nodejs: json-server Fast API

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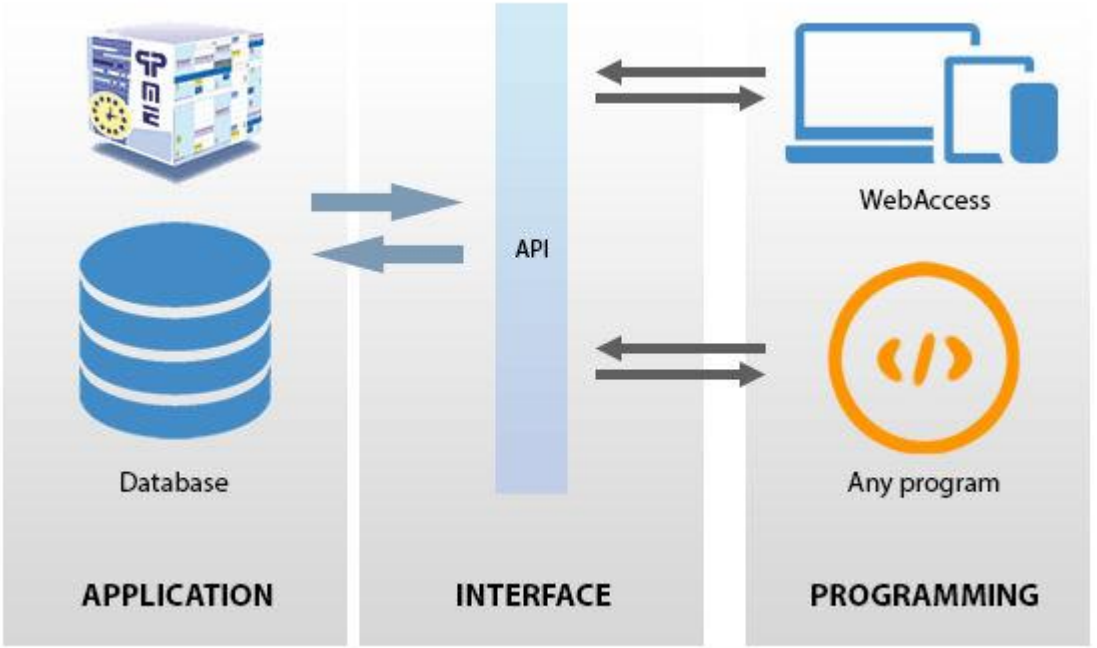
json-server

The json-server is a JavaScript library to create testing REST API.

API: what is an API?

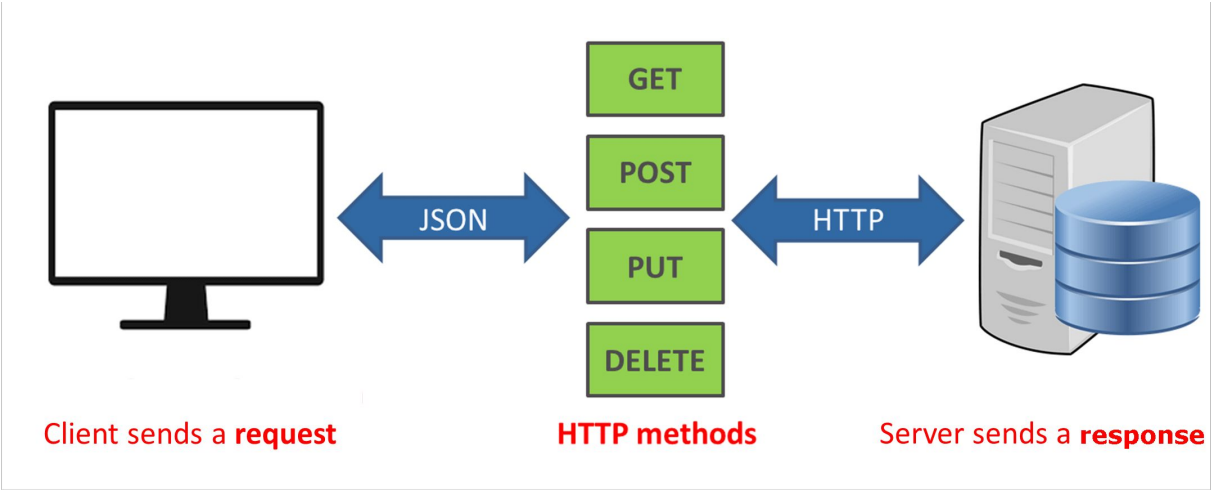
API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other.



