

Serverless

The Future of Cloud Computing ?



Level Up Your
Serverless Game

bespinian

Cloud Native Citizens

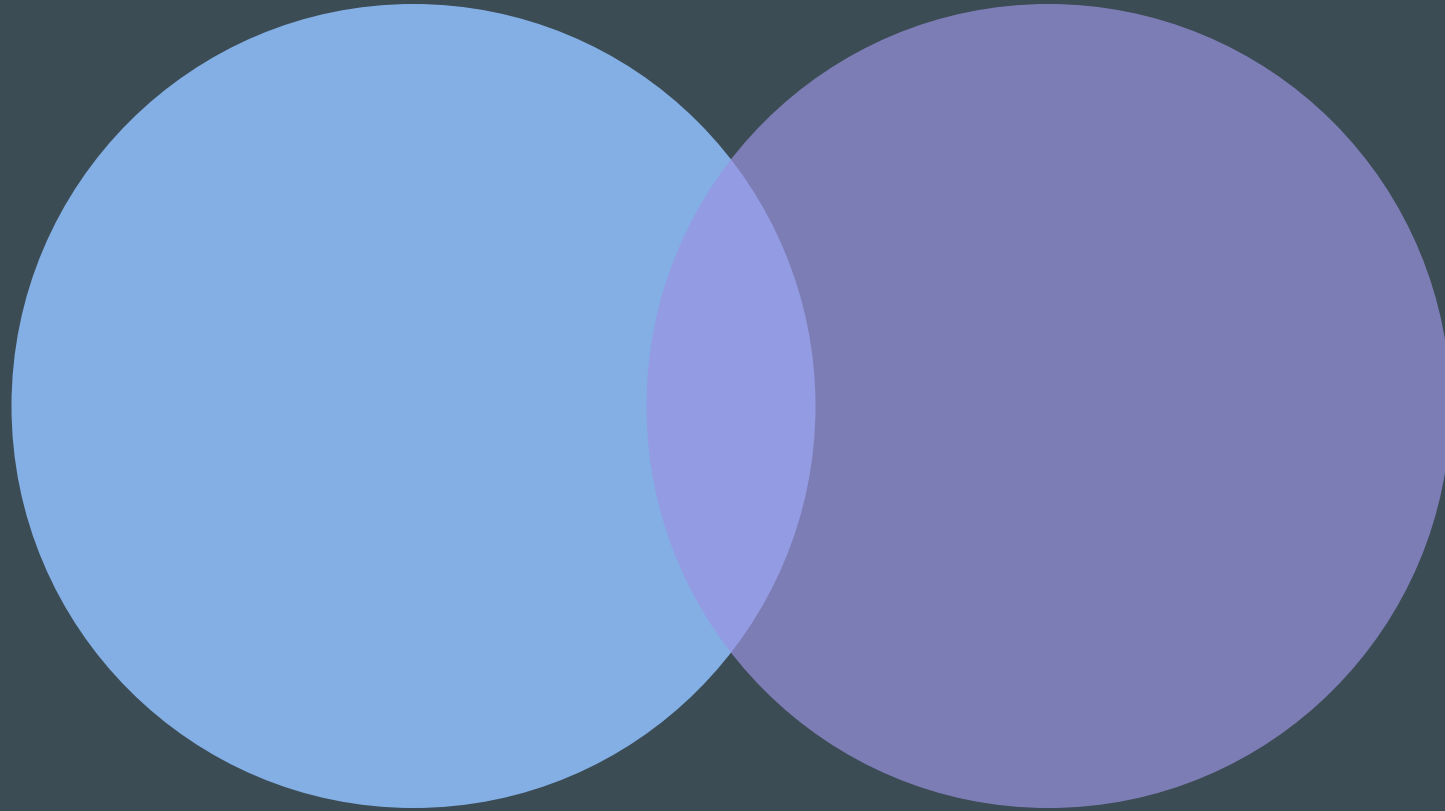


Talk ~~Dirty~~
Nerdy
To Me

“But there are still servers involved!”

