Serverless (Web)Apps with AWS API Gateway and Lambda

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Any non german speaking folks here?

Disclaimer: “alpha” content

Hello.

I am Soenke.

I work for Jimdo.

I do a lot of
ops and infrastructure
management.

I don’t like
ops and infrastructure
management.

When you run web app with scale, you have to care about many things.

to name a few ...

Racks, Server, Router, Switches, Networks, Flood/DoS protection, OS updates, OS upgrades, Server provisioning, App Deployment, Inventory Management, Development environment, Infrastructure (perimeter) security, Staging environments, Data storage+backup+restore, Database scaling+upgrades, API provisioning, load balancing, scaling , caching(+invalidation), API versioning, API documentation, API SDK generation, Identity management, Login management, User Authentication, API Authorization, Legacy API Facade, Application Logging, Application Metrics, Application Monitoring, Feature Lifecycle Management, Circiut breakers

But I don’t want to care about all this stuff.

So let’s get rid of maintaining this stuff by ourselves.

Step by step.

Level 1: Infrastructure as Service (Virtual Servers and Networks)

Level 1a: Database as Service (e.g. Google Cloud SQL, AWS RDS/DynamoDB)

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Level 2: Platform as a Service (e.g. Heroku, Docker …)

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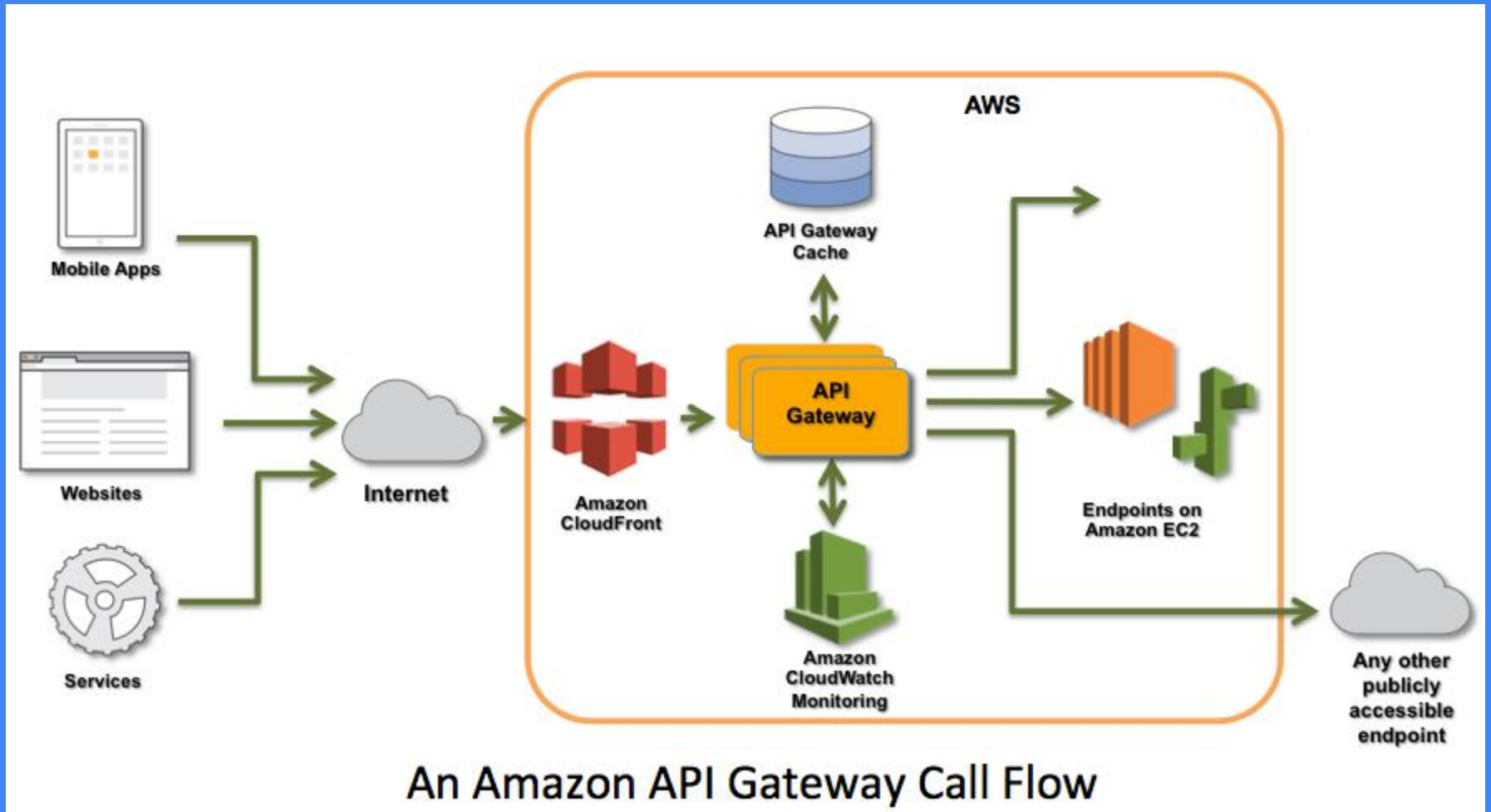
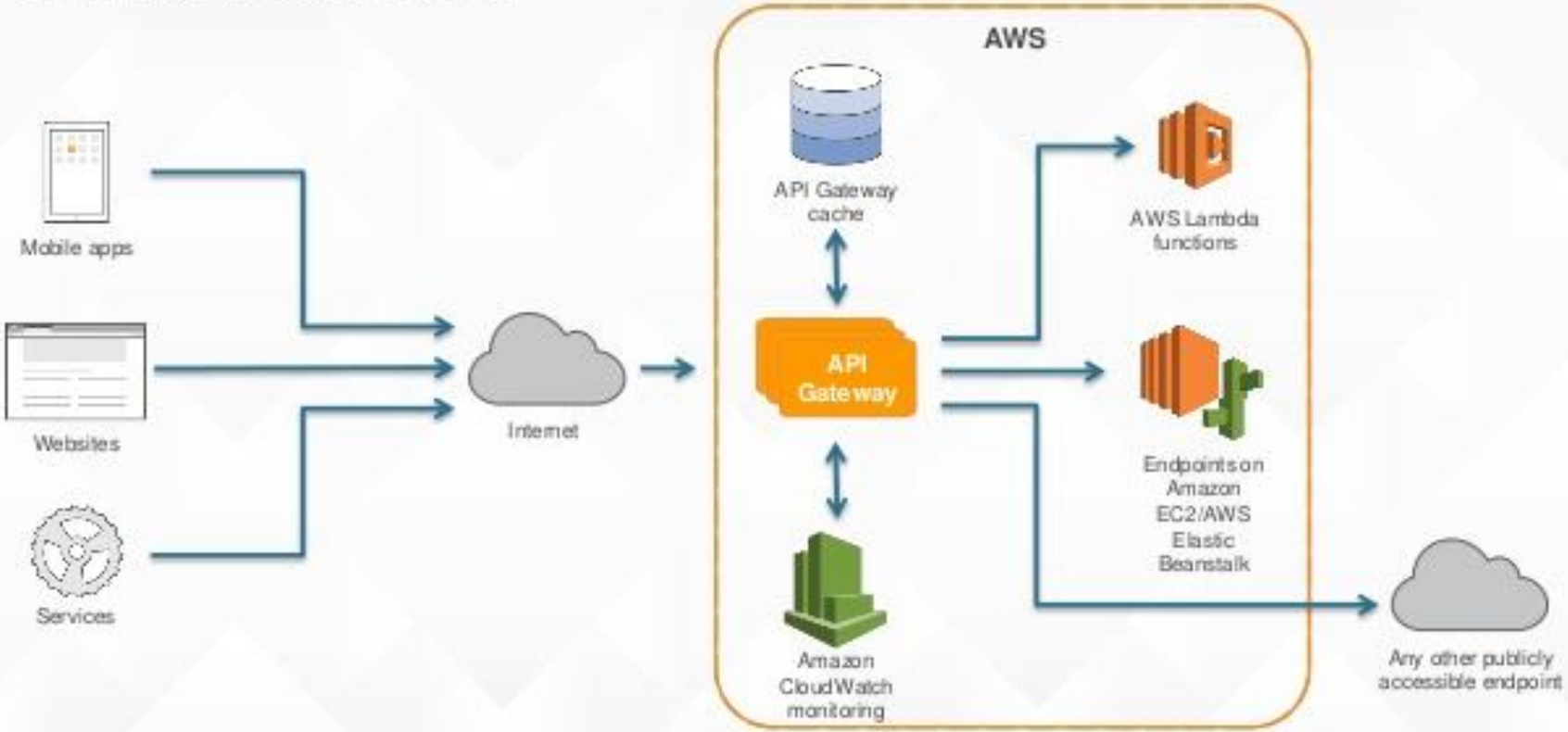
Level 3: APIs as a service (e.g. API Gateway)



