

# AWS Lambda using Serverless Framework

- Goran Kopevski -



Global Savings Group



# Agenda

- What is Serverless, Lambda, Serverless framework?
- Development tools
- Demo
- Pros/Cons

# What is Serverless concept?

Extensive use of third party services to accomplish tasks that are traditionally taken care of by servers

*LESS PEOPLE means LOWER  
DEVELOPMENT COST*



# What is $\lambda$ ?

(Product, Provider) =>

`Event-driven, serverless computing platform provided by  
\${Product} as a part of the \${Provider}`

Input: (Amazon, AWS), (Microsoft, Azure), (IBM, OpenWhisk)

- Run code without provisioning or managing servers

# What is $\lambda$ ?

As a ninja I only need to care about one thing:  
**Write functions.** They can be NodeJS, Java or Python...

... and lose your shit while searching for the bug in the big cloud



# What is *SERVER*⚡*LESS*

- Allows you to deploy auto-scaling, pay-per-execution, event-driven functions to any cloud.
- Currently supports *AWS*, *Apache OpenWhisk*, *Microsoft Azure*



*It helps you even more to cut down  
the boilerplate and ugly  
configuration that the cloud systems  
are forcing you to learn or click!*

*And yes, easy deployment!*

# What is happening under the hood?

`(Serverless code) => cloudformation code;`

- Reusable infrastructure definitions for other platforms
- Write less to achieve more

# What is happening under the hood?

```
1  service: myService
2
3  provider:
4    name: aws
5    runtime: nodejs4.3
6
7
8  functions:
9    hello:
10     handler: handler.hello
11
```

```
1  {
2    "AWSTemplateFormatVersion": "2010-09-09",
3    "Description": "The AWS CloudFormation template for this Serverless application",
4    "Resources": {
5      "ServerlessDeploymentBucket": {
6        "Type": "AWS::S3::Bucket"
7      }
8    },
9    "Outputs": {
10     "ServerlessDeploymentBucketName": {
11       "Value": {
12         "Ref": "ServerlessDeploymentBucket"
13       }
14     }
15   }
16 }
```



# What is Serverless framework offering?

- Services
- Functions
- IAM
- Events
  - SNS, SQS
- Working with resources
- Working with other AWS services

