

Serverless



AWS
CloudFormation

IaaS

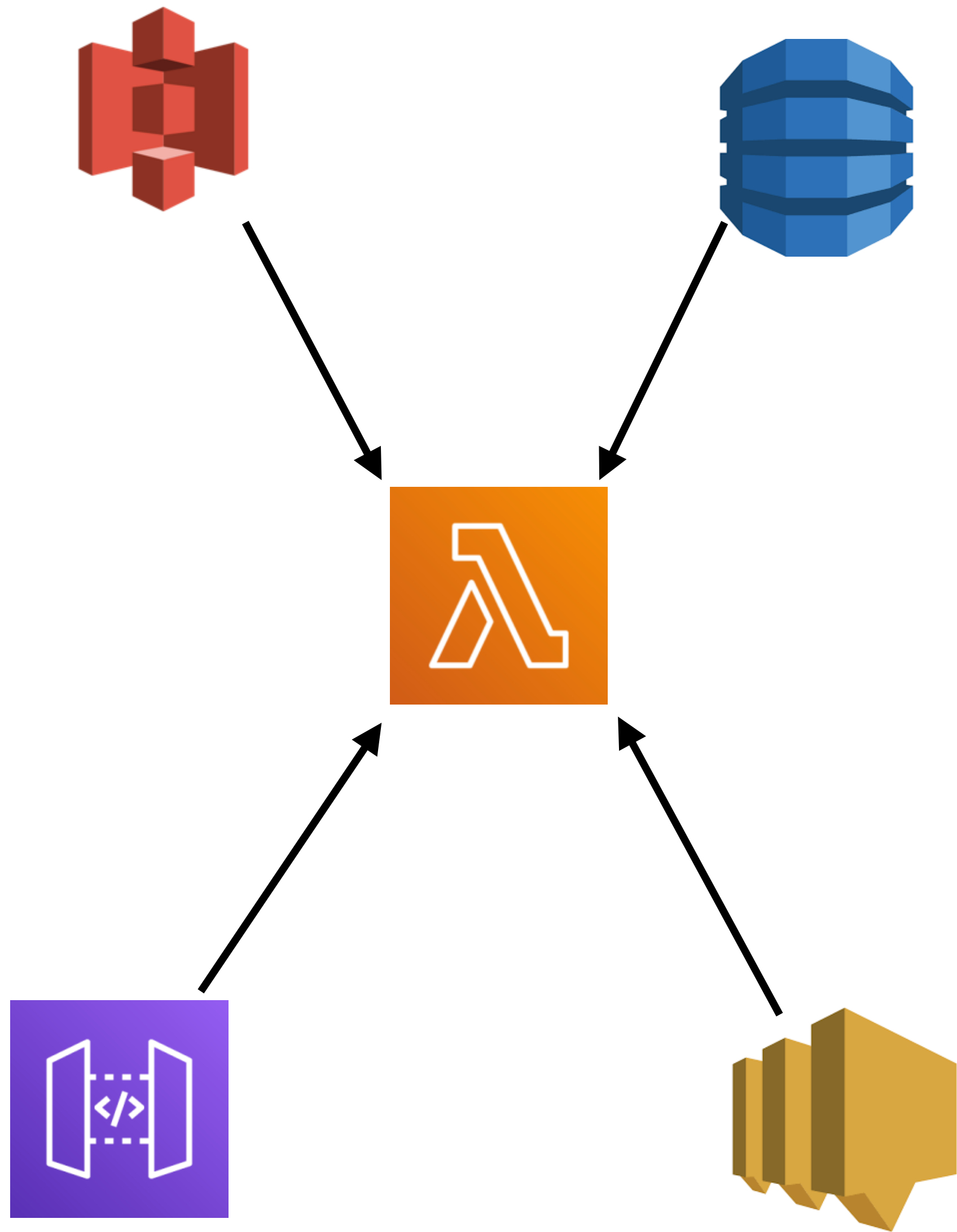


Elastic
Beanstalk

BaaS



Amazon EC2



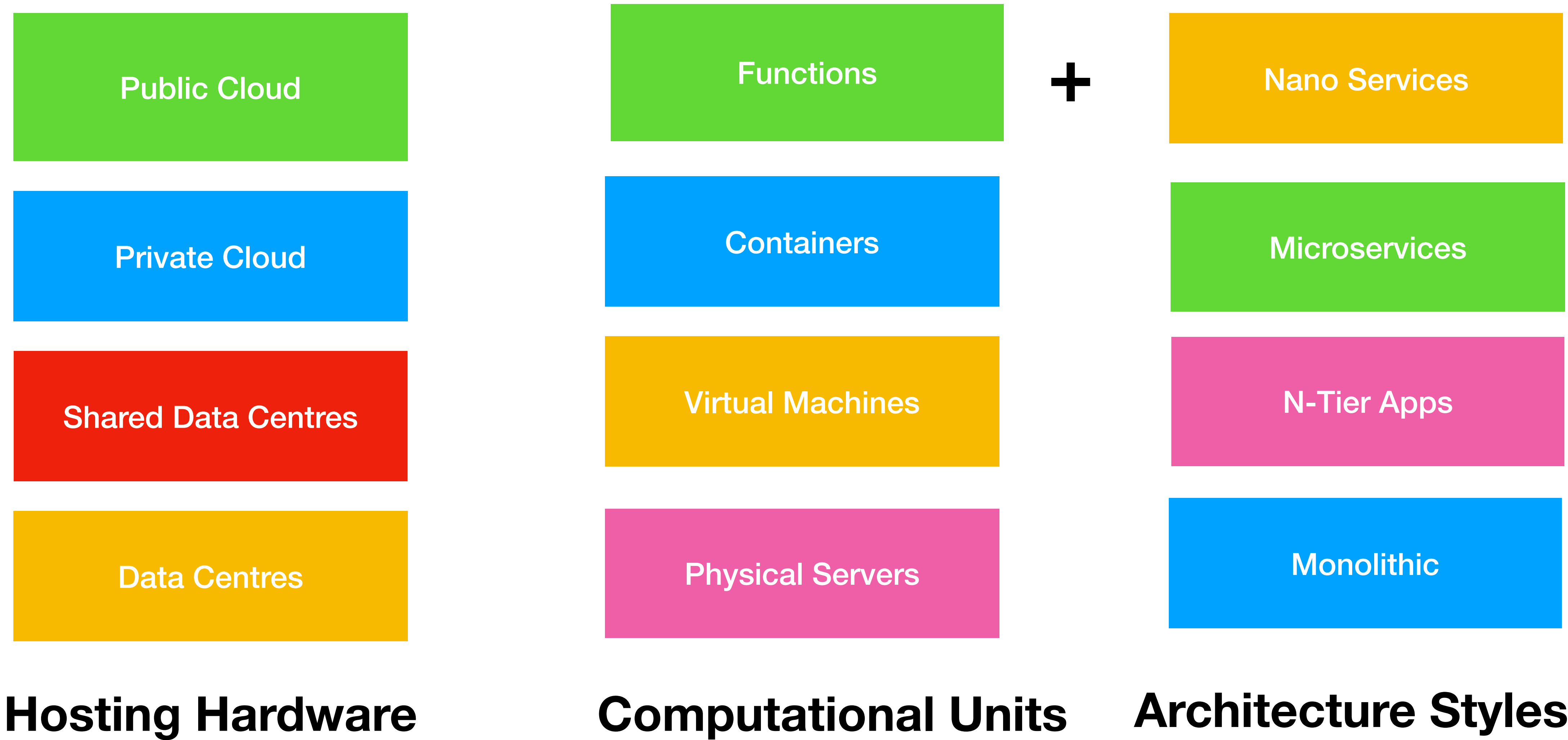
Speed to market

Low infrastructure cost

Scalability and Reliability

Usage based cost

The Evolution

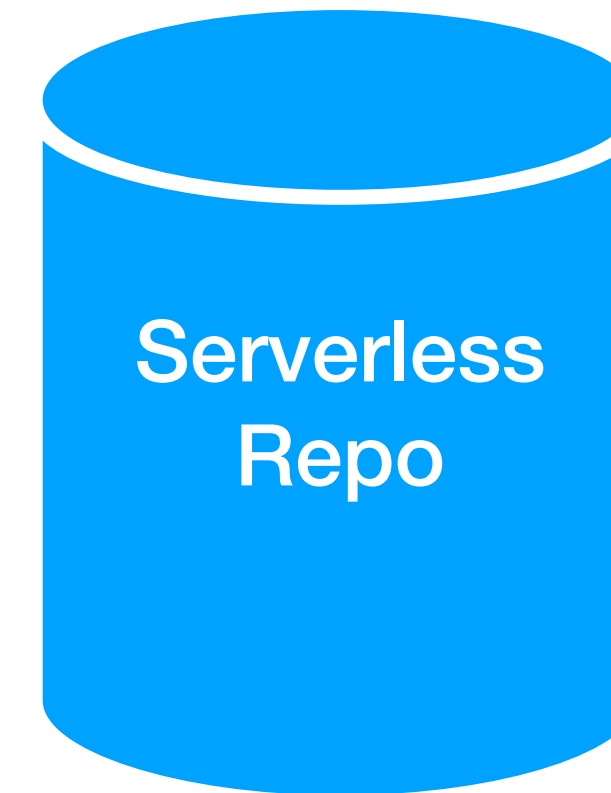


Nano Services

