Evidências de Funcionamento da API

Este documento apresenta as evidências de funcionamento da API de Personagens, demonstrando como consumir os endpoints utilizando diferentes ferramentas e métodos, conforme solicitado na descrição da atividade.

1) Executando api.py

```
PS C:\Users\marii\OneDrive\Area de Trabalho\CC\Estudos_projetos_trabalhos\DS-CEUB\02_Cliente-servidor simples_Python> python api.py
* Serving Flask app 'api'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 114-777-913
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / HTTP/1.1" 200 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui.css HTTP/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui-standalone-preset.js HTTP/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui-standalone-preset.js HTTP/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui-bundle.js HTTP/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui-bundle.js HTTP/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET / swaggerui/swagger-ui-bundle.js HTTP/1.1" 304 -
```

2) Executando cliente.py

```
PS C:\Users\marii\OneOrive\Area de Trabalho\CC\Estudos_projetos_trabalhos\DS-CEU8\02_Cliente-servidor simples_Python> python cliente.py Consumindo API em: http://127.0.0.1:5000/personagens
    127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s waggerui/swagger-ui-standalone-preset.js HTT
   waggerui/swagger-us
- 127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-bundle.js HTTP/1.1" 304
   -
127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTTP/1.1" 200 - 7.0.0.1 - -
[23/Aug/2025 13:44:59] "GET /personagens/?li
mit=2&offset=0&u
                                                                                                                                                                                      Content-Type: application/json
    127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-standalone-preset.js HTT
                                                                                                                                                                                                 "id": 1,
"nome": "Naruto",
   waggerui/swagger-ui-standalone-preset.js HIT
P/1.1" 304 -
127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-bundle.js HTTP/1.1" 304
                                                                                                                                                                                                  "universo": "Naruto",
"poder_principal": "Rasengan"
    -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTTP/1127.0.0.1 - [23/Aug/2025
13:40:17] "GET /swaggerui/swagger-ui-bundle
.js HTTP/1.1" 304 -
                                                                                                                                                                                                 "id": 2,
"nome": "Luffy",
"universo": "One Piece",
13:40:17] "GET /swagger-ui/swagger-ui-bundle
js HTP/1.1" 304
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
wag127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTP/1.1" 200
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /p
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /p
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTP/1.1" 200
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTP/1.1" 200
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /p
127.0.0.1 - [23/Aug/2025 13:44:58] "GET /p
127.0.0.1 - [23/Aug/2025 13:44:58] "GET /p
127.0.0.1 - [23/Aug/2025 13:44:58] "GET /p
127.0.0.1 - [23/Aug/2025 13:44:59] "DELETE
                                                                                                                                                                                                    "poder principal":
                                                                                                                                                                                                 "id": 3,
"nome": "Ichigo",
"universo": "Bleach",
"poder_principal": "Getsuga Tensho"
                                                                                                                                                                                                 "id": 4,
"nome": "Sasuke",
"universo": "Naruto",
"poder_principal": "Sharingan/Rinnegan"
                                                                                                                                                                                                 "id": 5,
"nome": "Tanjiro Kamado",
"universo": "Demon Slayer",
"poder_principal": "Respiração do Sol"
    77.0.0.1 - - [23/Aug/2023 13:44:59] DELETE /personagens/11 HTTP/1.1" 204 - 127.0.0.1 - - [23/Aug/2025 13:44:59] "GET /personagens/?limit=50&offset=0 HTTP/1.1" 200
                                                                                                                                                                                                 "id": 6,
"nome": "Goku",
"universo": "Dragon Ball",
"poder principal": "Kameha
```

```
> powershell
                                                                                                                                                                                                                                                                      {
  "id": 1,
  "nome": "Naruto",
  "universo": "Naruto",
  "poder_principal": "Rasengan"
      127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-bundle.js HTTP/1.1" 304
    127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
wagger.json HTTP/1.1" 200 - 7.0.0.1 - -
[23/Aug/2025 13:44:59] "GET /personagens/?li
                                                                                                                                                                                                                                                                                         "id": 4,
"nome": "Sasuke",
                                                                                                                                                                                                                                                                                            "universo": "Naruto",
"poder_principal": "Sharingan/Rinnegan"
    127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-standalone-preset.js HTT
   waggerui/swagger-ui-standatone-presser,
P/1.1" 304 -
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s
waggerui/swagger-ui-bundle.js HTTP/1.1" 304
                                                                                                                                                                                                                                                                  HTTP 200
Content-Type: application/json
      127.0.0.1 - - [23/Aug/2025 13:40:17] "GET /s
       127.8.0.1 - - [25/Aug/2025 15:40:17] GET /5
wagger.json HTTP/1127.0.0.1 - - [23/Aug/2025
13:40:17] "GET /swaggerui/swagger-ui-bundle
.js HTTP/1.1" 304 -
                                                                                                                                                                                                                                                                {
    "id": 11,
    "nome": "Edward Elric",
    "universo": "Fullmetal Alchemist",
    "poder_principal": "Alquimia"
13:40:17] "GET /swagger-ui/swagger-ui-bundle ; HTTP/1.17 304 ...
127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s wag127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s wag127.0.0.1 - [23/Aug/2025 13:40:17] "GET /s wagger-, Json HTTP/1.1" 200 - 127.0.0.1 - [23/Aug/2025 13:44:58] "GET /p 127.0.0.1 - [23/Aug/2025 13:44:59] "GET /p 127.0.0.1 
                                                                                                                                                                                                                                                                   HTTP 200
                                                                                                                                                                                                                                                                {
    "id": 11,
    "nome": "Edward Elric",
    "universo": "Fullmetal Alchemist",
    "poder_principal": "Alquimia Avançada"
                                                                                                                                                                                                                                                                  [6] DELETE remover (11)
                                                                                                                                                                                                                                                                   HTTP 204
    /personagens/11 HTTP/1.1" 204 -
127.0.0.1 - - [23/Aug/2025 13:44:59] "GET /personagens/?limit=50&offset=0 HTTP/1.1" 200
                                                                                                                                                                                                                                                                   Content-Type: application/json
```