An Amazon API Gateway Call Flow

An API call flow



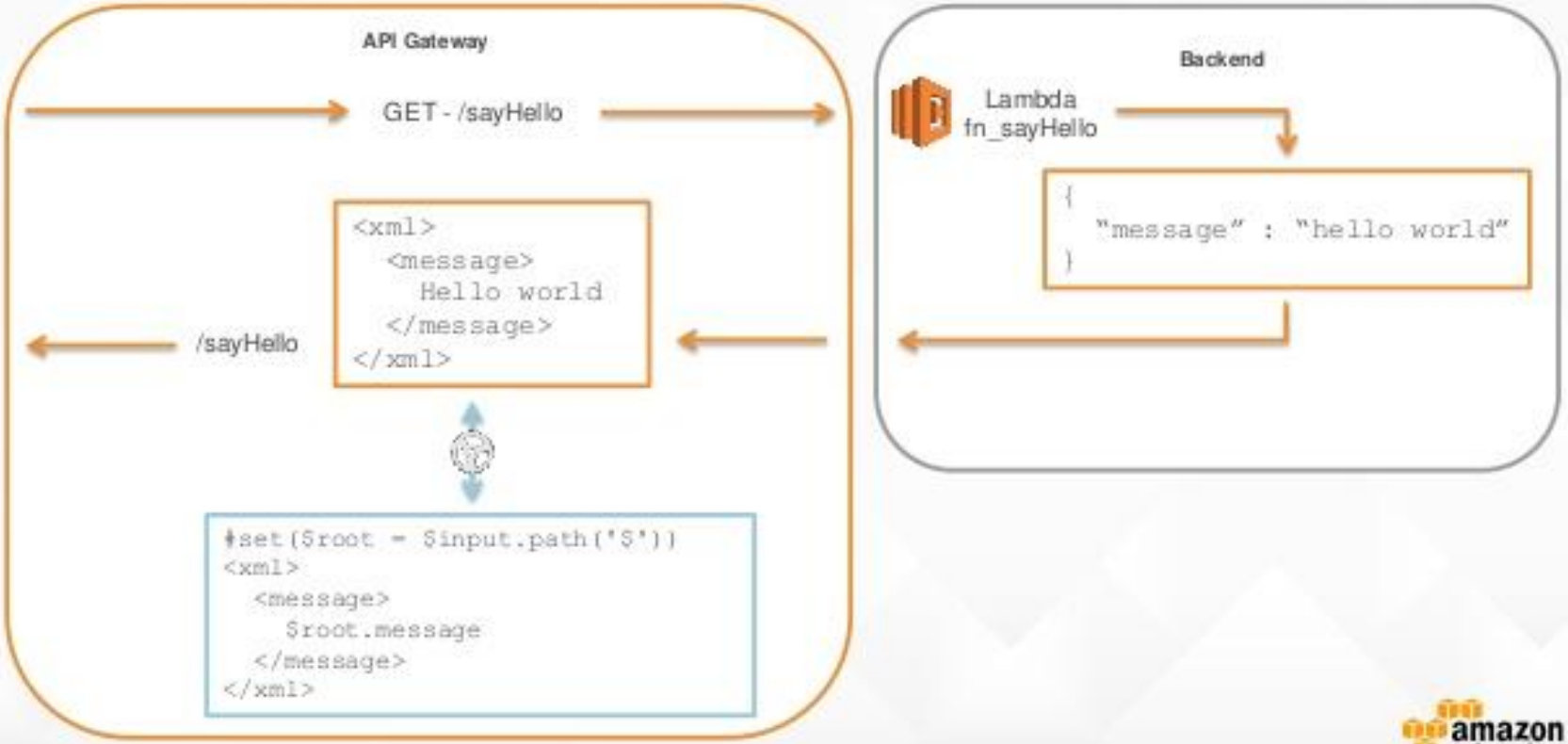
amazon web services

Swagger.io -> API GW

https://github.com/awslabs/aws-apigateway-swagger-importer

SDK generator
for iOS, Android, JS

Transform Example: JSON to XML



amazon web services

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Level 4: Program execution as a service
(e.g. AWS Lambda)

“AWS Lambda is a compute service that runs your code in response to events and automatically manages the compute resources for you.”

First 1 million requests per month are free

$0.20 per 1 million requests thereafter ($0.0000002 per request)

Currently node.js and JVM runtimes supported

AWS Lambda minimal example

```
exports.handler = function (event, context)
{
    context.done(null, {"Hello":"World"});
};
```

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Level 5: Identity as a Service (e.g. AWS Cognito)

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“The essence of LEAN is doing nothing and still earning money”

- someone at devopsdays Barcelona 2012

Ok, Live Demo!

Resources

- http://www.kinvey.com/blog/3194/what-is-the-motivation-of-baas-adopters
- http://www.slideshare.net/AmazonWebServices/build-and-manage-your-apis-with-amazon-api-gateway
- http://www.slideshare.net/adriancockcroft/dockercon-state-of-the-art-in-microservices
- https://github.com/awslabs/api-gateway-secure-pet-store
- http://swagger.io/
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