

Serverless with AWS Lambda

**Geek Girl Tech Con
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@ MindTouch



Let's talk about...

Serverless

AWS

AWS Lambda

Project and Demo

Use Cases

Cost

Serverless Architectures

Serverless

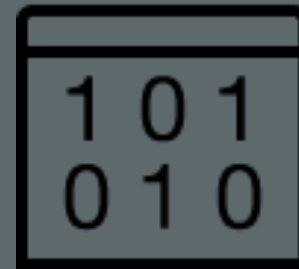
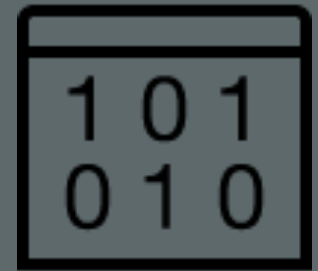
Serverless
Applications

Serverless
Tools

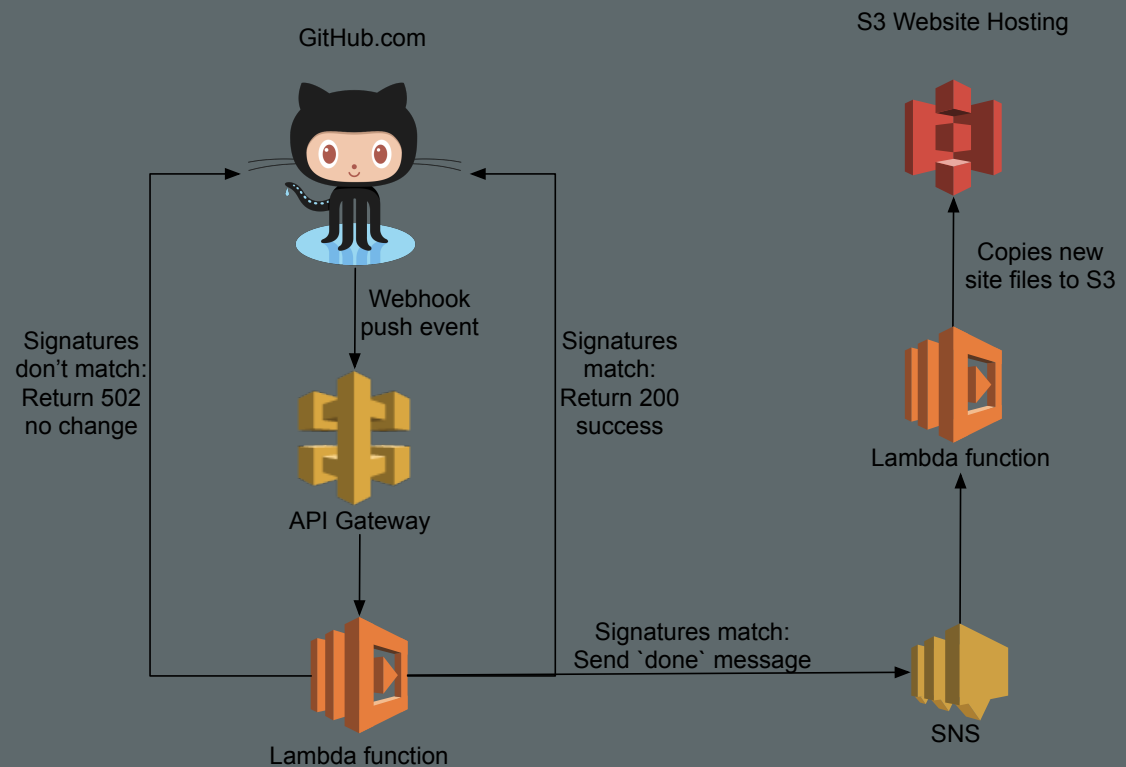
Serverless



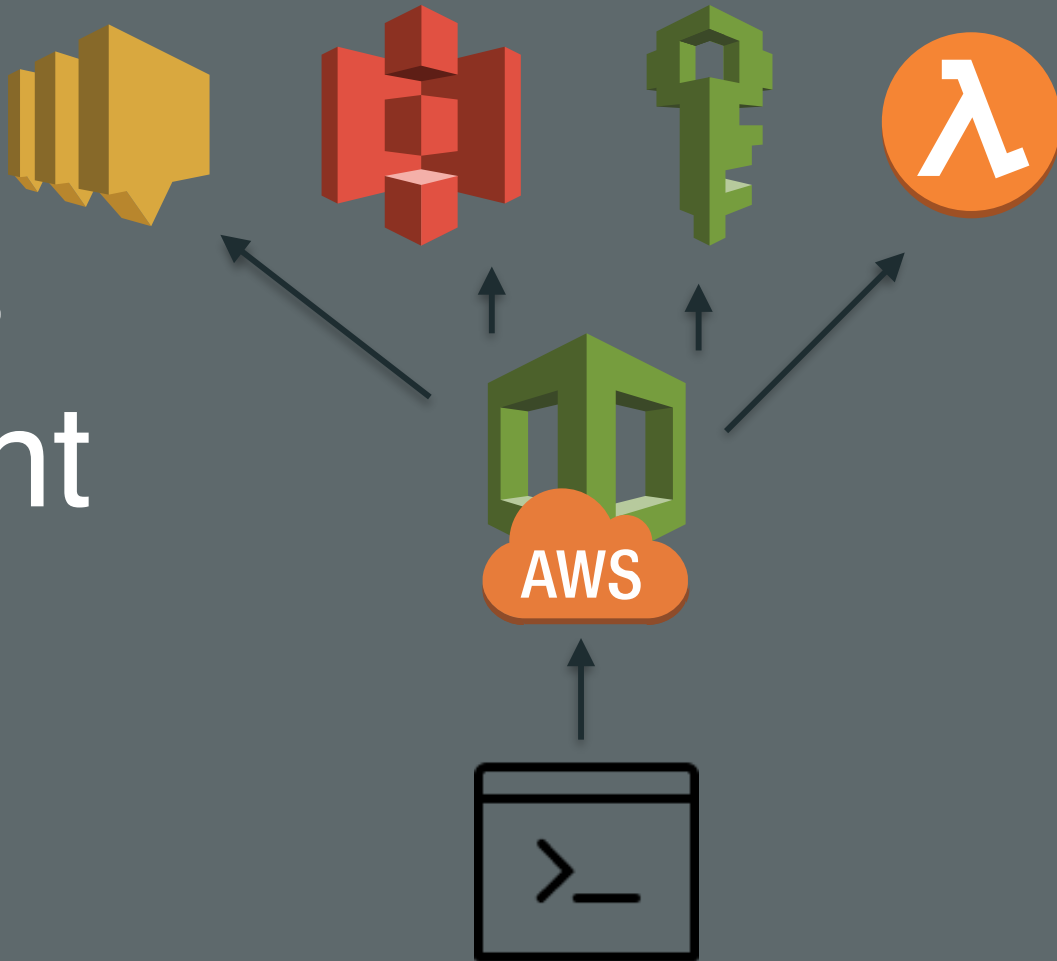
Serverless Application



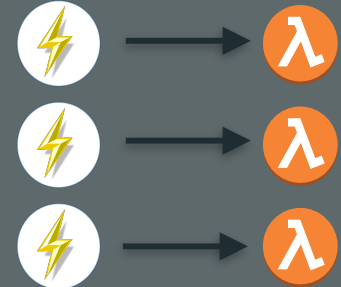
Serverless Architectures



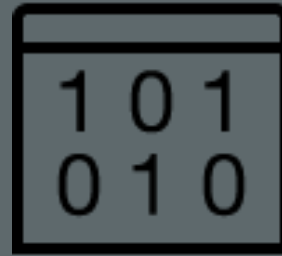
Serverless Deployment Tools



Serverless Pros



Serverless Cons



What is AWS?

