

Microservice and Web Engineering

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<https://github.com/joaotuneli56/energia-monitor.git>

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Evidências de Funcionamento

SWAGGER

Evidências de Erro

- GET

The screenshot shows the Swagger UI for the endpoint `GET /api/Monitor/consumo`. The interface includes a top bar with the method and path, a zoom level of 75%, and a 'Redefinir' button. Below the top bar, there is a 'Parameters' section with a 'Cancel' button and a message 'No parameters'. The 'Execute' button is highlighted in blue, and a 'Clear' button is visible. The 'Responses' section shows a 'Curl' command, the 'Request URL' as `http://localhost:5178/api/Monitor/consumo`, and the 'Server response' details. The response code is 404, labeled as 'Error: Not Found'. The response body is 'Nenhum dado encontrado.' and the response headers are: `content-type: text/plain; charset=utf-8`, `date: Fri, 22 Nov 2024 17:56:41 GMT`, `server: Kestrel`, and `transfer-encoding: chunked`. At the bottom, there is a 'Responses' table with one entry: 200 Success, with a 'Links' column showing 'No links'.

Code	Description	Links
200	Success	No links

- POST

The screenshot shows the Swagger UI for the endpoint `POST /api/Monitor/consumo`. The interface includes a top bar with the method and path, a zoom level of 75%, and a 'Redefinir' button. Below the top bar, there is a 'Parameters' section with a 'Cancel' button and a message 'No parameters'. The 'Execute' button is highlighted in blue, and a 'Clear' button is visible. The 'Responses' section shows a 'Curl' command, the 'Request URL' as `http://localhost:5178/api/Monitor/consumo`, and the 'Server response' details. The response code is 400, labeled as 'Error: Bad Request'. The response body is 'Dados de consumo inválidos. O campo 'ConsumoKwh' deve ser maior que zero.' and the response headers are: `content-type: text/plain; charset=utf-8`, `date: Sat, 23 Nov 2024 20:19:52 GMT`, `server: Kestrel`, and `transfer-encoding: chunked`. At the bottom, there is a 'Responses' table with one entry: 200 Success, with a 'Links' column showing 'No links'.

Code	Description	Links
200	Success	No links

Requisições Funcionais

- GET

GET/api/Monitor/consumo

Parameters

Cancel

No parameters

ExecuteClear

Responses

Curl

```
curl -X 'GET' \
'http://localhost:5178/api/Monitor/consumo' \
-H 'accept: */*'
```

Request URL

```
http://localhost:5178/api/Monitor/consumo
```

Server response

CodeDetails

200

Response body

```
{
  "source": "database",
  "data": [
    {
      "id": "string",
      "datahora": "2024-11-22T18:54:36.567Z",
      "consumoKwh": 1,
      "local": "string"
    }
  ]
}
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Fri, 22 Nov 2024 18:56:22 GMT
server: Kestrel
transfer-encoding: chunked
```

- POST

Responses

Curl

```
curl -X 'POST' \
'http://localhost:5178/api/Monitor/consumo' \
-H 'accept: */*' \
-H 'Content-Type: application/json' \
-d '{
  "id": "string",
  "datahora": "2024-11-22T18:54:36.567Z",
  "consumoKwh": 1,
  "local": "string"
}'
```

Request URL

```
http://localhost:5178/api/Monitor/consumo
```

Server response

CodeDetails

201

Undocumented

Response body

```
{
  "id": "string",
  "datahora": "2024-11-22T18:54:36.567Z",
  "consumoKwh": 1,
  "local": "string"
}
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Fri, 22 Nov 2024 18:54:41 GMT
location:
server: Kestrel
transfer-encoding: chunked
```

- Serviço Operacional (Health)

GET /api/Monitor/health

Parameters

Cancel

No parameters

Execute

Clear

Responses

Curl

curl -X 'GET' \'
'http://localhost:5178/api/Monitor/health' \'
-H 'accept: */*'

Request URL

http://localhost:5178/api/Monitor/health

Server response

Code	Details
200	<div><div>Response body<div>{ "status": "Healthy", "timestamp": "2024-11-22T17:59:45.1227384Z" }</div><div>Response headers<div>content-type: application/json; charset=utf-8 date: Fri, 22 Nov 2024 17:59:44 GMT server: Kestrel transfer-encoding: chunked</div></div></div></div>

Responses

Code	Description	Links
200	Success	No links

POSTMAN

Requisições COM REDIS

- Requisição com 18ms

The screenshot shows a Postman interface with a GET request to `http://localhost:5178/api/Monitor/consumo`. The response is a JSON array with two objects, each containing `id`, `dataHora`, `consumoKwh`, and `local`. The response status is `200 OK` with a response time of `18 ms` and a body size of `401 B`.

