Spring Cloud
goes cloud

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Agenda

- Building Docker images for Spring Boot apps

- Providing app metrics with Spring Boot Actuator

- Running microservices in Docker
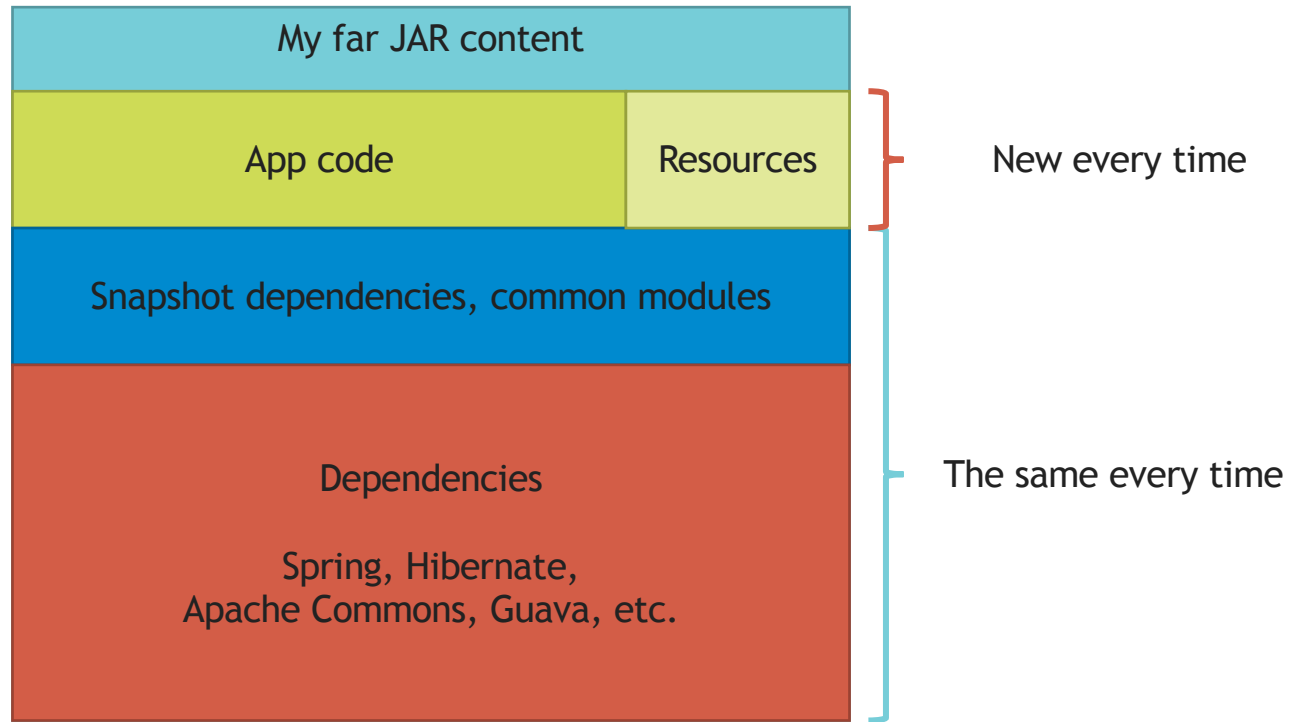
- Running microservices in Kubernetes