– Dave from Reddit

FaaS



BaaS



Amazon S3



Object storage

REST API

99.99% availability

Website hosting

Amazon SQS

Queueing service

Used as a trigger

Used to decouple services

Scales infinitely



Amazon API Gateway



Distributes requests

Authenticates/authorizes

TLS termination

Rate limiting

Amazon DynamoDB

NoSQL Database

Consistent performance

Sharded

Allows PITR



AWS Lambda



Pay-as-you-go compute

Event based

Many programming languages

Infra → IaaS → PaaS → FaaS

```
handler = function(event, context) {  
  
    ...  
  
    return response;  
    // or throw Error("oh noes!");  
}
```





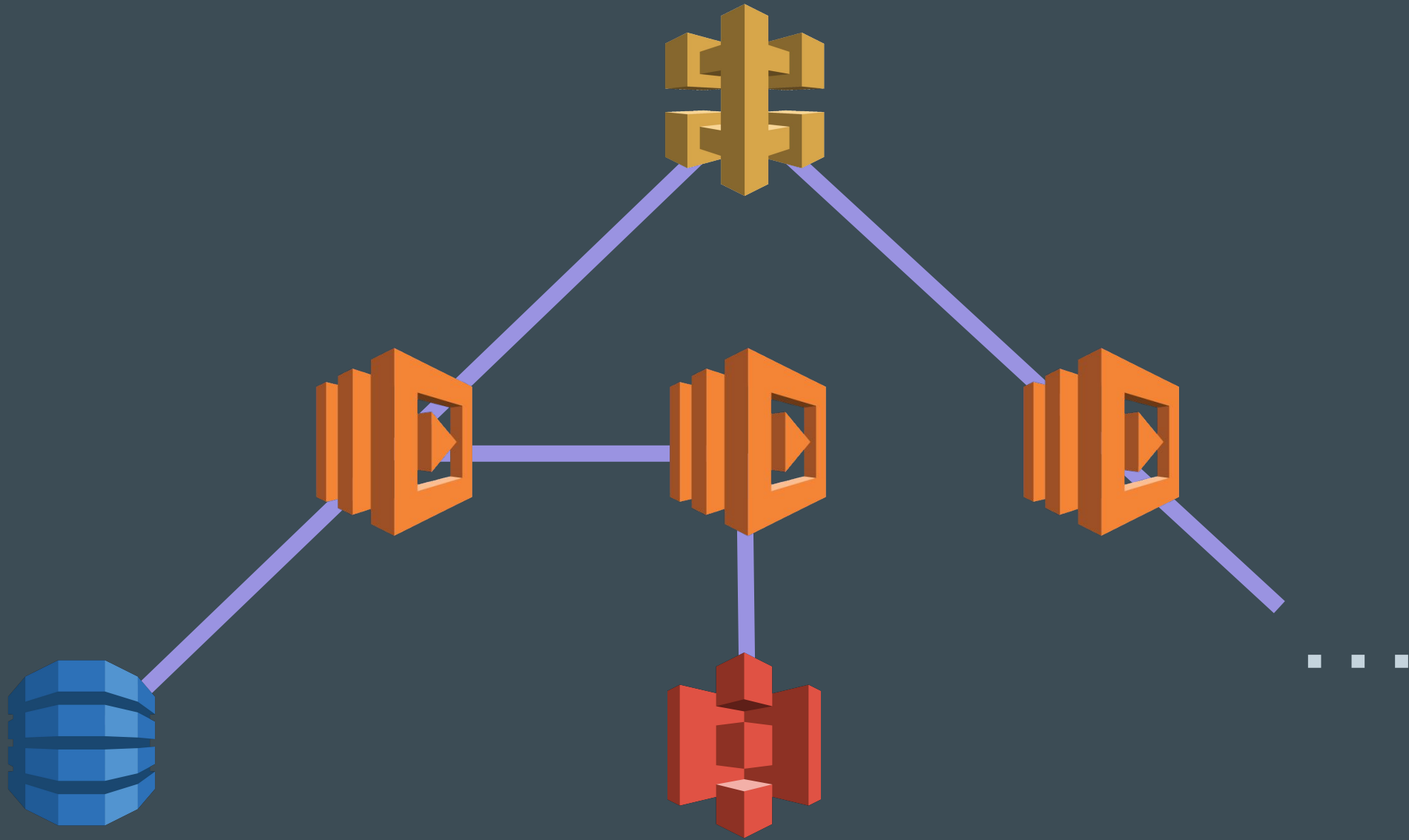
- Requires standardized application
- Can get highly complex to manage
- Possibly different technologies
- Vendor lock-in