Do one thing

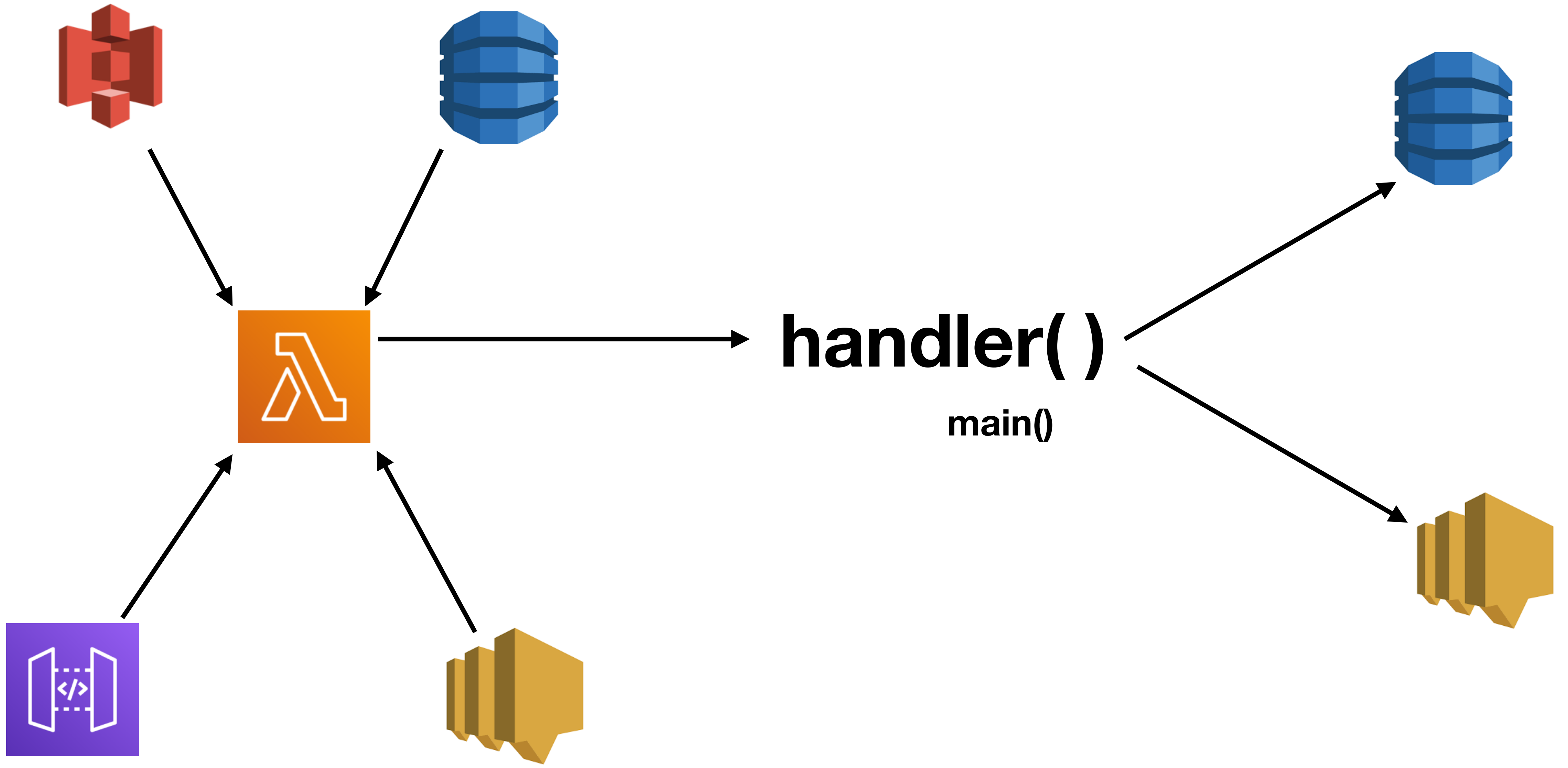
Be more useful than the cost incurred

Async Event Based Triggers

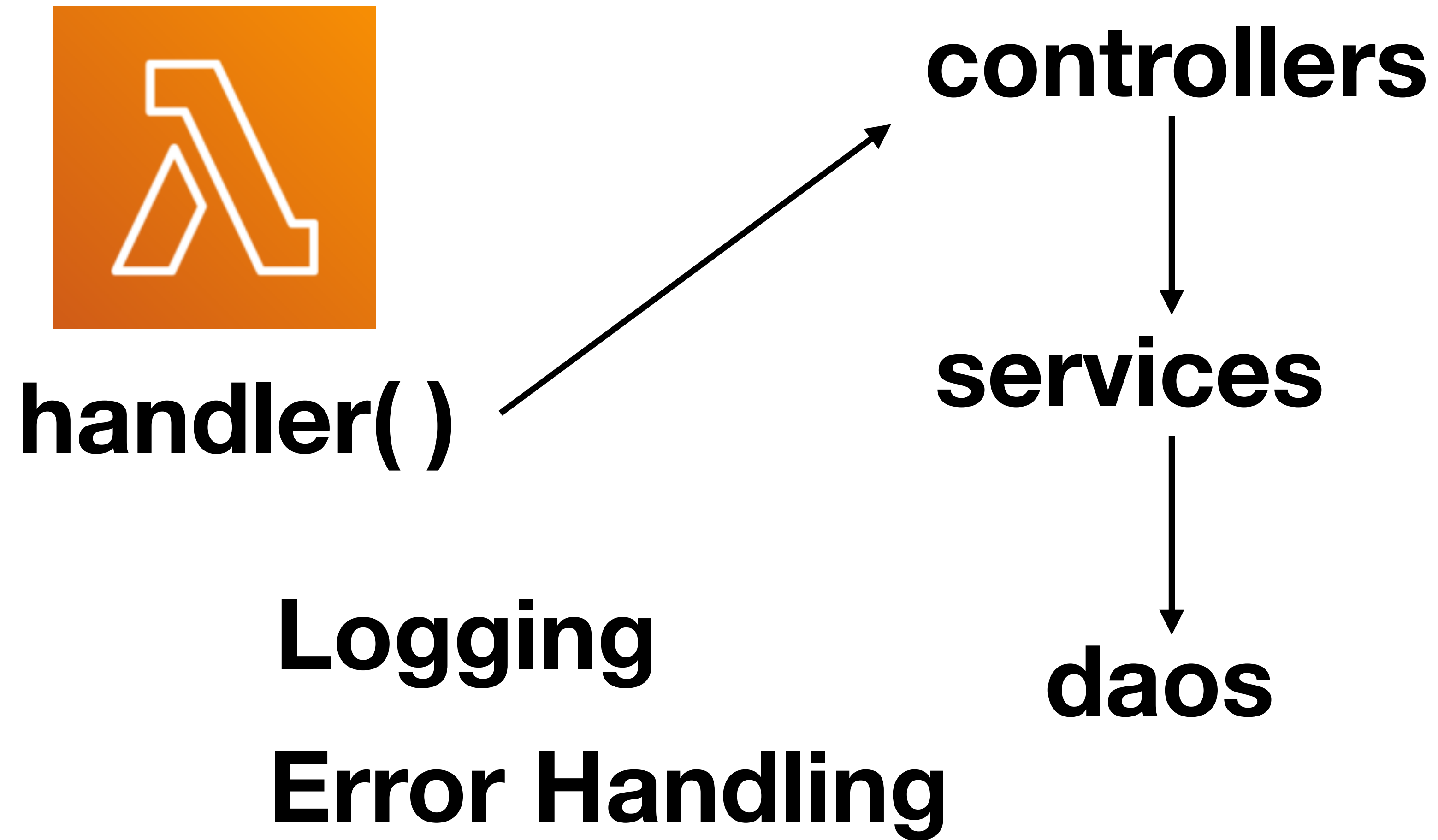


Nano Services

Algorithms



FAAS



IDE

Maven

Git

Deployment



SAM

Zip

Upload to S3

Create IAM Roles

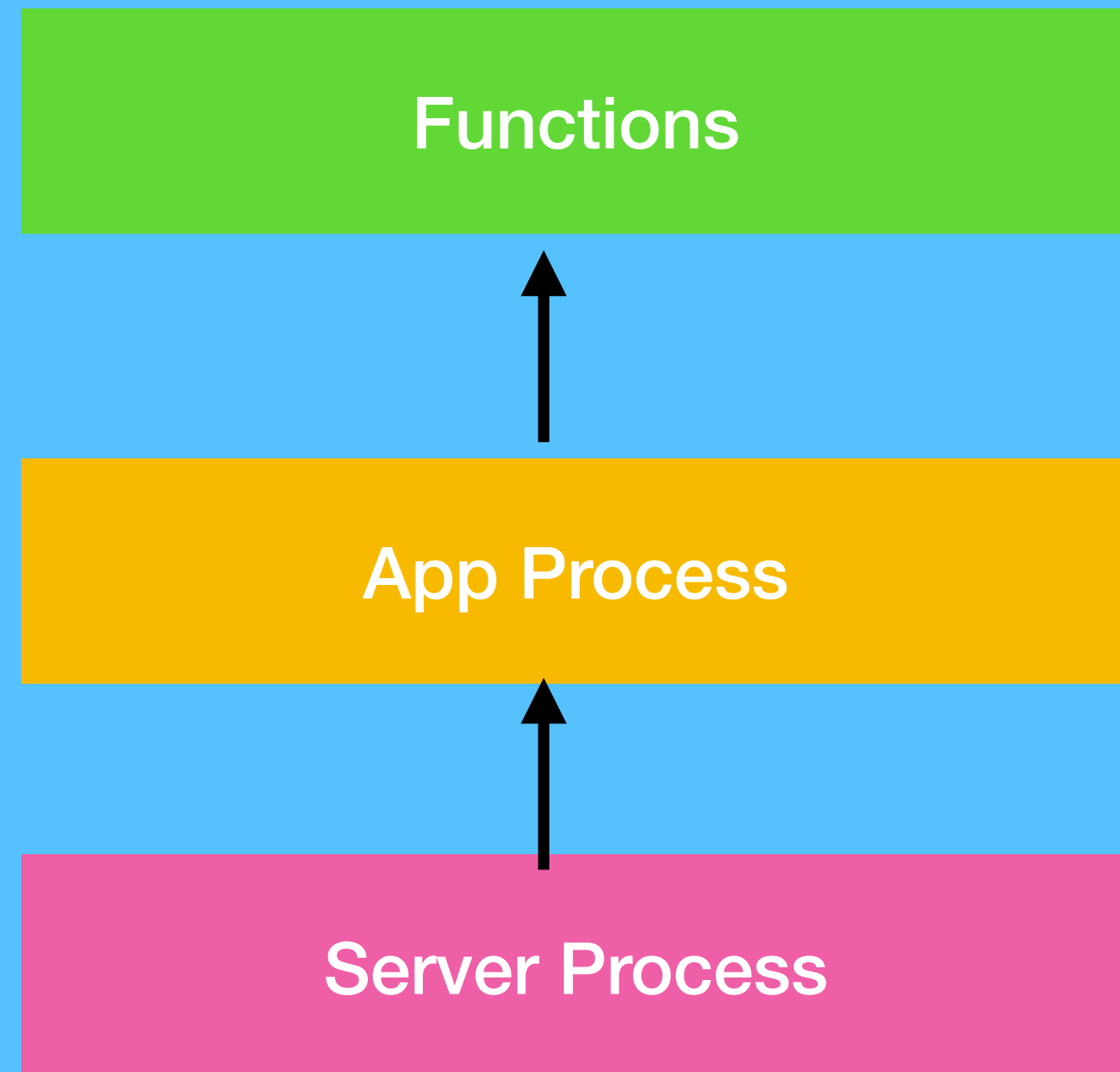
Create Resources