Building Docker images

```
FROM openjdk:8-jdk-alpine

EXPOSE 8080

ARG JAR_FILE=target/my-app.jar

ADD ${JAR_FILE} app.jar

ENTRYPOINT ["java","-jar","/app.jar"]
```
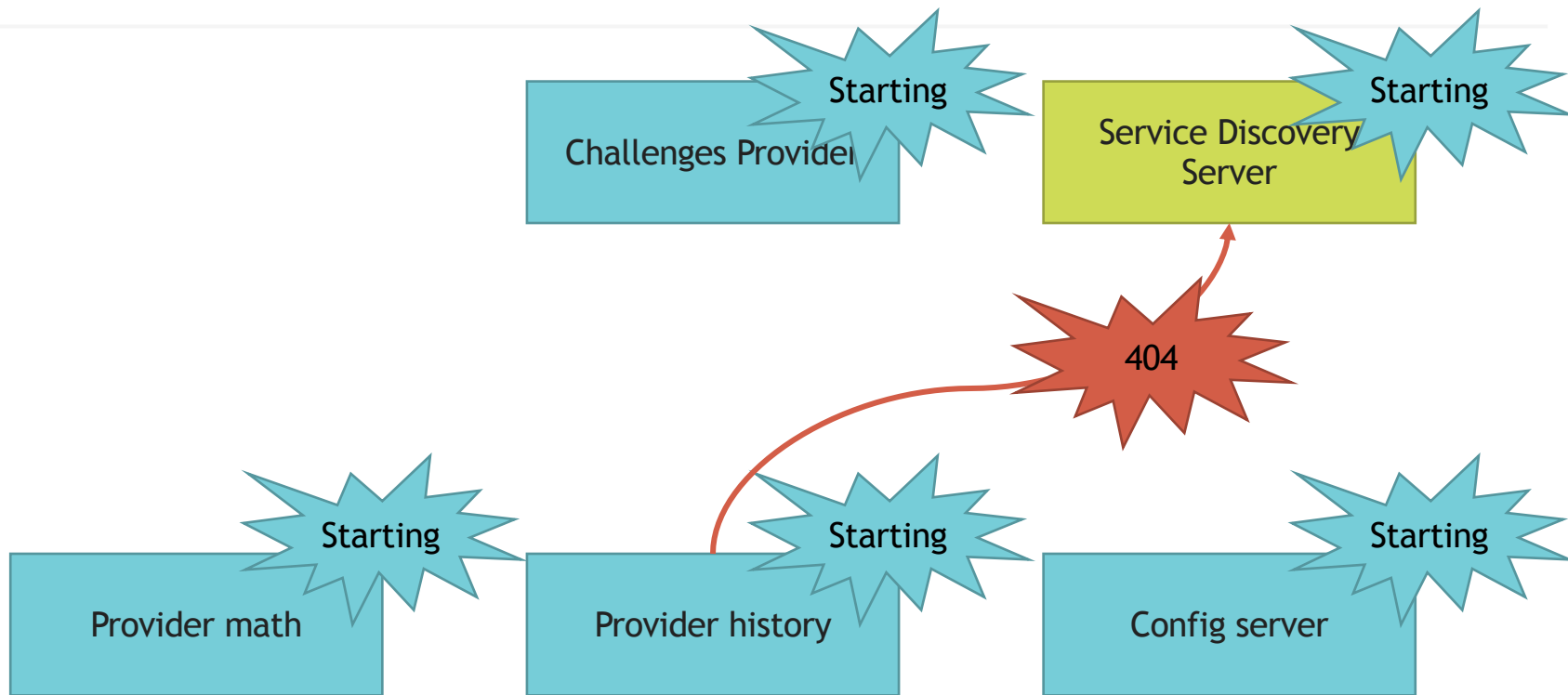