- Pay for what you use
- No infrastructure setup / management
- Scale $\rightarrow \infty$
- High separation of concerns
- Easily testable

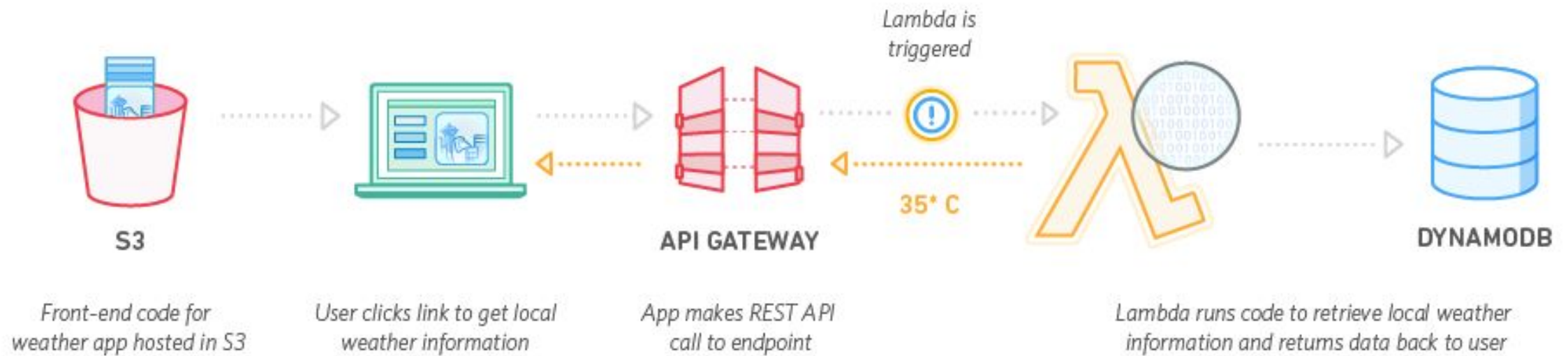


- Use a FaaS service to run code on demand
- Write single-purpose stateless functions
- Design push-based, event driven pipelines
- Create thicker, more powerful frontends
- Embrace third-party services

