Evidências — Atividade 6 (Encapsulamento)

Ambiente

- SO: Windows 11
- .NET SDK: 9.0
- Editor: VS Code
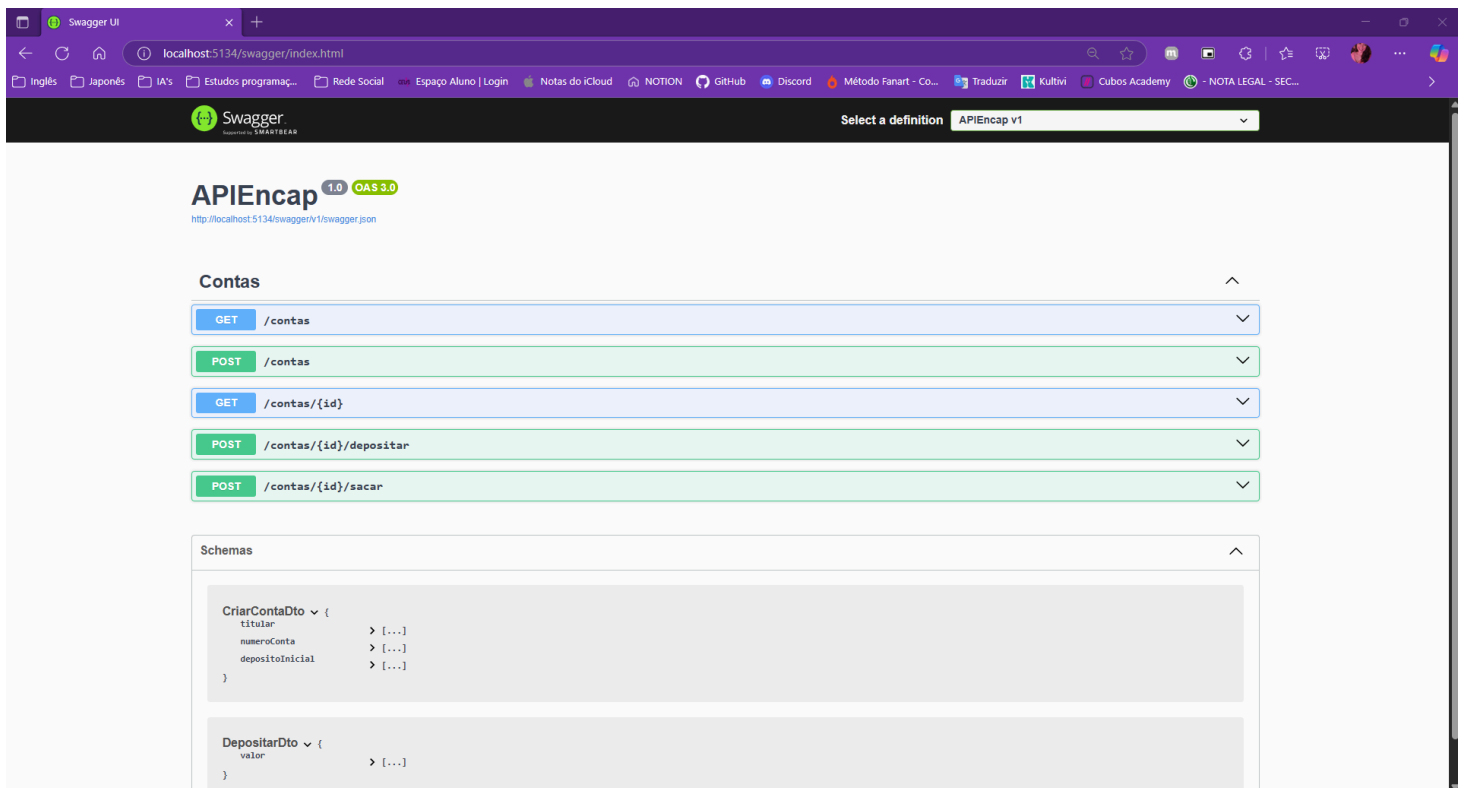
Execução
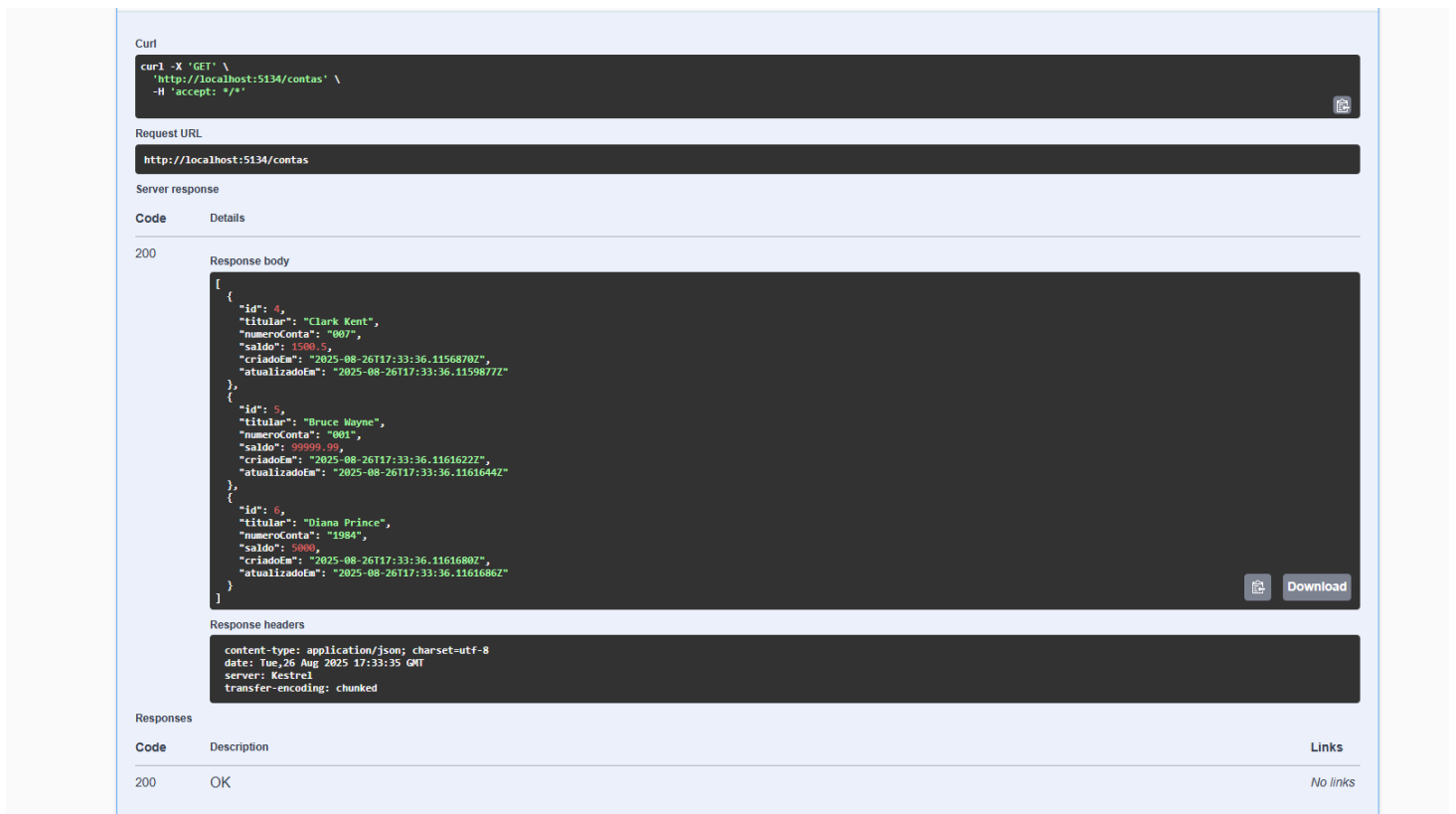
- `dotnet run` → URL: http://localhost:5134

```
PS C:\Users\marii\OneDrive\Área de Trabalho\CC\Estudos_projetos_trabalhos\DS-CEUB\06_API_Encapsulamento_CSharp\APIEncap> dotnet run
Usando as configurações de inicialização de C:\Users\marii\OneDrive\Área de Trabalho\CC\Estudos_projetos_trabalhos\DS-CEUB\06_API_Encapsulamento_CSharp\APIEncap\Properties\launchSet
tings.json...
Compilando...
info: Microsoft.Hosting.Lifetime[14]
      Now listening on: http://localhost:5134
info: Microsoft.Hosting.Lifetime[0]
      Application started. Press Ctrl+C to shut down.
info: Microsoft.Hosting.Lifetime[0]
      Hosting environment: Development
info: Microsoft.Hosting.Lifetime[0]
      Content root path: C:\Users\marii\OneDrive\Área de Trabalho\CC\Estudos_projetos_trabalhos\DS-CEUB\06_API_Encapsulamento_CSharp\APIEncap
```