API: What is an API used for?

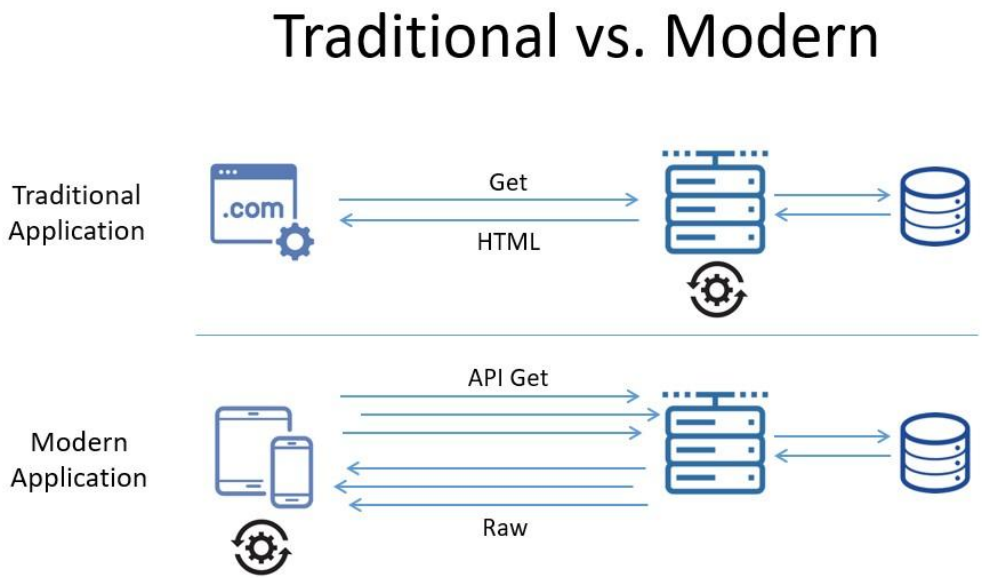
An **API** (Application Programming Interface) is a set of functions that allows applications to access data and interact with external software components, operating systems, or microservices. To simplify, an **API** delivers a user request to a system and sends the system's response back to a user.

