source stack which allows you to run your Spin Apps next to your containers on Kubernetes (https://spinkube.dev)

- **Fermyon Platform for Kubernetes**: A High-Density Platform for running Serverless workloads on Kubernetes

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Key Takeaways

- WebAssembly changes the way we build distributed apps

- Apps are fast, secure and portable by default

- Fermyon Cloud, SpinKube and Fermyon Platform for Kubernetes allow us to run WebAssembly workloads in different contexts

- We can use languages / libs that we know and love

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Thank you!

github.com/ThorstenHans/conf42-golang-samples

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