Swagger

- swagger/index

- GET /contas

- POST /contas — 201 — [PRINT]

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:5134/contas' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "titular": "Mariana",
  "numeroConta": "523",
  "depositoInicial": 100.00
}'
```

Request URL

```
http://localhost:5134/contas
```

Server response

Code	Details
201 *Undocumented*	**Response body**

```
{
  "id": 7,
  "titular": "Mariana",
  "numeroConta": "523",
  "saldo": 100,
  "criadoEm": "2025-08-26T17:36:31.5792044Z",
  "atualizadoEm": "2025-08-26T17:36:31.5792119Z"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Tue,26 Aug 2025 17:36:31 GMT
location: http://localhost:5134/contas/7
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	*No links*

- GET /contas/{id} — 200

Name	Description

id * required
integer($int32)
(path)

`5`

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:5134/contas/5' \
  -H 'accept: */*'
```

Request URL

```
http://localhost:5134/contas/5
```

Server response

Code	Details
200	**Response body**

```
{
  "id": 5,
  "titular": "Bruce Wayne",
  "numeroConta": "001",
  "saldo": 99999.99,
  "criadoEm": "2025-08-26T17:33:36.1161622Z",
  "atualizadoEm": "2025-08-26T17:33:36.1161644Z"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Tue,26 Aug 2025 17:37:20 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	*No links*

- GET /contas/{id} — 404

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:5134/contas/8' \
  -H 'accept: */*'
```

Request URL

```
http://localhost:5134/contas/8
```

Server response

Code	Details
404 *Undocumented*	Error: Not Found

Response body

```
{
  "detail": "Conta não encontrada."
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Tue,26 Aug 2025 17:51:35 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	No links

- POST /contas/{id}/depositar — 200

POST /contas/{id}/depositar

Parameters

Cancel   Reset

Name	Description
id * required integer($int32) (path)	7

Request body   application/json

Edit Value | Schema

```
{
  "valor": 2500.00
}
```

Execute

Responses

Code	Description	Links
200	OK	No links

Clear

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:5134/contas/7/depositar' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "valor": 2500.00
}'
```

Request URL

```
http://localhost:5134/contas/7/depositar
```

Server response

Code	Details
200	**Response body**

```
{
  "id": 7,
  "titular": "Mariana",
  "numeroConta": "523",
  "saldo": 2600,
  "criadoEm": "2025-08-26T17:36:31.5792044Z",
  "atualizadoEm": "2025-08-26T17:39:37.9122186Z"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Tue,26 Aug 2025 17:39:36 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	*No links*

- POST /contas/{id}/sacar — 200 — [PRINT]

POST /contas/{id}/sacar

Parameters

Cancel   Reset

Name	Description

id * required
integer($int32)
(path)

```
7
```

Request body   application/json

Edit Value | Schema

```
{
  "valor": 650.00
}
```

Execute

Responses

Code	Description	Links
200	OK	*No links*

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:5134/contas/7/sacar' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "valor": 650.00
}'
```

Request URL

```
http://localhost:5134/contas/7/sacar
```

Server response

Code	Details
200	Response body

```
{
  "id": 7,
  "titular": "Mariana",
  "numeroConta": "523",
  "saldo": 1950,
  "criadoEm": "2025-08-26T17:36:31.5792044Z",
  "atualizadoEm": "2025-08-26T17:41:18.3097480Z"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Tue,26 Aug 2025 17:41:17 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	No links

