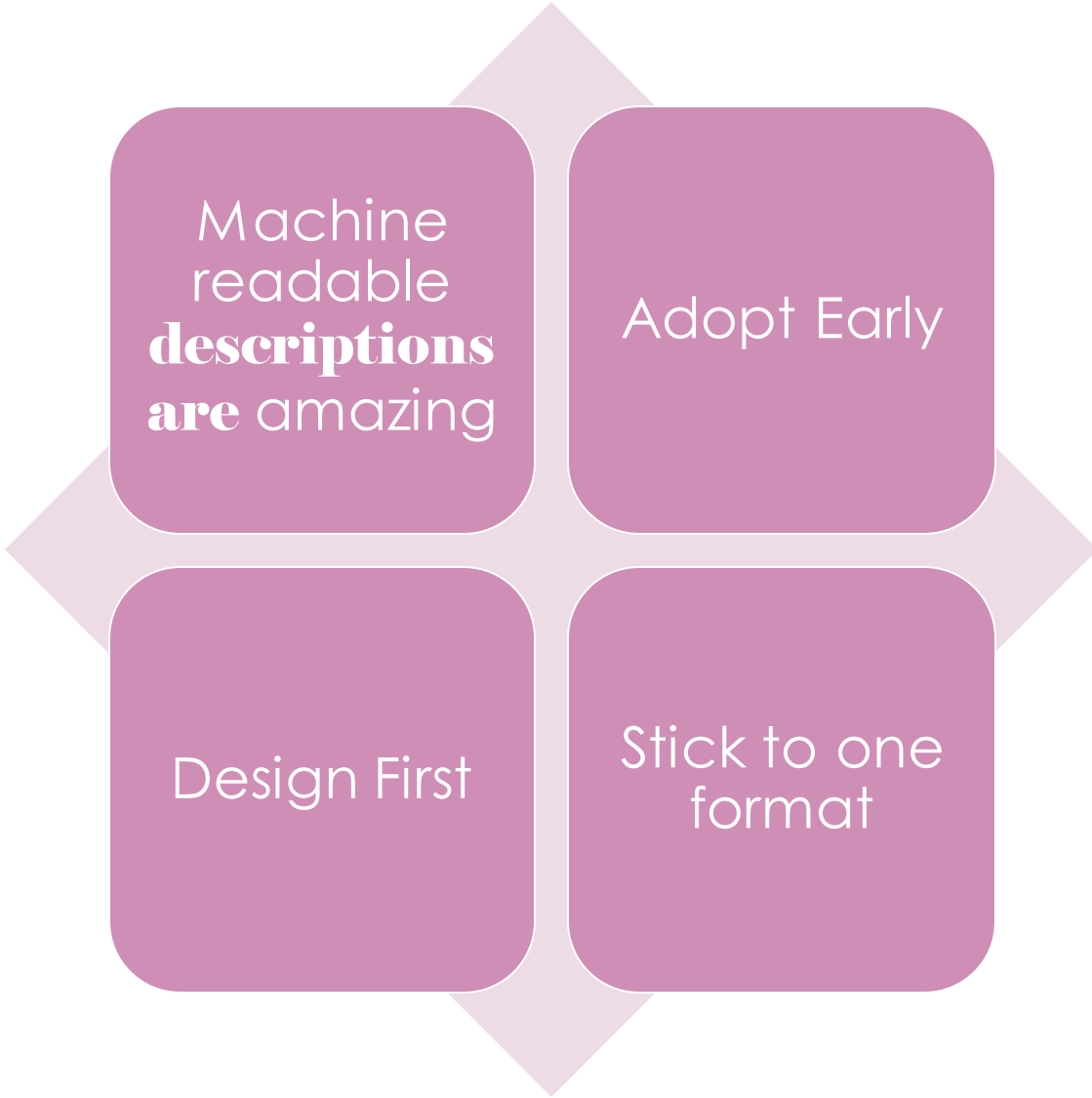
Building CONSISTENT event-driven architectures using AsyncAPI

NAUMAN ALI

Lessons from OpenAPI



1

Create an AsyncAPI description for all your APIs

Religiously!

