



FaaS 101

Deploy your first FaaS app using openFaas



\$ *whoami*

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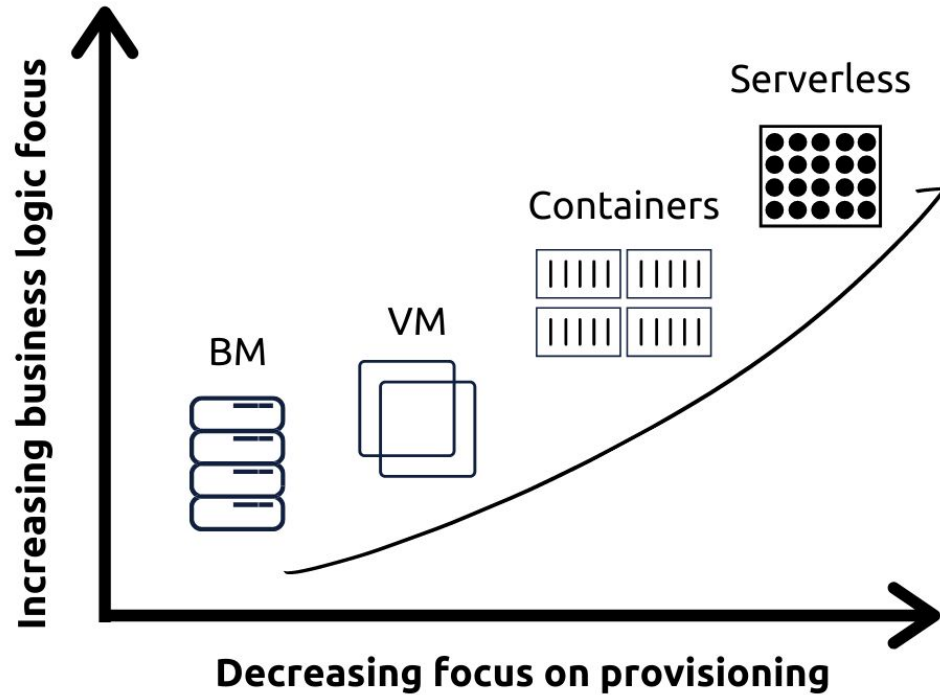
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Cloud computing

Cloud computing is the **on-demand** availability of computer system **resources**, especially data **storage** and **computing power**, without direct active management by the **user**.

Evolution





serverless

With a serverless solution, users can write individual **functions** or **services** and deploy them directly in a platform—without the need for any **infrastructure** or **software configuration**



FaaS

FaaS (Function-as-a-Service) is a type of **cloud-computing** service that allows you to **execute** code in response to **events** without the complex infrastructure (serverless).

