Building RESTful web services with Connexion

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Agenda

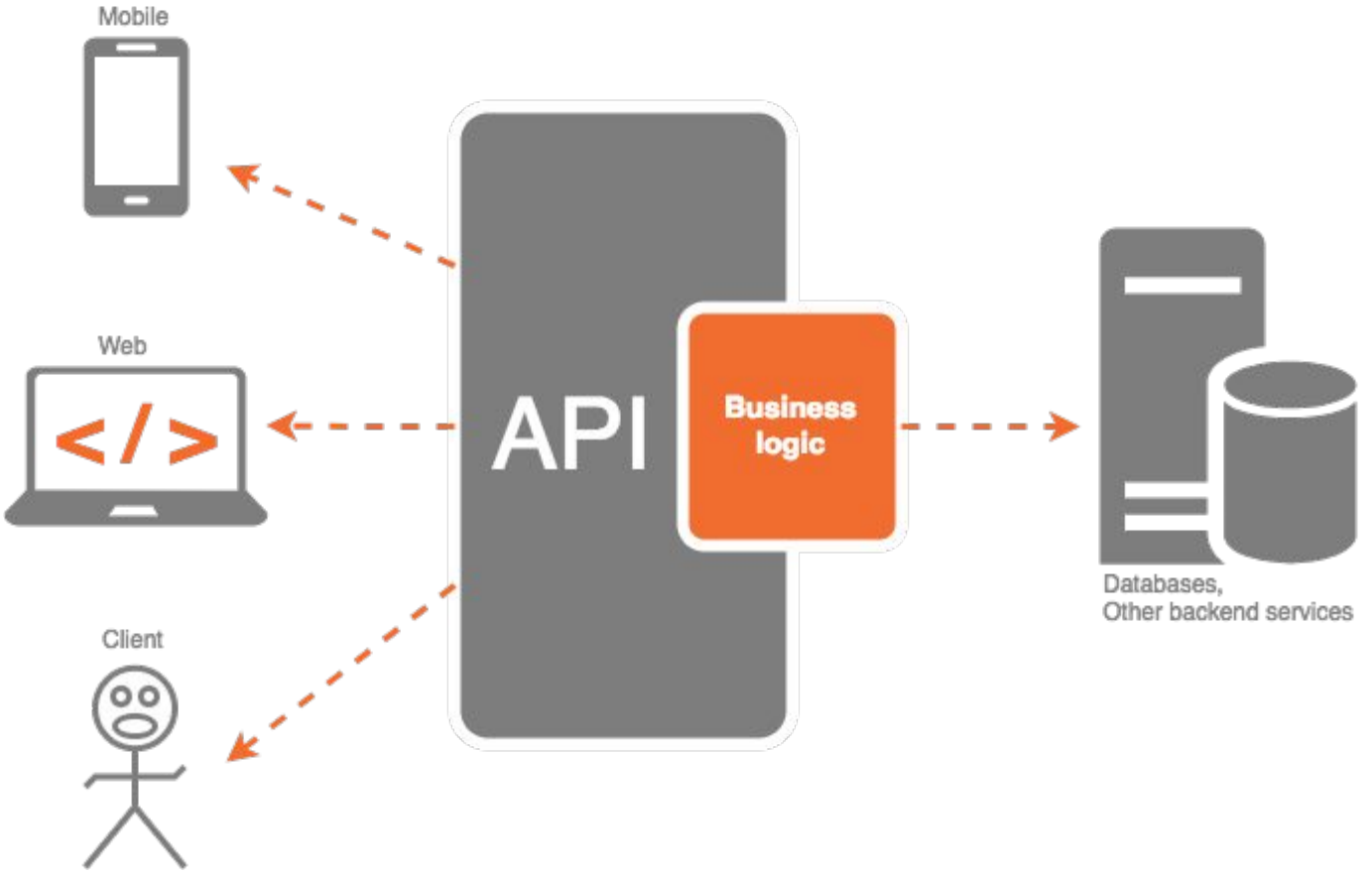
- RESTful Web Services
- OpenAPI Specification
- Connexion by Zalando
- Setup
- Building recommender system with REST API

REST

What is REST?