Restful API

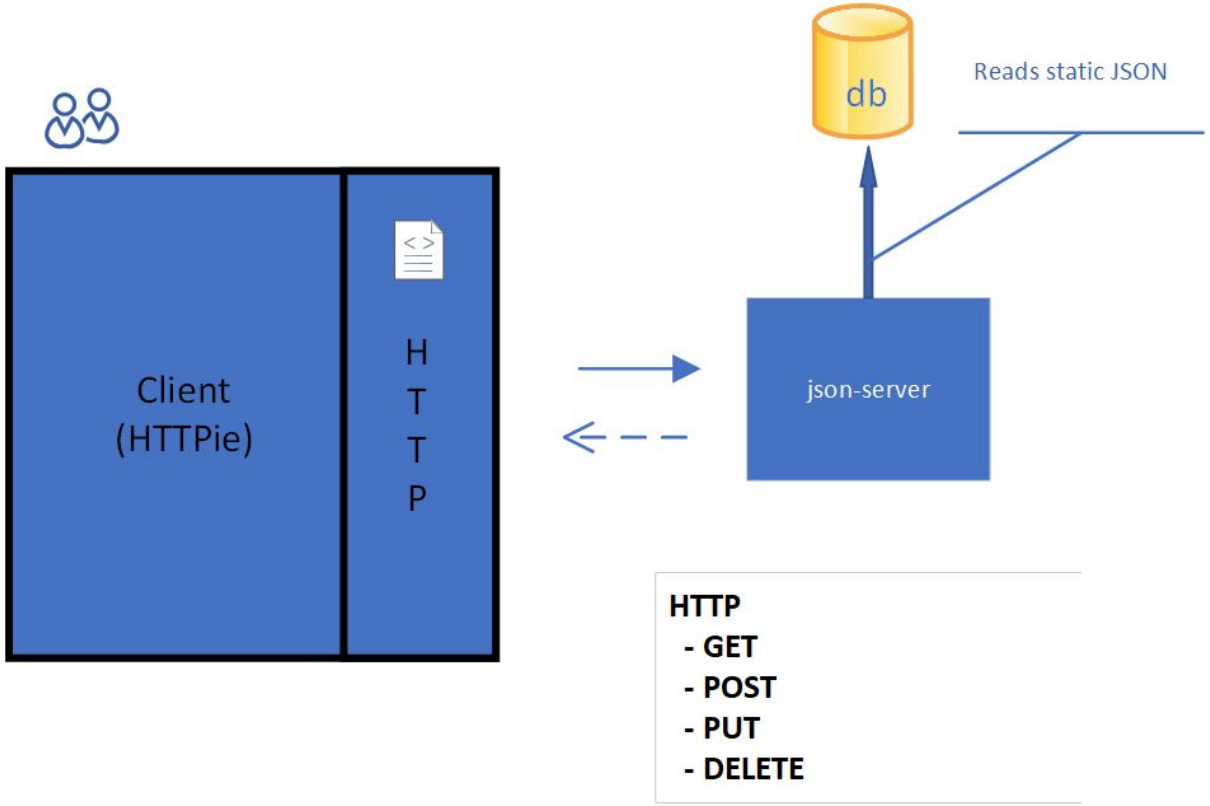


API: in our context

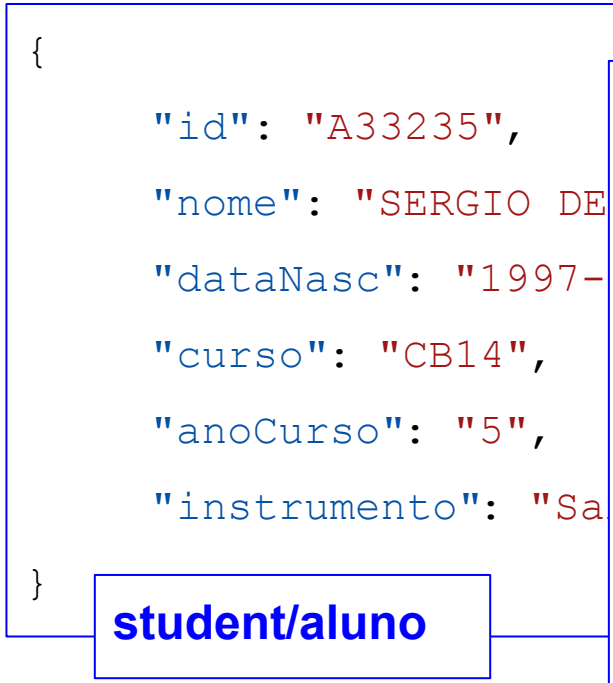
An API is a way to expose a set of functionalities over a dataset to other systems.

