Generating a TypeScript API client from your OpenAPI specs

bitEXPERT

WE DRIVE INNOVATION & DIGITAL TRANSFORMATION

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Situation

API described by OpenAPI specification

You are building the UI

OpenAPI

API specification developed by the OpenAPI Initiative

Named "Swagger specification" until 2015

=> association with the Swagger tools

OpenAPI Initiative

Consists of several organizations including Microsoft, Google,
IBM, SmartBear
& contributors across the globe.

OpenAPI specification

JSON/YAML format description for REST APIs including:

Endpoints `/users`

Operations `GET` `POST` …

Input & Output

Schemas

Authentication methods

Swagger™
Supported by **SMARTBEAR**

Bunch of tools implementing the OpenAPI specification.

Development is driven by SmartBear and the swagger community.

Swagger tools

- **Swagger Editor**: Browser-based visual editor for OpenAPI specs
- **Swagger UI**: Web-App that generates fancy, interactive documentation from OpenAPI specs

Swagger tools

- **Swagger Inspector**: Tool that generates an OpenAPI spec from existing API code
- **Swagger Codegen**: Bunch of CLI tools that generate clients, server stubs and documentation from OpenAPI specs

Client generation

with OpenAPI Generator

Available via NPM, Maven, JAR, Homebrew, Docker

```
yarn global add
@openapitools/openapi-generator-
cli
```

- Generating client & model code leverages the developer
- More time to focus on actual UI and data handling
- No discrepancies between frontend and backend models
- Endlessly scalable
- Can be automated and integrated into development setup

Let's see some action

Usage

```
openapi-generator generate -i url/file -g
generator-name -o out -c configfile
```

```
openapi-generator generate -i
https://petstore3.swagger.io/api/v3/openapi.js
-g typescript-node -o out -c config.json
```

Conclusion

- Very powerful tool that can save you a lot of time
- Moderately large overhead required to integrate
  => Has to be evaluated for project scope

common pitfalls / debugging

Swagger UI validates less strict than OpenAPI Generator
=> Validate your spec in Swagger Editor

Some generators seem to work with any OpenAPI version, but
produce strange bugs
=> Check OpenAPI version required for your specific generator

Ty for listening 🐸

Sources

OpenAPI specification [1][2]

OpenAPI initiative

Swagger tools:

- UI
- Editor
- Inspector
- Codegen

Sources

OpenAPI Generator docs

Generator configuration file

Pet Store (v2)

Pet Store (v3)