Response Time Breakdown:

Step	Time
Prepare	3.19 ms
Socket Initialization	0.78 ms
DNS Lookup	Cache
TCP Handshake	Cache
Waiting (TTFB)	16.05 ms
Download	0.77 ms
Process	0.10 ms

- Requisição com 26ms

Overview

GET Get data

No environment

REST API basics: CRUD, test & variable / Get data

SaveShare

GEThttp://localhost:5178/api/Monitor/consumoSend

ParamsAuthorizationHeaders (6)BodyScriptsTestsSettingsCookies

noneform-datax-www-form-urlencodedrawbinaryGraphQLJSONBeautify

1

BodyCookiesHeaders (4)Test Results (1/1)200 OK • 26 ms • 400 BSave Response

PrettyRawPreviewVisualizeJSON

```
1 {
2   "source": "cache",
3   "data": [
4     {
5       "id": "67423b4e297c962c7022cc7e",
6       "dataHora": "2024-11-23T20:30:00Z",
7       "consumoKwh": 50,
8       "local": "Escritório"
9     },
10    {
11      "id": "67423b69297c962c7022cc7f",
12      "dataHora": "2024-11-23T20:30:00Z",
13      "consumoKwh": 50,
14      "local": "Escritório"
15    }
16  ]
17 }
```

Response Time25.06 ms

Prepare	2.71 ms
Socket Initialization	0.31 ms
DNS Lookup	Cache
TCP Handshake	Cache
Waiting (TTFB)	23.52 ms
Download	1.23 ms
Process	0.13 ms

- **Requisição com 9ms**

The screenshot displays a REST client interface with the following details:

- Method:** GET
- URL:** http://localhost:5178/api/Monitor/consumo
- Status:** 200 OK
- Response Time:** 9 ms
- Body:** A JSON array containing two objects, each representing a data point with fields like id, dataHora, consumoKwh, and local.
- Response Time Breakdown:** A detailed view of the response time components is shown on the right.

Component	Time
Prepare	2.57 ms
Socket Initialization	0.37 ms
DNS Lookup	Cache
TCP Handshake	Cache
Waiting (TTFB)	7.35 ms
Download	0.80 ms
Process	0.09 ms
Total	8.52 ms

Requisição SEM REDIS

- **Requisição com 13ms**

The screenshot displays a REST client interface with the following details:

- Method:** GET
- URL:** http://localhost:5178/api/Monitor/consumo
- Body Type:** raw
- Status:** 200 OK
- Response Time:** 13 ms
- Response Size:** 403 B

The response body is a JSON array containing two objects:

```
1 {
2   "source": "database",
3   "data": [
4     {
5       "id": "67423b4e297c962c7022cc7e",
6       "dataHora": "2024-11-23T20:30:00Z",
7       "consumoKwh": 50,
8       "local": "Escritório"
9     },
10    {
11      "id": "67423b69297c962c7022cc7f",
12      "dataHora": "2024-11-23T20:30:00Z",
13      "consumoKwh": 50,
14      "local": "Escritório"
15    }
16  ]
17 }
```

The response time breakdown is as follows:

Step	Time
Prepare	3.34 ms
Socket Initialization	0.30 ms
DNS Lookup	Cache
TCP Handshake	Cache
Waiting (TTFB)	11.84 ms
Download	0.58 ms
Process	0.06 ms