Pros & Cons

- Faster time to market
- Pay-as-you-go
- auto-scaling
- Polyglot

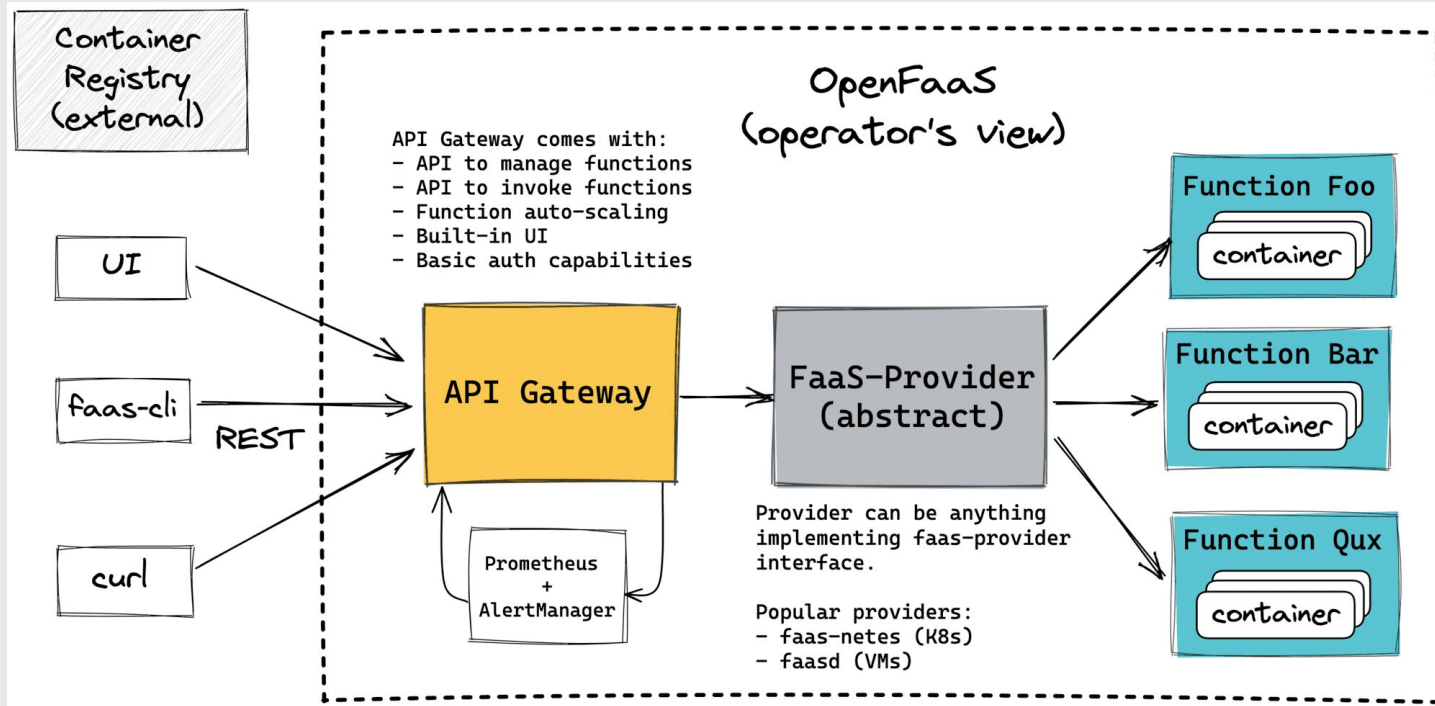
- Coldstart
- Debugging
- Code base organization



OpenFaaS

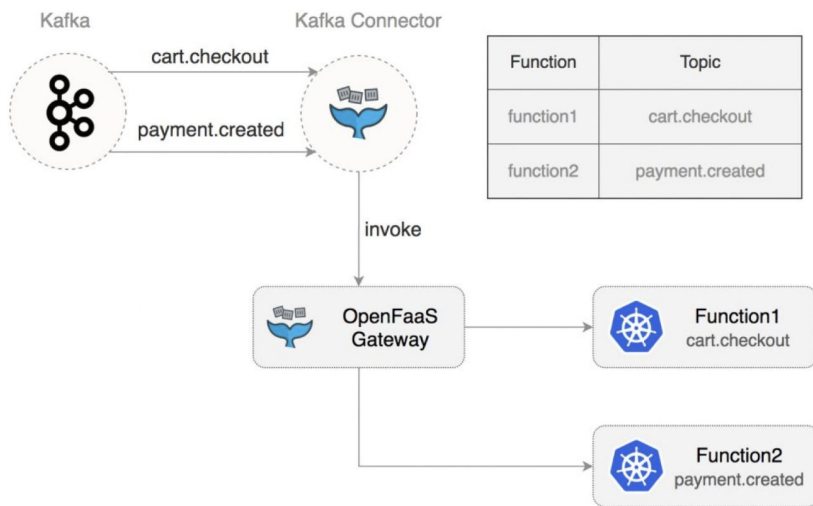
Is project aims to take a piece of **lower-level infra** like a **k8s** cluster or a standalone **VM** and turn it into a **higher-level platform** to manage serverless **functions**.

Architecture



Need more event ?

