

DACM CASE



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Summary

What could have been different.

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

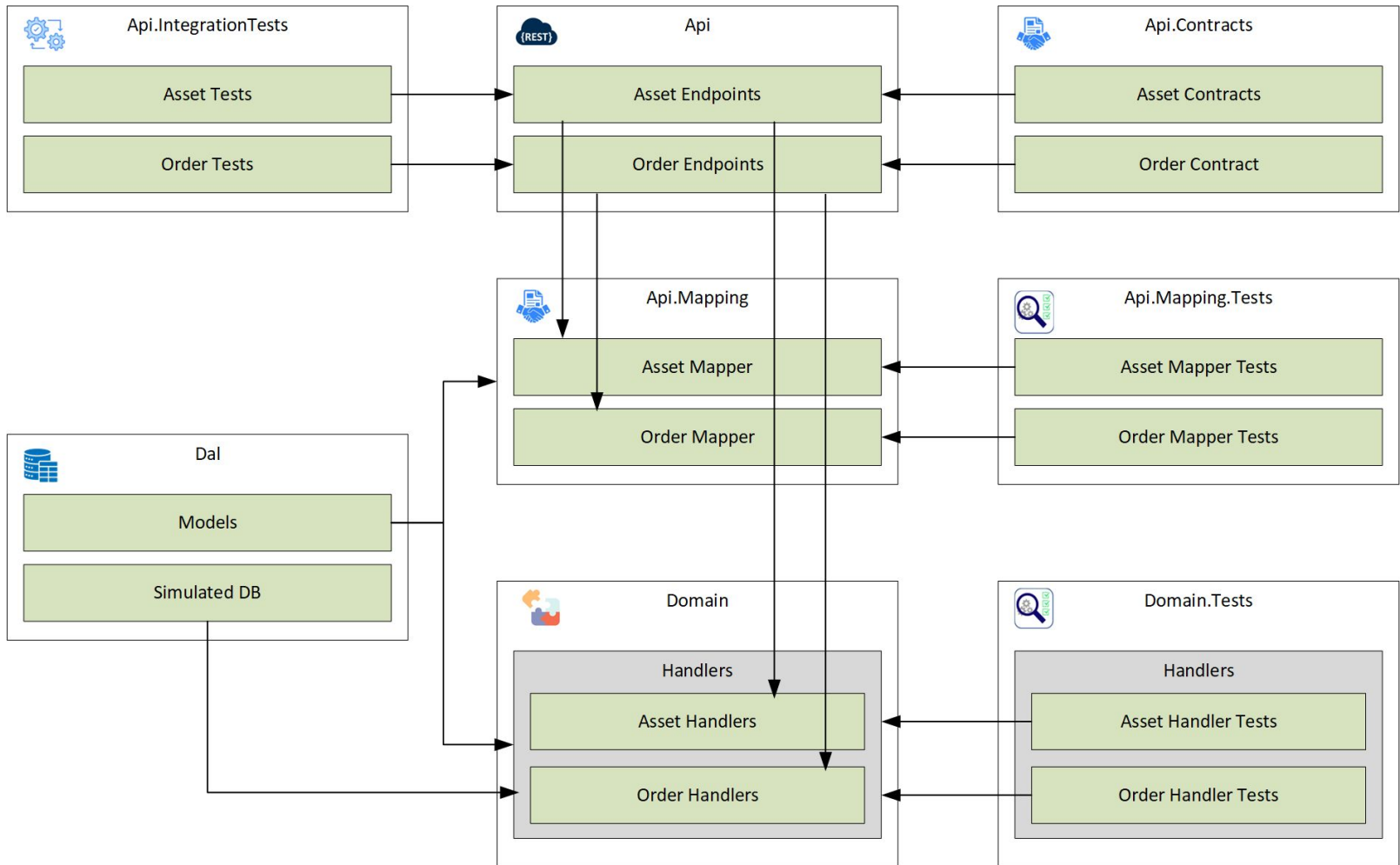
WHAT IS MISSING?

- 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



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	

DacmCase.Api

1.0 OAS3

https://localhost:32769/swagger/v1/swagger.json

Asset

GET

/Api/Asset/Metadata/{assetId}

DELETE

/Api/Asset/Metadata/{assetId}

POST

/Api/Asset/Metadata

PUT

/Api/Asset/Metadata

GET

/Api/Asset/{assetId}/Ur1

Order

GET

/Api/Order/Metadata/{orderNumber}

Order

GET

/Api/Order/Metadata/{orderNumber}

Parameters

Name	Description
orderNumber	required
string (path)	ORD123456789

Responses

200

Response body

```
{
  "orderNumber": "ORD123456789",
  "requesterName": "John Doe",
  "orderDate": "2023-06-27",
  "campaignName": "Star Wars Anniversary",
  "assetMetadataList": [
    {
      "assetId": "ASSET001",
      "name": "Millennium Falcon",
      "description": "High-resolution concept art of the Millennium Falcon spaceship.",
      "fileFormat": "null",
      "fileSize": null,
      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset001.jpg",
      "pathPreview": "/path/to/preview/asset001_preview.jpg",
      "status": 1
    },
    {
      "assetId": "ASSET002",
      "name": "Light Saber Prototype",
      "description": "Photograph of a replica light saber.",
      "fileFormat": "null",
      "fileSize": null,
      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset002.jpg",
      "pathPreview": "/path/to/preview/asset002_preview.jpg",
      "status": 1
    }
  ]
}
```

