

ASYNCAPI AND MODELINA

Enforce Contracts And Reduce Boilerplate

INTRODUCTION

- Work for Adobe Journey Optimizer
- In marktech for the last 8 years
- Tech Lead and Architect for Adobe Journey Optimizer Edge Delivery
- Interested in "Anything" as Code

BACKGROUND

Adobe Journey Optimizer

- Cloud based solution
- Personalized experiences at scale
- Omni-channel
- Right content at the right time

EDGE NETWORK



DARK AGES

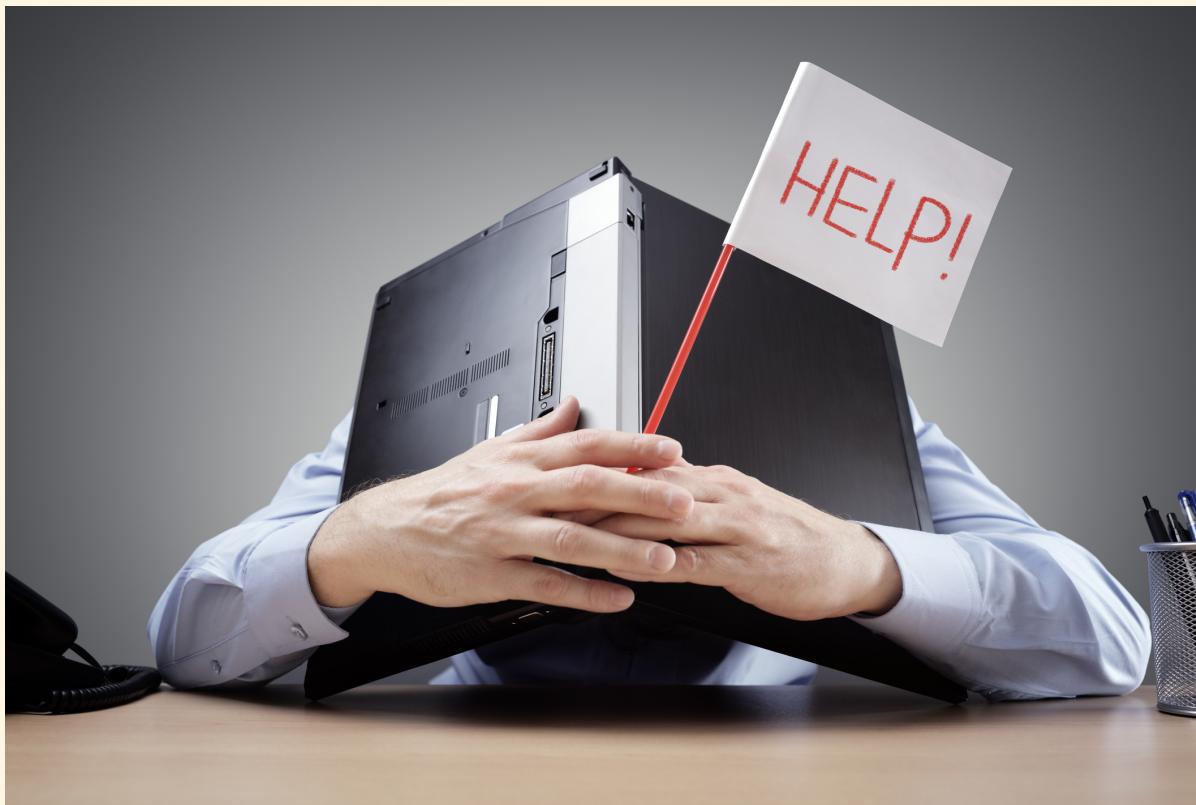


Confluence

DARK AGES

{JSON}

DARK AGES



DARK AGES

8. Upstream services feedback exchange

Consumers:

MES = Message Execution Service (push, email, sms)

IAS = Interactive Activities Service (web)

ACA = AJO Campaign API

Events

Event	MsgType	Trigger	Producer	Consumer	Package status switched to
Inbound schedule started	scheduleStarted	inbound channel start date is in the past or null	IAS	ACA	LIVE
Inbound schedule ended	scheduleEnded	inbound channel end date is in the past	IAS	ACA	COMPLETED
Message delivery started	deliveryStarted	outbound channel trigger started another cycle of delivering	MES	ACA	IN PROGRESS
Message delivery ended	deliveryEnded	outbound channel delivering is done	MES	ACA	LIVE, COMPLETED