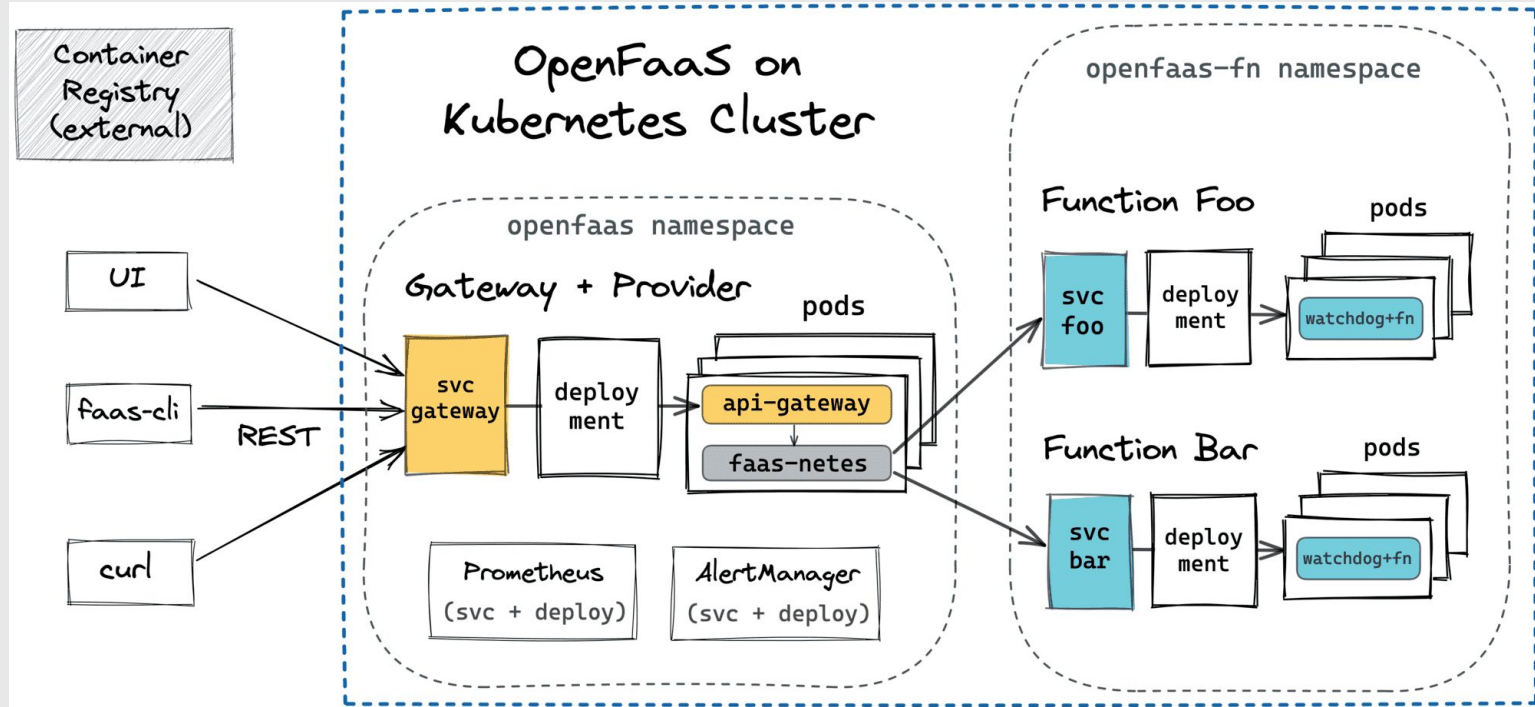
Event connector-pattern



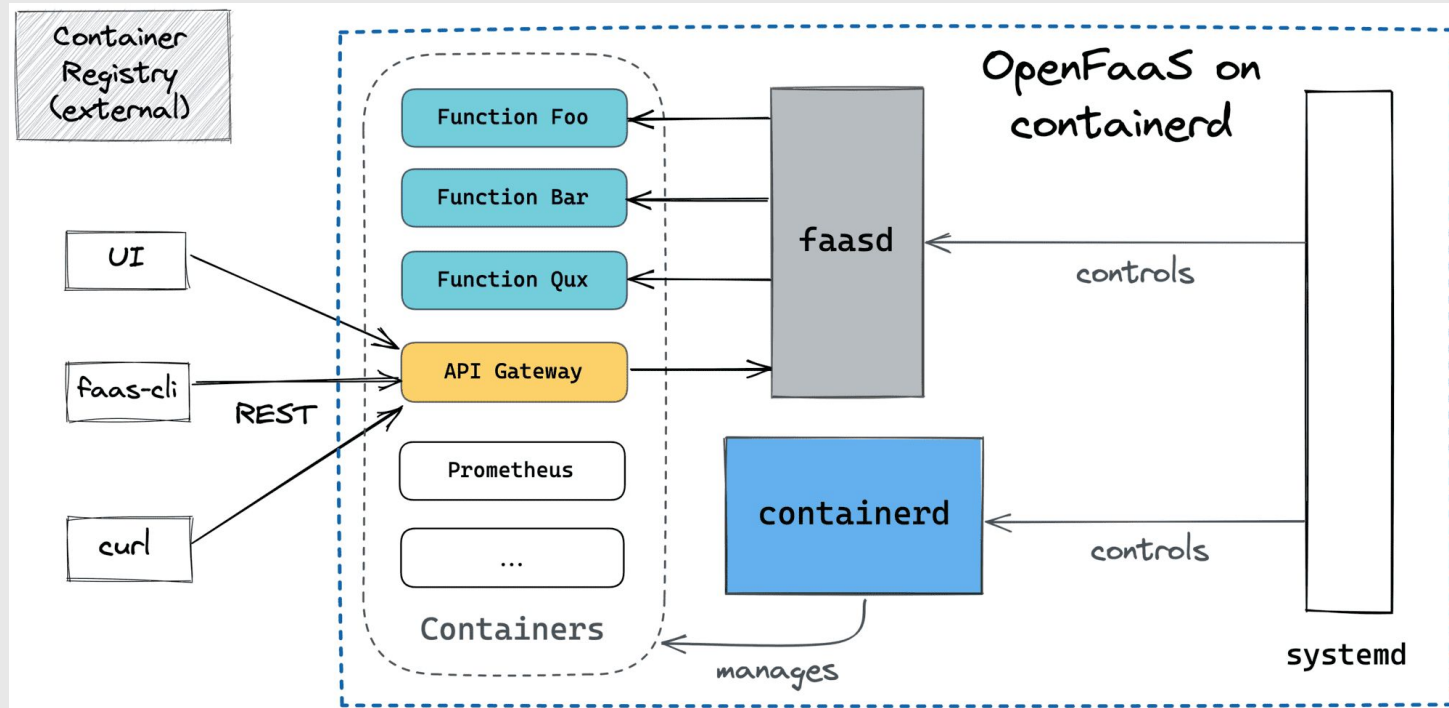
- HTTP
- Kafka
- Redis
- MQTT
- Cron
- AWS SQS
- CloudEvents
- NATS
- ...