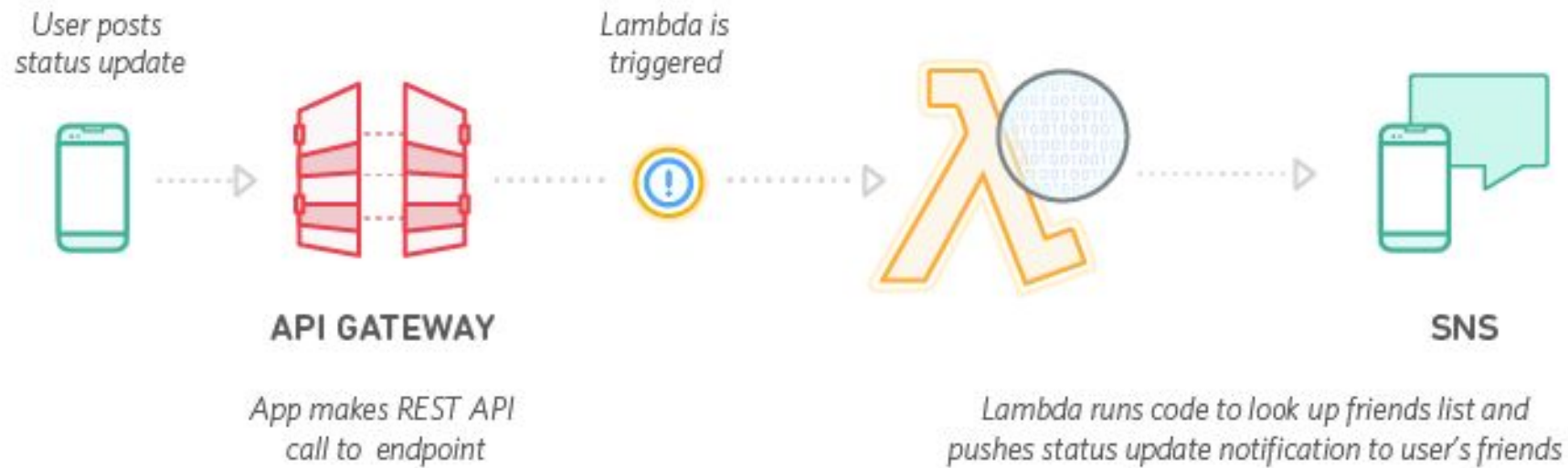




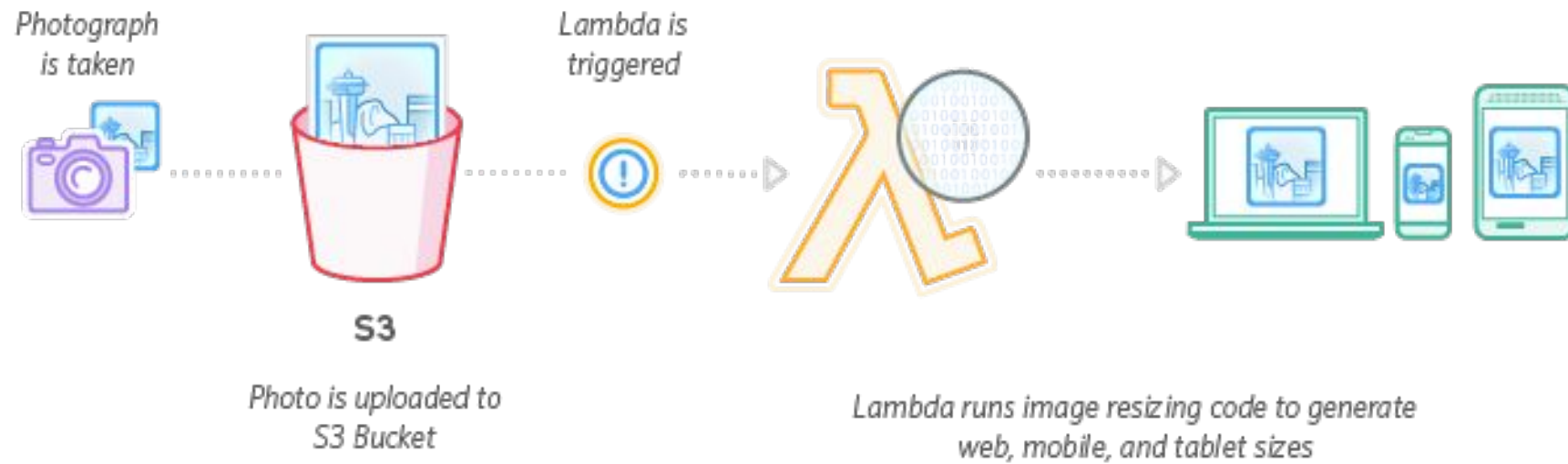
Example: Weather Application



