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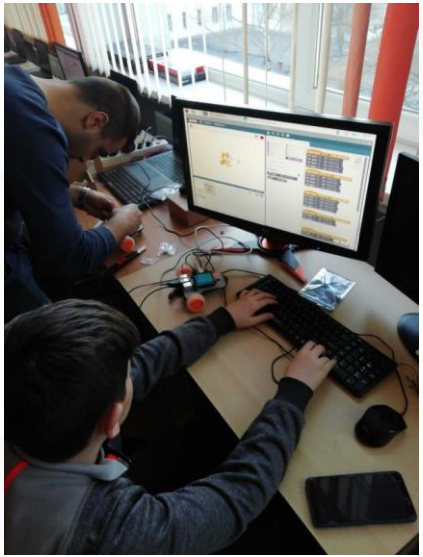
AgileHub investește în educația **gratuită**

Curs robotica, durata 8 luni, pentru 2 grupe de elevi de la Școala 11, Brașov



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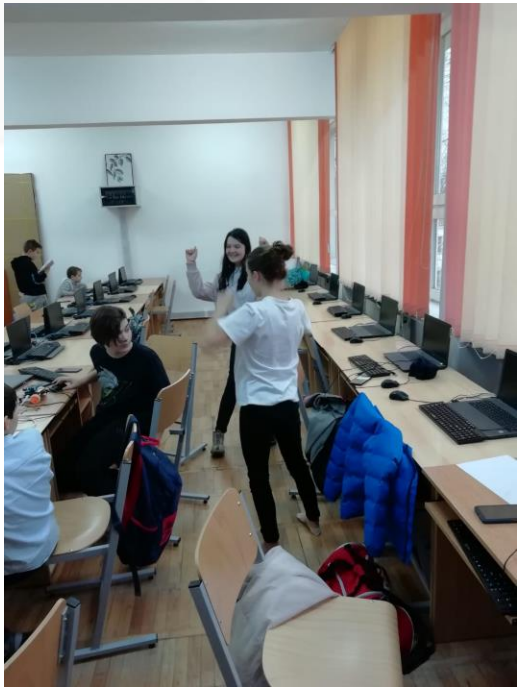

Api First vs. Code first

The 'why's and 'how's
using Swagger, Spectral and openapi-generator-maven-plugin

Agenda

1. Definitions
2. Comparison
3. Example

API First

```yaml
openapi: 3.0.1
info:
  title: Sample API
  version: 0.1.0
  contact:
    name: Vlad Carcu
    email: vlad.carcu@softvision.com
  description: Sample API
servers:
  - url: http://localhost:{port}
    description: local environment
    variables:
      port:
        default: '8080'
  - url: https://devserver.domain.com/{custom-base-path}
    description: dev environment
    variables:
      custom-base-path:
        default: 'sample'
```

```java
@ApiOperation(value = "add a new student", nickname = "addStudent
@ApiResponses(value = {
    @ApiResponse(code = 200, message = "the created student", res
    @ApiResponse(code = 400, message = "bad request", response =
    @ApiResponse(code = 401, message = "unauthorized"),
    @ApiResponse(code = 500, message = "internal server error", r
@RequestMapping(value = "/student",
    produces = { "application/json" },
    consumes = { "application/json" },
    method = RequestMethod.POST)
default ResponseEntity<StudentDTO> addStudent(@ApiParam(value = "
    getRequest().ifPresent(request -> {
        for (MediaType mediaType: MediaType.parseMediaTypes(reque
            if (mediaType.isCompatibleWith(MediaType.valueOf("app
                String exampleString = "{ \"joinDate\" : \"2000-0
                ApiUtil.setExampleResponse(request,  contentType: "
                break;
            }
        }
    });
    return new ResponseEntity<>(HttpStatus.NOT_IMPLEMENTED);

}
```

API First

- APIs are ‘first-class’ citizens
- The API is designed and written before (or in parallel to) the code