faas-netes



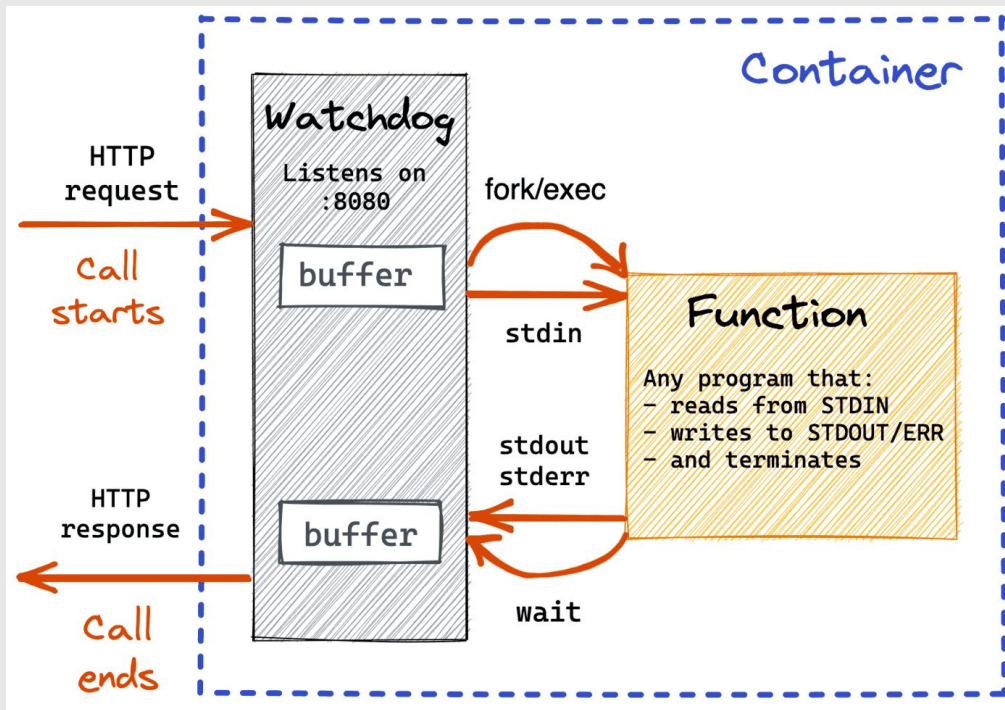
faasd



Function

- OpenFaaS functions are run in **containers**
- every container must conform:
 - it must act as an HTTP server (listening to port 8080)
 - Ephemeral
 - Stateless
- OpenFaaS offer a watchdog function (lightweight HTTP server with the knowledge on how to execute your function)

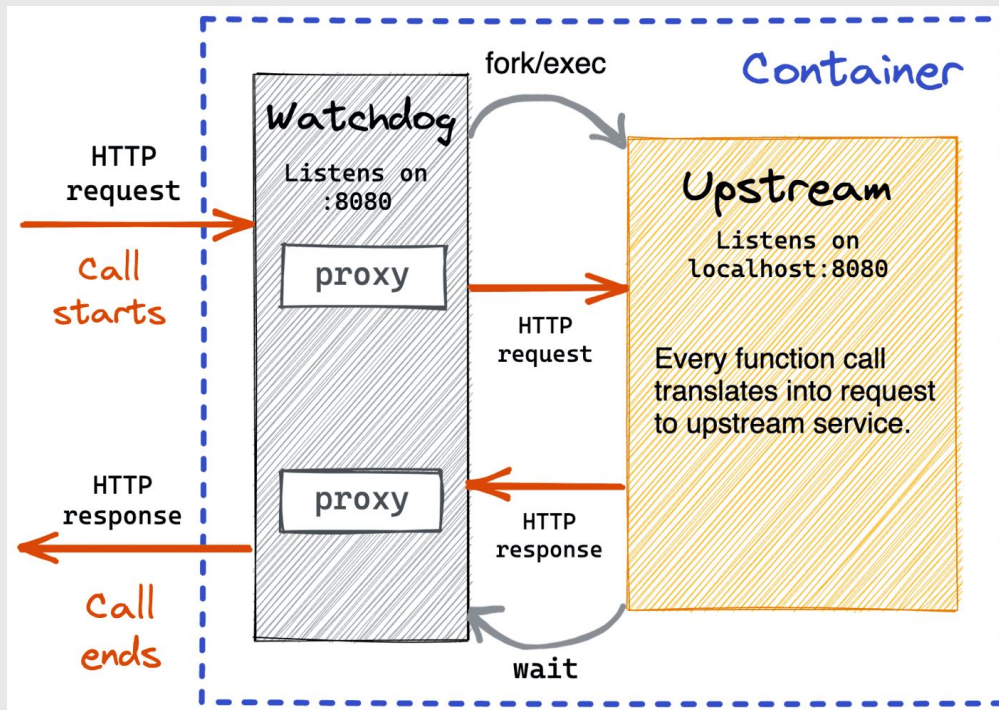
Watchdog pattern



Classic Mode

- Container starts when function is deployed or scaled up.
- Container's main process is watchdog.
- On every function call, watchdog receives HTTP request.
- On every HTTP request, watchdog spawns new subprocess.
- Watchdog relays input/output.
- One container can serve many (potentially concurrent) calls.