Create Functions

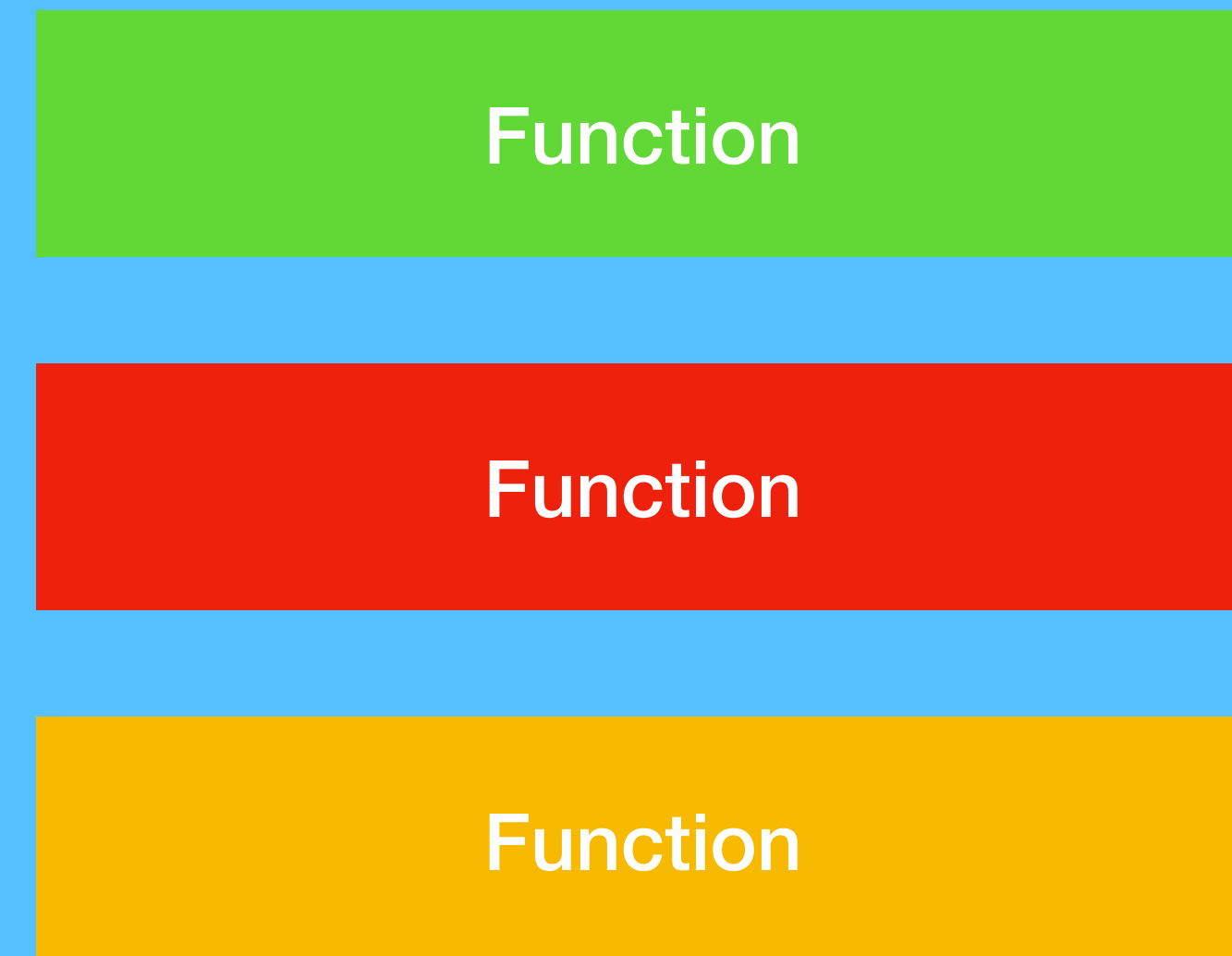
Configure Permissions

Cloud
Formation

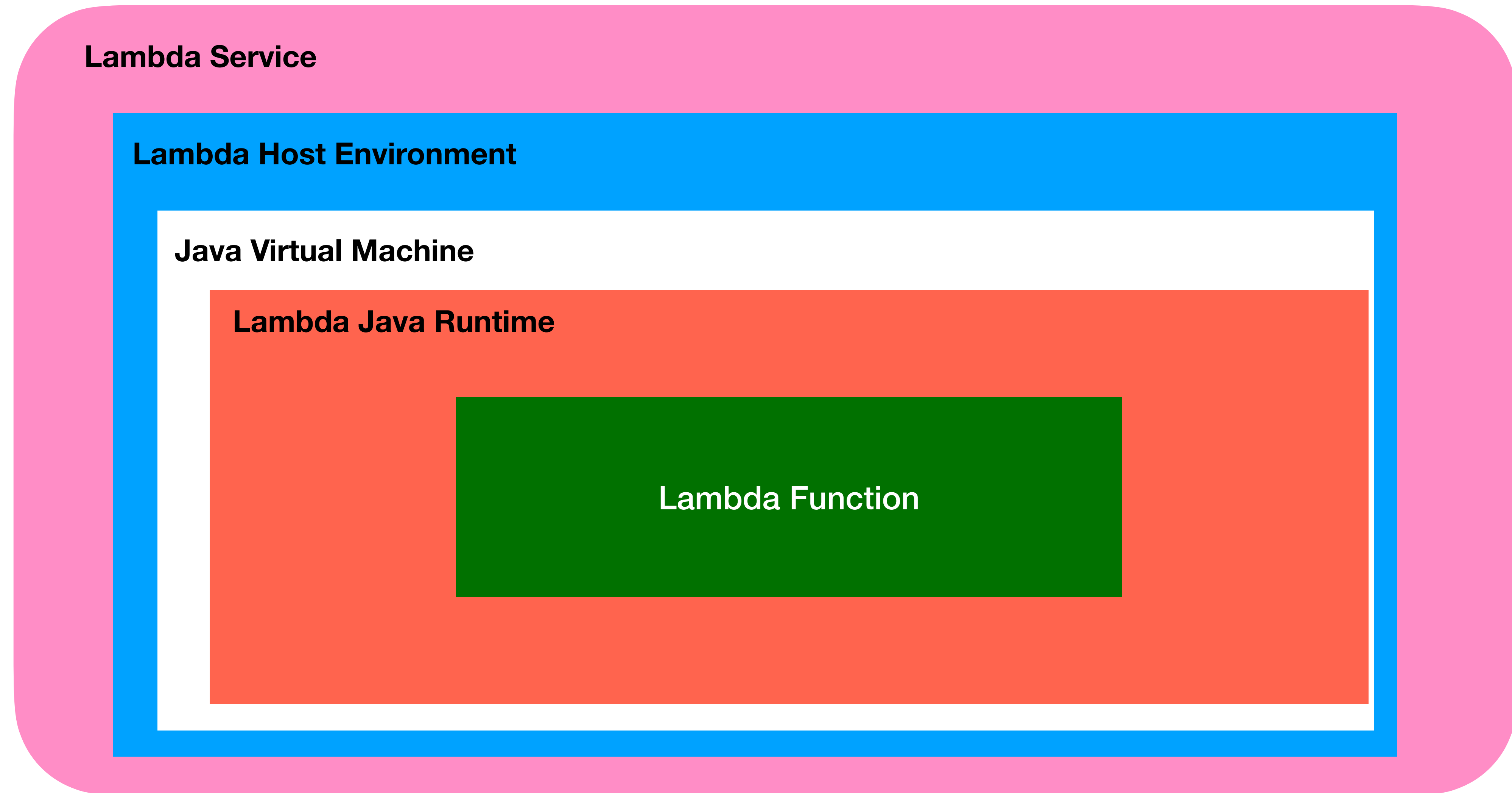
BaaS Service



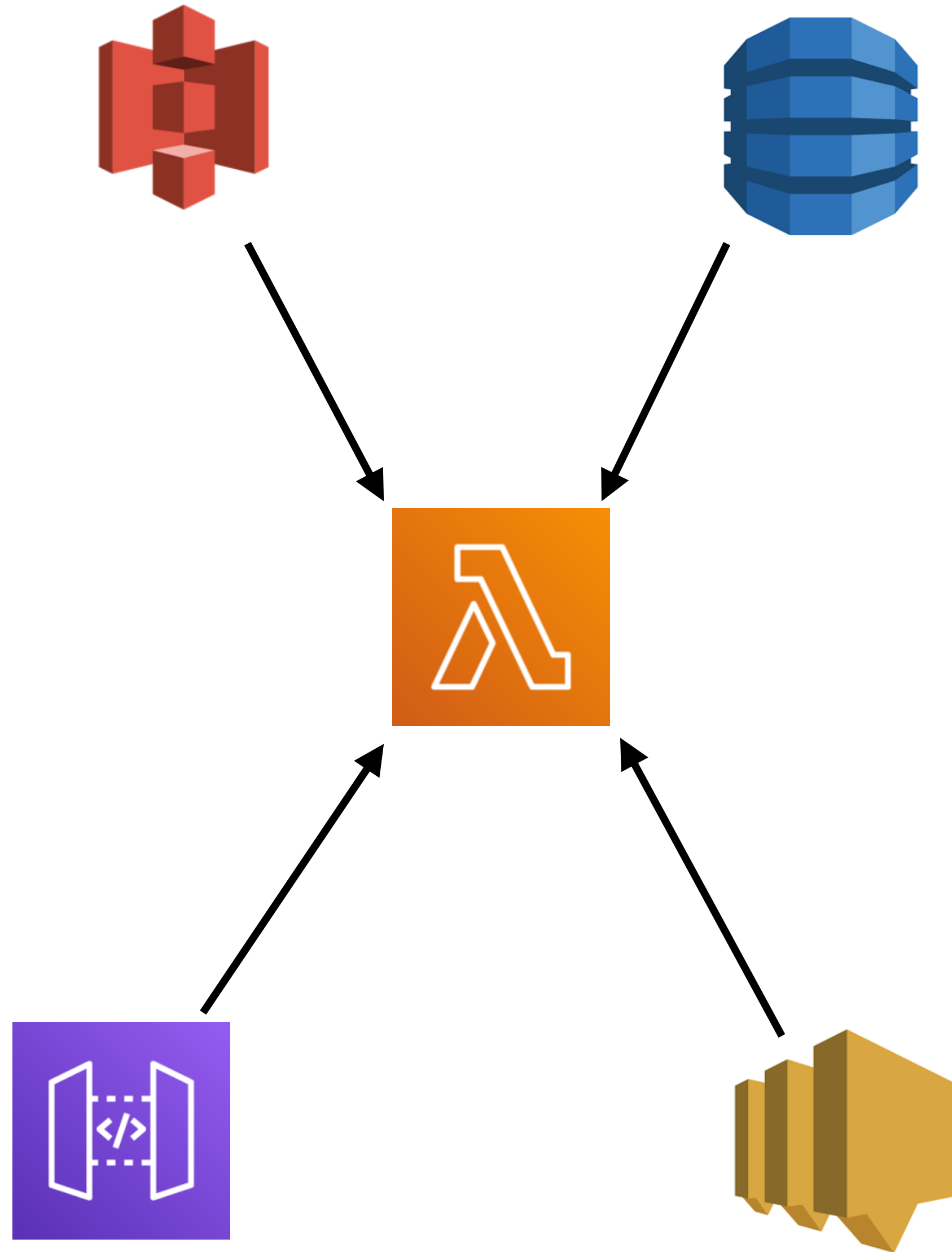
FaaS Service



Function

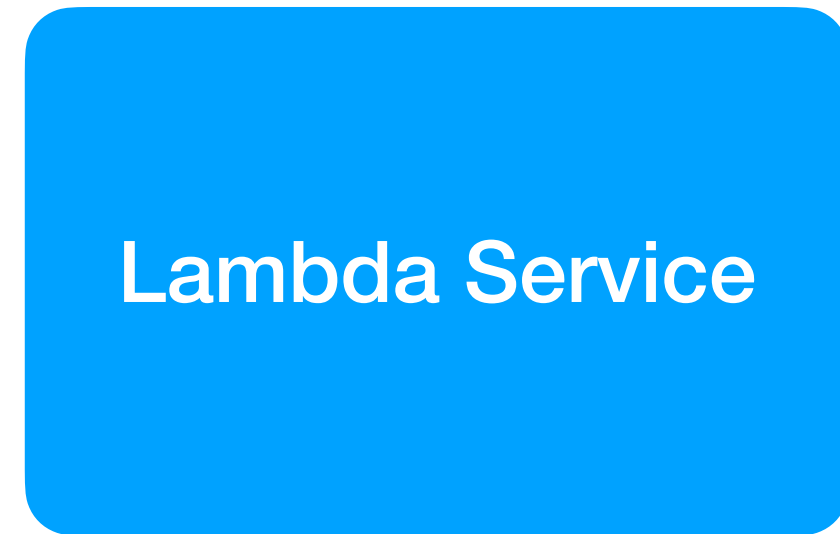


Invocation



Scaling

Reliability



AZ1



AZ2



AZ3

Limits