Docker Image

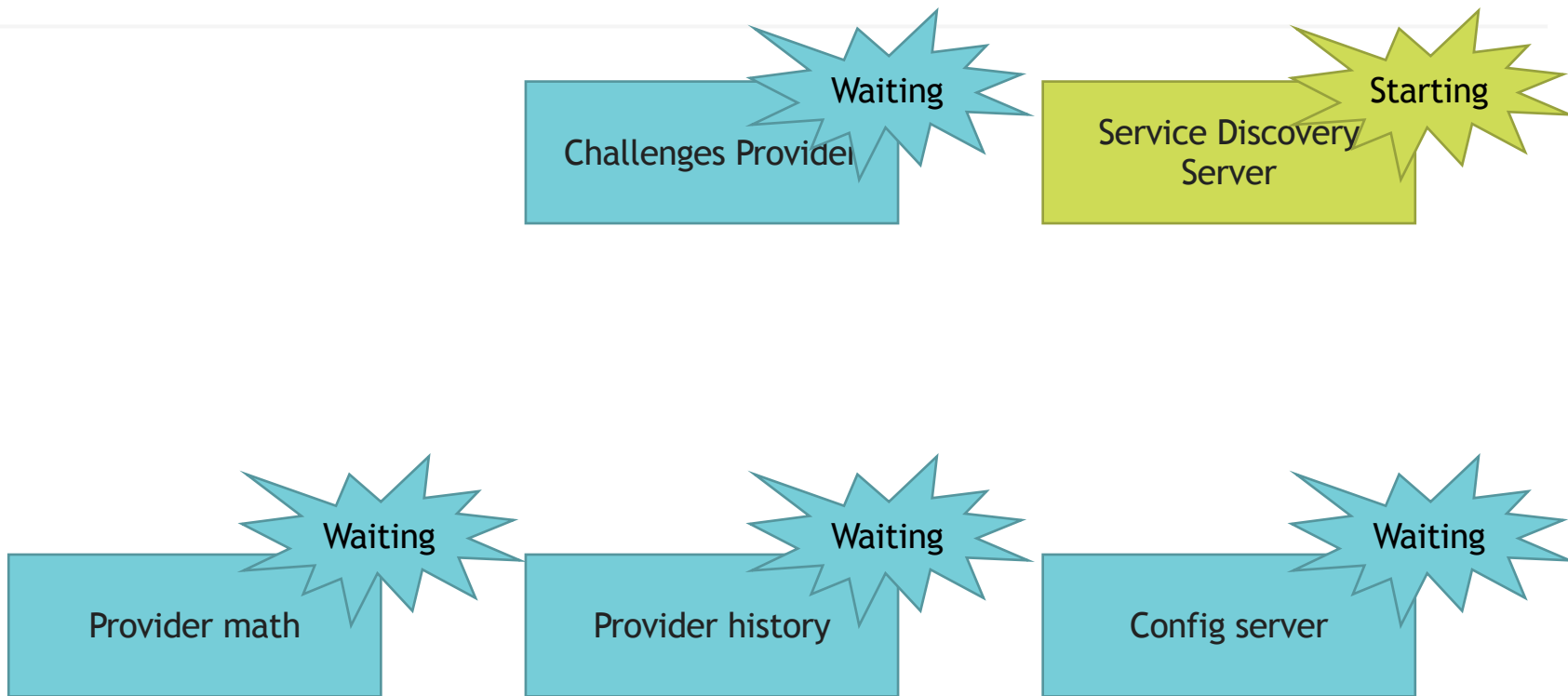My fat JAR

JDK

Alpine Linux
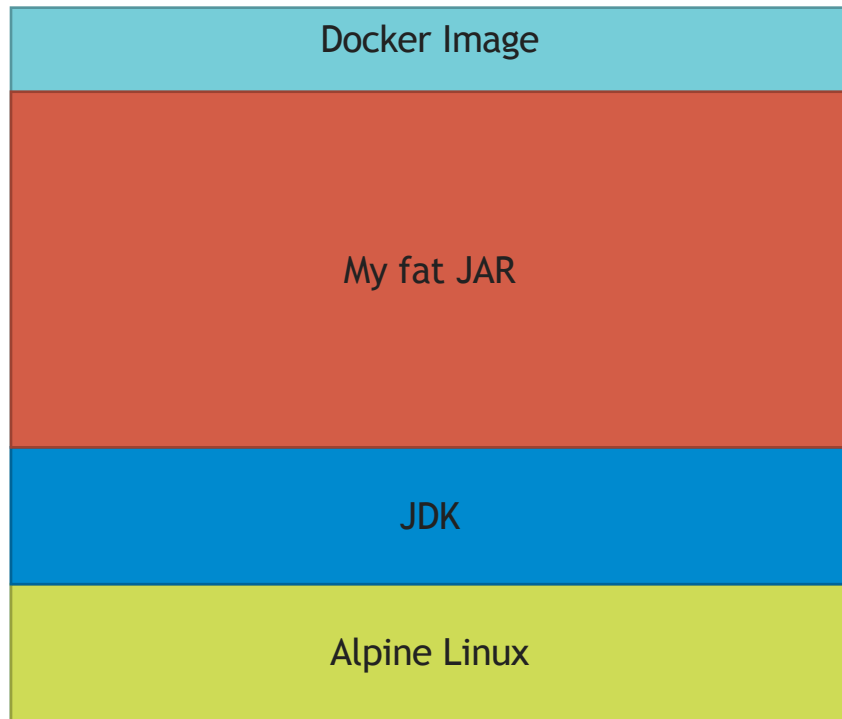
Building Docker images

DEMO #1 – BUILDING DOCKER IMAGES

Running services using Docker Compose

Running services using Docker Compose

Challenges Provider — Waiting

