

User Call

Using OpenAPI to
automatically configure
the Kong Gateway

| Sven Walther

Kong SUMMIT 2022

September 28–29, 2022

LIVE & IN-PERSON

Where API Innovation **Runs Wild**

📍 The Palace, San Francisco, CA



Everything is an API



`http localhost:8001/services name=myService url= http://httpbin.org/anything`



Everything is YAML

```
_format_version: "1.1"
services:
- host: httpbin.org
  path: /anything
  name: myYamlService
  port: 80
  protocol: http
  routes:
  - name: myYamlRoute
    paths:
    - /myYamlRoute
...
```



<https://github.com/Kong/deck>

Services

Routes

Plugins

Consumers

...

```
deck sync -s myFirstYAML.yaml --select-tag myFirstYamlExample
```

Everything is YAML - Kubernetes Edition



```
---
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: my-first-ingress
  namespace: backends
  annotations:
    konghq.com/strip-path: "true"
    kubernetes.io/ingress.class: kong
spec:
  rules:
  - http:
      paths:
      - path: /myFirstIngress
        pathType: Prefix
        backend:
          service:
            name: httpbin
            port:
              number: 8080
```



Services

Routes

Plugins

Consumers

...

<https://github.com/Kong/kubernetes-ingress-controller>

```
kubectl apply -f myFirstIngress.yaml
```



OpenAPI to Kong?

```
openapi: "3.0.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
  servers:
    - url:
      http://petstore.swagger.io/v1
  paths:
    /pets:
      ....
```

?



Services

Routes

Plugins

Consumers

...

<https://github.com/OAI/OpenAPI-Specification/blob/main/examples/v3.0/petstore.yaml>



OpenAPI to Kong!

```
openapi: "3.0.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
servers:
  - url:
    http://petstore.swagger.io/v1
paths:
  /pets:
    get:
      x-kong-plugin-key-auth:
        name: key-auth
        enabled: true
```

openapi-2-kong

Services

Routes

Plugins

<https://www.npmjs.com/package/openapi-2-kong>

Insomnia to Kong!



openapi: "3.0.0"

info:

version: 1.0.0

title: Swagger Petstore

license:

name: MIT

servers:

- url:

<http://petstore.swagger.io/v1>

paths:

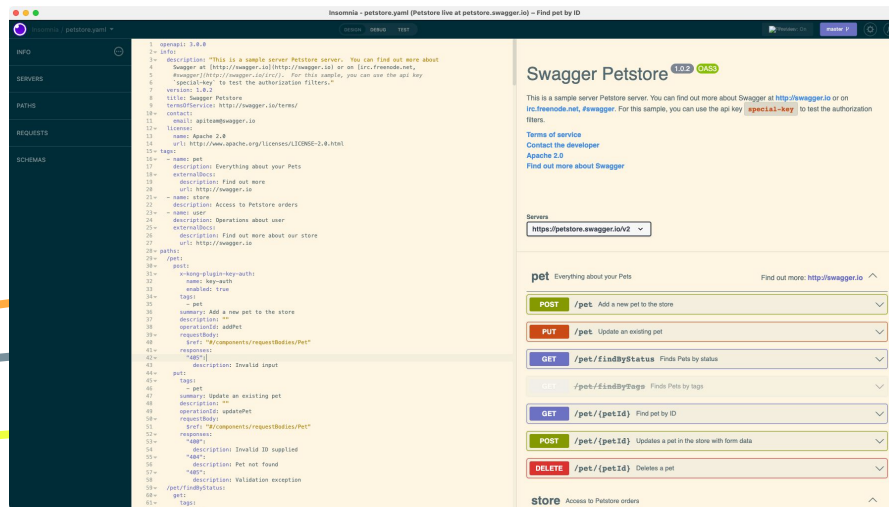
/pets:

get:

x-kong-plugin-key-auth:

name: key-auth

enabled: true



Services

Routes

Plugins

<https://insomnia.rest/>



inso cli to deck

openapi: "3.0.0"

info:

version: 1.0.0

title: Swagger Petstore

license:

name: MIT

servers:

- url:

<http://petstore.swagger.io/v1>

paths:

