

SPECIFYING APIs WITH OPEN API AND SWAGGER

WHY SHOULD YOU USE AN API SPECIFICATION IN OPENAPI?

- Allows a standard mechanism for sharing a specification with a consumer/producer
- Leads to a more collaborative API
- Reduces errors when generating code based from the specification
- Generate interactive documentation
- Allows an API to be easily published on a market place
- Make it easier to support versioning

WHAT DOES AN OPENAPI SPECIFICATION LOOK LIKE?

- Can be specified in either JSON or YAML
- Represents the structure of the paths, content types, model objects etc

```
post:  
  summary: Create a pet  
  operationId: createPets  
  tags:  
    - pets  
  responses:  
    '201':  
      description: Null response  
    default:  
      description: unexpected error  
    content:  
      application/json:  
        schema:  
          $ref: "#/components/schemas/Error"
```

SWAGGER WITH SPRING BOOT

- Swagger integrates nicely into Spring Boot using the SpringFox project
- Configuring SpringFox creates the **v2/api-docs** and **/swagger-ui.html** pages

The screenshot shows the Swagger UI interface for a Spring Boot application. At the top, there's a green header bar with the 'swagger' logo and a dropdown menu labeled 'Select a spec' set to 'default'. Below the header, the title 'Api Documentation' is displayed with a '1.0' badge. A note indicates the base URL is 'localhost:8080/' and provides a link to 'http://localhost:8080/v2/api-docs'. Under the title, there are links for 'Api Documentation', 'Terms of service', and 'Apache 2.0'. The main content area is titled 'workshop-controller Workshop Controller'. It lists several API endpoints:

- GET /hello** Our first API endpoint
- GET /todo** Retrieves all the todo items from the todo list
- GET /todo/item/{id}** Gets the specified todo item
- POST /todo/item/{id}** Adds a todo item to the list
- DELETE /todo/item/{id}** Removes the specified todo item

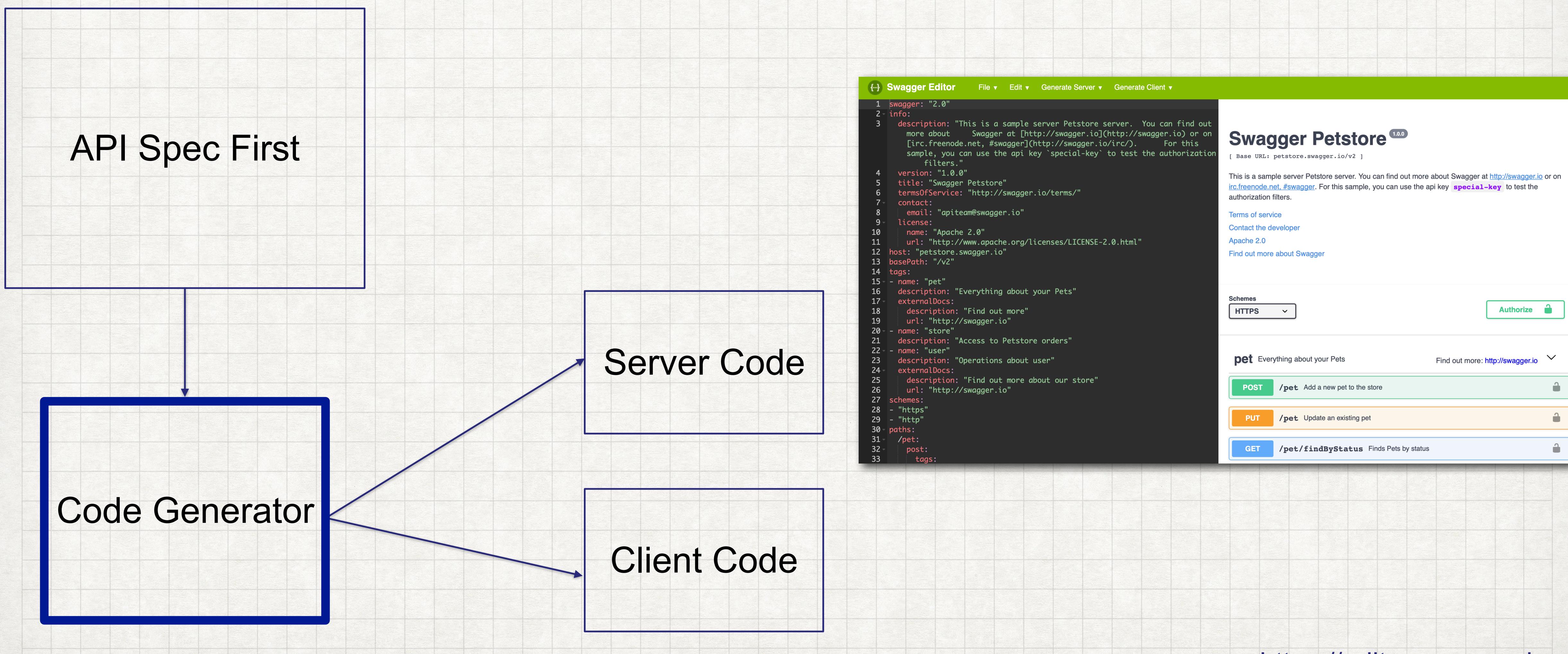
At the bottom, there's a 'Models' section with a right-pointing arrow.

CODE GENERATION FROM OPENAPI

- Swagger Codegen generates template code from an OpenAPI specification
- There is a wide range of support for different languages and frameworks
- Quick mechanism of generating client code

```
java -jar swagger-codegen-cli.jar generate \
-i http://localhost:8080/v2/api-docs\
-l java \
-o com/jpgough/workshop/java
```

API SPECIFICATION FIRST DEVELOPMENT



<https://editor.swagger.io>