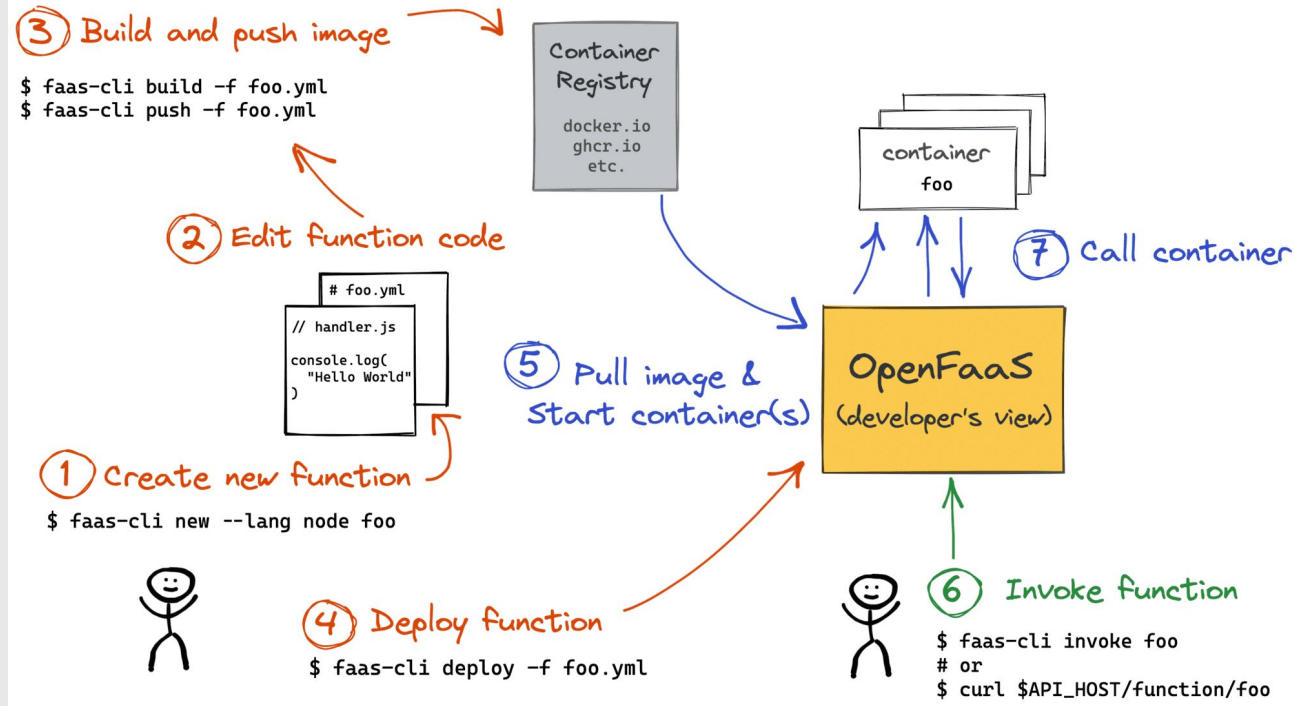
Watchdog pattern



Reverse Proxy Mode

- Container starts when function is deployed or scaled up.
- Container's main process is watchdog.
- Watchdog starts long-running process with upstream service.
- On every function call, watchdog receives HTTP request.
- Watchdog acts as HTTP reverse proxy.
- Upstream can serve many (potentially concurrent) calls.

Demo





Thanks!

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