Service Discovery Server — Starting

Provider math — Waiting

Provider history — Waiting

Config server — Waiting

Running services using Docker Compose

Health check

Liveness check

The application is running

3-rd party checker
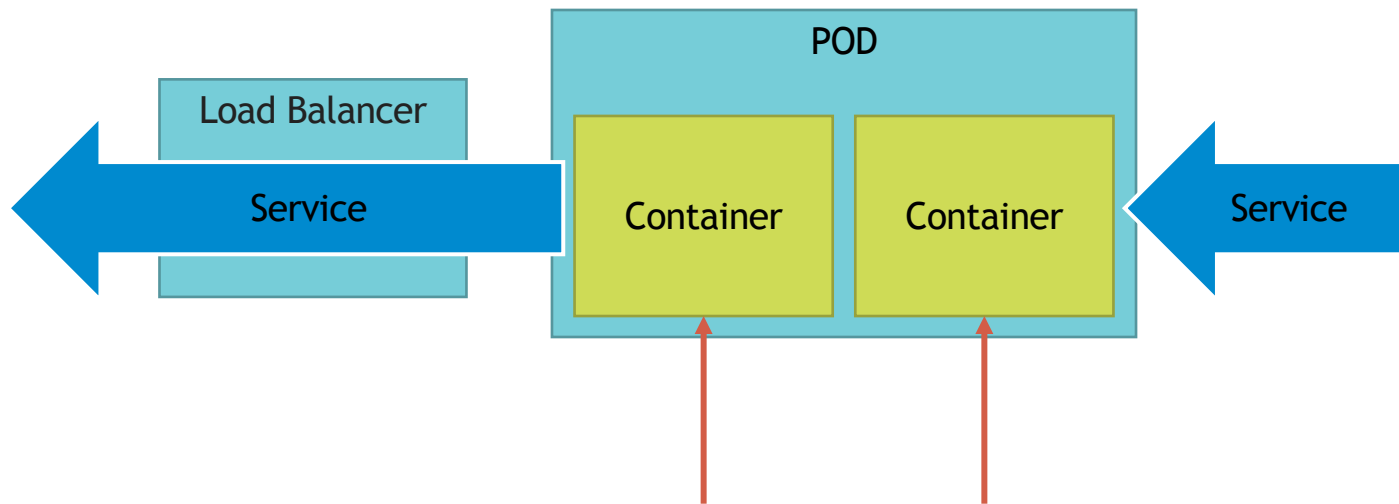
Some Service

Readiness check