V1, V2, V3...

BREAKING CHANGES

FRUSTRATED DEVELOPERS

2

Design-First

Implement Later

- *GET EARLY FEEDBACK FROM YOUR STAKEHOLDERS.*
- *CHANGING CODE IS PAINFUL. CHANGING DESIGN ISN'T*

SINGLE SOURCE OF TRUTH

INCONSISTENT INTERFACES
INCOMPLETE DOCUMENTATION

3

Follow a Style Guideline

SPECTRAL NOW HAS SUPPORT FOR ASYNCAPI

CHECKOUT V5.4.0-BETA1 AT

https://github.com/stoplightio/spectral

- *LINT ALL YOUR ASYNCAPI DOCUMENTS*
- *CREATE CUSTOM RULES FOR YOUR ORGANIZATION*
  - *CHANNEL NAMES CAN ONLY BE PASCAL CASE*
  - *ONLY USE MQTT IN OUR ORGANIZATION*
  - *OAUTH CAN ONLY BE THE AUTHENTICATION TYPE*

```
Muhammads-MacBook-Pro:Desktop nauman$ spectral lint streetlights.yml
AsyncAPI 2.x detected

/Users/nauman/Desktop/streetlights.yml
  1:1   warning  asyncapi-tags                          AsyncAPI object should have non-empty `tags` array.
  2:6   warning  asyncapi-info-contact                  Info object should contain `contact` object.
 39:10    error  asyncapi-schema                        `channels` property format should match format `uri-template`
 40:63  warning  asyncapi-channel-no-empty-parameter   Channel path should not have empty parameter substitution pattern.
 40:63  warning  asyncapi-channel-no-trailing-slash    Channel path should not end with a slash.
 45:13  warning  asyncapi-operation-description        Operation `description` must be present and non-empty string.
 57:15  warning  asyncapi-operation-description        Operation `description` must be present and non-empty string.
 68:15  warning  asyncapi-operation-description        Operation `description` must be present and non-empty string.
 79:15  warning  asyncapi-operation-description        Operation `description` must be present and non-empty string.

✖ 9 problems (1 error, 8 warnings, 0 infos, 0 hints)

Muhammads-MacBook-Pro:Desktop nauman$
```

WE BUILT A BEAUTIFUL API DESCRIPTION BUT THE IMPLEMENTATION DOESN'T RESPECT IT

4

Generate Code

- *GENERATE SERVER-SIDE AND CLIENT-SIDE CODE*
- *LET YOUR DEVELOPERS FOCUS ON WHAT'S IMPORTANT*
- *BUILD APIS THAT ARE TO THE SPEC*

https://github.com/asyncapi/generator

```
[Muhammads-MacBook-Pro:Desktop nauman$ sudo ag streetlights.yml @asyncapi/nodejs-template

Done! ✨
Check out your shiny new generated files at /Users/nauman/Desktop/code.
```