Topics

Env	Outbound	Inbound
dev, local	dx_ajo_campaign_delivery_dev	dx_ajo_campaign_schedule_dev
stage	dx_ajo_campaign_delivery	dx_ajo_campaign_schedule
prod	dx_ajo_campaign_delivery	dx_ajo_campaign_schedule

Allowed sources:

- dx_ajo_campaign (headless campaigns)
- dx_message_resource_manager (outbound)
- interactiveactivityservice1 (inbound)

DARK AGES

Pipeline message contract

▼ Collapse source

```
{  
    "imsOrg": "String",  
    "sandboxName": "String",  
    "sandboxId": "String",  
    "value": {  
        "messageType": "Enum:deliveryStarted/deliveryEnded/scheduleStarted/scheduleEnded",  
        "source": "String",  
        "campaignId": "String",  
        "versionId": "String",  
        "packageIds": [  
            "String",  
            "String"  
        ]  
    }  
}
```

DARK AGES

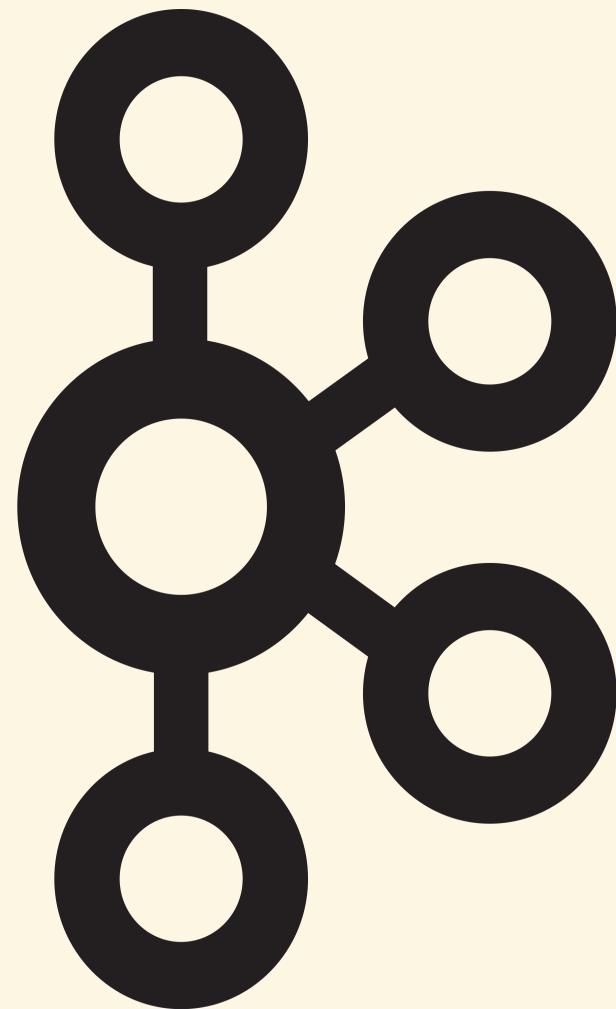
Pain points

- Poor version control
- Code and docs out of sync
- Multiple sources of truth
- No tooling
- Nearly impossible to use any automation