The application is ready
to accept requests
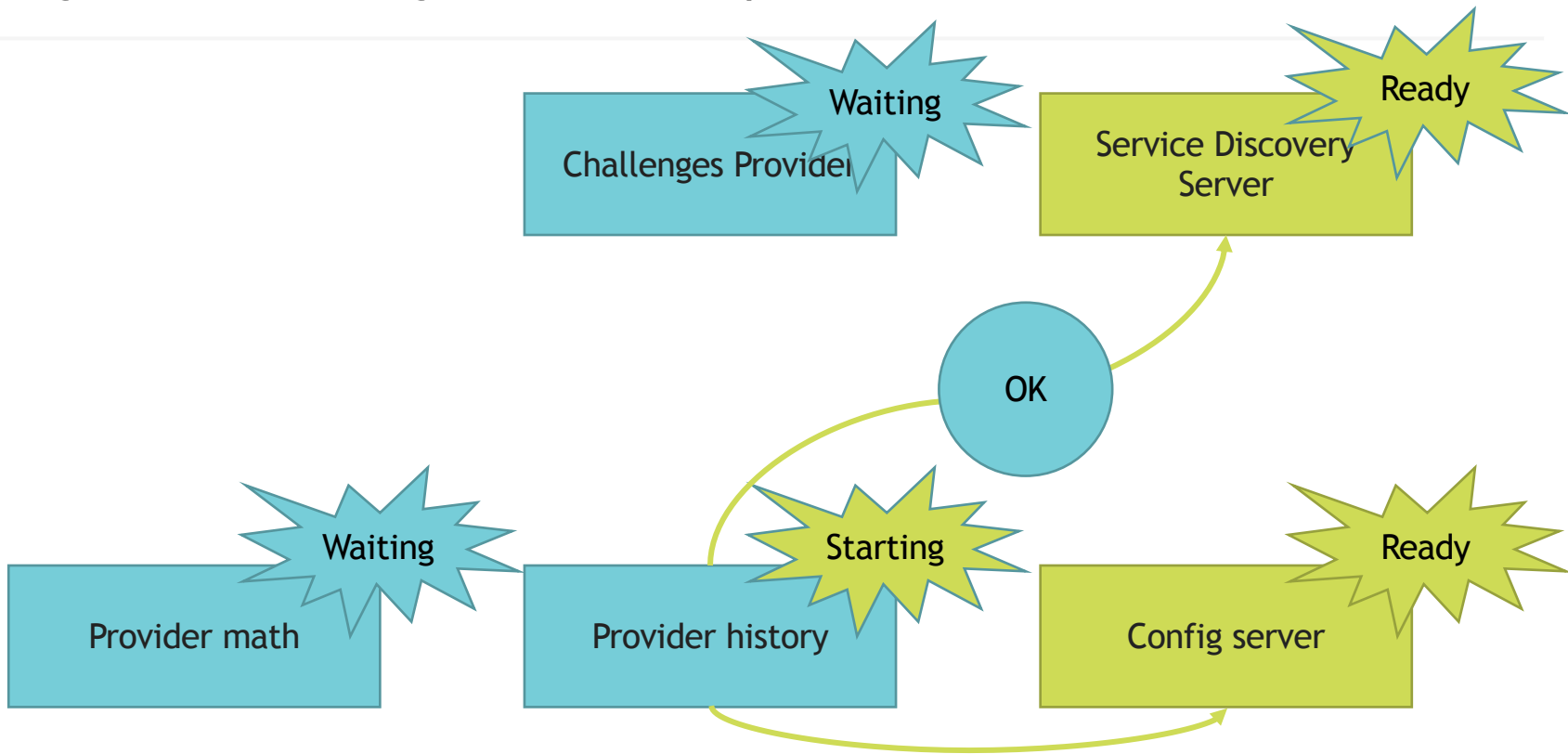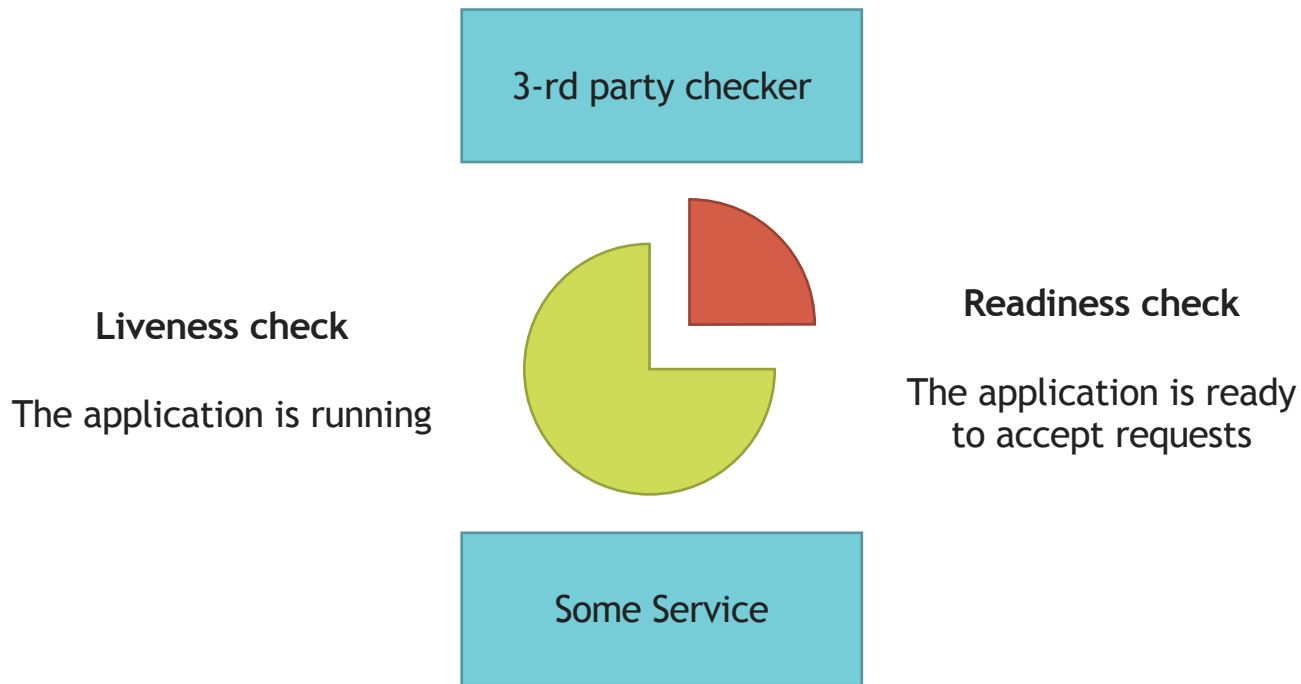
DEMO #2 – SPRING BOOT ACTUATOR & HEALTH CHECKS

Kubernetes for dummies

Summary

- **Observability** is one of the most important -ilities which lets you sleep at night.