Example: Mobile Backend for Social Media App



Example: Image Thumbnail Creation

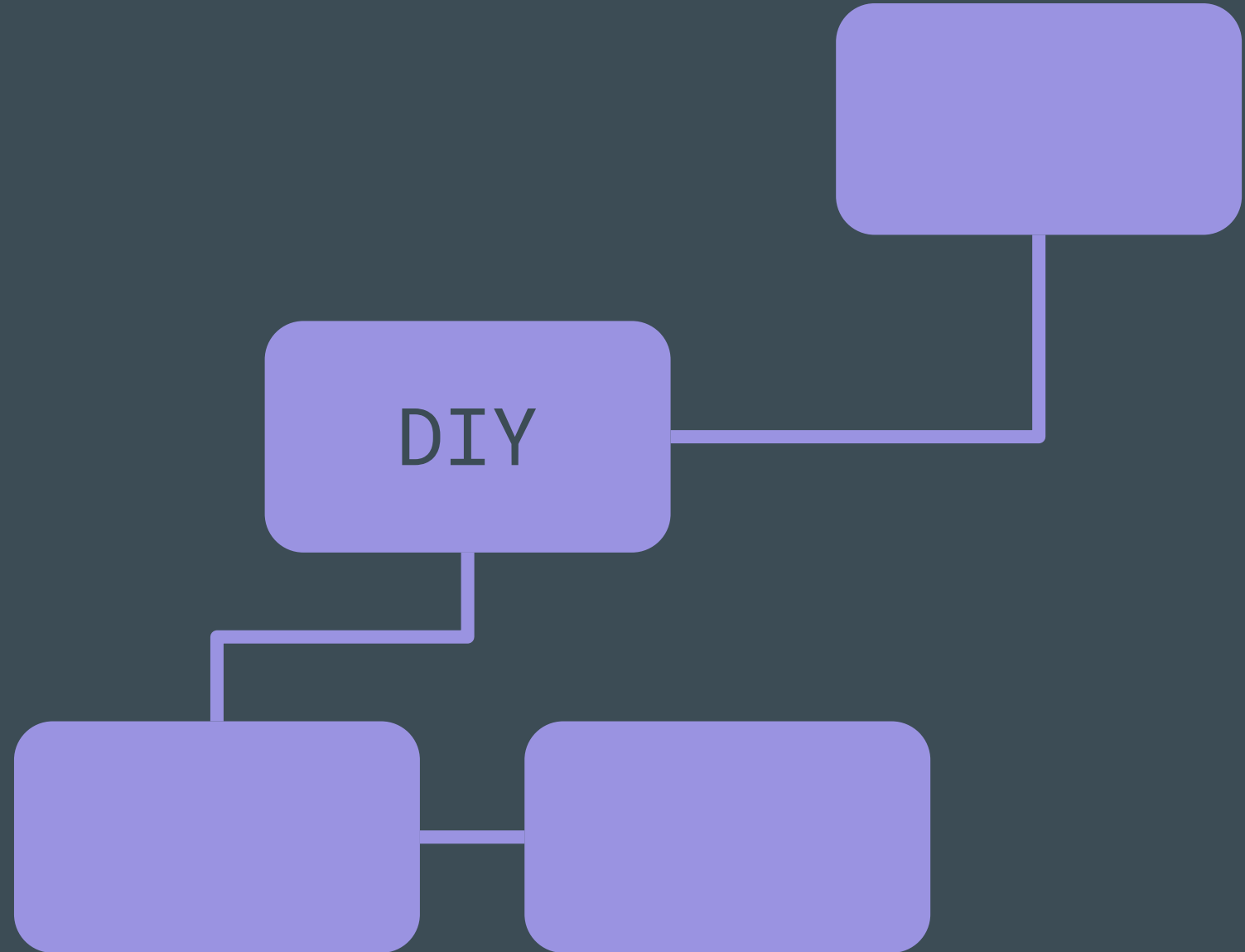