- POST /contas/{id}/sacar — 400 — **Operação inválida: Saldo insuficiente.**

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:5134/contas/7/sacar' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "valor": 3000.00
}'
```

Request URL

```
http://localhost:5134/contas/7/sacar
```

Server response

Code	Details
400 *Undocumented*	Error: Bad Request Response body

```
{
  "type": "https://tools.ietf.org/html/rfc9110#section-15.5.1",
  "title": "Operação inválida",
  "status": 400,
  "detail": "Saldo insuficiente.",
  "traceId": "00-4ff73173a3f490ce3a738490b186a146-5470c7b29ca0b8ae-00"
}
```

Response headers

```
content-type: application/problem+json; charset=utf-8
date: Tue,26 Aug 2025 17:57:24 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

VS Code REST Client

- Arquivo `APIEncap.http`
- Execução dos requests (criar, listar, buscar, depositar, sacar, erro)

APIEncap > APIEncap.http > ...

```http
6 references | You, 46 minutes ago | 1 author (You)
1  @base = http://localhost:5134
2
3  ### 1) Criar conta
   Send Request
4  POST {{base}}/contas
5  Content-Type: application/json
6
7  {
8      "titular": "Mari",
9      "numeroConta": "0001-9",
10     "depositoInicial": 100
11  }
12          You, 46 minutes ago • Uncommitted chan
13  ### 2) Listar contas
   Send Request
14  GET {{base}}/contas
15
```

Response (right panel):

```http
1  HTTP/1.1 201 Created
2  Connection: close
3  Content-Type: application/json; charset=utf-8
4  Date: Tue, 26 Aug 2025 17:59:25 GMT
5  Server: Kestrel
6  Location: http://localhost:5134/contas/8
7  Transfer-Encoding: chunked
8
9  {
10     "id": 8,
11     "titular": "Mari",
12     "numeroConta": "0001-9",
13     "saldo": 100,
14     "criadoEm": "2025-08-26T17:59:26.3126337Z",
15     "atualizadoEm": "2025-08-26T17:59:26.3126385Z"
16  }
```

APIEncap > APIEncap.http > ...

```http
4  POST {{base}}/contas
10     "depositoInicial": 100
11  }
12
13  ### 2) Listar contas          You, 47 minutes ag
   Send Request
14  GET {{base}}/contas
15
16  ### 3) Buscar por Id
   Send Request
17  GET {{base}}/contas/1
18
19  ### 4) Depositar
   Send Request
20  POST {{base}}/contas/1/depositar
21  Content-Type: application/json
22
23  { "valor": 50 }
24
25
26  ### 5) Sacar (ok)
   Send Request
27  POST {{base}}/contas/1/sacar
28  Content-Type: application/json
29
30  { "valor": 30 }
31
32  ### 6) Sacar (erro — saldo insuficiente)
```

Response (right panel):

```http
1  HTTP/1.1 200 OK
2  Connection: close
3  Content-Type: application/json; charset=utf-8
4  Date: Tue, 26 Aug 2025 18:00:14 GMT
5  Server: Kestrel
6  Transfer-Encoding: chunked
7
8  [
9    {
10     "id": 4,
11     "titular": "Clark Kent",
12     "numeroConta": "007",
13     "saldo": 1500.50,
14     "criadoEm": "2025-08-26T17:45:46.2951415Z",
15     "atualizadoEm": "2025-08-26T17:45:46.2955631
    Z"
16   },
17   {
18     "id": 5,
19     "titular": "Bruce Wayne",
20     "numeroConta": "001",
21     "saldo": 99999.99,
22     "criadoEm": "2025-08-26T17:45:46.2957381Z".
23     "atualizadoEm": "2025-08-26T17:45:46.2957
    Z"
```

