DACM CASE

CONTENTS

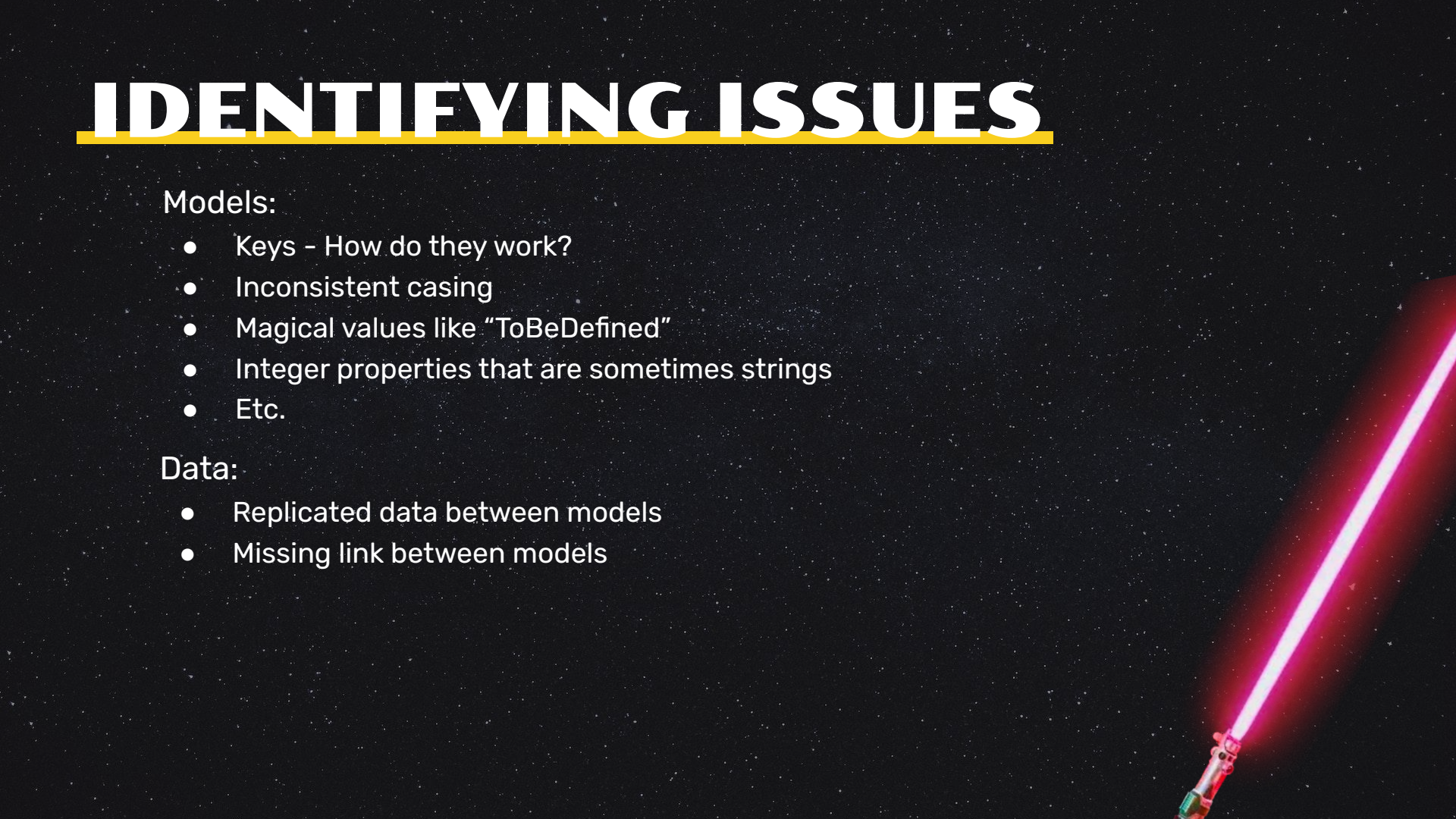
IDENTIFYING ISSUES

Models:

- Keys - How do they work?
- Inconsistent casing
- Magical values like “ToBeDefined”
- Integer properties that are sometimes strings
- Etc.