1000 executions at a time

4 KB

64 MB for Sync

256 KB for ASync

Pricing

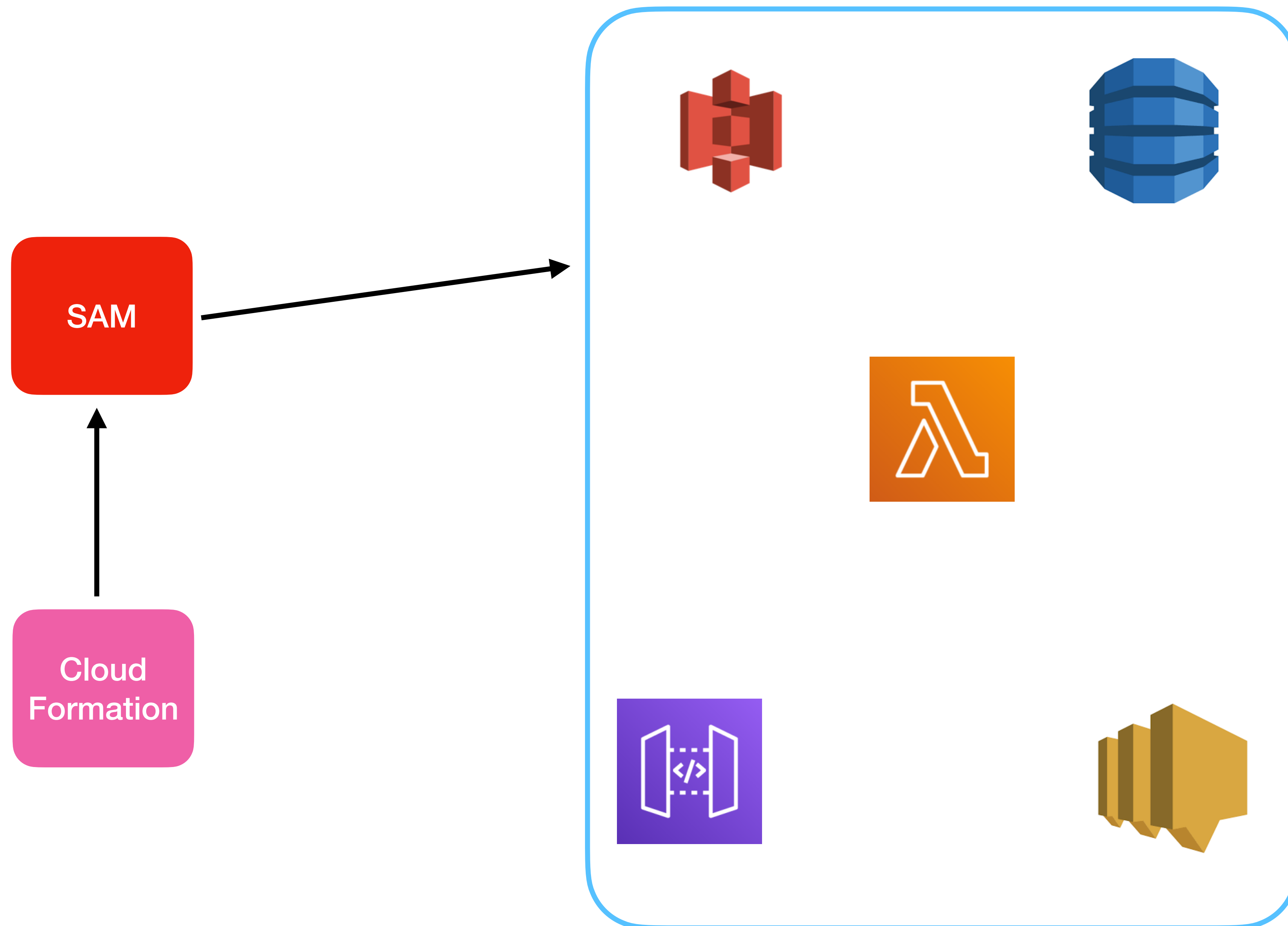
Time rounded to closest milli seconds

And the memory we allocate

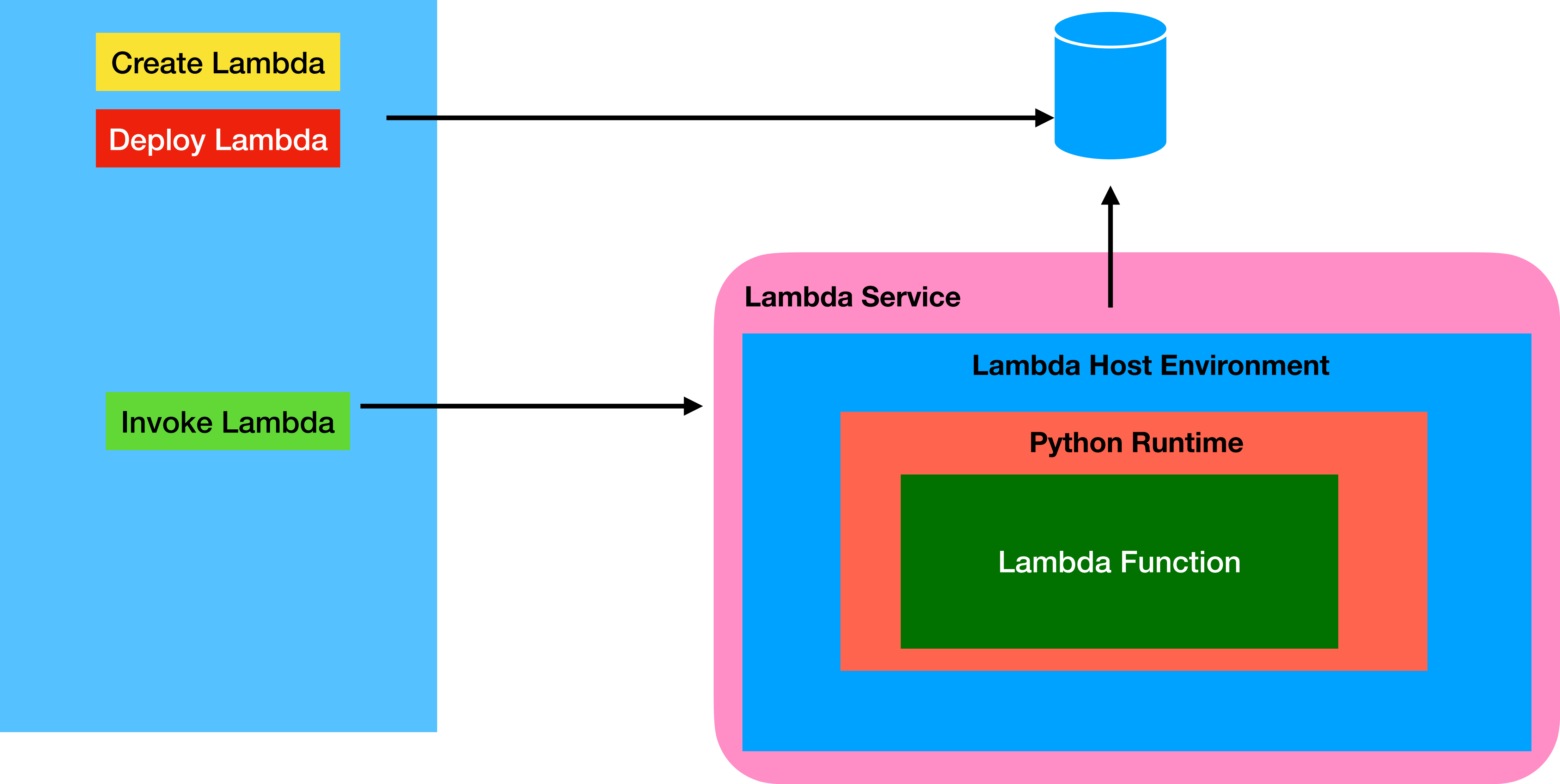
GB-Sec

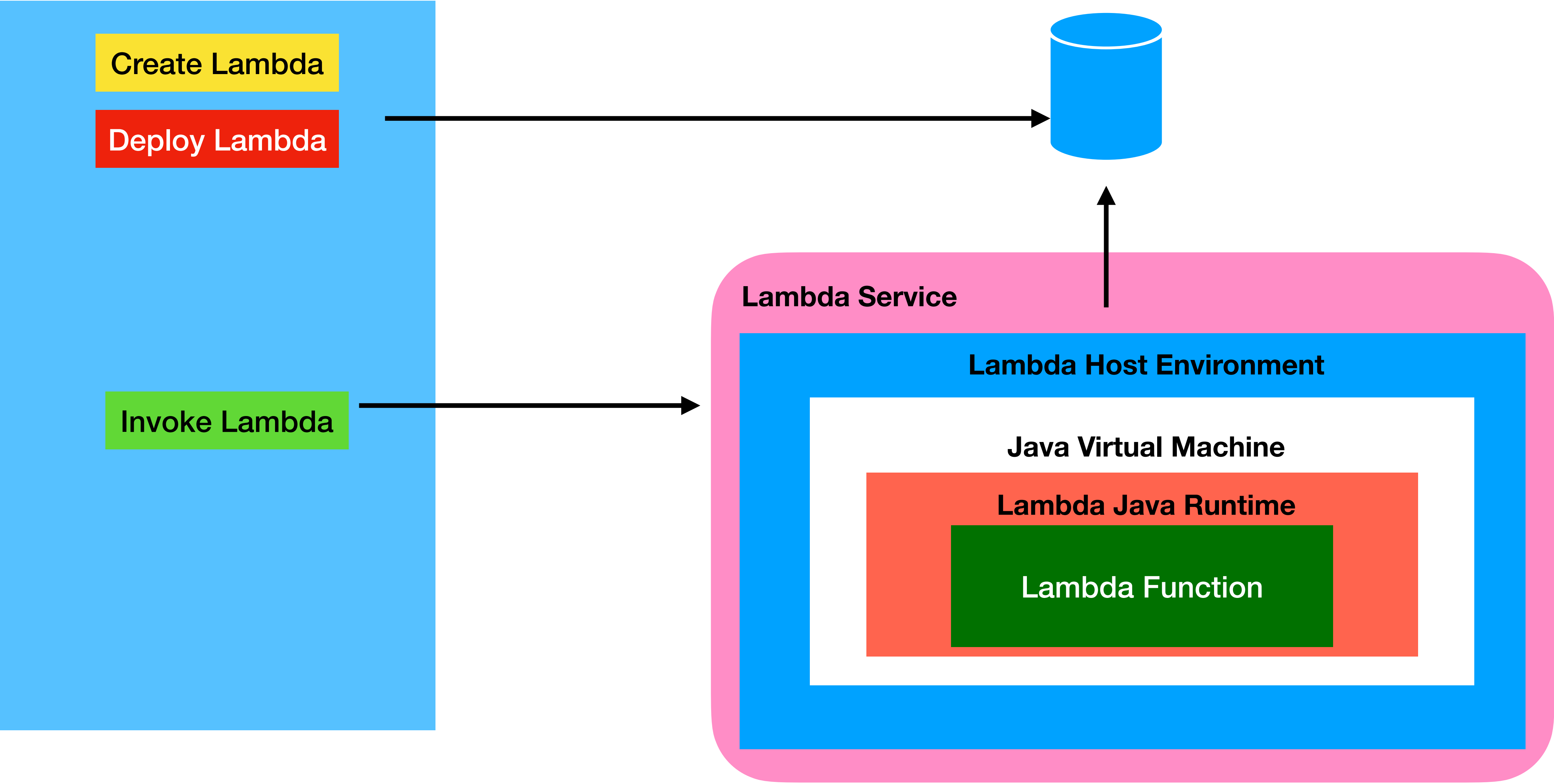
1000000

400000



sam build
sam deploy





Create IAM User