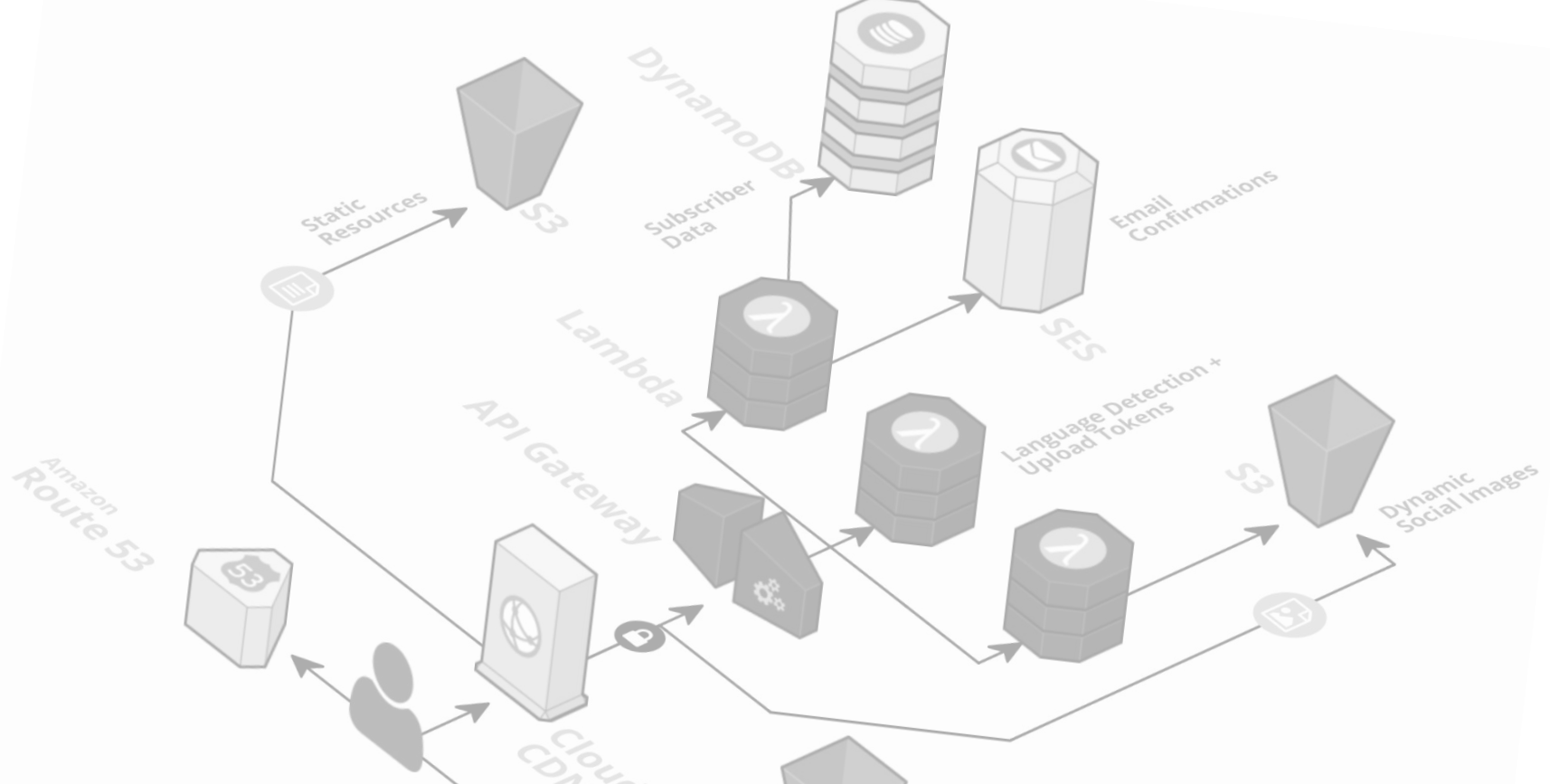
# Development tools

It is easy:

- We need env variables for:
  - `AWS_SECRET_ACCESS_KEY`
  - `AWS_ACCESS_KEY_ID`
- Node and node package for serverless (sls)

We are ready for development

```
> sls create --template aws-nodejs --path myService
> sls deploy
```



**DEMO**

# Plugins

- Extending or overwriting the core behaviour of the Serverless framework
- There is already big community which is contributing
- You can find the plugins at <https://github.com/serverless/plugins>
  
- Plugin which you must have in order to work more efficiently: **serverless-offline**

<https://github.com/dherault/serverless-offline>

# PROS

- Easy understandable concept
- FasS - scaling costs
  - We don't need to care about parallelism
- Reduced operational cost
- BaaS - reduced development cost
- Reduced packaging and deployment complexity
- Time to market / experimentation
- Operational management
  
- Abstractions over Vendor implementations

# CONS

- Multitenancy Problems
- Vendor control
- Startup latency
  - This is debatable
- Execution Duration
- Really harder local development
- Testing
- Deployment
- Monitoring / Debugging

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# Should we use $\lambda$ functions?

- New approach of development
- Still needs to mature
- Serverless is not efficient for long-running applications
- We need to learn the Amazon “tips and tricks” in order to pay less
- There are no “local” operations



# Should we use $\lambda$ functions?



*But definitely useful for:*

- *Message driven applications*
- *Sync processes*
- *Scheduling*
- *Automation of things*
- *Experiments and POCs*
- *CI/CD code builders*



# QUESTIONS

**Thank you!**

**Goran Kopevski**

**@ Cuponation**

**gkopevski@gmail.com**