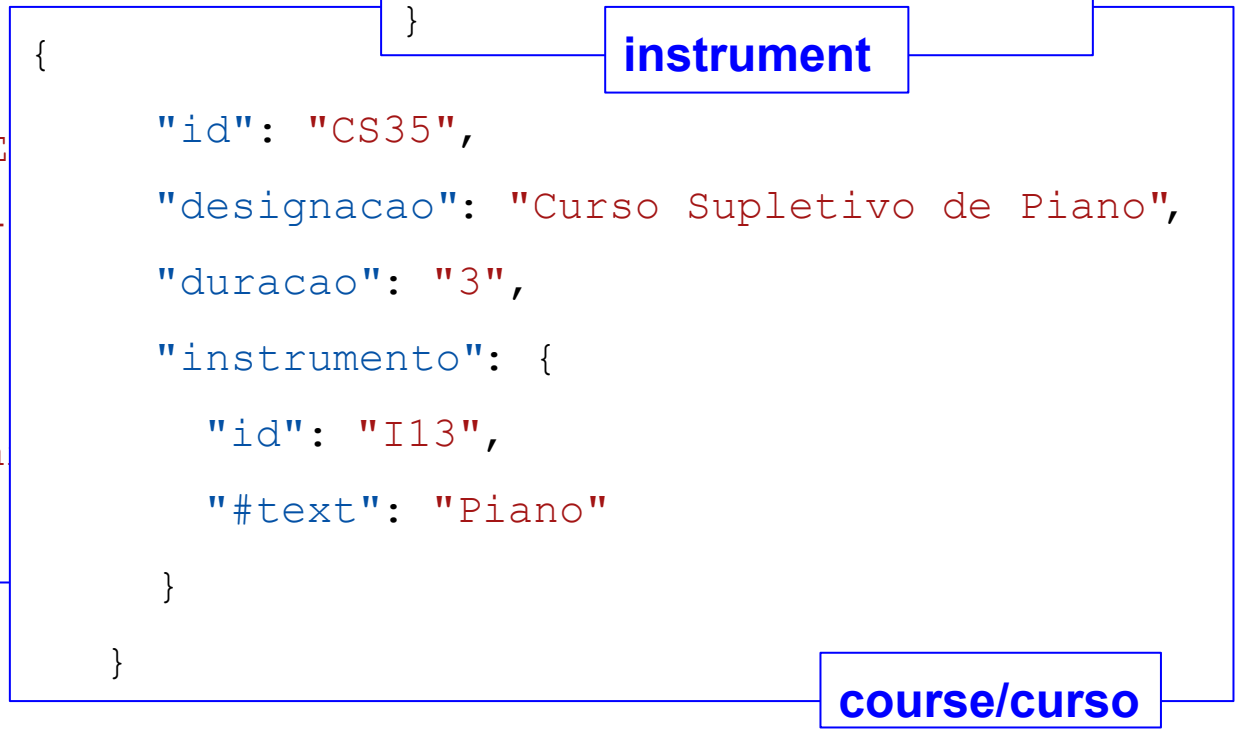


json-server

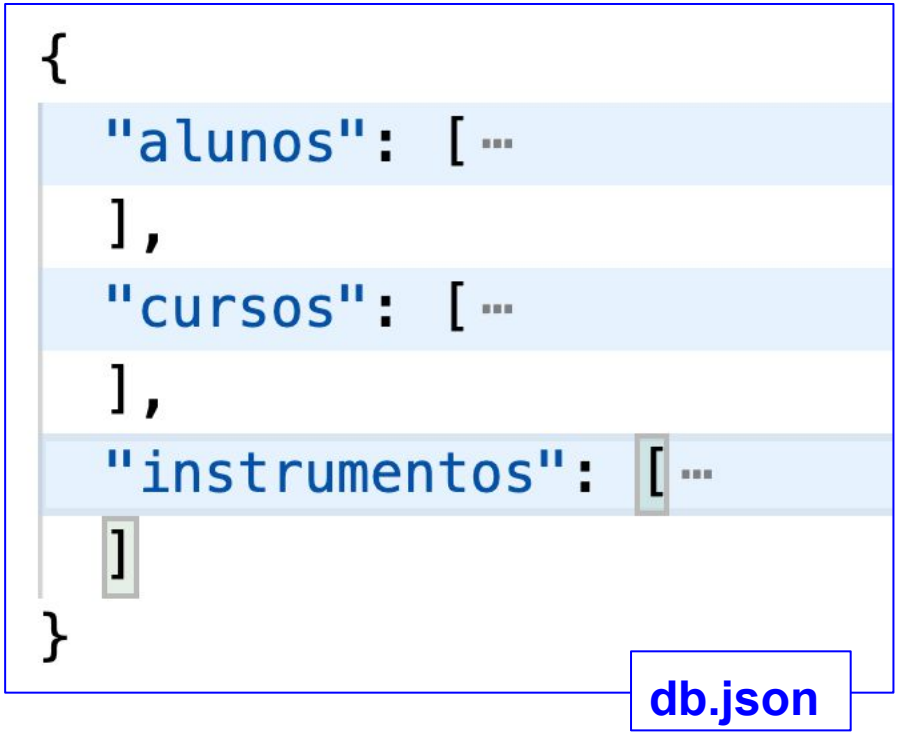

db
Reads static JSON
Client
(HTTPie)
H
T
T
P
json-server
HTTP
- GET
- POST
- PUT
- DELETE

Dataset: A Music School





Dataset: setting up



https://epl.di.uminho.pt/~jcr/TRANSF/db.json

json-server: installation

```
npm install -g json-server
```

json-server: server start

```
json-server --watch db.json
```

Try the following routes:

GET http://localhost:3000/alunos
GET http://localhost:3000/alunos/A33199
GET http://localhost:3000/cursos
GET http://localhost:3000/cursos/CB1
GET http://localhost:3000/instrumentos
GET http://localhost:3000/instrumentos/I14
GET http://localhost:3000/db

json-server: operators - filtering

```
Retrieve all students that study Guitar
```

GET http://localhost:3000/alunos?instrumento=Guitarra

```
Retrieve all students that attend Cello course
```

GET http://localhost:3000/alunos?curso=CS19

Deep fields...

GET http://localhost:3000/cursos?instrumento.id=I3

Combining...

GET http://localhost:3000/cursos?id=CB1&id=CB2

POSTMAN

json-server: pagination

`_page and _limit parameters`

In the `Link` header you'll get `first`, `prev`, `next` and `last` links.

GET http://localhost:3000/alunos?_page=2

Access-Control-Expose-Headers	X-Total-Count, Link
Link	<http://localhost:3000/alunos?_page=1>; rel="first", <http://localhost:3000/alunos?_page=1>; rel="prev", <http://localhost:3000/alunos?_page=3>; rel="next", <http://localhost:3000/alunos?_page=37>; rel="last"
X-Content-Type-Options	
Content-Type	application/json; charset=utf-8

json-server: ordering

`_sort and _order parameters`

GET http://localhost:3000/alunos?_sort=curso&_order=asc