AWS CLI

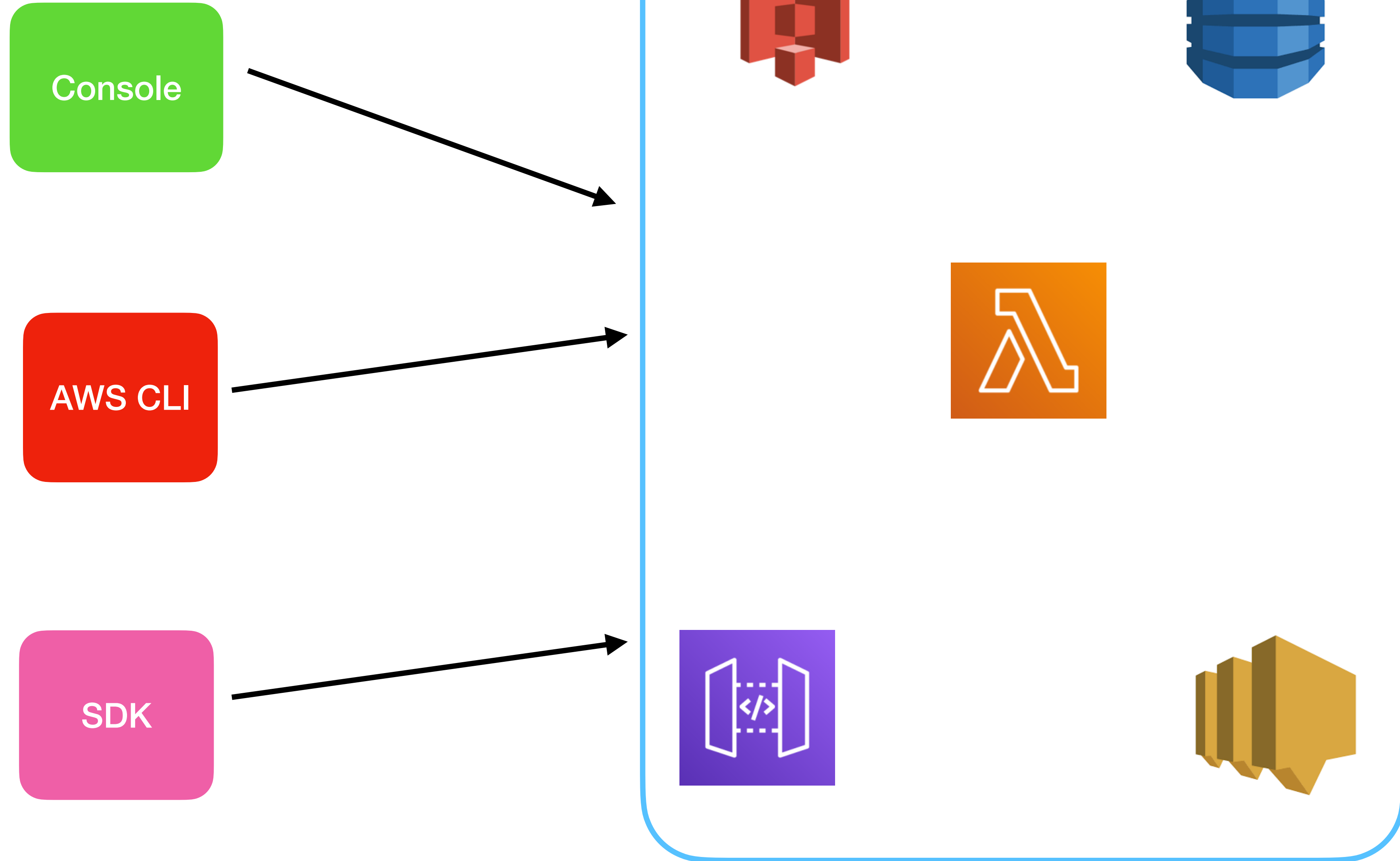
AWS SAM CLI

Install Java

Install Eclipse

Install Maven

Invocation

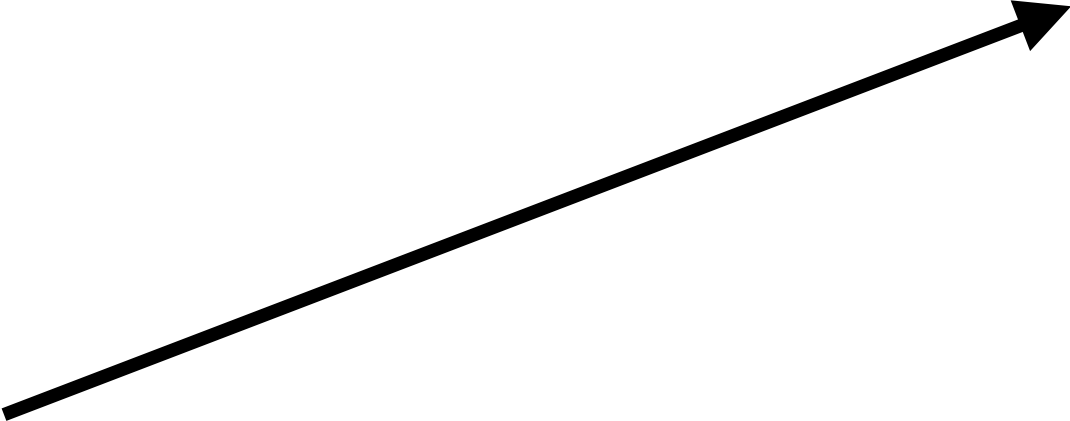
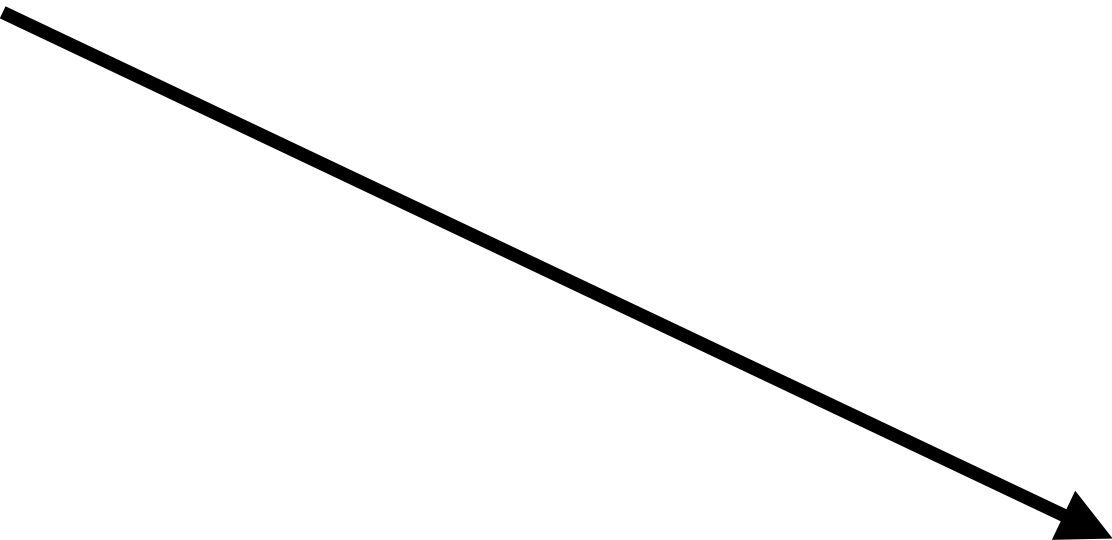
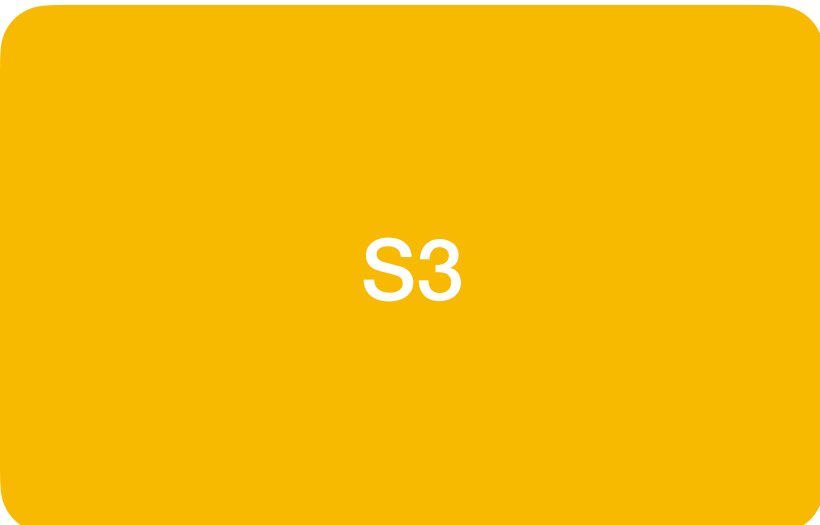


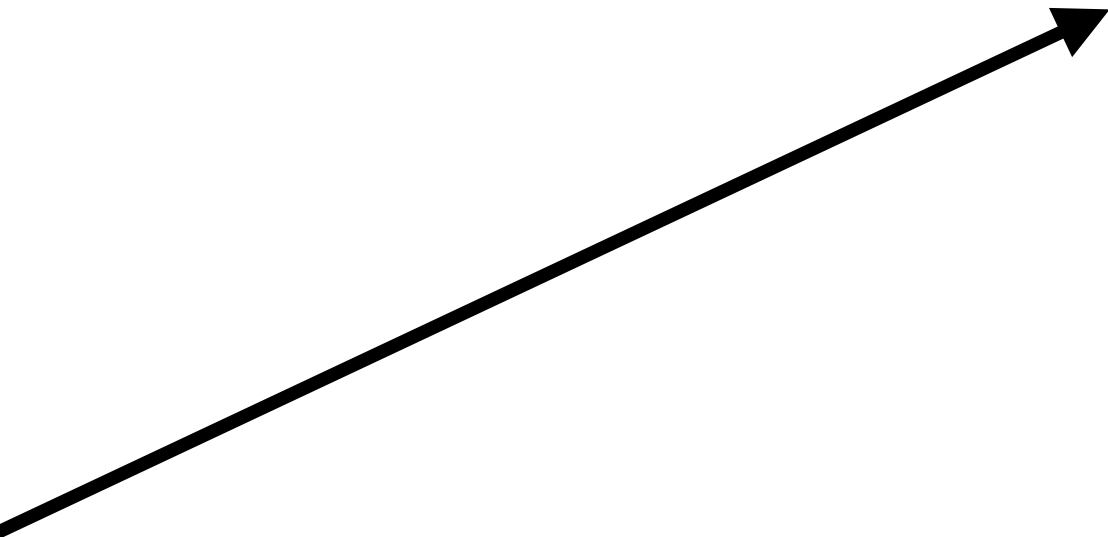
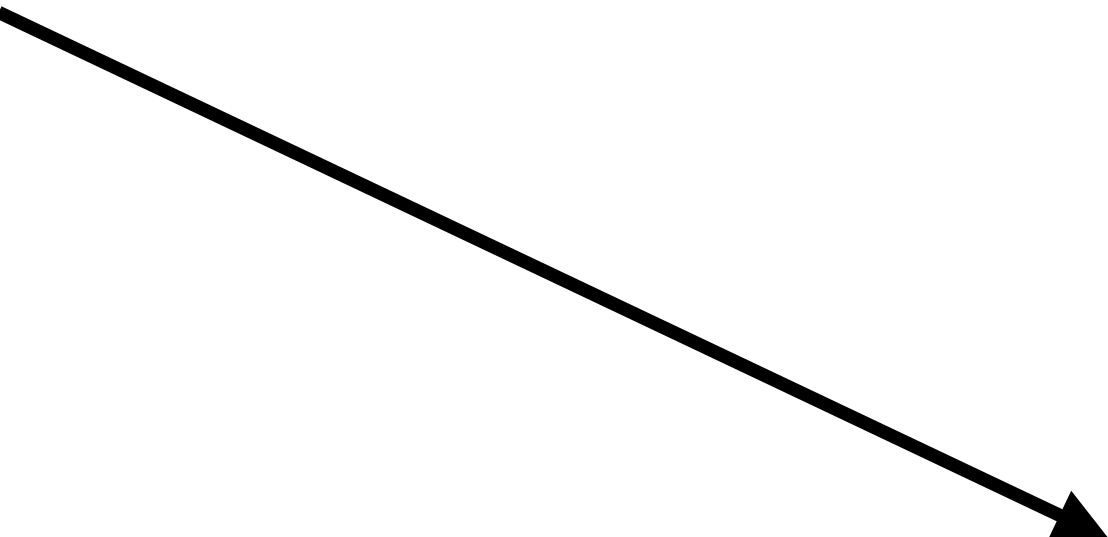


