

Introduction to Serverless PHP

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Deployment options

1. Physical servers
2. Virtual machines
3. Containers

Container deployments

1. Platform (e.g. Kubernetes)
2. Application (e.g. Cloud Foundry)
3. Serverless (e.g. OpenWhisk)

Serverless?

The first thing to know about serverless computing is that "serverless" is a pretty bad name to call it.

- Brandon Butler, Network World



AKA: Functions as a Service

- A runtime to execute your functions
- No capacity planning or load balancing; just tasks being executed.
- Pay for execution, not when idle

Use-cases

Synchronous

Service is invoked and provides immediate response
(HTTP requests: APIs, chat bots)

Asynchronous

Push a message which drives an action later
(web hooks, timed events, database changes)

Streaming

Continuous data flow to be processed






Benefits






- No need to think about servers
- Concentrate on application code
- Pay only for what you use, when you use it
- Language agnostic: NodeJS, Swift, Python, Java, C#, etc






Challenges

- Start up latency
- Time limit
- State is external
- DevOps is still a thing

It's about value

**Beau** @BeauVrolyk · 30m
Replying to @akrabat @kelseyhightower
1) "Serverless" is a point on the path to true app isolation. Apps want to just run, their authors don't care about infrastructure at all.
  1   2

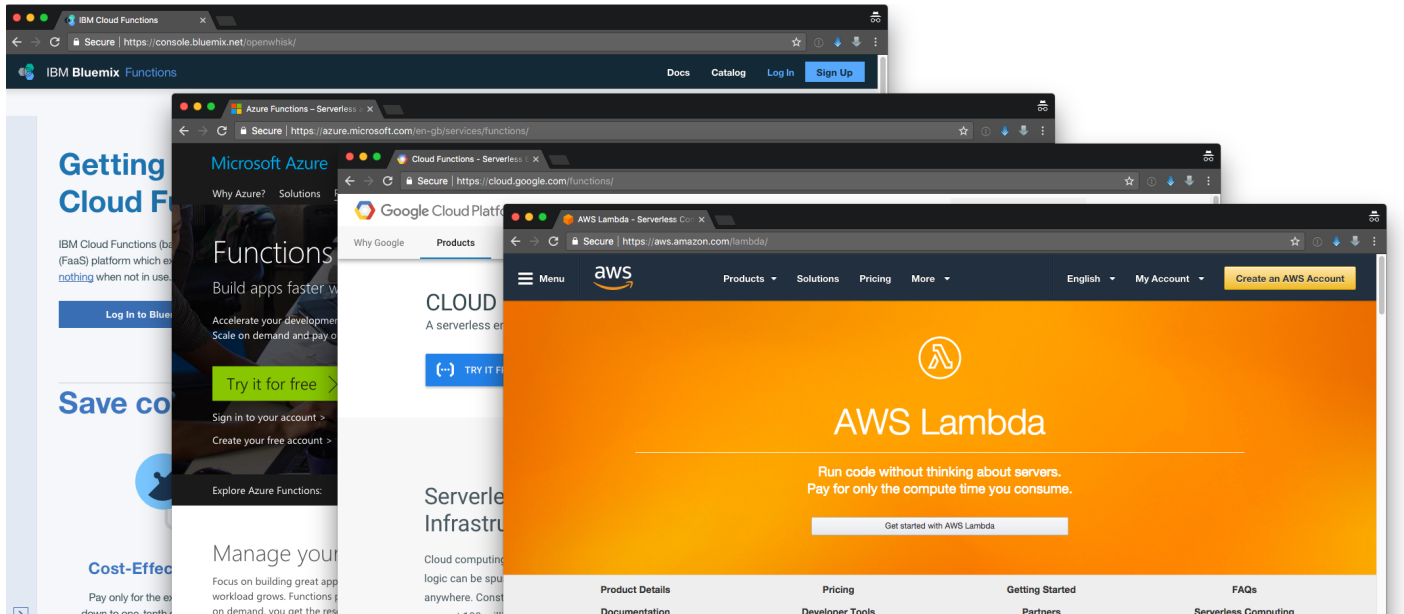
**Beau** @BeauVrolyk · 29m
Replying to @akrabat @kelseyhightower
2) The App author should not need to know, anymore than a Journalist knows about printing presses or what the voltage of the power used.
 1  1   2

**Beau** @BeauVrolyk · 25m
Replying to @akrabat @kelseyhightower
3) We are relearning what was known in the time-share days. Pricing needs to be based on something customers value, not infra. items like VMs
   

When should you use serverless?