Data:

- Replicated data between models
- Missing link between models



MAKING DECISIONS

Technical:

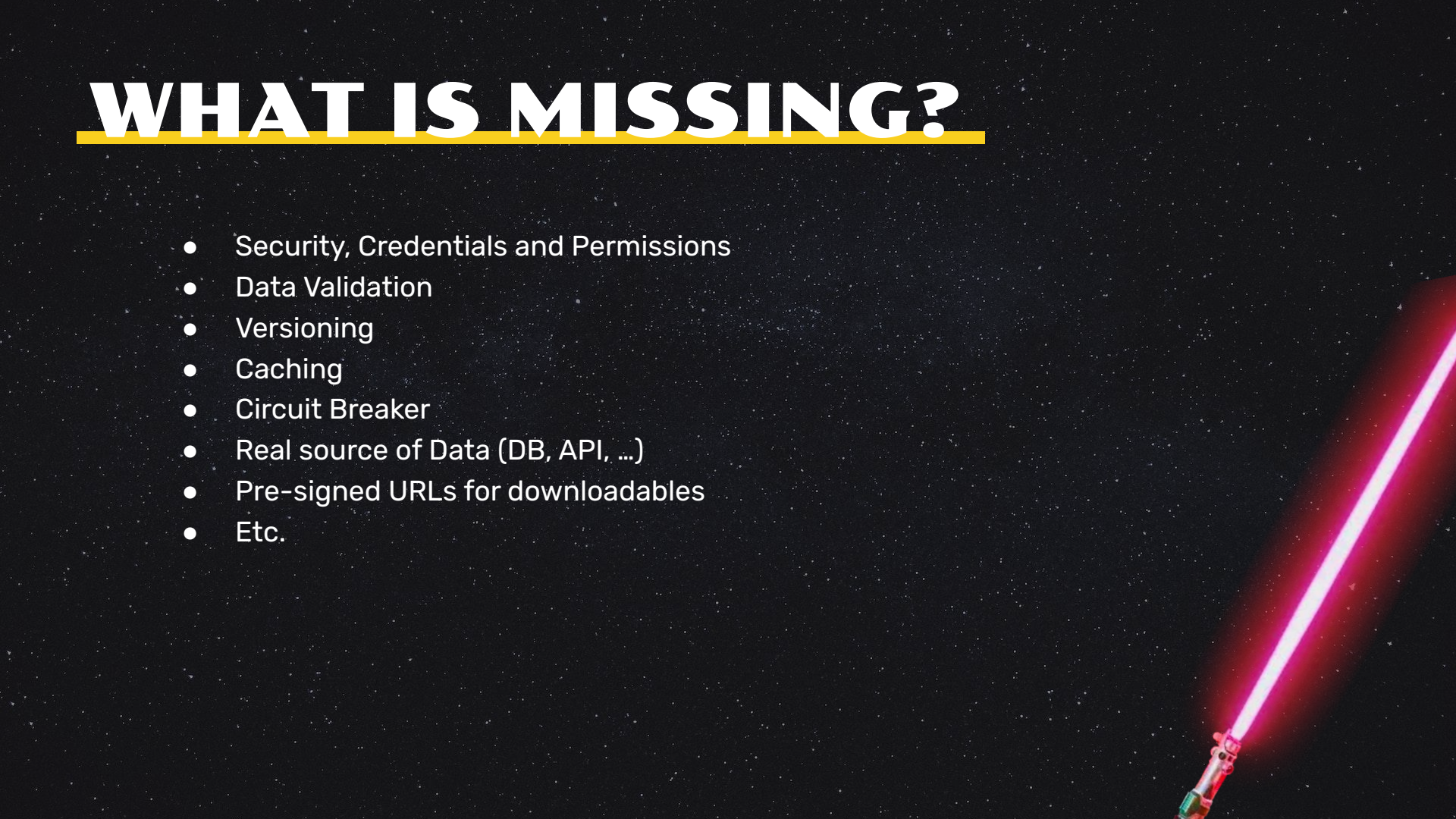
- REST
- AWS
- Docker
- .Net 8 - Use minimal API project template

Scoping:

- Implement GET, POST, PUT, DELETE endpoints for Asset
- Implement GET endpoint for Order to prove missing link is implemented
- Implement Unit Test for one entity
- Implement Integration Test for one endpoint