3) Executando cliente_interativo.py

```
Conexão inicial: HTTP 200

Cliente da API - Personagens (Swagger)

Base URL: http://127.0.0.1:5000/personagens (Conandos:
1) Listar
2) clam per 10
2) clam per 10
3) Attanizar (PUT)
5) Remover (DELETE)
9) Alterner Base URL
0) Sair

Escolha uma opcão: 2

- Otter por 1D --
1D: 6

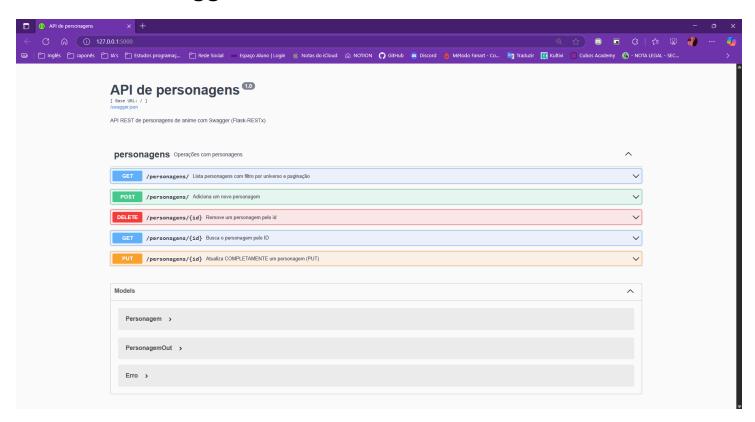
HTTP 200

("Id" 6, "nome": "Godo", "nomes": "Godoo", "nom
```