Cloud Services Platform





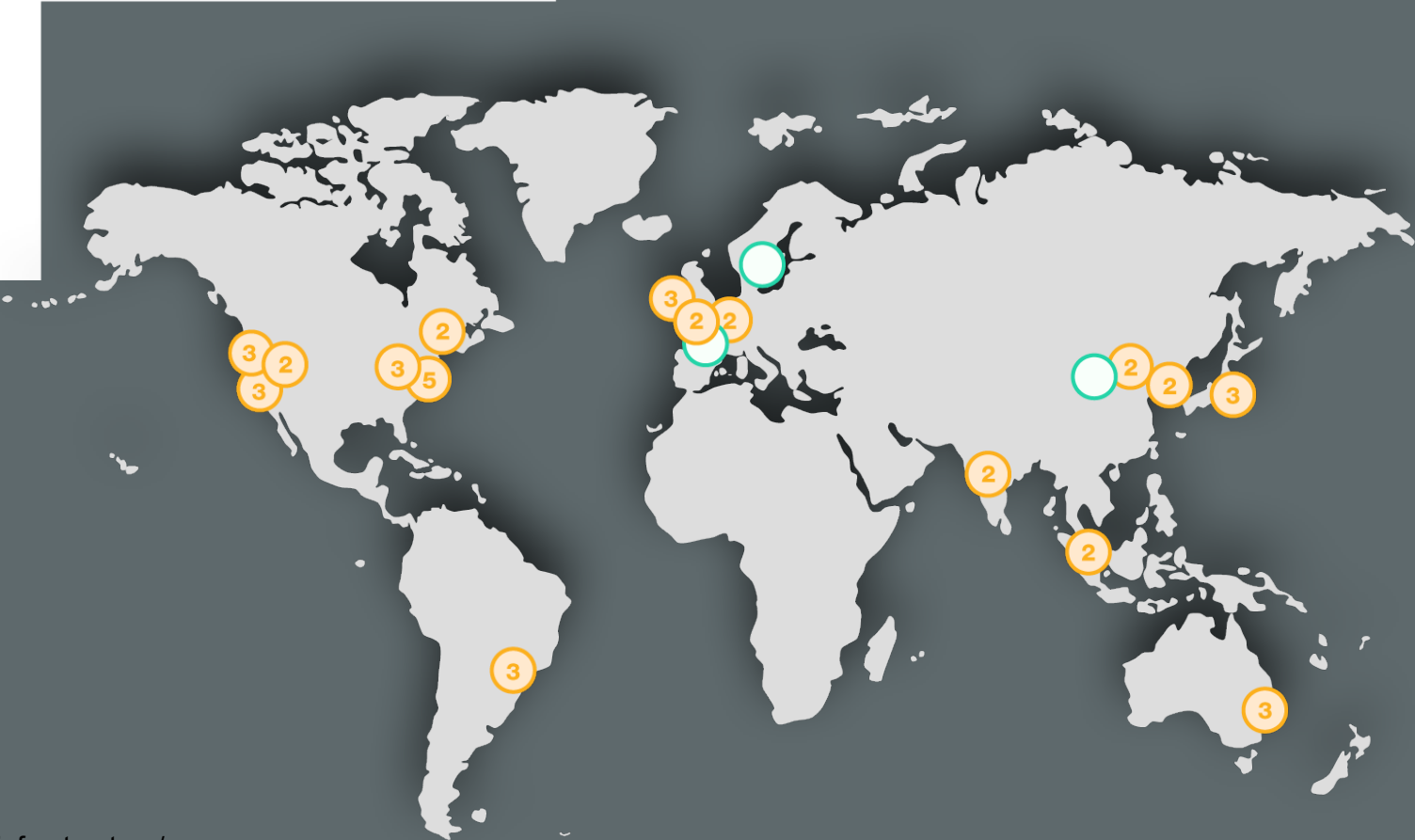
Region & Number of Availability Zones

- AWS GovCloud (2)**
- US West**
Oregon (3), Northern California (3)
- US East**
Northern Virginia (5), Ohio (3)
- Canada**
Central (2)
- South America**
São Paulo (3)
- Europe**
Ireland (3), Frankfurt (2), London (2)
- Asia Pacific**
Singapore (2), Sydney (3), Tokyo (3), Seoul (2), Mumbai (2)
- China**
Beijing (2)