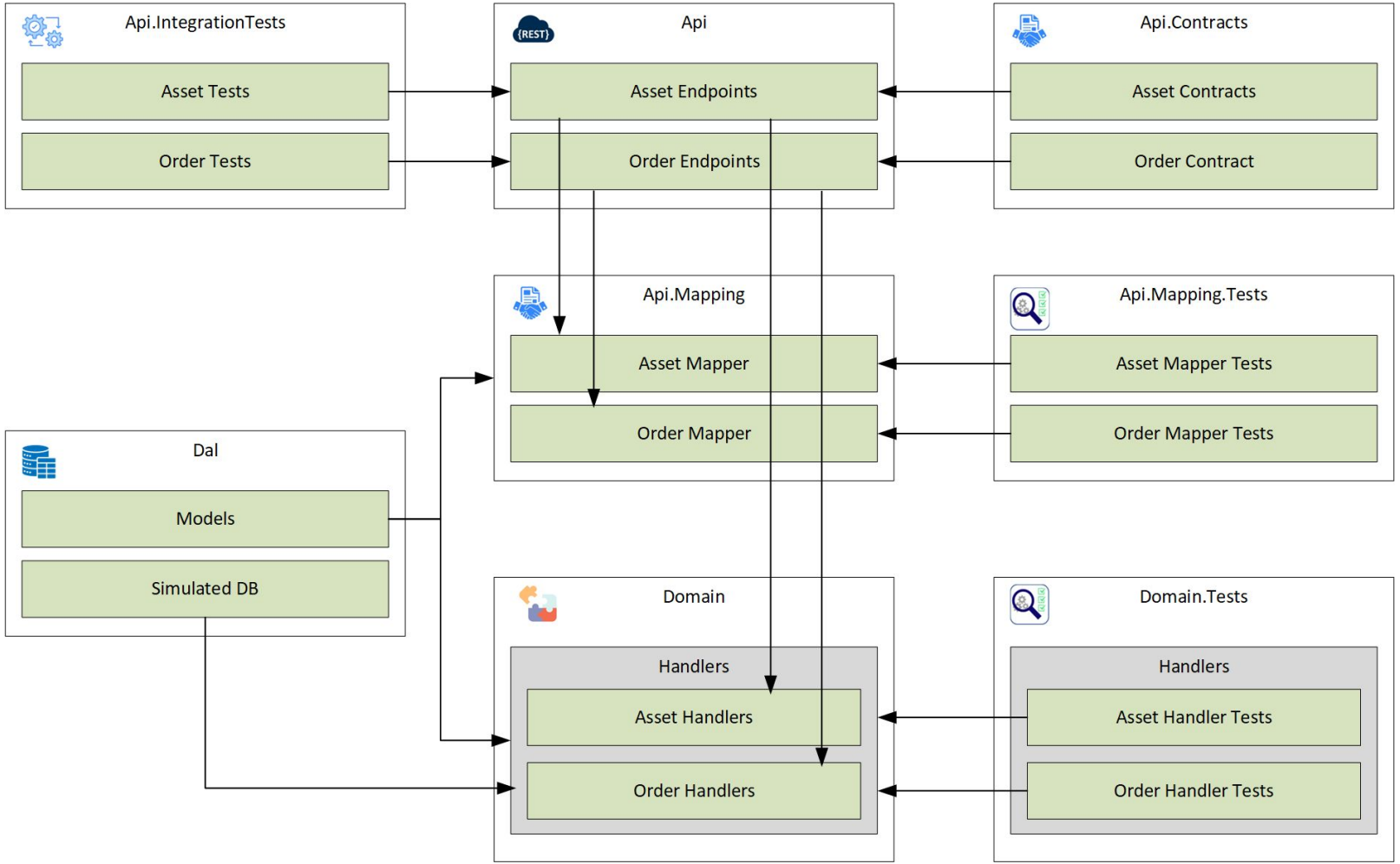
WHAT IS MISSING?

- Security, Credentials and Permissions
- Data Validation
- Versioning
- Caching
- Circuit Breaker
- Real source of Data (DB, API, …)
- Pre-signed URLs for downloadables
- Etc.



SOLUTION ARCHITECTURE

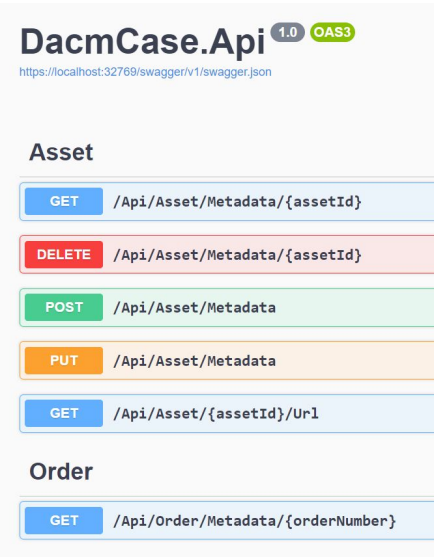
- Separation and layers
- DTOs
- Test projects
- Maintainability
- Performance