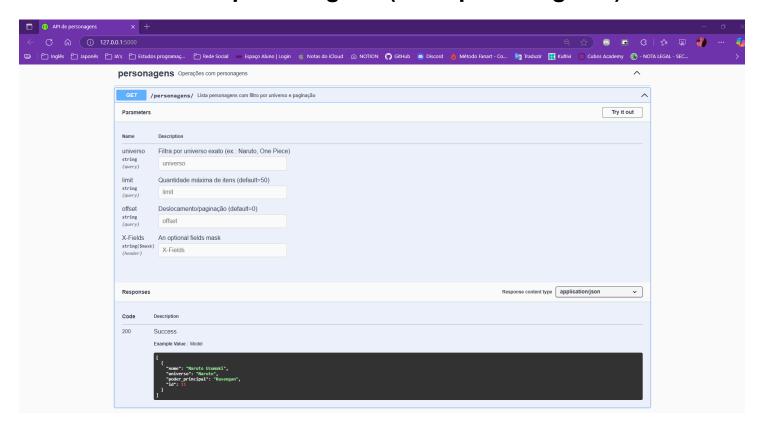
4) Consumo via Swagger UI

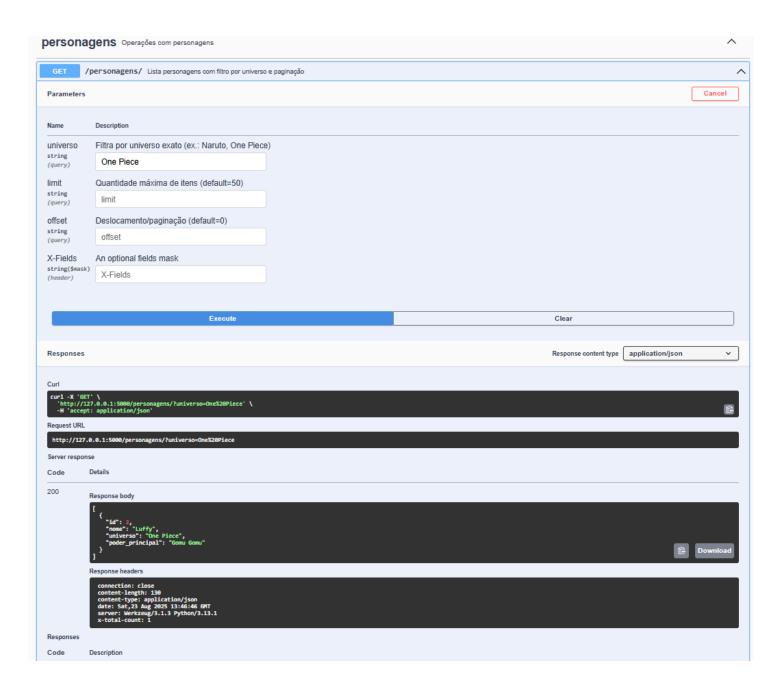
A documentação interativa gerada pelo Flask-RESTX com o Swagger UI é a forma mais simples e visual de testar a API. Com o servidor em execução, basta acessar http://127.0.0.1:5000.

Tela inicial Swagger UI

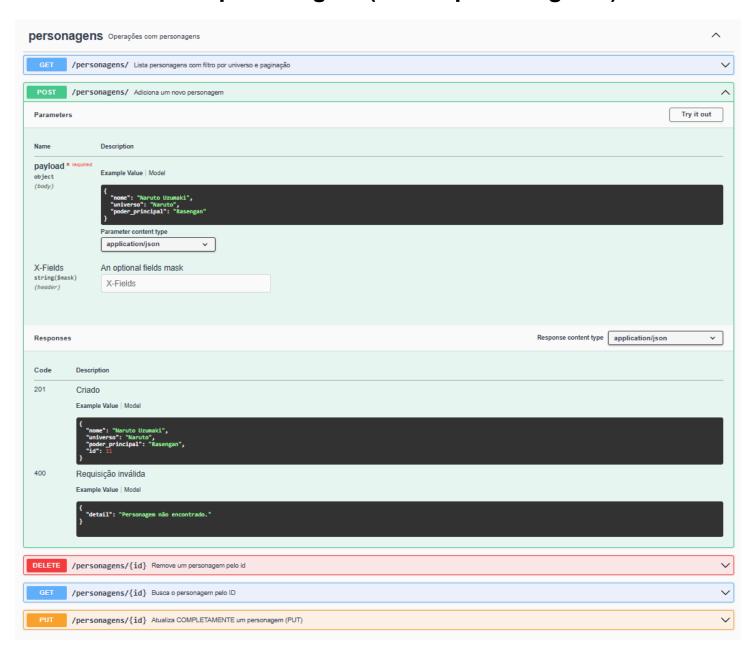


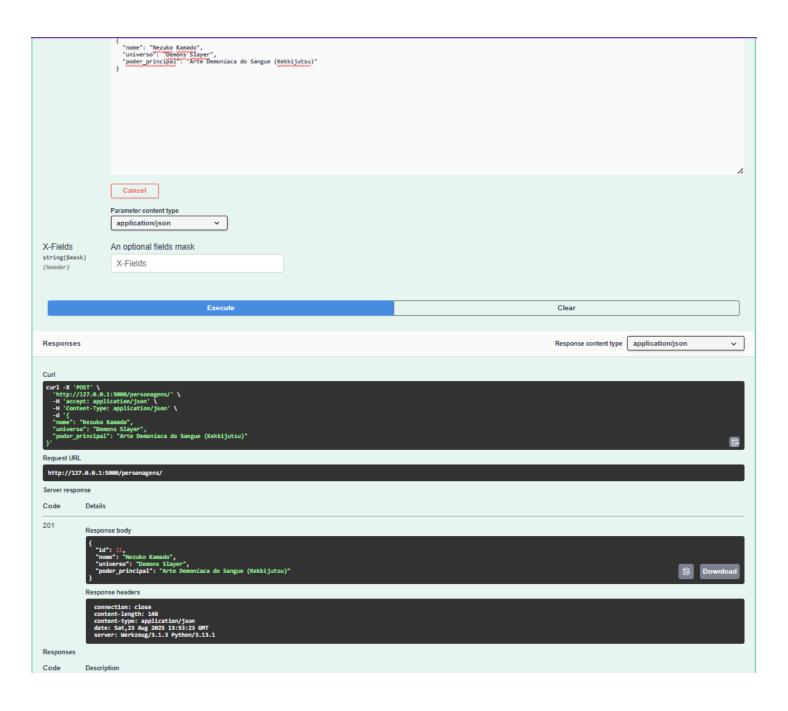
Listando todos os personagens (GET /personagens/)