Microservices

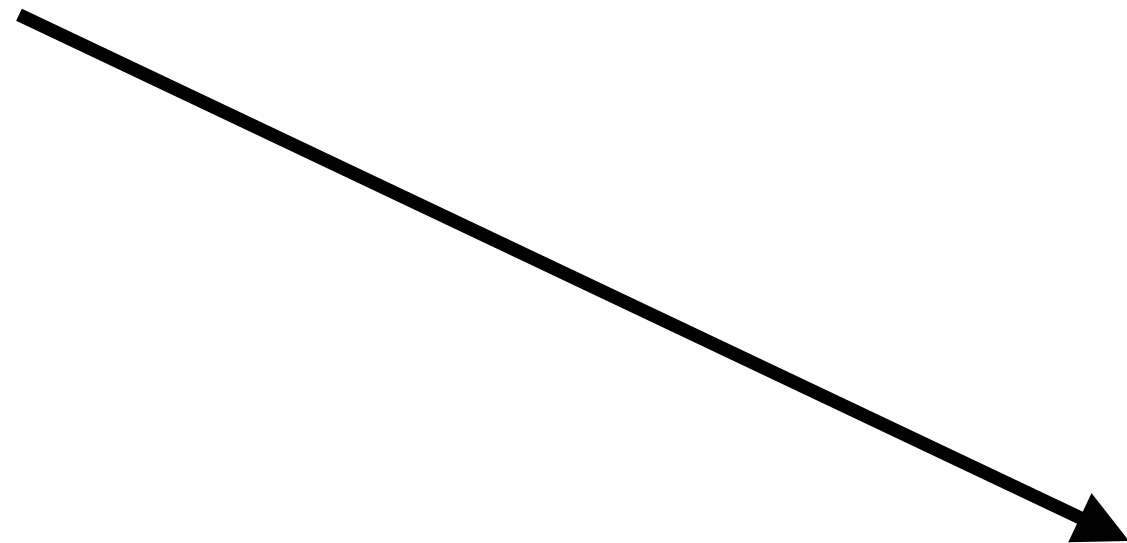
Messaging



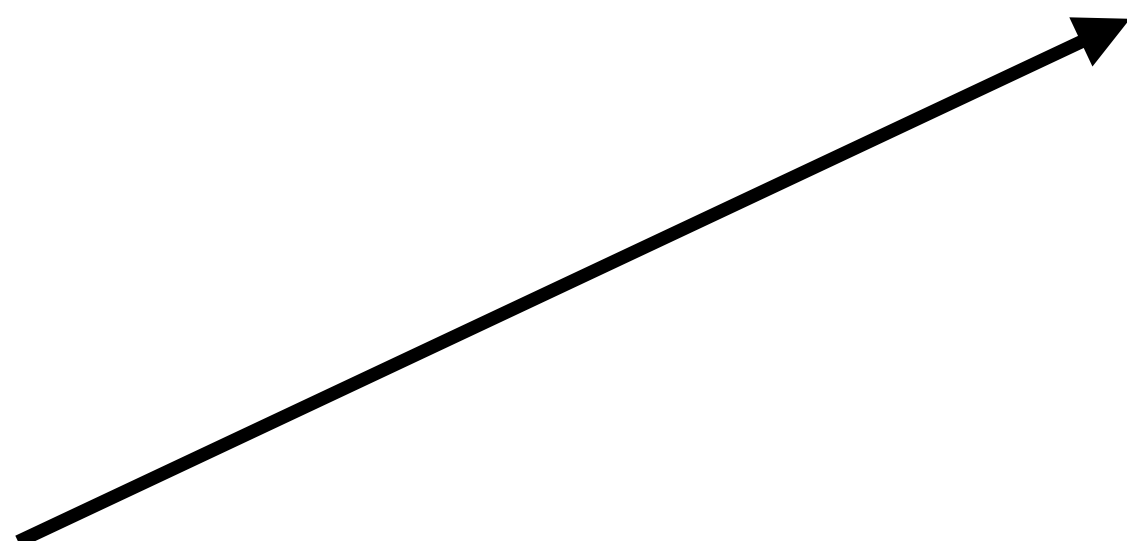


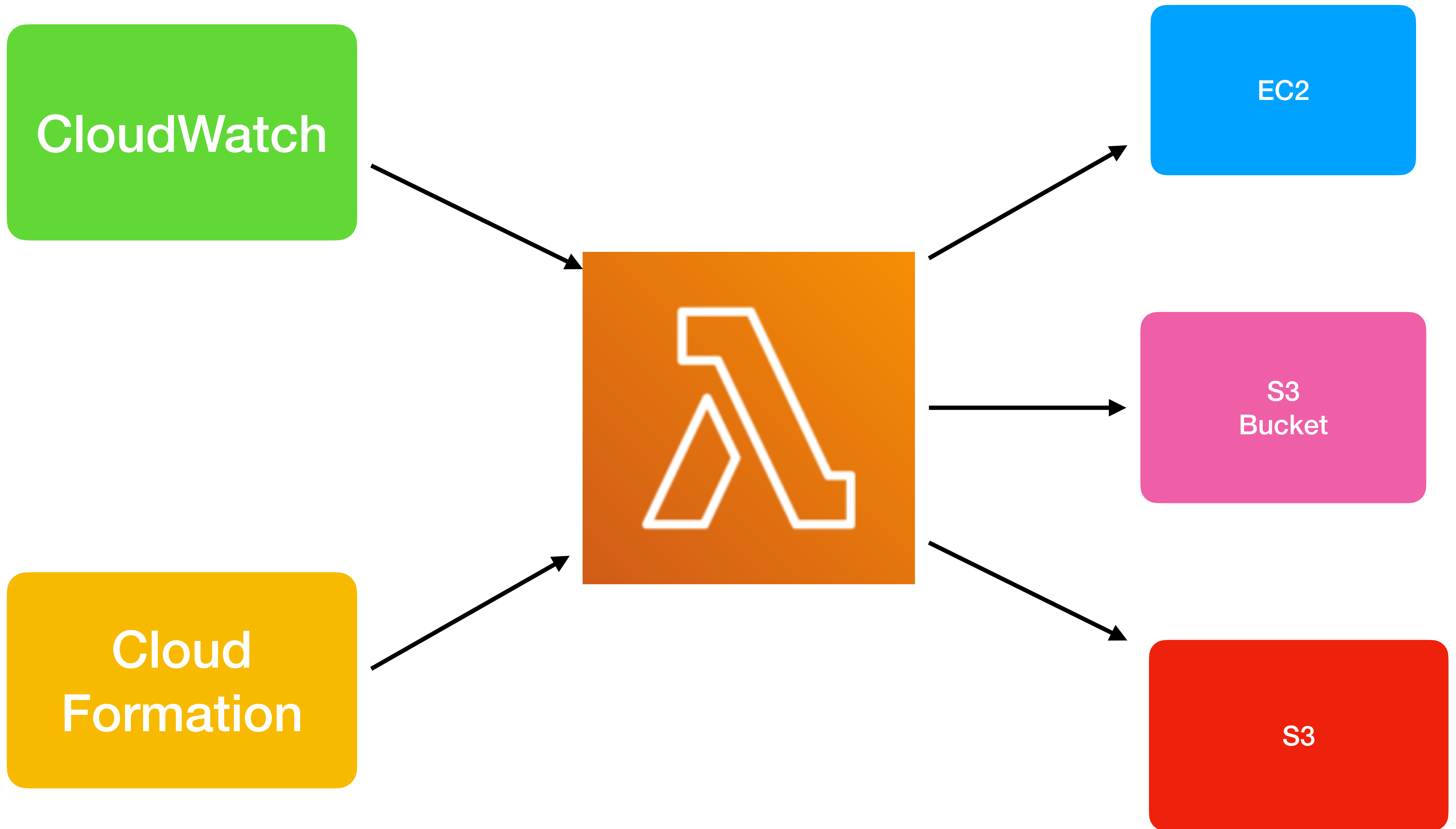


Chatbots

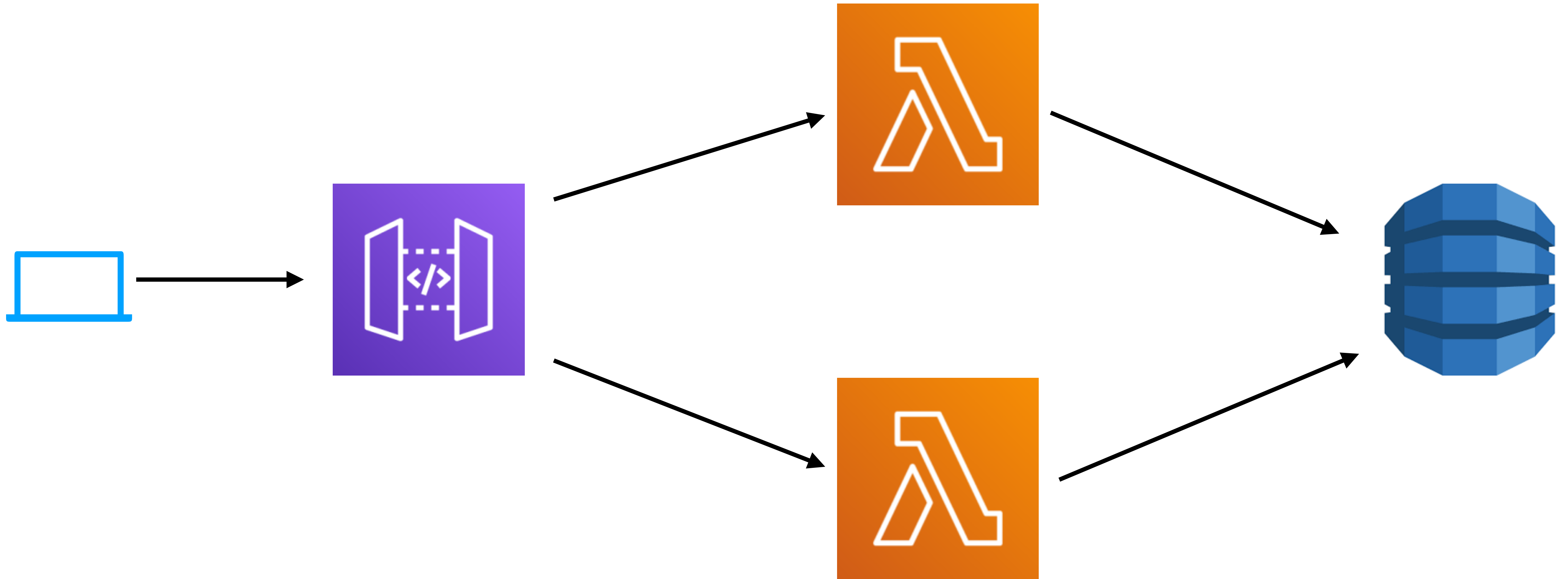