Multiple criteria: ordering students by course and then by name

GET http://localhost:3000/alunos?_sort=curso,nome&_order=asc,desc

json-server: slicing

`_start, _end or _limit parameters`

GET http://localhost:3000/alunos?_start=100&_limit=6

With these parameters you can create your own pagination...

json-server: full-text search

`q parameter`

GET http://localhost:3000/alunos?q=MARTINS

json-server: get request

```
npm install axios
```

get_request.js

```
const axios = require('axios');

axios.get('http://localhost:3000/alunos)
    .then(resp => {
        data = resp.data;
        data.forEach(a => {
            console.log(`${a.id}, ${a.nome}, ${a.instrumento}`);
        });
    })
    .catch(error => {
        console.log(error);
     });
```

json-server: post request

post_request.js

```
const axios = require('axios');


axios.post('http://localhost:3000/instrumentos, {
    "id": "I23",
    "#text": "Castanholas"
}).then(resp => {
     console.log(resp.data);
}).catch(error => {
     console.log(error);
});
```

Verifica se o registo foi inserido!

json-server: put request - to modify data

put_request.js

```
const axios = require('axios');


axios.put('http://localhost:3000/instrumentos/I23, {
    "#text": "Kazoo"
}).then(resp => {
    console.log(resp.data);
}).catch(error => {
    console.log(error);
});
```

Verifica se o registo foi alterado!

json-server: delete request - to delete data

delete_request.js

```
const axios = require('axios');


axios.delete('http://localhost:3000/instrumentos/I23, {
}).then(resp => {
    console.log(resp.data);
}).catch(error => {
    console.log(error);
});
```

Verifica se o registo foi apagado!