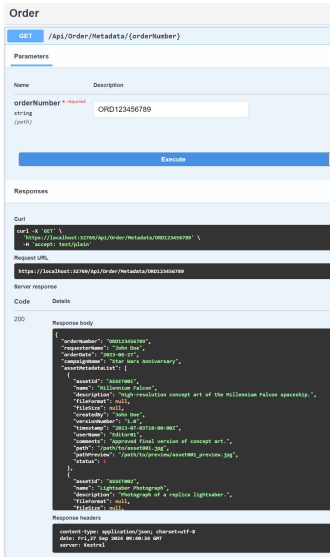

Api.IntegrationTests
Asset Tests
Order Tests
Api
Asset Endpoints
Order Endpoints
Api.Contracts
Asset Contracts
Order Contract
Api.Mapping
Asset Mapper
Order Mapper
Api.Mapping.Tests
Asset Mapper Tests
Order Mapper Tests
Dal
Models
Simulated DB
Domain
Handlers
Asset Handlers
Order Handlers
Domain.Tests
Handlers
Asset Handler Tests
Order Handler Tests

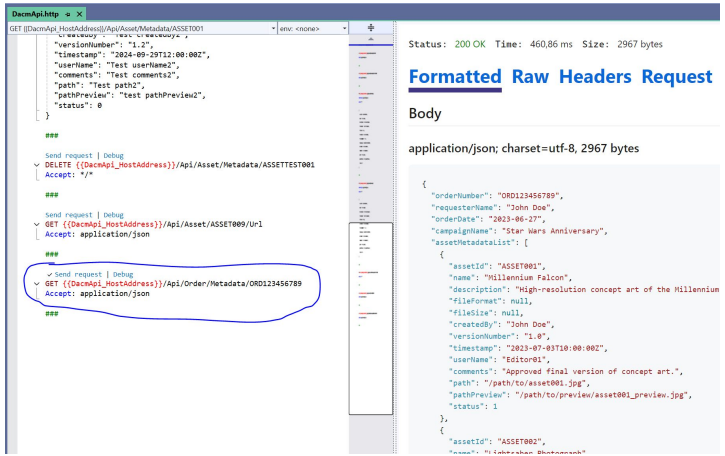
Code Metrics Results

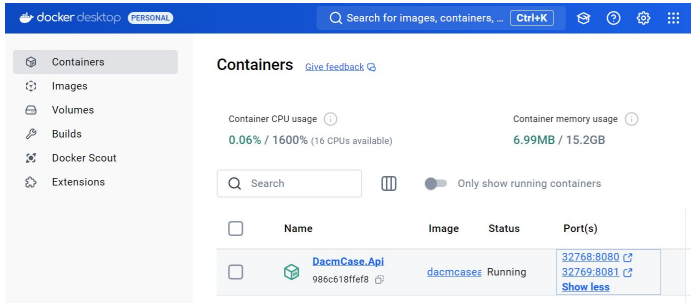
Filter: None Min: Max:

Hierarchy	Maintainability Index	Cyclomatic Complexity	Depth of Inheritance	Class Coupling	Lines of Source code
DacmCase.Api (Debug)	73	29	2	61	209
DacmCase.Api.Contracts (Debug)	100	37	1	6	36
DacmCase.Api.IntegrationTests (Debug)	86	5	2	24	99
DacmCase.Dal (Debug)	95	109	3	23	216
DacmCase.Domain (Debug)	90	42	1	19	214
DacmCase.Domain.Tests (Debug)	87	9	1	24	163