New Region (coming soon)

- Paris
- Ningxia
- Stockholm



North America



US East (Northern Virginia) Region

EC2 Availability Zones: 5
Launched 2006

US East (Ohio) Region

EC2 Availability Zones: 3
Launched 2016

US West (Oregon) Region

EC2 Availability Zones: 3
Launched 2011

US West (Northern California) Region

EC2 Availability Zones: 3*
Launched 2009

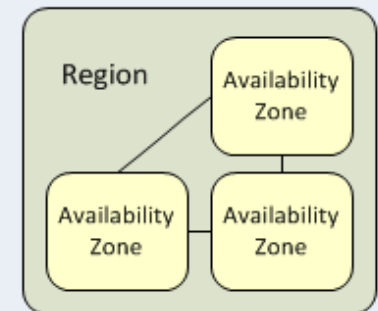
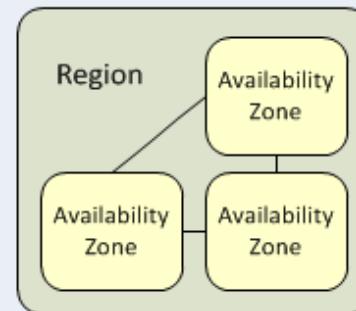
AWS GovCloud (US) Region

EC2 Availability Zones: 2
Launched 2011

Canada (Central)

EC2 Availability Zones: 2
Launched 2016

Amazon Web Services



Services



AWS List of Products

Products

Solutions

Pricing

Software

Support

Customers

Partners

Enterprises

More

English

My Account

Sign In

Compute

Amazon EC2

Amazon EC2 Container Registry

Amazon EC2 Container Service

Amazon Lightsail

Amazon VPC

AWS Batch

AWS Elastic Beanstalk

AWS Lambda

Auto Scaling

Elastic Load Balancing

Storage

Amazon Simple Storage Service (S3)

Amazon Elastic Block Storage (EBS)

Amazon Elastic File System (EFS)

Amazon Glacier

AWS Storage Gateway

AWS Snowball

AWS Snowball Edge

AWS Snowmobile

Database

Amazon Aurora

Amazon RDS

Amazon DynamoDB

Amazon DynamoDB Accelerator (DAX)

Amazon ElastiCache

Amazon Redshift

AWS Database Migration Service

Migration

AWS Application Discovery Service

AWS Database Migration Service

AWS Server Migration Service

AWS Snowball

AWS Snowball Edge

AWS Snowmobile

Networking & Content Delivery

Amazon VPC

Amazon CloudFront

Amazon Route 53

AWS Direct Connect

Elastic Load Balancing

Developer Tools

AWS CodeStar

AWS CodeCommit

AWS CodeBuild

AWS CodeDeploy

AWS CodePipeline

AWS X-Ray

AWS Command Line Interface

Management Tools

Amazon CloudWatch

Amazon EC2 Systems Manager

AWS CloudFormation

AWS CloudTrail

AWS Config

AWS OpsWorks

AWS Service Catalog

AWS Trusted Advisor

AWS Personal Health Dashboard

AWS Command Line Interface

AWS Management Console

AWS Managed Services

Artificial Intelligence

Amazon Lex

Amazon Polly

Amazon Rekognition

Amazon Machine Learning

Analytics

Amazon Athena

Amazon EMR

Amazon CloudSearch

Amazon Elasticsearch Service

Amazon Kinesis

Amazon Redshift

Amazon QuickSight

AWS Data Pipeline

AWS Glue

Security, Identity & Compliance

AWS Identity and Access Management (IAM)

Amazon Inspector

AWS Certificate Manager

AWS CloudHSM

AWS Directory Service

Amazon Cloud Directory

AWS Key Management Service

AWS Organizations

AWS Shield

AWS WAF

AWS Artifact

Mobile Services

AWS Mobile Hub

Amazon API Gateway

Amazon Cognito

Amazon Pinpoint

AWS Device Farm

AWS Mobile SDK

Application Services

AWS Step Functions

Amazon API Gateway

Amazon Elastic Transcoder

Messaging

Amazon Simple Queue Service (SQS)