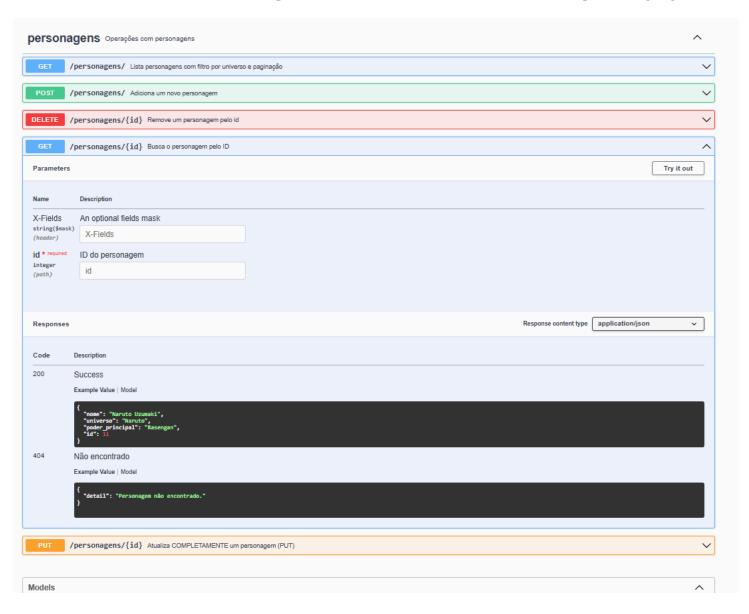


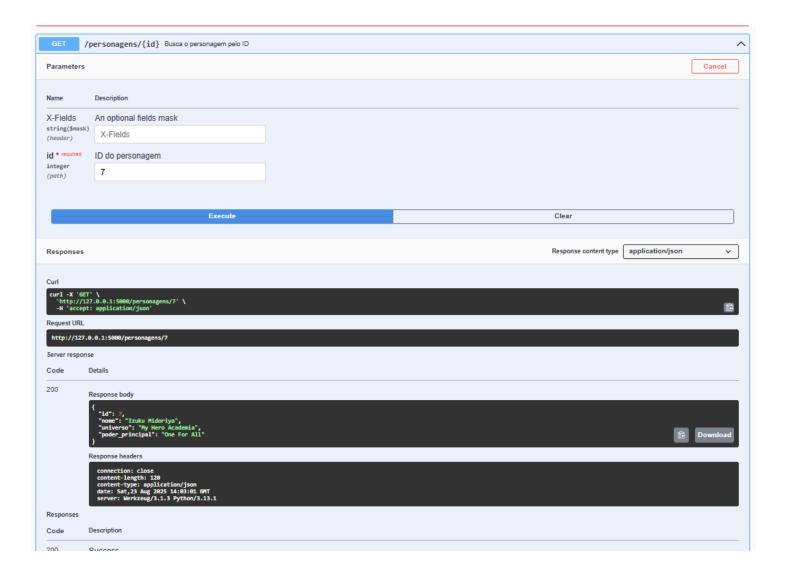
Criando um novo personagem (POST /personagens/)