APIEncap > ⊕ APIEncap.http > ⊗ GET /contas/8

```
     Send Request
14   GET {{base}}/contas
15
16   ### 3) Buscar por Id
     Send Request
17   GET {{base}}/contas/8          You, 48 minutes a
18
19   ### 4) Depositar
     Send Request
20   POST {{base}}/contas/1/depositar
21   Content-Type: application/json
22
23   { "valor": 50 }
24
25
26   ### 5) Sacar (ok)
     Send Request
```

```
1    HTTP/1.1 200 OK
2    Connection: close
3    Content-Type: application/json; charset=utf-8
4    Date: Tue, 26 Aug 2025 18:01:39 GMT
5    Server: Kestrel
6    Transfer-Encoding: chunked
7
8   ⌄{
9       "id": 8,
10      "titular": "Mari",
11      "numeroConta": "0001-9",
12      "saldo": 100,
13      "criadoEm": "2025-08-26T17:59:26.3126337Z",
14      "atualizadoEm": "2025-08-26T17:59:26.3126385Z"
15   }
```

APIEncap > ⊕ APIEncap.http > ...

```
     GET {{base}}/contas
15
16   ### 3) Buscar por Id
     Send Request
17   GET {{base}}/contas/8
18
19   ### 4) Depositar          You, 49 minutes ago ●
     Send Request
20   POST {{base}}/contas/8/depositar
21   Content-Type: application/json
22
23   { "valor": 50 }
24
25
26   ### 5) Sacar (ok)
     Send Request
27   POST {{base}}/contas/1/sacar
28   Content-Type: application/json
29
```

```
1    HTTP/1.1 200 OK
2    Connection: close
3    Content-Type: application/json; charset=utf-8
4    Date: Tue, 26 Aug 2025 18:02:35 GMT
5    Server: Kestrel
6    Transfer-Encoding: chunked
7
8   ⌄{
9       "id": 8,
10      "titular": "Mari",
11      "numeroConta": "0001-9",
12      "saldo": 150,
13      "criadoEm": "2025-08-26T17:59:26.3126337Z",
14      "atualizadoEm": "2025-08-26T18:02:35.6494756Z"
15   }
```

APIEncap > ⊕ APIEncap.http > ...

```
20   POST {{base}}/contas/8/depositar
21   Content-Type: application/json
22
23   { "valor": 50 }
24
25   ### 5) Sacar (ok)          You, 50 minutes ago ●
     Send Request
26   POST {{base}}/contas/8/sacar
27   Content-Type: application/json
28
29   { "valor": 30 }
30
31   ### 6) Sacar (erro – saldo insuficiente)
     Send Request
32   POST {{base}}/contas/1/sacar
33   Content-Type: application/json
34
35   { "valor": 99999 }
36
```

```
1    HTTP/1.1 200 OK
2    Connection: close
3    Content-Type: application/json; charset=utf-8
4    Date: Tue, 26 Aug 2025 18:03:29 GMT
5    Server: Kestrel
6    Transfer-Encoding: chunked
7
8   ⌄{
9       "id": 8,
10      "titular": "Mari",
11      "numeroConta": "0001-9",
12      "saldo": 120,
13      "criadoEm": "2025-08-26T17:59:26.3126337Z",
14      "atualizadoEm": "2025-08-26T18:03:29.9510343Z"
15   }
```

```http
26  POST {{base}}/contas/8/sacar
27  Content-Type: application/json
28
29  { "valor": 30 }
30
31  ### 6) Sacar (erro — saldo insuficiente)
    Send Request
32  POST {{base}}/contas/8/sacar
33  Content-Type: application/json
34
35  { "valor": 150 }
36
```

```
1   HTTP/1.1 400 Bad Request
2   Connection: close
3   Content-Type: application/problem+json; charset=utf-8
4   Date: Tue, 26 Aug 2025 18:04:22 GMT
5   Server: Kestrel
6   Transfer-Encoding: chunked
7
8   {
9     "type": "https://tools.ietf.org/html/rfc9110#section-15.5.1",
10    "title": "Operação inválida",
11    "status": 400,
12    "detail": "Saldo insuficiente.",
13    "traceId": "00-c94345fdab73af6078eb83033670841f-0d71585ff98347a8-00"
14  }
```

Conclusão

- Encapsulamento evidenciado por: campos privados, propriedades read-only, métodos controladores de estado e exposição via DTO/View.