Amazon Simple Notification Service (SNS)

Amazon Pinpoint

Amazon Simple Email Service (SES)

Business Productivity

Amazon Chime

Amazon WorkDocs

Amazon WorkMail

Desktop & App Streaming

Amazon WorkSpaces

Amazon AppStream 2.0

Software

AWS Marketplace

Internet of Things

AWS IoT Platform

AWS Greengrass

AWS IoT Button

Contact Center

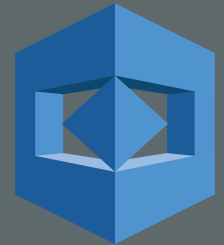
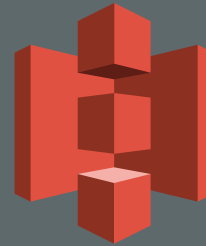
Amazon Connect

Game Development

Amazon GameLift

Amazon Lumberyard

This Project
Requires
Infrastructure

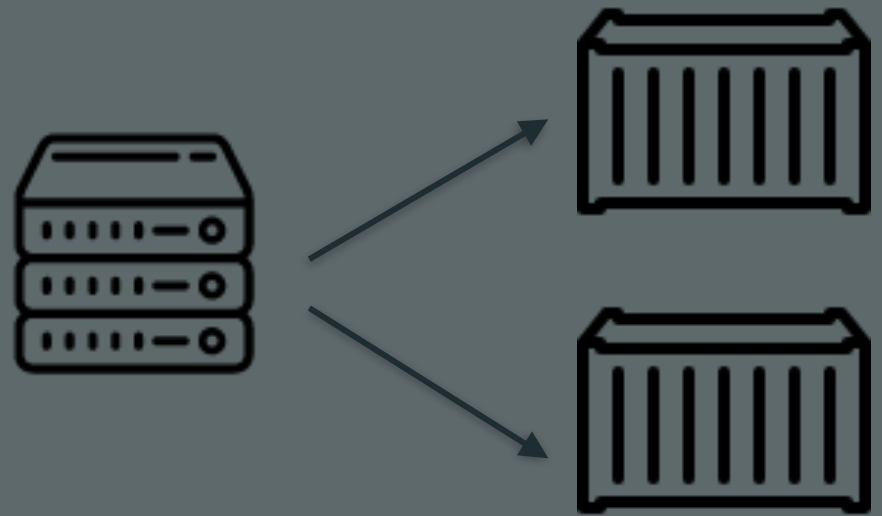


What is AWS ... Lambda?