Code First

```
@ApiOperation(value = "add a new student", nickname = "addStudent
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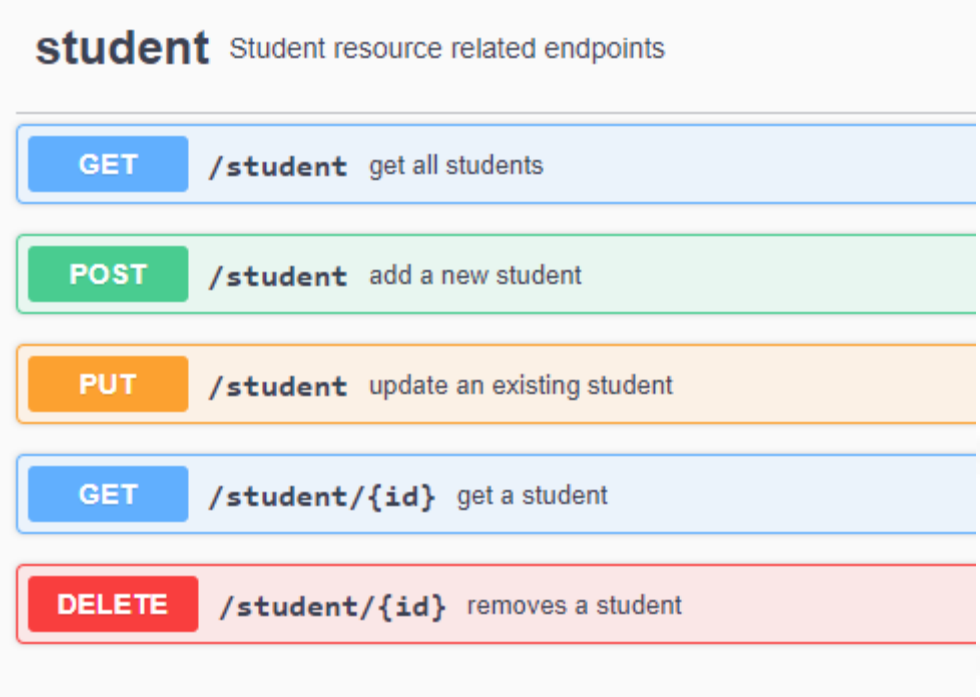
Code First


student
Student resource related endpoints
GET
/student
get all students
POST
/student
add a new student
PUT
/student
update an existing student
GET
/student/{id}
get a student
DELETE
/student/{id}
removes a student

Code First

- API documentation is generated from the code
- It’s mostly seen in code developed before the API was important

API First vs. Code First - Learning curve

- Same*, if you've never documented an API
- About 1 day to learn to write .yaml files

API First vs. Code First - Quality of development experience

Example situation: document an example response

- API First
  - add an example property to a request parameter, path variable or request body
- Code First
  - add an @Example with @ExampleProperty to a response

API First vs. Code First - Quality of development experience

Example situation: change an existing API

- API First
  - Change is discussed beforehand with the consumers
- Code First
  - Changes are usually discussed only within the local team

API First vs. Code First - Governance

Example situation: your company runs an audit on what data they expose

- API First
  - Supports governance
- Code First
  - Good luck with that :)

API First vs. Code First – Time to market

API First

- Enables teams to work in parallel, using mocks

Code First

- Successful collaboration depends more on the developers' availability and interpersonal skills

API First vs. Code First – Conclusion

API First
- Big projects, developed my multiple teams
- Projects with multiple types of clients (web, mobile, other services)
- Company-wide or multi-company initiatives
- Public APIs
- Any project with the potential to grow a lot in the future

Code First
- Proofs of concept
- Documenting legacy APIs

Available tools

- API Description Languages: OpenAPI, API Blueprint, RAML
- Mock generators: Swagger CodeGen, OpenAPI generator, API Mock, raml-mock-service
- Linters: Spectral, API Blueprint Linter, linter-raml
- Viewers: Swagger UI

Tools used

- IDE - yml file editing
- Spectral - OpenAPI v3 file validation
- OpenAPI generator - generate server stubs and feign client
- Swagger UI - API visualization and testing

Resources

- https://swagger.io/resources/articles/adopting-an-api-first-approach/ - API First description
- https://swagger.io/docs/specification/about/ - Swagger OpenAPI specification documentation
- https://springdoc.github.io/springdoc-openapi-demos/faq.html - SpringDoc documentation
- https://github.com/swagger-api/swagger-codegen - Swagger CodeGen
- https://github.com/OpenAPITools/openapi-generator - OpenApi generator
- https://github.com/stoplightio/spectral - Spectral JSON/YAML linter
- https://openapi.tools/ - OpenAPI tools
- https://apiblueprint.org/tools.html - API Blueprint tools
- https://raml.org/projects - RAML tools

Example

Q&A

Thank you!