DacmCase.Api

GET

/Api/Asset/Metadata/{assetId}

Parameters

Name	Description
assetId	required
string (path)	ASSETTEST001

Responses

200

Response body

```
{
  "orderNumber": "ORD123456789",
  "requesterName": "John Doe",
  "orderDate": "2023-06-27",
  "campaignName": "Star Wars Anniversary",
  "assetMetadataList": [
    {
      "assetId": "ASSET001",
      "name": "Millennium Falcon",
      "description": "High-resolution concept art of the Millennium Falcon spaceship.",
      "fileFormat": "null",
      "fileSize": null,
      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset001.jpg",
      "pathPreview": "/path/to/preview/asset001_preview.jpg",
      "status": 1
    },
    {
      "assetId": "ASSET002",
      "name": "Light Saber Prototype",
      "description": "Photograph of a replica light saber.",
      "fileFormat": "null",
      "fileSize": null,
      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset002.jpg",
      "pathPreview": "/path/to/preview/asset002_preview.jpg",
      "status": 1
    }
  ]
}
```

Formatted Raw Headers Request

Status: 200 OK Time: 460.86 ms Size: 2967 bytes

Body

application/json; charset=utf-8, 2967 bytes

```
{
  "orderNumber": "ORD123456789",
  "requesterName": "John Doe",
  "orderDate": "2023-06-27",
  "campaignName": "Star Wars Anniversary",
  "assetMetadataList": [
    {
      "assetId": "ASSET001",
      "name": "Millennium Falcon",
      "description": "High-resolution concept art of the Millennium Falcon spaceship.",
      "fileFormat": "null",
      "fileSize": null,
      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset001.jpg",
      "pathPreview": "/path/to/preview/asset001_preview.jpg",
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    {
      "assetId": "ASSET002",
      "name": "Light Saber Prototype",
      "description": "Photograph of a replica light saber.",
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      "createdBy": "John Doe",
      "versionNumber": "1.0",
      "timestamp": "2023-07-03T10:00:00Z",
      "comments": "Approved final version of concept art.",
      "path": "/path/to/asset002.jpg",
      "pathPreview": "/path/to/preview/asset002_preview.jpg",
      "status": 1
    }
  ]
}
```

docker desktop PERSONAL

Search for images, containers, ... Ctrl+K

Containers

Containers

Images

Volumes

Builds

Docker Scout

Extensions

Container CPU usage

0.06% / 1600% (16 CPUs available)

Container memory usage

6.99MB / 15.2GB

Search

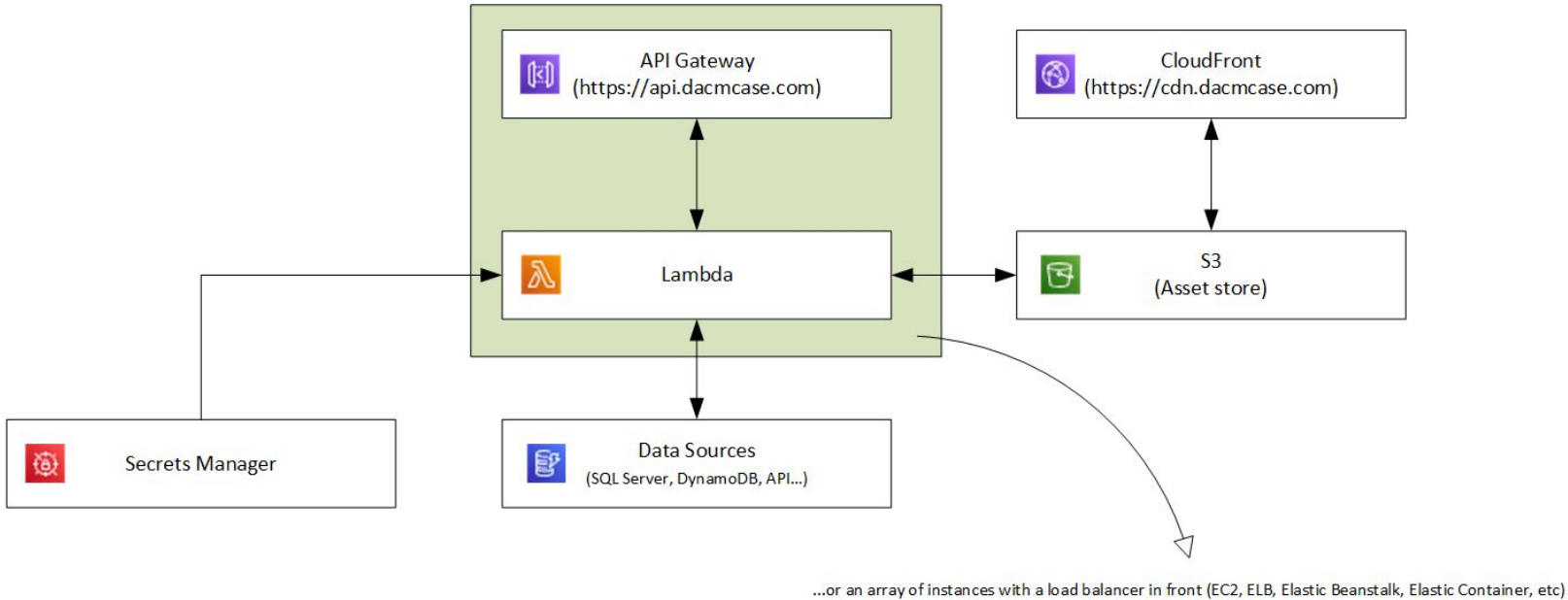
Only show running containers

Name	Image	Status	Port(s)
DacmCase.Api	dacmcase	Running	32768:8080 32769:8081

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.