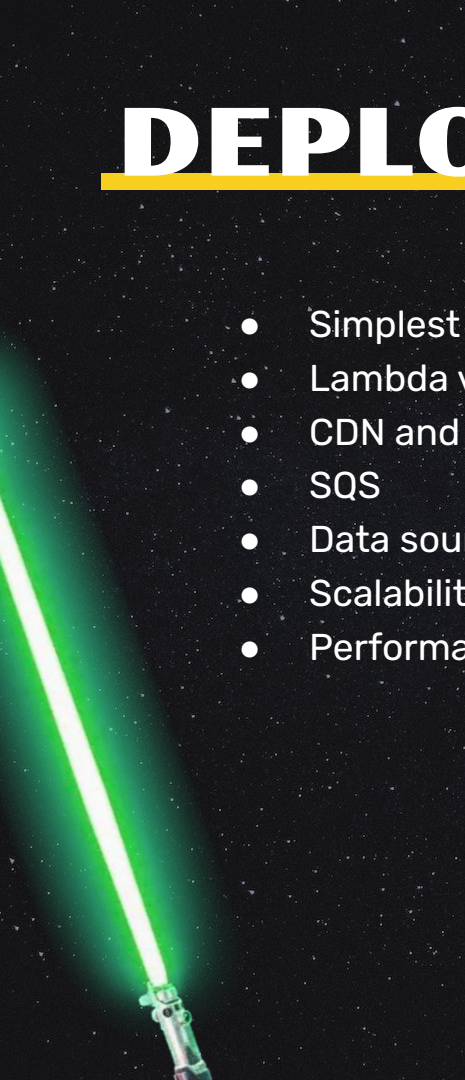




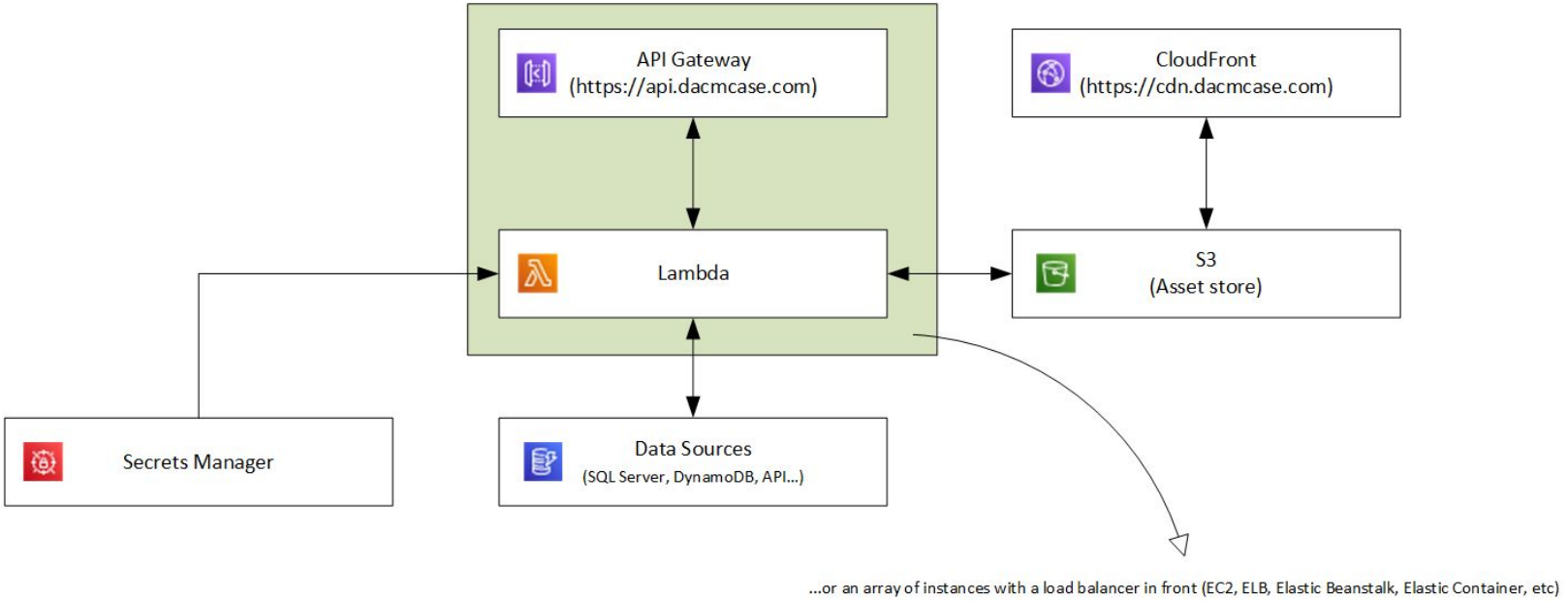


DEPLOYMENT ARCHITECTURE

- Simplest for this showcase
- Lambda vs. EC2 vs. Elastic Container vs. BeanStalk vs. ELB vs. ….
- CDN and Storage
- SQS
- Data sources
- Scalability - No bottlenecks
- Performance



Simplest deployment on AWS



SUMMARY

A lot of assumptions and decisions have been made.