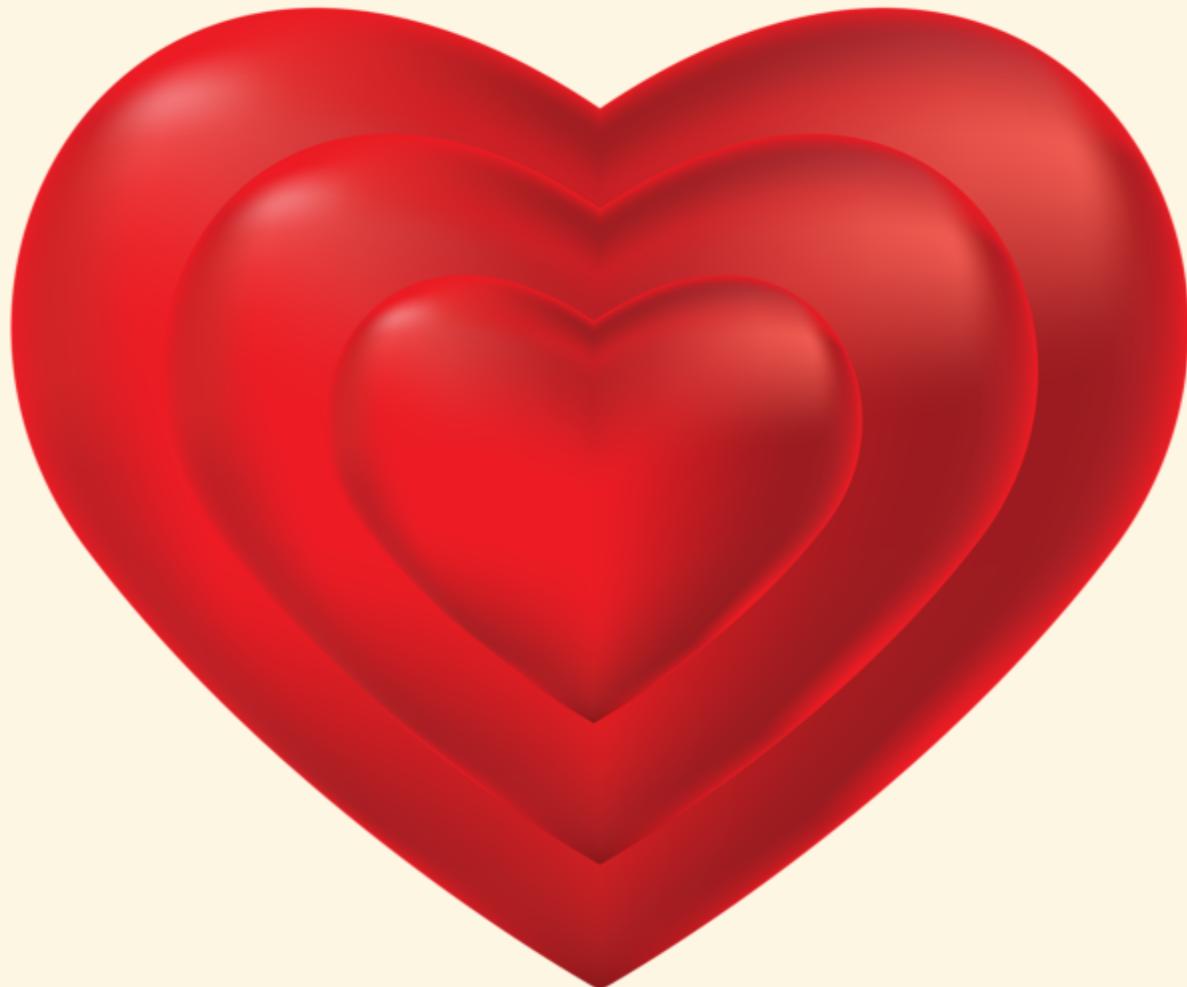
ENLIGHTENMENT



ENLIGHTENMENT



ENLIGHTENMENT



ENLIGHTENMENT

AsyncAPI killer features

- Human readable
- Machine readable
- Awesome tooling
- Awesome community
- Extremely extensible and flexible

ENLIGHTENMENT

Operations

PUB replication_events

Operation ID publishReplicationEvents

Available only on servers:

local-docker-compose-kafka

Accepts the following message:

replicationEvent

APPLICATION/JSON

Payload > Expand all

Object uid: replicationEvent

Examples

Payload ^

```
{  
  "schemaVersion": "string",  
  "id": "string",  
  "type": "string",  
  "source": "string",  
  "data": null,  
  "timestamp": 0  
}
```

This example has been generated automatically.