Alexa

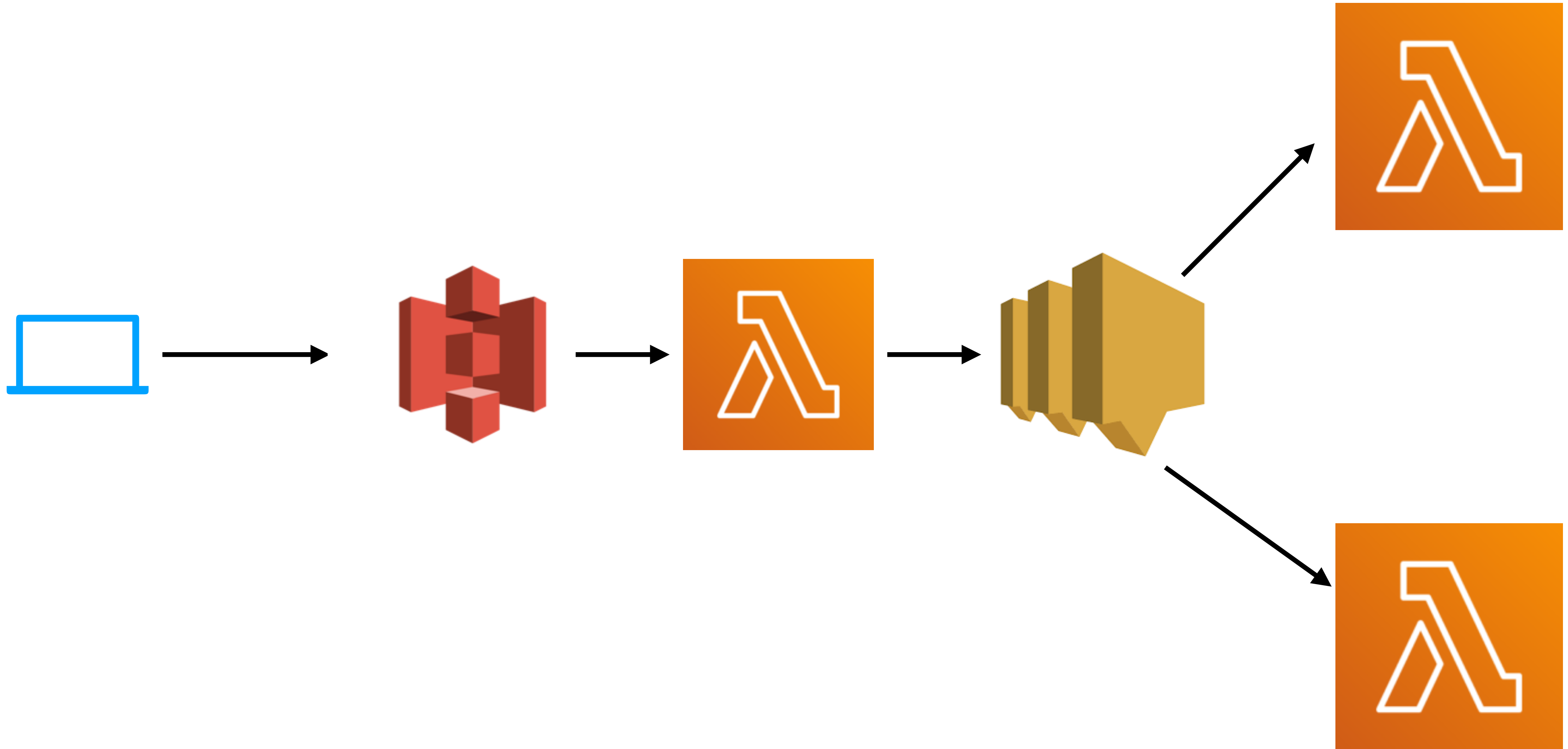




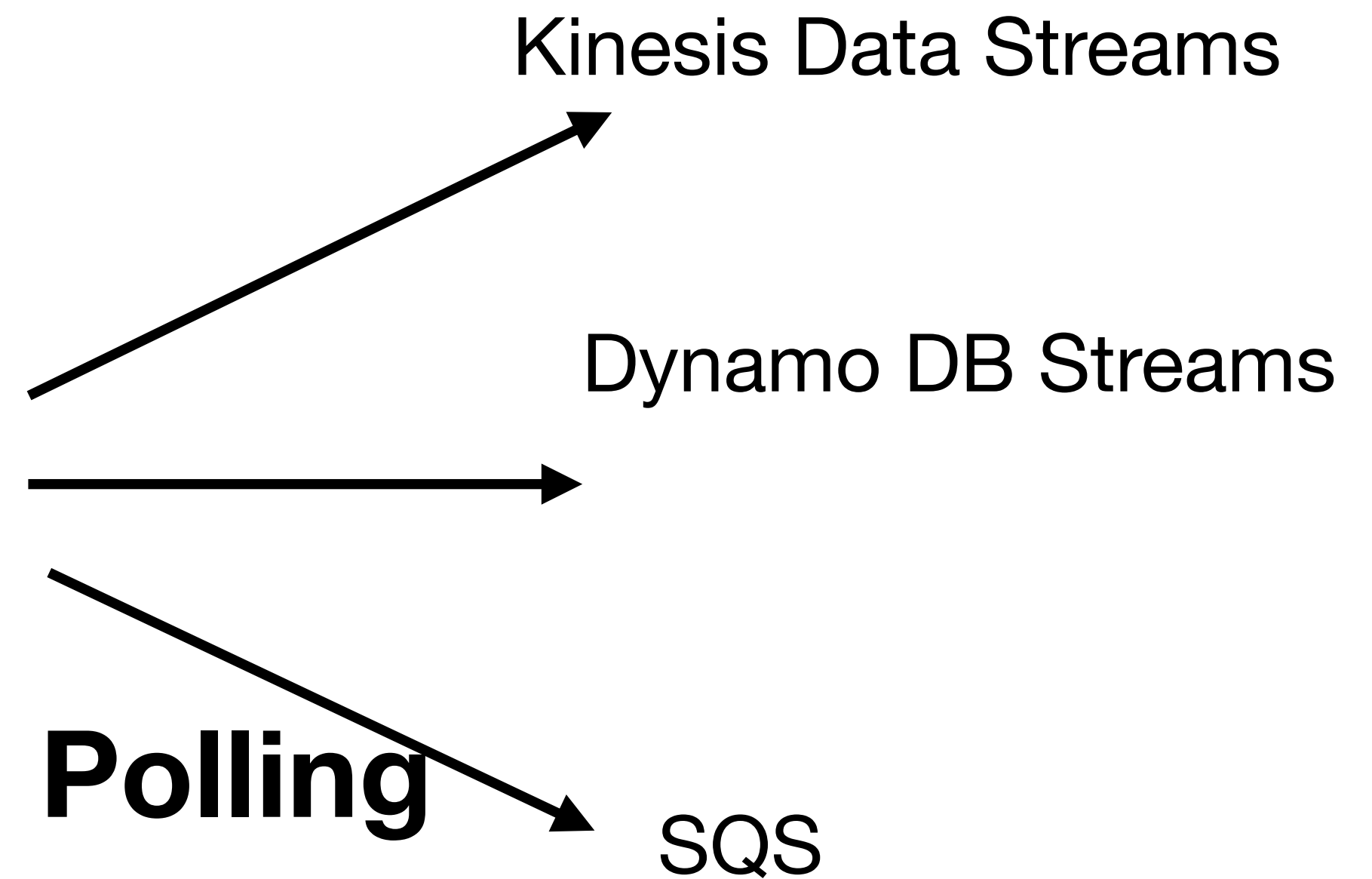
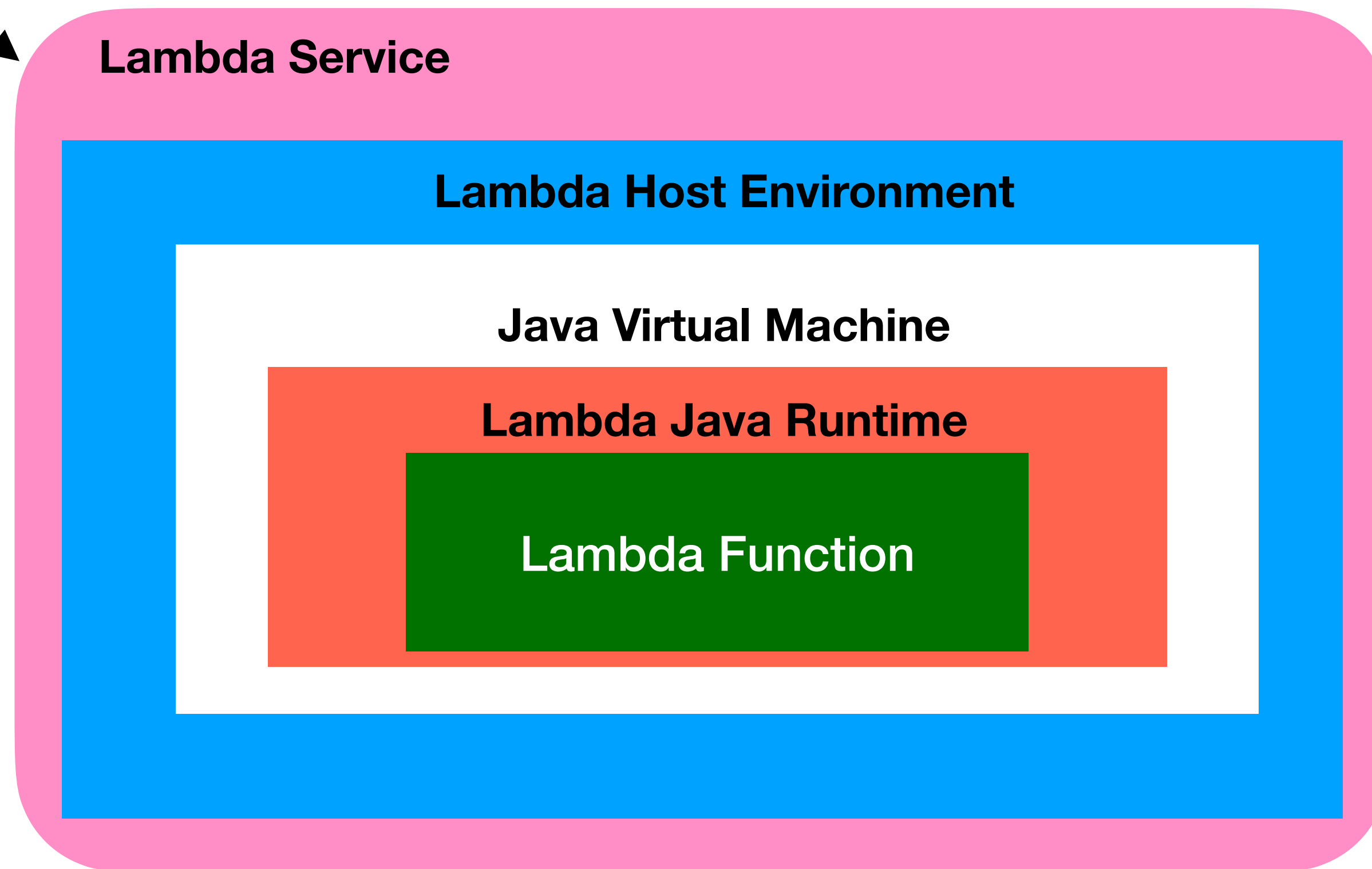
API Gateway as Event Trigger