- Software architecture
- Resource based
- Communication over HTTP
- Introduced by Roy Fielding in 2000

SOAP:	/getAllPets
	/getAllDogPets
REST:	GET /pets
	GET /pets?type=dog


Mobile
Web
Client
API
Business logic
Databases,
Other backend services

REST Guidelines

- Resources are nouns
  - We are trying to “store and serve pet information”

Collection: `/pets`

Resource: `/pets/charlie`

- CRUD operations with HTTP
  - Create with POST
  - Read with GET
  - Update with PATCH or PUT
  - Delete with DELETE

- Relationships with URIs

`/owners/**john**/pets`

- Filter with query parameters

`/pets?type=dogs&color=black`

- Actions may become resources

`/pets/**charlie**/feed`

`/search?q=datafest&type=post`

API FIRST DEVELOPMENT

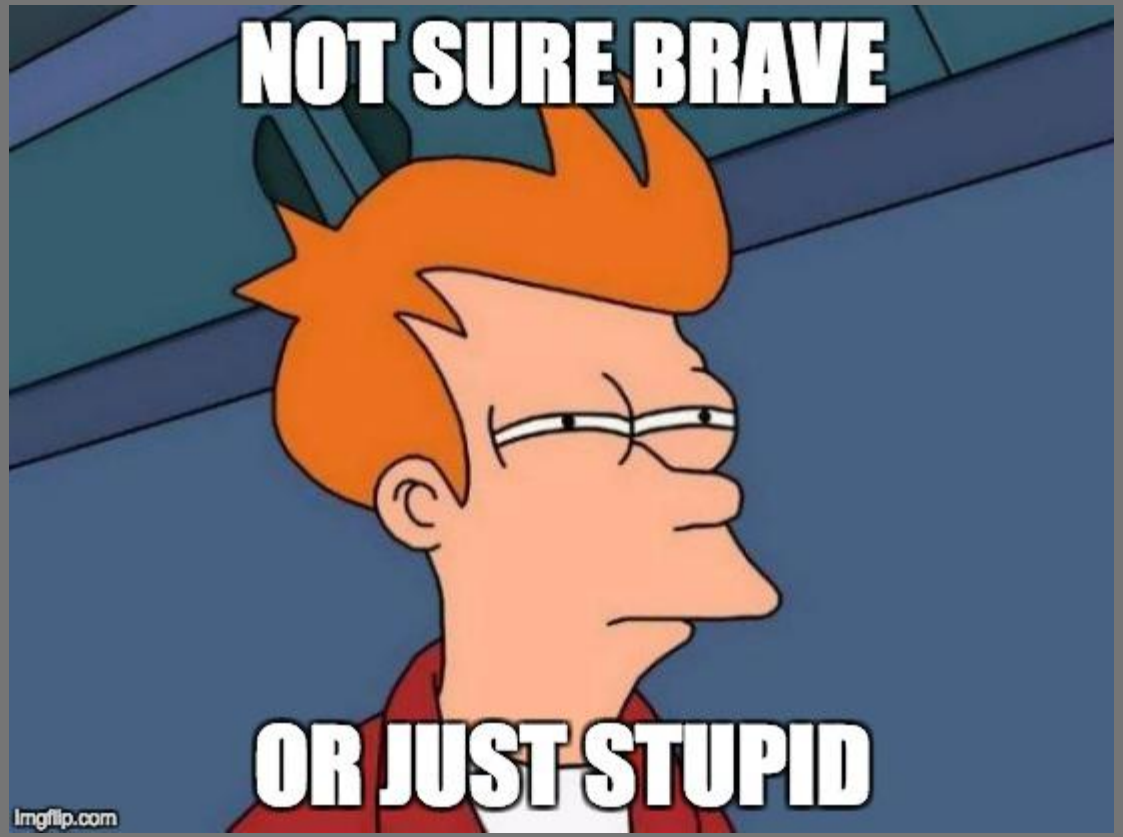
- API must be designed first
  - Decoupled from the implementation
  - Robust and Easy to use
  - Consistent
- API design, documentation and code must remain in sync
- We use OpenAPI 2.0 (f.k.a Swagger)
  - Common Language
  - Human/Machine Friendly
- Swagger™ is a project used to describe and document RESTful APIs.
  - Design in YAML before code
  - Visualize entire API
  - Share, collaborate and iterate

Connexion by Zalando

Main feature and benefits

- Automatic routing
- Request and Response Validation
- Automatic Serialization
- Type Casting
- OAuth2
- OpenAPI Ecosystem
- No boilerplate code

DEMO



Setup

- Grab starter files

https://github.com/cyberlake/connexion-workshop

- `virtualenv -p python3 env`
- `source env/bin/activate`
- `pip install -r requirements.txt`

Questions