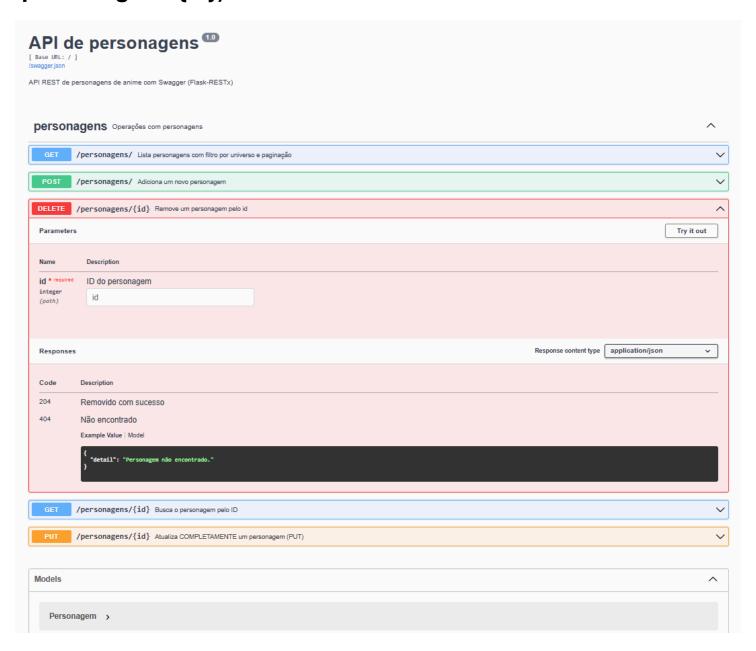


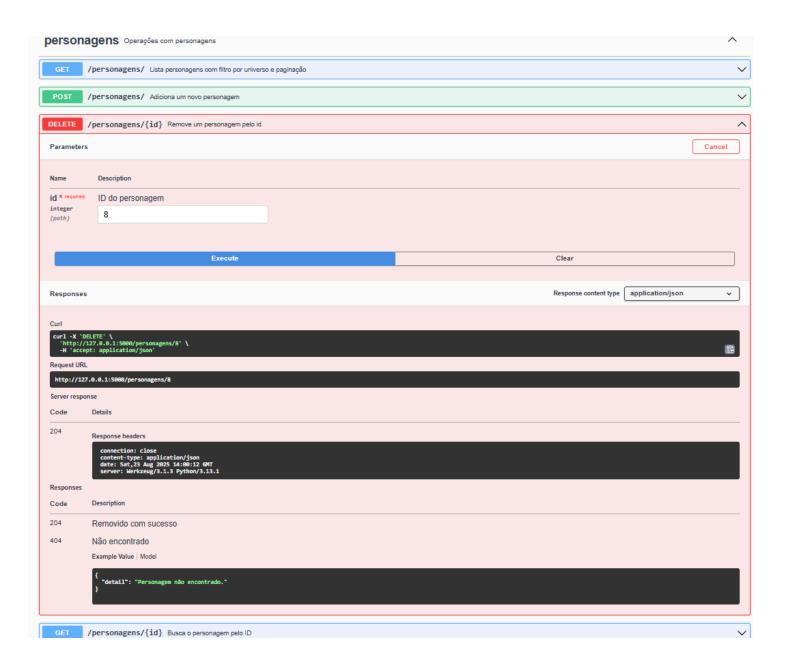
Buscando um personagem pelo ID (GET /personagens/{id})