- **Spring Cloud** is a great set of projects which simplify building cloud-ready solutions.

- Keep in mind what **platforms** offer – health checks, service discovery, load balancing are provided by majority of platforms.
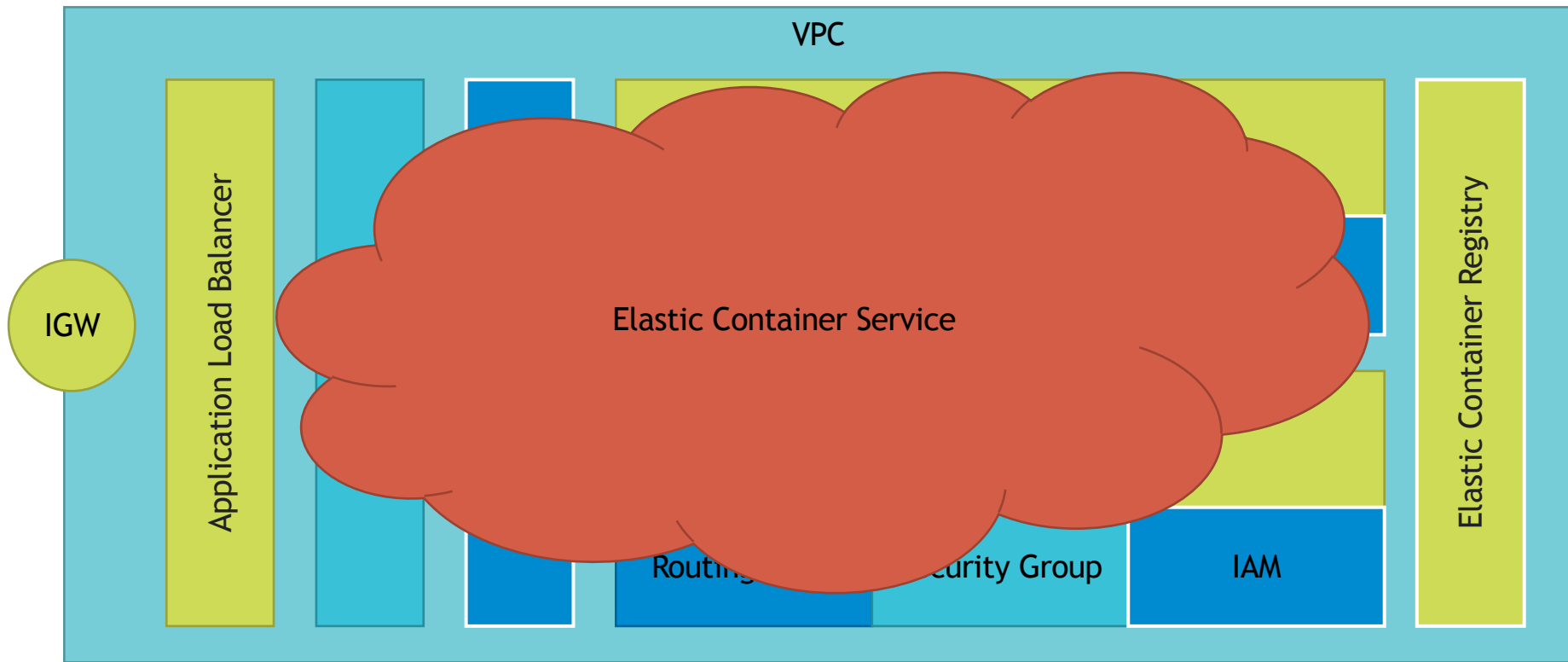
Code examples:

- https://github.com/aabarmin/aws-java-example

- https://github.com/aabarmin/epam-spring-cloud-kubernetes-2021

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GOOD LUCK!

DEMO #3 – RUNNING ALL IN KUBERNETES

AWS ECS Bird eye view

VPC

IGW

Application Load Balancer

Elastic Container Service

Elastic Container Registry

Routing &emp; Security Group

IAM

DEMO #4 – RUNNING ALL IN AWS ECS