S3 as Event Trigger



Sync API Gateway Alexa CloudFront



ASync S3 SNS CloudFormation



Scaling



Security



patientData.json

v1

patientData.json

v2



Bucket Name

Key





Attributes

firstName	lastName	ssn	email

Item

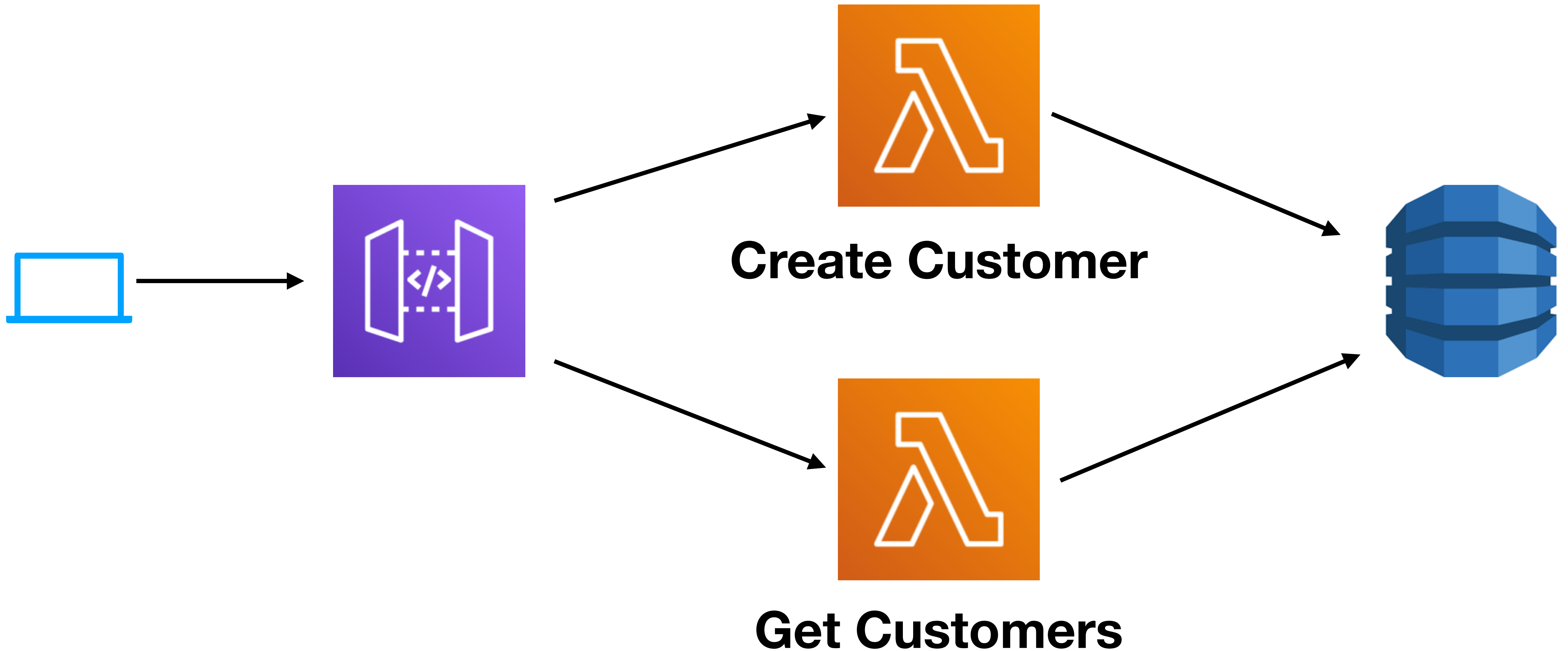


Keys

Partition Key

Sort Key

API Gateway as Event Trigger



API Gateway as Event Trigger

Customer

firstName

lastName

rewardPoints

S3 as Event Trigger

Student

rollNo

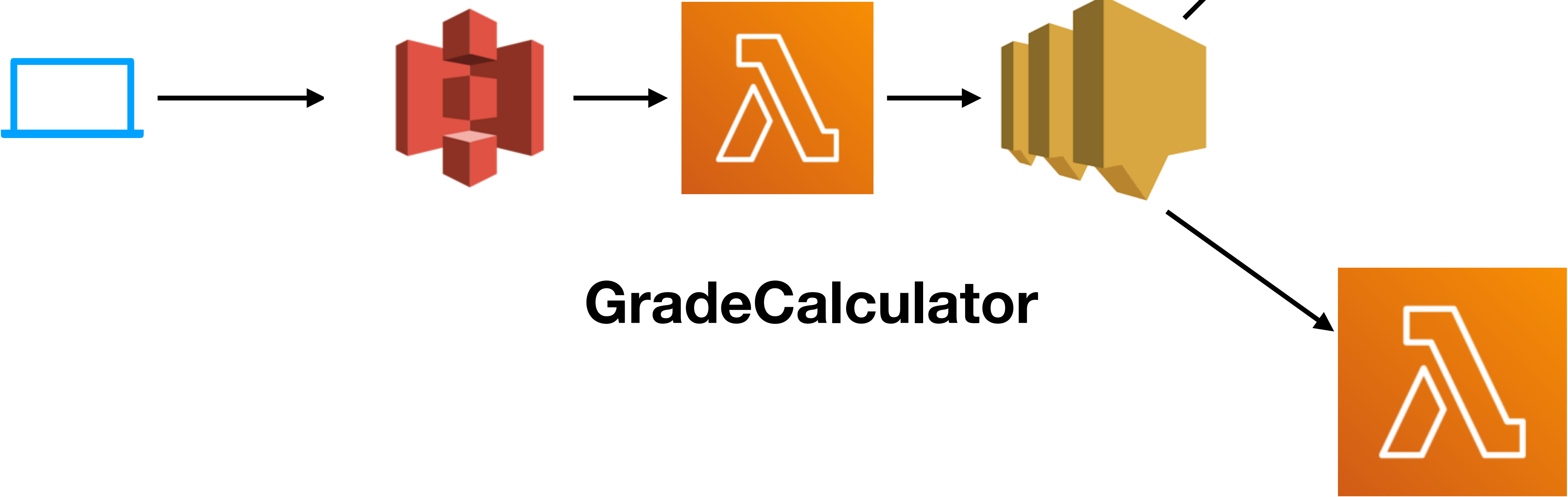
name

testScore

grade

S3 as Event Trigger

ReportGenerator



GradeCalculator

Async Function

truckTracker

Latitude

Longitude

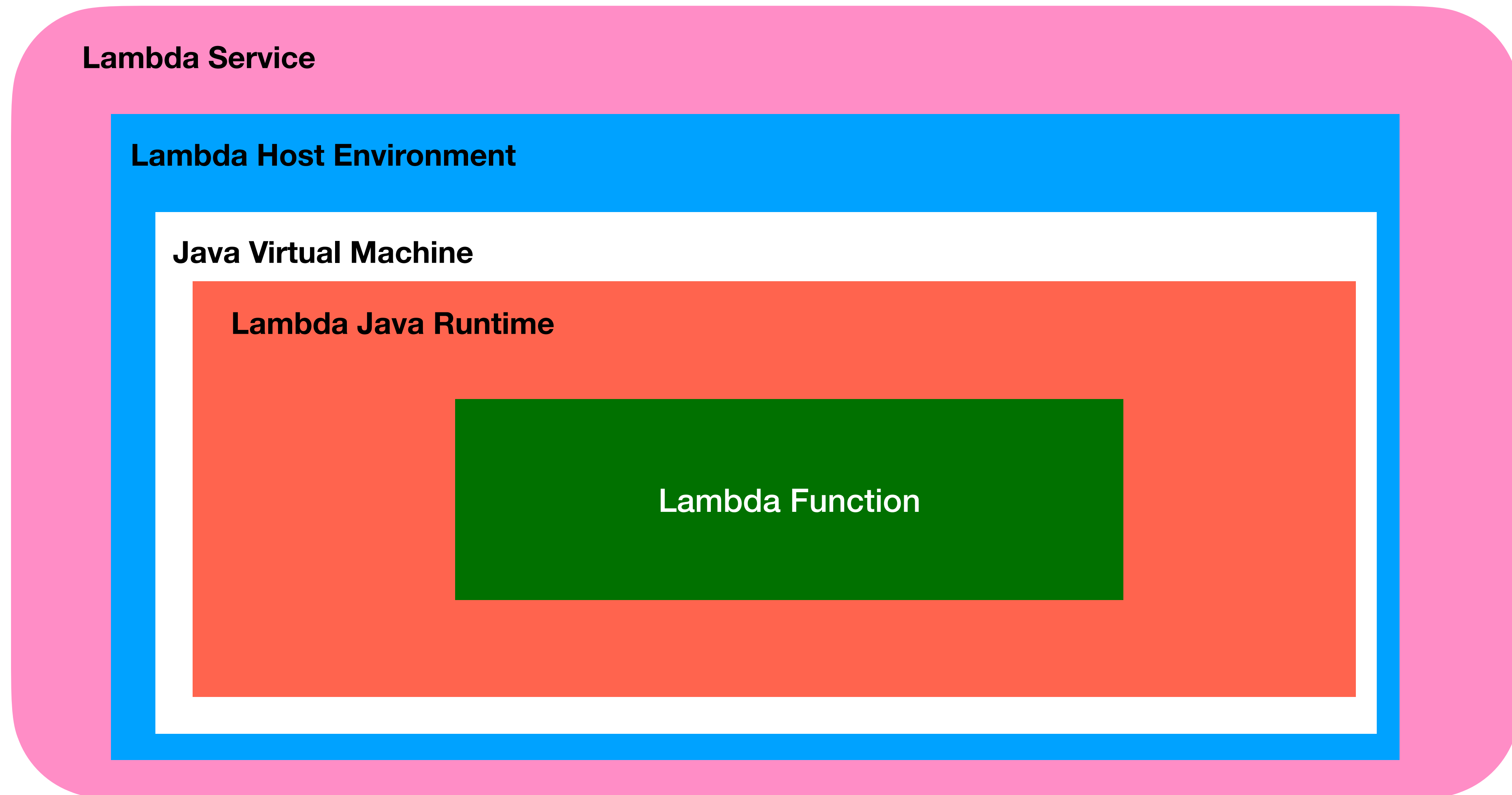
Sync Function

getTicket

Payment

Ticket

Cold Start



When

Deployed or Changed

Instances Expired

Removed due to age

Scaling

Time Taken

Logging

Function

Log Group

Instance1

Log Stream1

Instance2

Log Stream2

Error Handling

Sync

Return a nice error

Lambda Service

Lambda Host Environment

Python Runtime

Lambda Function

Kinesis Data Streams

Dynamo DB Streams

Polling

SQS

Failure Handling

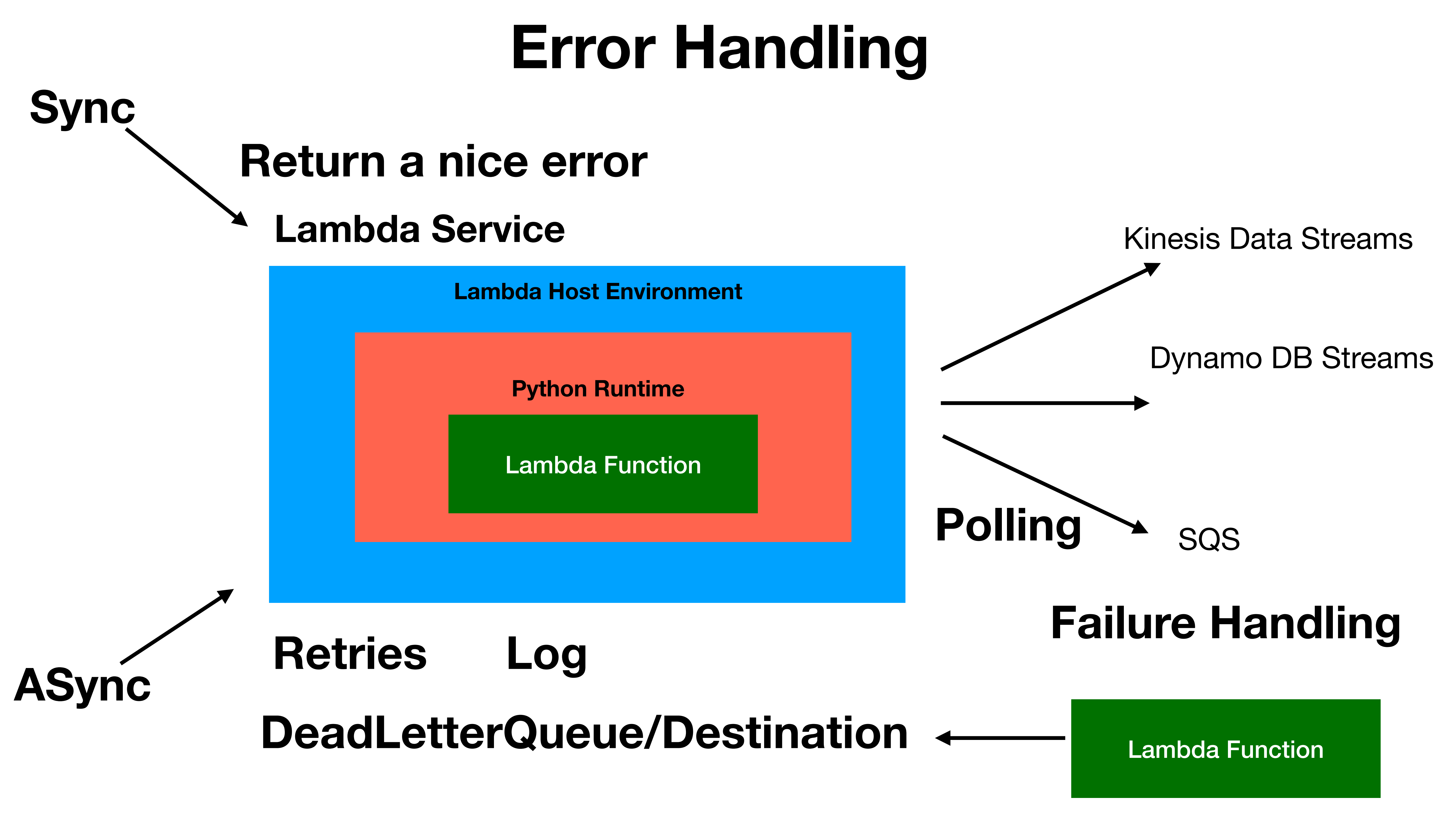
Retries

Log

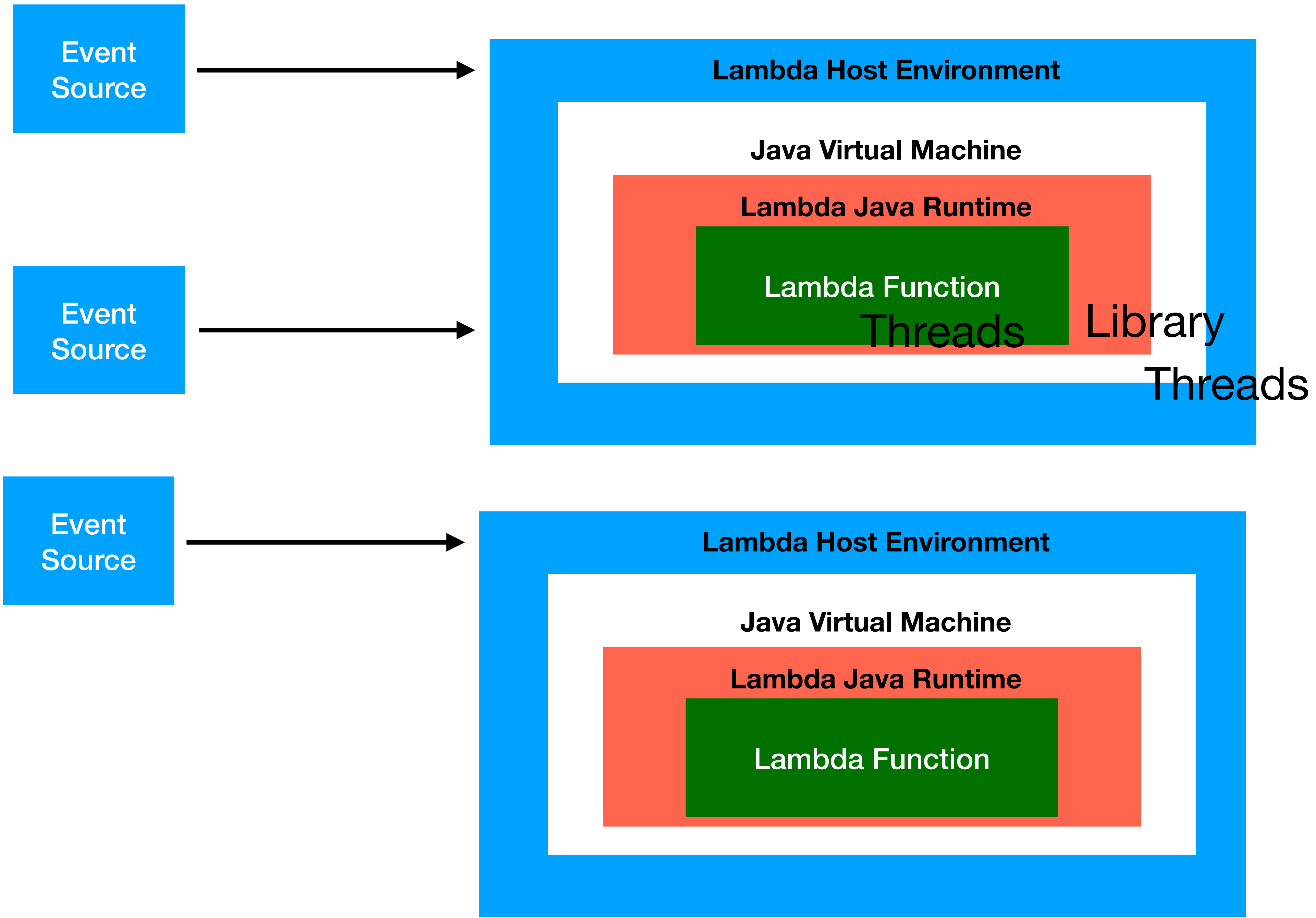
DeadLetterQueue/Destination

Lambda Function

ASync



Lambda Service



SQS