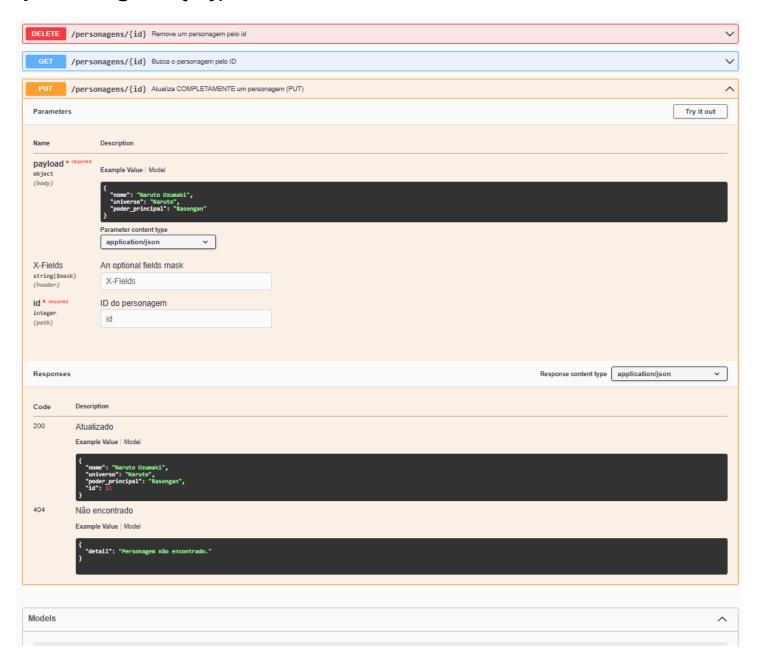


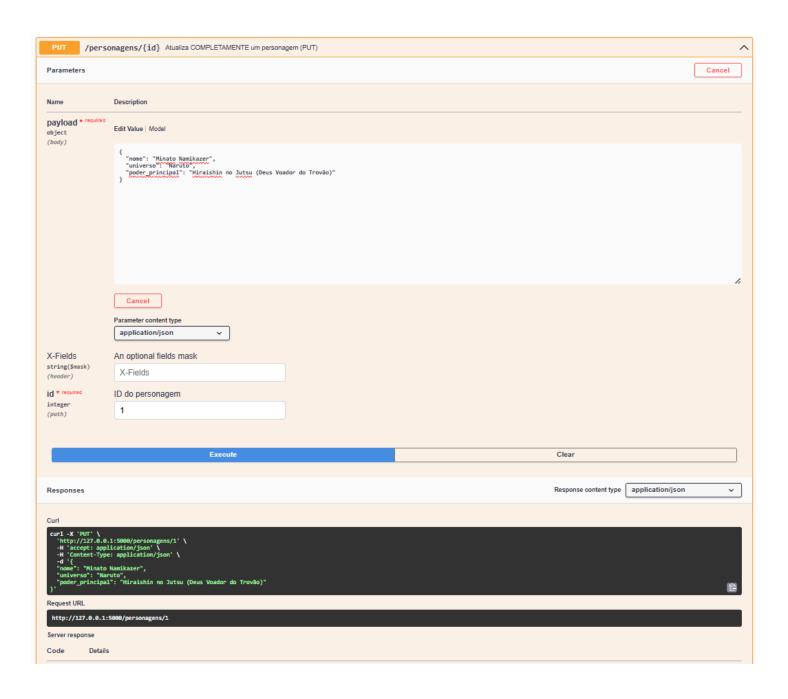
Removendo um personagem pelo ID (DELETE /personagens/{id})





Atualizando COMPLETAMENTE um personagem (PUT /personagens/{id})





Models

```
Personagem ✔ {
                          string
example: Naruto Uzumaki
                          Nome do personagem
                          string
example: Naruto
                          Universo de origem
    poder_principal*
                          string
example: Rasengan
                           Habilidade principal
PersonagemOut > {
string
example: Naruto Uzumahi
necsonagem
                          Universo de origem
   poder_principal* string
example: Rasengan
                          Habilidade principal
                           Identificador gerado pelo servidor
Erro 🗸 {
                           string
example: Personagem não encontrado.
                           Descrição do erro
```

5) Teste Rápido (cURL) - terminal

Usando -i para ver headers e status code.

5.1 Listar todos os personagens (GET /personagens/)

curl -i http://127.0.0.1:5000/personagens/

```
| C:\Users\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\nable\n
```

5.2 Listar personagens com filtro e paginação

```
# Filtrar por universo "Naruto" com limite de 2 resultados
curl -i "http://127.0.0.1:5000/personagens/?universo=Naruto&limit=2&offset=0"
```

5.3 Obter um personagem específico por ID (GET /personagens/{id})

curl -i http://127.0.0.1:5000/personagens/6

```
C:\Users\marii>curl -i http://127.0.0.1:5000/personagens/6
HTTP/1.1 200 OK
Server: Werkzeug/3.1.3 Python/3.13.1
Date: Sat, 23 Aug 2025 17:31:08 GMT
Content-Type: application/json
Content-Length: 104
Connection: close

{
    "id": 6,
    "nome": "Goku",
    "universo": "Dragon Ball",
    "poder_principal": "Kamehameha"
}
```

5.4 Criar um novo personagem (POST /personagens/)

```
curl -X POST http://127.0.0.1:5000/personagens/ -H "Content-Type: application/json" -d "{\"nome\"
```

```
C:\Users\marii>curl -X POST http://127.0.0.1:5000/personagens/ -H "Content-Type: application/json" -d "{\"nome\": \"Edward Elric\", \"universo\": \"Fullmeta
l Alchemist\", \"poder_principal\": \"Alquimia\"}"
{
  "id": 11,
  "nome": "Edward Elric",
  "universo": "Fullmetal Alchemist",
  "poder_principal": "Alquimia"
}
```

5.5 Atualizar um personagem (PUT /personagens/{id})

```
curl -X PUT http://127.0.0.1:5000/personagens/11 -H "Content-Type: application/json" -d "{\"nome
```

```
C:\Users\marii>curl -X PUT http://127.0.0.1:5000/personagens/11 -H "Content-Type: application/json" -d "{\"nome\": \"Edward Elric\", \"universo\": \"Fullmet al Alchemist\", \"poder_principal\": \"Alquimia Avancada\"}"
{
    "id": 11,
    "nome": "Edward Elric",
    "universo": "Fullmetal Alchemist",
    "poder_principal": "Alquimia Avancada"
}
```