MODELINA

MODELINA

Use cases

- Generate classes from OpenAPI for the REST API
- Generate classes from AsyncAPI for Kafka publishing and consuming
- Generate classes from JSON Schema to store them in document DBs like MongoDB or CosmosDB

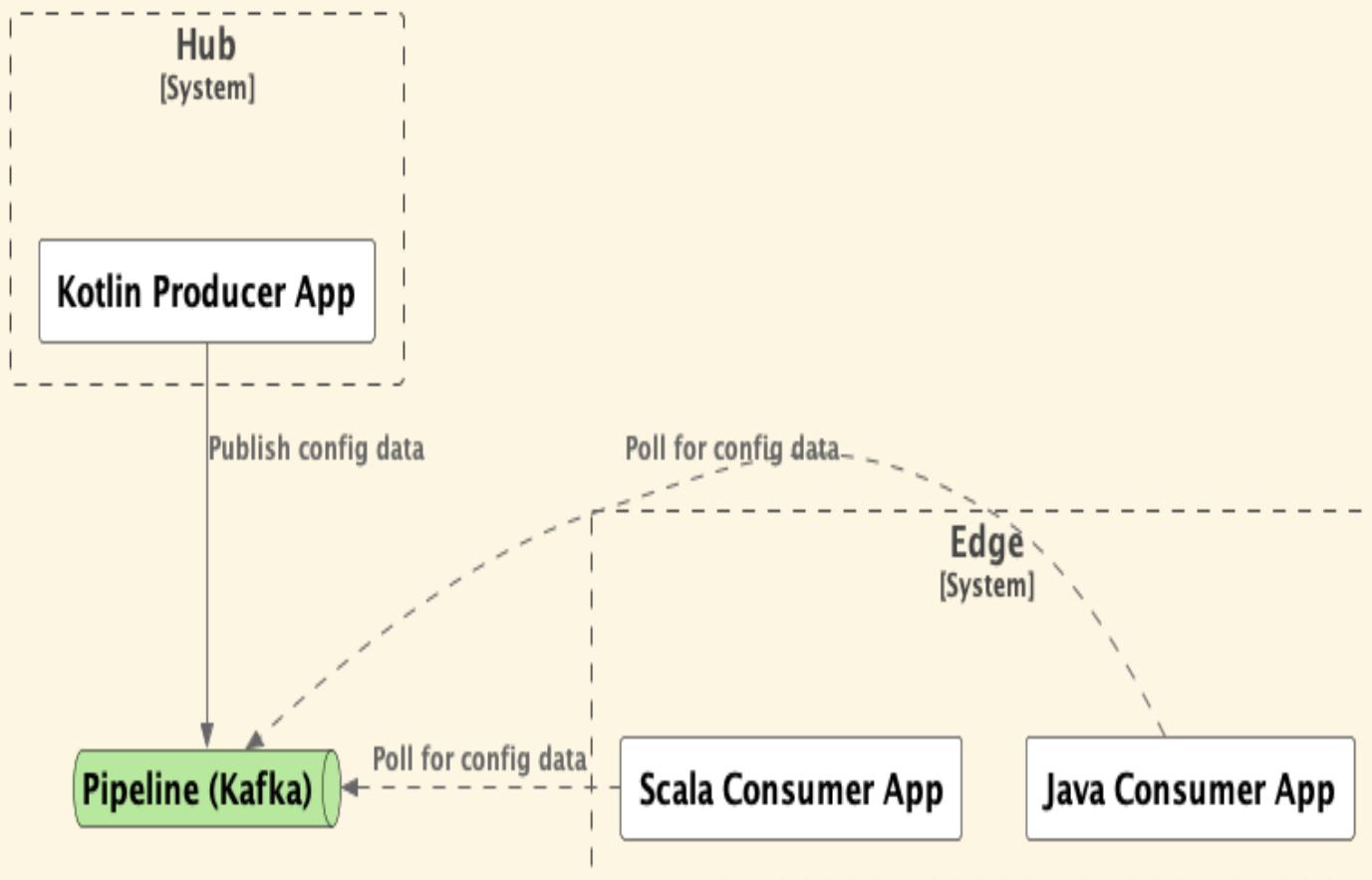
OUR RECIPE

Steps to success

- GitHub template repo
- Centralized AsyncAPI repo
- Modelina based tooling

DEMO

AsyncAPI Conf sample architecture



DEMO - SERVICES

Services

- Kotlin Producer App
- Java Consumer App
- Scala Consumer App

DEMO - FOR REAL :)



CONCLUSION

Lessons learned

- Small steps
- Don't be afraid to ask for help
- RTFM
- Use boring technology
- Give back to community

THANK YOU!