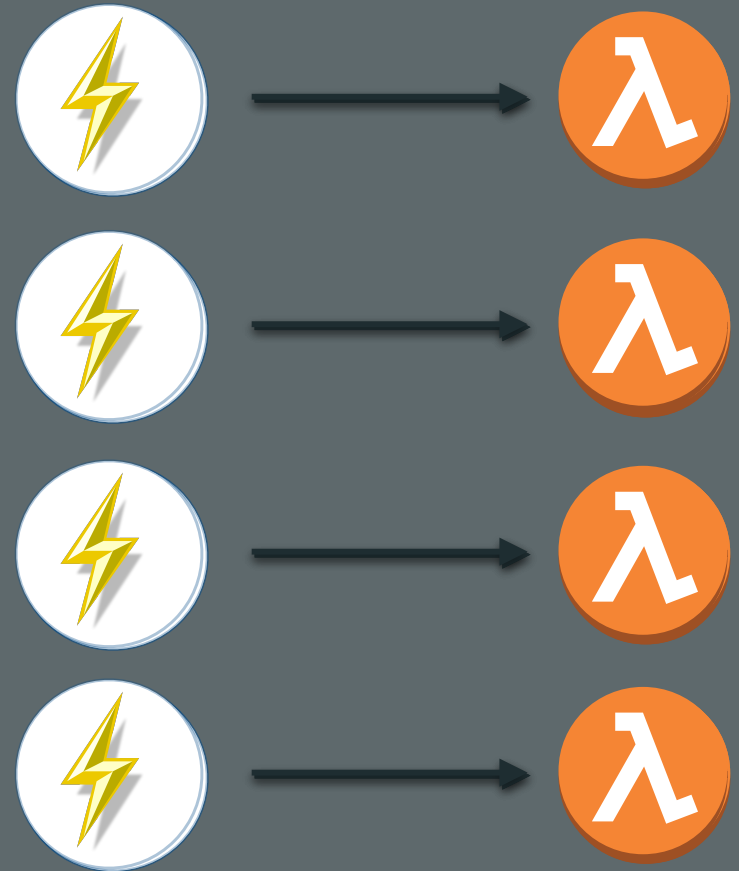
Executes on
response from
event source



Code runs in
a container



Scales at the
rate of events



Supported Languages



Event & Context



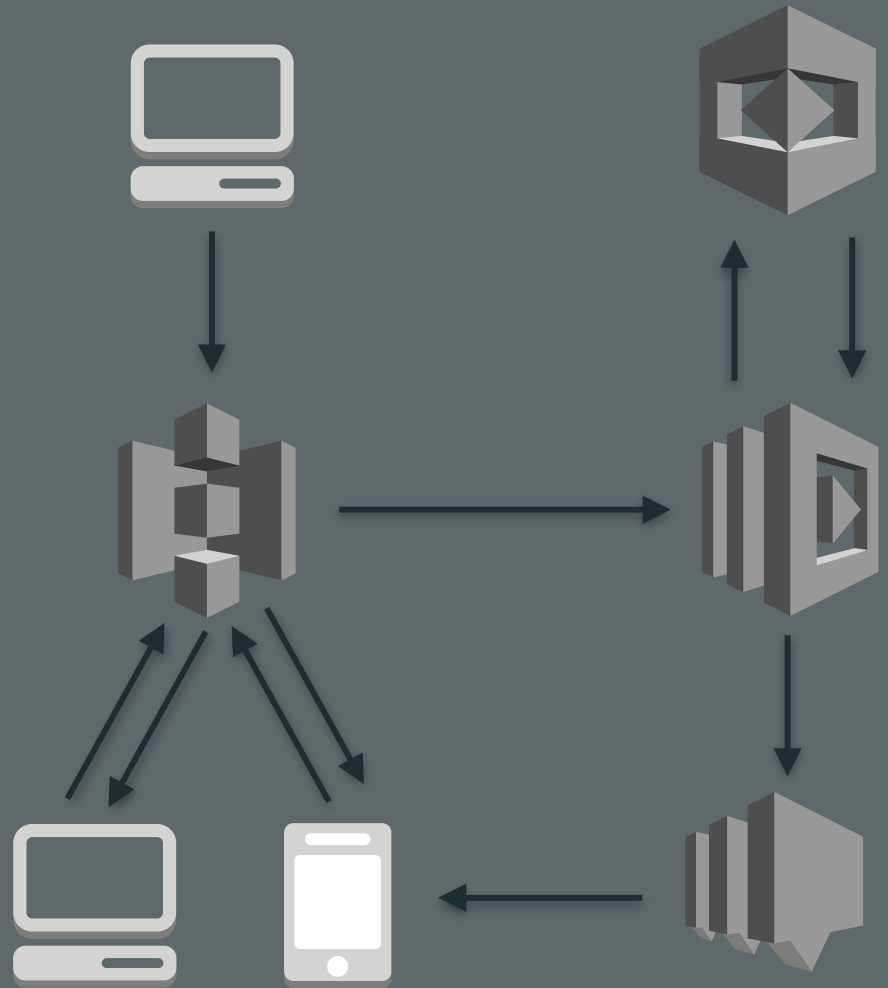
Project & Demo

Project Files and Documentation



<https://goo.gl/dhe9XM>

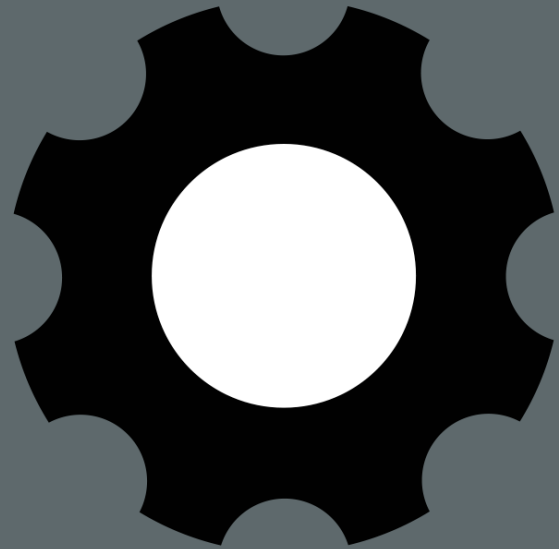
Infrastructure and Resources



Deployment



Set Lambda Configurations



Environment Variables and Secrets



CloudWatch Metrics



Debugging

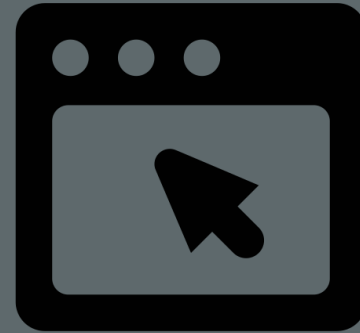


Constraints

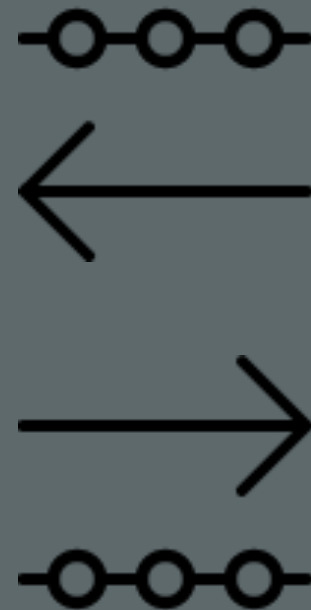


Use Cases

Backend Application



Data Processing



Analytics



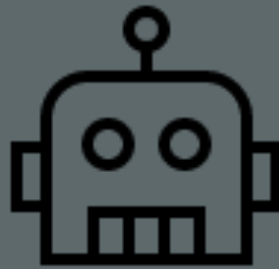
API



Schedule



Bots



Cost

Request Charges



Compute Charges

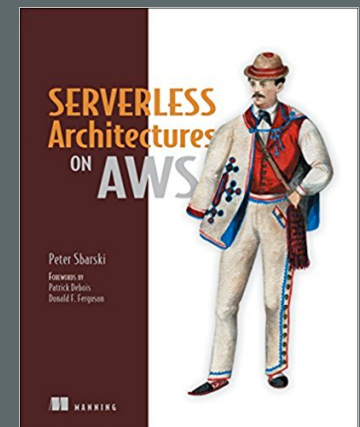


Other Charges



Sources & Resources

- <https://aws.amazon.com/lambda/faqs/>
- <https://aws.amazon.com/lambda/pricing/>
- <https://aws.amazon.com/lambda/>
- <https://aws.amazon.com/lambda/details/>
- <http://docs.aws.amazon.com/lambda/latest/dg/lambda-introduction.html>
- <http://docs.aws.amazon.com/lambda/latest/dg/create-deployment-pkg-zip-java.html>
- <https://icons8.com/>
- <https://www.meetup.com/lambdasharp/>
- <https://www.zappa.io/>
- <https://www.microsoft.com/net/core>
- <https://nodejs.org/en/>
- <https://gradle.org/>
- Peter Sbarski, *Serverless Architectures on AWS*, 1st Edition, 2017
- <https://goo.gl/dhe9XM>
- https://github.com/smyleeface/2017GeekGirlTechCon_serverless_with_aws_lambda



Questions

<https://goo.gl/dhe9XM>

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Thank you!