- Occasional server needs on a static site
- Variable traffic levels
- Additional compute without extending current platform
- Responding to web hooks

Serverless providers



OpenWhisk

OpenWhisk

OpenSource; multiple providers:

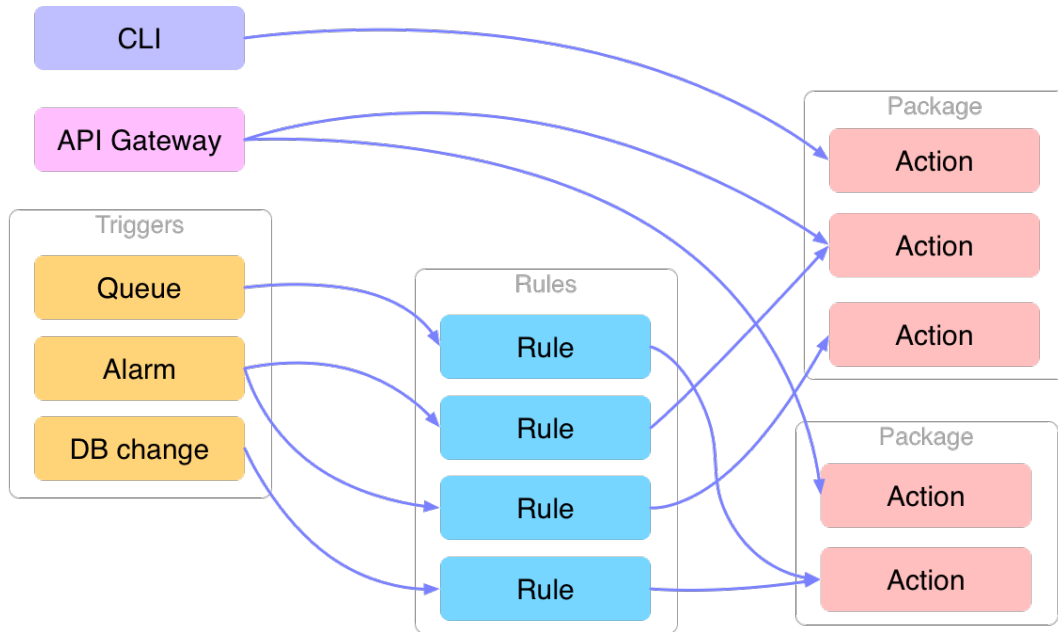
- IBM

- RedHat

- Adobe (for Adobe Cloud Platform APIs)

&, of course, self-hosted

Invoking an action



Serverless PHP

Hello world in PHP

Entry point

Event parameters

```
1 <?php
2 function main(array $args) : array
3 {
4     $name = $args["name"] ?? "World";
5
6     return [ "msg" => "Hello $name" ];
7 }
```

Service result

Hello world in PHP

```
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2 function main(array $args) : array
3 {
4     $name = $args["name"] ?? "World";
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6     return [ "msg" => "Hello $name" ];
7 }
```

Entry point

Event parameters

Service result

Running your action

```
$ wsk action update hello hello.php
```

```
ok: updated action hello
```

```
$ wsk action invoke hello --result
```

```
{
```

```
  "msg": "Hello World"
```

```
}
```

Dependencies

Zip them up

```
$ zip -r hello.zip hello.php vendor
```

```
$ wsk action update hello hello.zip --kind php:7.1
```

Web access

Add the `--web` flag:

```
$ wsk action update hello hello.php --web true
$ curl https://openwhisk.ng.bluemix.net/api/v1/web/ \
    19FT_demo/default/hello.json
```

What to do in your action

- Compute!
- Store to database
- Make API calls to other services
- Store to cloud storage (S3)
- Trigger other actions

Demo time!

To sum up

Resources

- <http://www.openwhisk.org>
- <https://medium.com/openwhisk>
- <https://github.com/akrabat/ow-php-ftime>
- <https://www.martinfowler.com/articles/serverless.html>

Thank you!