Ideas

Web Shop

IoT solution

Twitter clone





Level 0

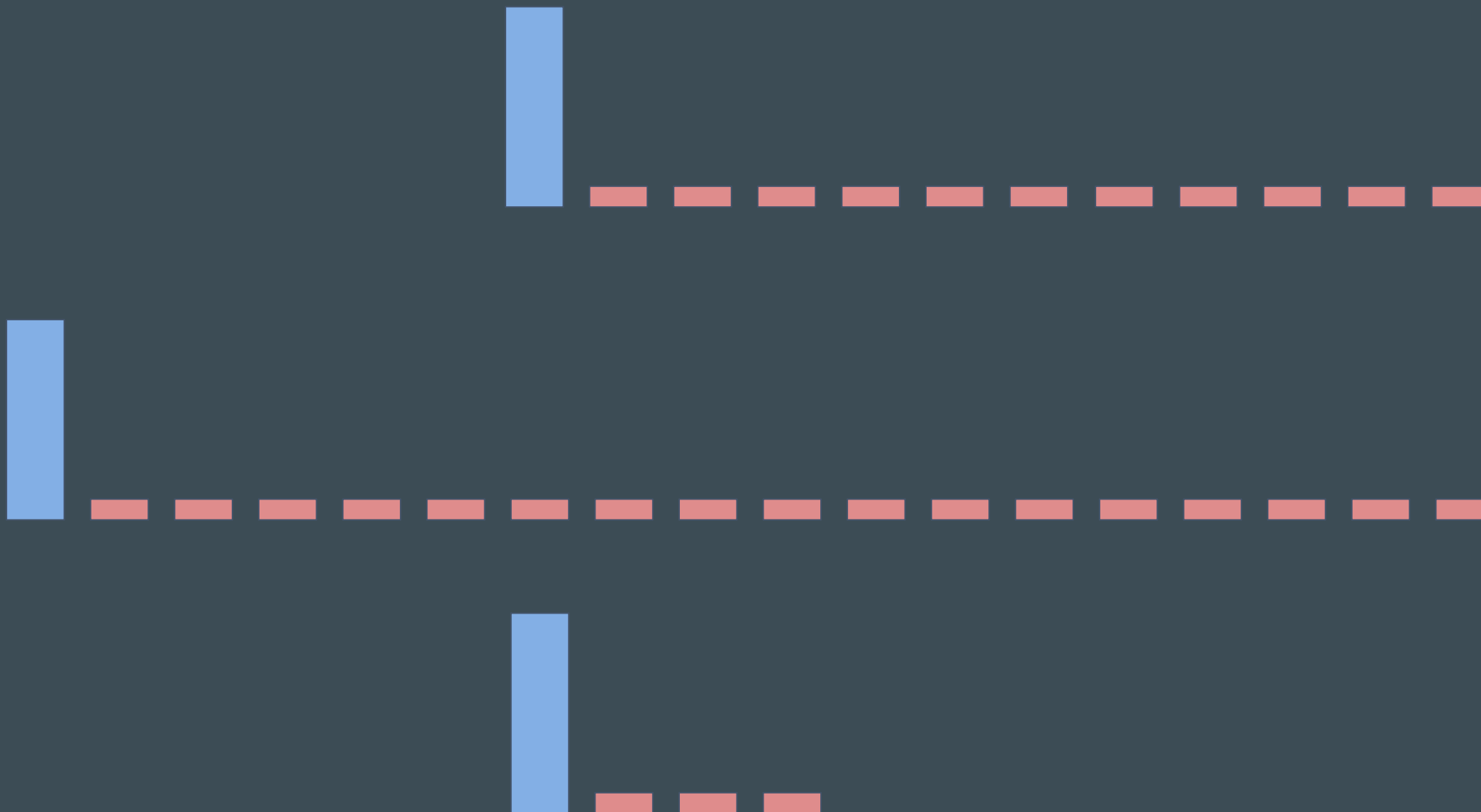
This is easy!