- **Requisição com 29ms**

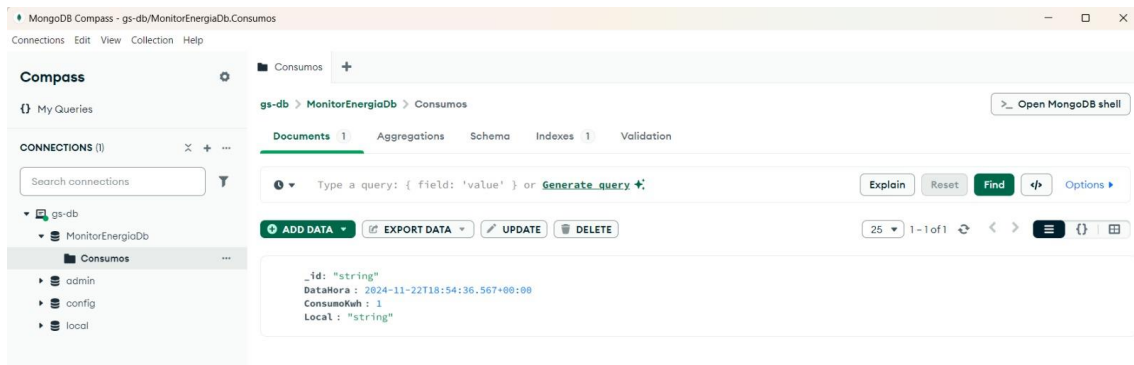
The screenshot shows the Postman interface for a GET request to `http://localhost:5178/api/Monitor/consumo`. The response is a JSON object with a status of **200 OK**, a response time of **29 ms**, and a body size of **404 B**. The response body is displayed in the 'Body' tab, showing a JSON array of two objects. A 'Response Time' breakdown panel is visible on the right, showing the following components:

Component	Time
Prepare	3.75 ms
Socket Initialization	0.50 ms
DNS Lookup	Cache
TCP Handshake	Cache
Waiting (TTFB)	26.41 ms
Download	1.17 ms
Process	0.13 ms

- **Requisição com 9ms**

The screenshot shows the Postman interface for a GET request to `http://localhost:5178/api/Monitor/consumo`. The response is a JSON object with a status of **200 OK**, a response time of **9 ms**, and a body size of **403 B**. The response body is displayed in the 'Body' tab, showing a JSON array of two objects. The 'Response Time' breakdown panel is not visible in this screenshot.

MongoDB Compass



Testes realizados

- Inserção de dados no MongoDB
- Recuperação de dados do cache Redis
- Respostas corretas de Status Codes
- Cenário de erro ao consultar MongoDB
- Cenário de erro ao acessar o Redis

```
Restauração concluída (1,2s)
EnergiaMonitor êxito (0,7s) → EnergiaMonitor\bin\Debug\net8.0\EnergiaMonitor.dll
EnergiaMonitor.Tests êxito(s) com 3 aviso(s) (0,7s) → EnergiaMonitor.Tests\bin\Debug\net8.0\EnergiaMonitor.Tests.dll
C:\Users\João Pedro\Projetos\energia-monitor\EnergiaMonitor.Tests\Controllers\MonitorControllerTests.cs(58,35): warning CS8602: Desreferência de uma referência possivelmente nula.
C:\Users\João Pedro\Projetos\energia-monitor\EnergiaMonitor.Tests\Controllers\MonitorControllerTests.cs(67,44): warning CS8600: Conversão de literal nula ou possível valor nulo em tipo não anulável.
C:\Users\João Pedro\Projetos\energia-monitor\EnergiaMonitor.Tests\Controllers\MonitorControllerTests.cs(77,43): warning CS8602: Desreferência de uma referência possivelmente nula.
EnergiaMonitor.Tests teste êxito(s) com 1 aviso(s) (1,1s)
C:\Program Files\dotnet\sdk\9.0.100\Microsoft.TestPlatform.targets(48,5): warning : Não há nenhum teste disponível em C:\Users\João Pedro\Projetos\energia-monitor\EnergiaMonitor.Tests\bin\Debug\net8.0\EnergiaMonitor.Tests.dll. Verifique se o detector e os executores de teste estão registrados e se as configurações de versão da estrutura da plataforma & são apropriadas e tente novamente.

Resumo do teste: total: 0; falhou: 0; bem-sucedido: 0; ignorado: 0; duração: 1,1s
Construir êxito(s) com 4 aviso(s) em 4,4s
```