5.6 Remover um personagem (DELETE /personagens/{id})

curl -i -X DELETE http://127.0.0.1:5000/personagens/6

```
C:\Users\marii>curl -i -X DELETE http://127.0.0.1:5000/personagens/6
HTTP/1.1 204 NO CONTENT
Server: Werkzeug/3.1.3 Python/3.13.1
Date: Sat, 23 Aug 2025 17:51:06 GMT
Content-Type: application/json
Connection: close
```

6) Consumo via VS Code (REST Client)

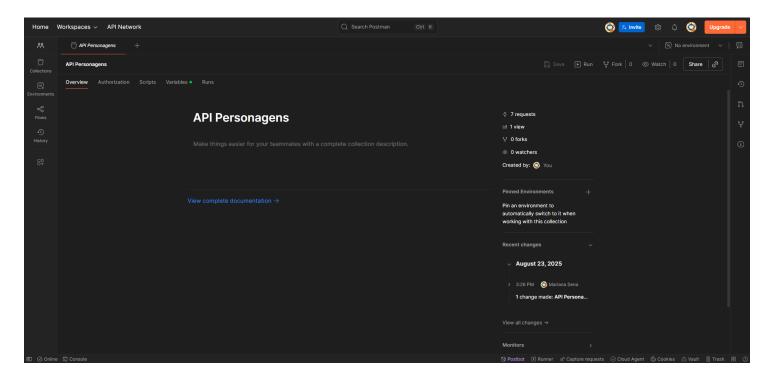
```
requests.http >.
                                                                              1 HTTP/1.1 200 OK
                                                                              2 Server: Werkzeug/3.1.3 Python/3.13.1
    @base = http://127.0.0.1:5000
                                                                              3 Date: Sat, 23 Aug 2025 18:08:14 GMT
   @json = Content-Type: application/json
                                                                              4 Content-Type: application/json
                                                                             5 Content-Length: 1399
   Send Request
GET {{base}}/
    GET {{base}}/personagens/
                                                                                     "nome": "Naruto",
                                                                                     "universo": "Naruto",
   Send Request

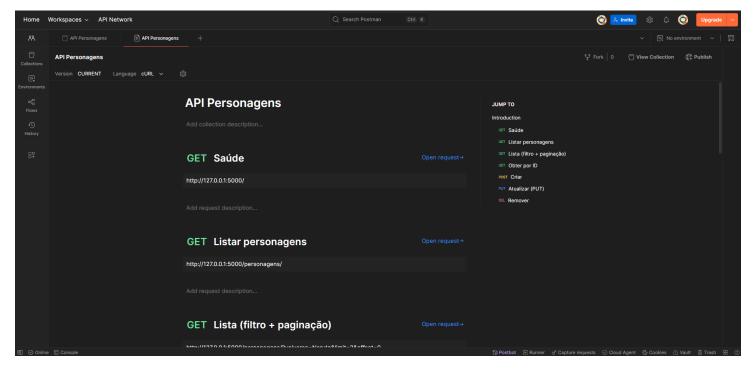
GET {{base}}/personagens/?universo=Naruto&limit=2&offset=0
                                                                                     "poder_principal": "Rasengan"
   Send Request
GET {{base}}/personagens/2
                                                                                     "nome": "Luffy",
                                                                                     "universo": "One Piece",
                                                                                     "poder_principal": "Gomu Gomu"
    POST {{base}}/personagens/
    {{json}}
                                                                                     "nome": "Ichigo",
      "nome": "Satoru Gojo",
                                                                                     "universo": "Bleach",
                                                                                      "poder principal": "Getsuga Tensh
```