900 ms



37 ms







Level 1

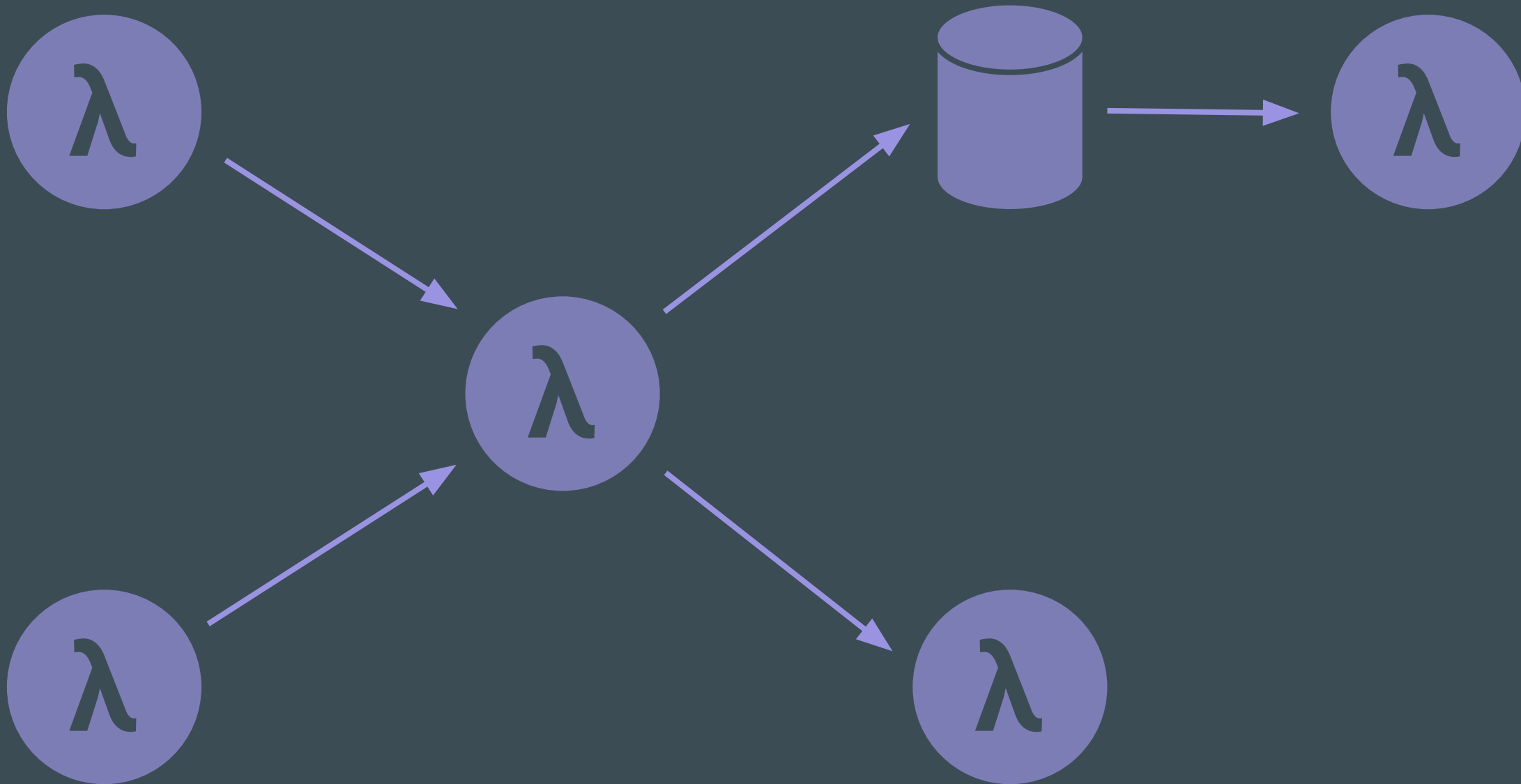
No cold starts!

```
handler = function(event, context) {  
    console.log("this works!");  
    console.error("lulz");  
    return null;  
}
```



Level 2

Loggin' it!





Level 3
Tracin' it!