/pets:

get:

x-kong-plugin-key-auth:

name: key-auth

enabled: true

```
sven — sven@NCC-1701-E ~ — zsh

sven@NCC-1701-E ~$ inso help
Usage: inso [options] [command]

A CLI for Insomnia!

Options:
  -v, --version                output the version number
  -w, --workingDir <dir>      set working directory
  -a, --appDataDir <dir>      set the app data directory (deprecated; use --src
                              instead)
  --config <path>              path to configuration file
  --verbose                    show additional logs while running the command
  --src <file|dir>             set the app data source
  --printOptions               print the loaded options
  --ci                         run in CI, disables all prompts
  -h, --help                   display help for command

Commands:
  generate                     Code generation utilities
  run                         Execution utilities
  lint                        Linting utilities
  export                      Export data from insomnia models
  script <name>               Run scripts defined in .insorc
  help [command]              display help for command

sven@NCC-1701-E ~$
```

Services

Routes

Plugins

<https://docs.insomnia.rest/inso-cli/cli-command-reference/inso-generate-config>

```
inso generate config ./petstore-with-keyauth.yaml -o petstore-deck-import.yaml
```



deck to Kong

openapi: "3.0.0"
info:
 version: 1.0.0
 title: Swagger Petstore
 license:
 name: MIT
servers:
 - url:
 http://petstore.swagger.io/v1
paths:
 /pets:
 get:
 x-kong-plugin-key-auth:
 name: key-auth
 enabled: true

```
$ deck sync -s petstore-deck-import.yaml --select-tag inso-generated
creating service Swagger_Petstore
creating route Swagger_Petstore-createUser
creating route Swagger_Petstore-placeOrder
creating route Swagger_Petstore-findPetsByStatus
creating route Swagger_Petstore-createUsersWithListInput
creating route Swagger_Petstore-getInventory
creating route Swagger_Petstore-getUserByName
creating route Swagger_Petstore-createUsersWithArrayInput
creating route Swagger_Petstore-addPet
creating route Swagger_Petstore-deletePet
creating route Swagger_Petstore-logoutUser
creating route Swagger_Petstore-getPetById
creating route Swagger_Petstore-loginUser
creating route Swagger_Petstore-deleteOrder
creating route Swagger_Petstore-updatePet
creating route Swagger_Petstore-updatePetWithForm
creating route Swagger_Petstore-updateUser
creating route Swagger_Petstore-findPetsByTags
creating route Swagger_Petstore-deleteUser
creating route Swagger_Petstore-getOrderById
creating plugin key-auth for route Swagger_Petstore-addPet
Summary:
Created: 21
Updated: 0
Deleted: 0
```

Services

Routes

Plugins

deck sync -s petstore-deck-import.yaml --select-tag inso-generated

The full flow

```
openapi: "3.0.0"
info:
  version: 1.0.0
  title: Swagger Petstore
  license:
    name: MIT
servers:
  - url:
    http://petstore.swagger.io/v1
paths:
  /pets:
    get:
      x-kong-plugin-key-auth:
        name: key-auth
        enabled: true
```

```
#!/bin/bash

echo "Validating if we have a correct OpenAPI"
inso lint spec petstore-with-keyauth.yaml

echo "Executing all tests"
echo "NOTE: you must have cloned the Insomnia
repo at this stage"
inso run test "Example test suite" --env
"Petstore live at petstore.swagger.io"

echo "Generating Kong deck YAML from OpenAPI"
inso generate config
./petstore-with-keyauth.yaml -o
petstore-deck-import.yaml

echo "Importing the generated YAML into Kong"
deck sync -s petstore-deck-import.yaml
--select-tag inso-generated
```

Services

Routes

Plugins

<https://github.com/svenwal/kong-user-call-2022-07>

All materials



A screenshot of a web browser displaying the GitHub repository page for 'svenwal/kong-user-call-2022-07'. The page shows the repository's main content, including a list of files (IngressController, OpenAPI, YAML, README.md) and their commit history. The README file is selected, showing its content which includes sections for 'Kong user call July 2022', 'Folders', 'YAML', 'IngressController', 'OpenAPI', 'Slides', and 'Insomnia project'. The right sidebar contains information about the repository, including 'About', 'Releases', 'Packages', and 'Languages'.

Thank You