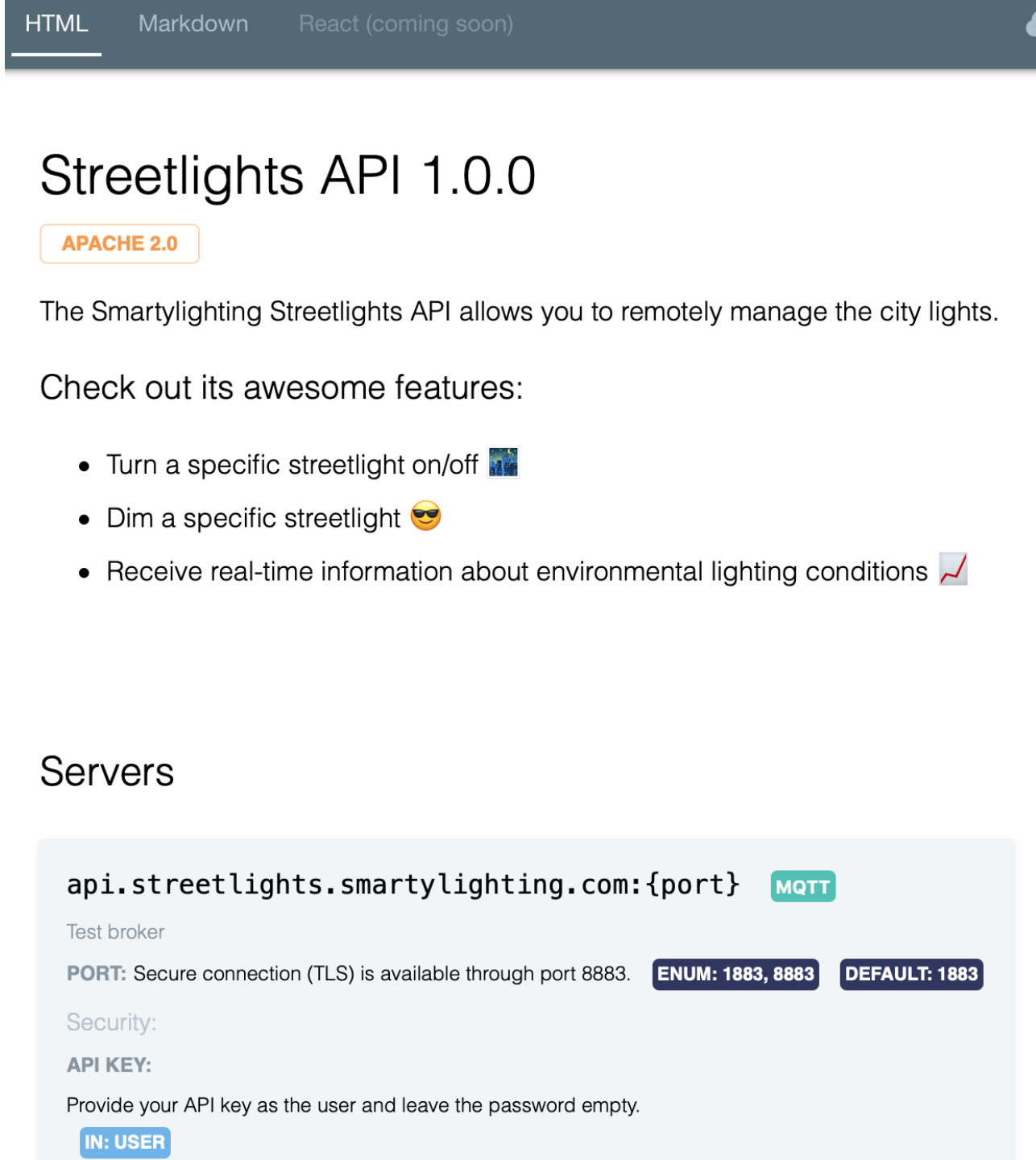
EVERYTHING'S GOOD BUT DEVELOPERS ARE STRUGGLING TO CONSUME IT

5

Generate Documentation

- *GENERATE DOCUMENTATION IN MARKDOWN/HTML*
- *DON'T MISS OUT ON DESCRIPTIONS AND EXAMPLES IN THE ASYNCAPI*

https://github.com/asyncapi/generator



6

Make it discoverable

Publish your APIs in a central Hub

7

Automate!

Humans can't be trusted

Design

Lint

Mock

Generate Docs/Code

Implement

Publish

Automate

We have some more tooling to build!

- MOCKING
- ADD TEMPLATES TO CODE GENERATORS
- UI EDITOR FOR ASYNCAPI

Preferably Open-Source

Thank You!

- https://github.com/stoplightio/spectral
- https://github.com/asyncapi/generator
- https://github.com/mnaumanali94/asyncapidemo