6 sec

init

i/o 1

i/o 2

cleanup

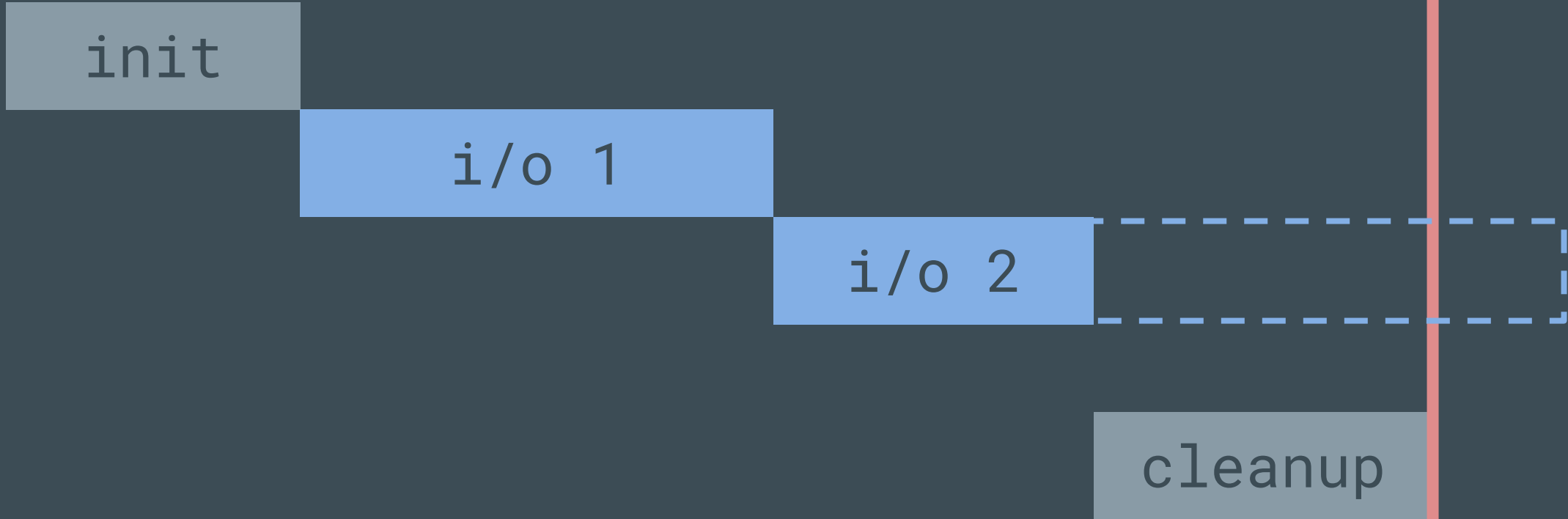
6 sec

init

i/o 1

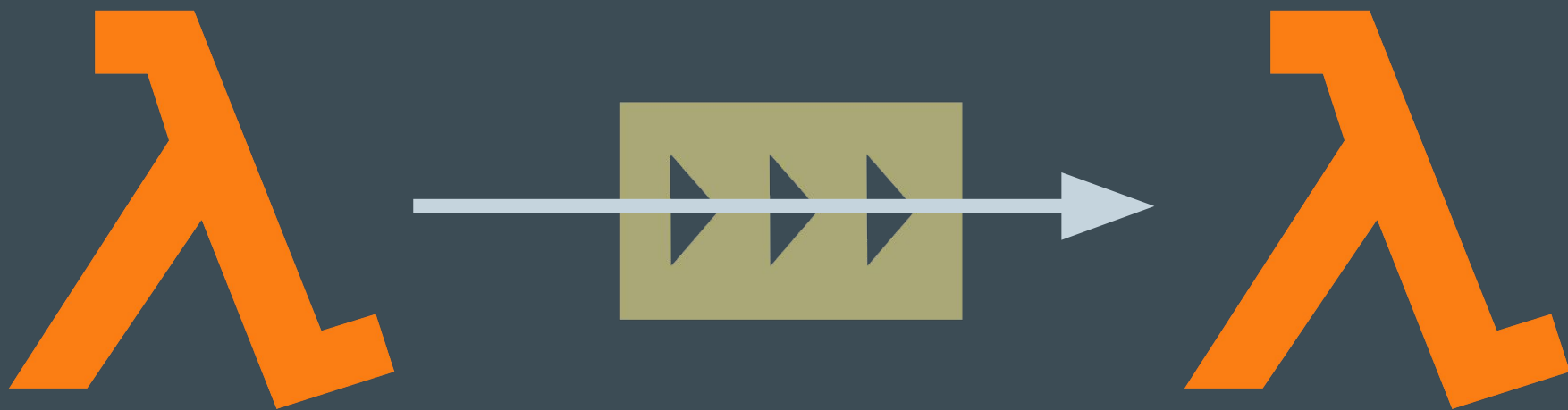
i/o 2

cleanup





Level 4
Timin' it!





Level 5

Decouplin' it!

```
resource "aws_lambda_function" "my_func" {  
    function_name = "my-func"  
    runtime       = "go1.x"  
    memory_size   = 256  
  
    environment {  
        DB_URL = "https://db.com"  
    }  
}
```




Level 6

Infra as Code

...Duh!





Level 7
Lockdown!





Level 8

Do the Canary!





Level 9

Do Your Work!



Thanks!

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