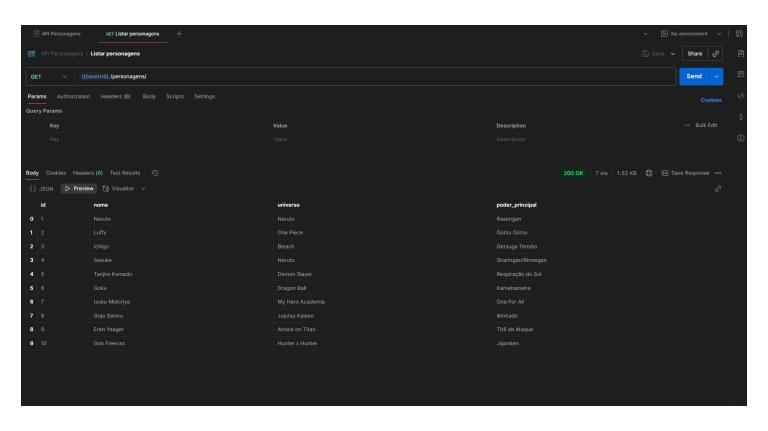
```
| Requestion | Properties | Pro
```

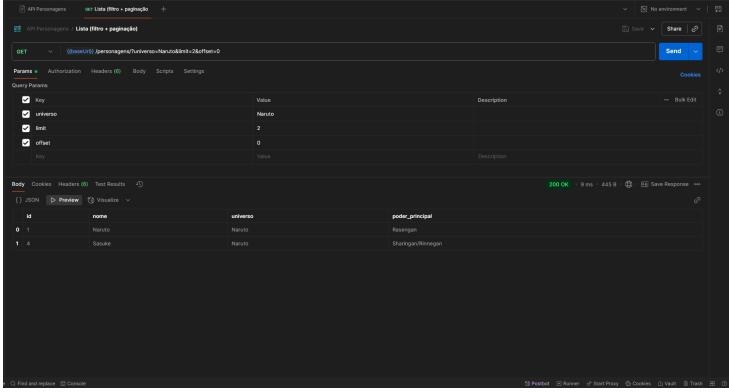
7) Postman

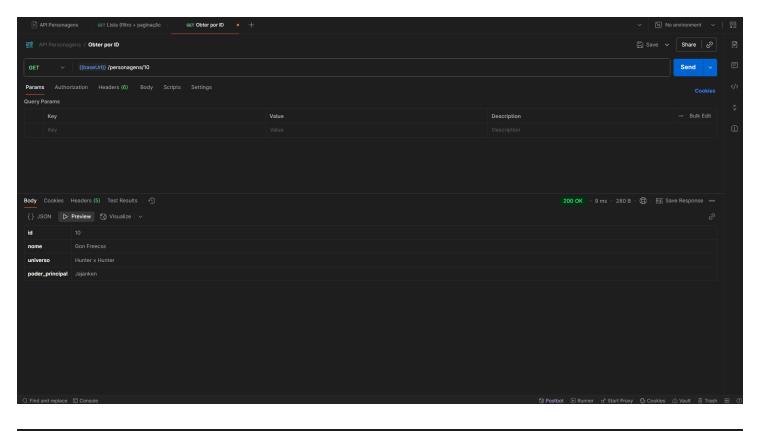
Checklist de prints:

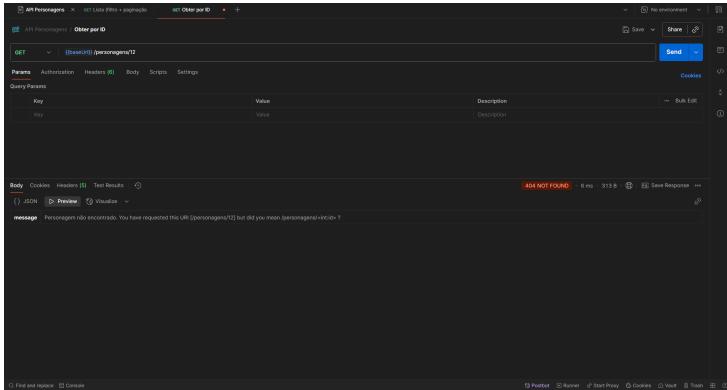


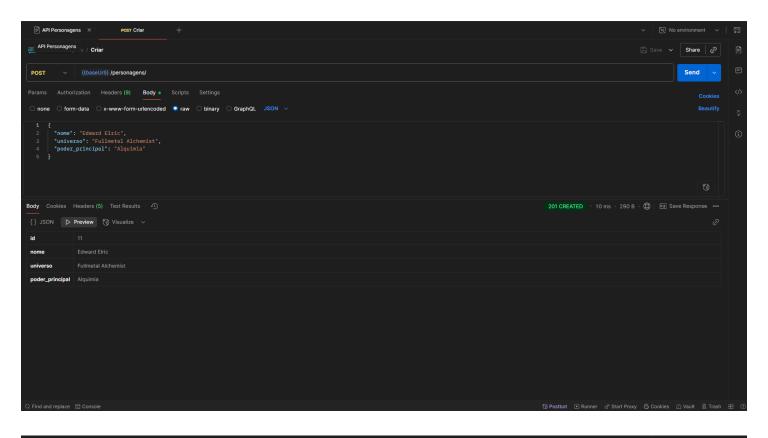


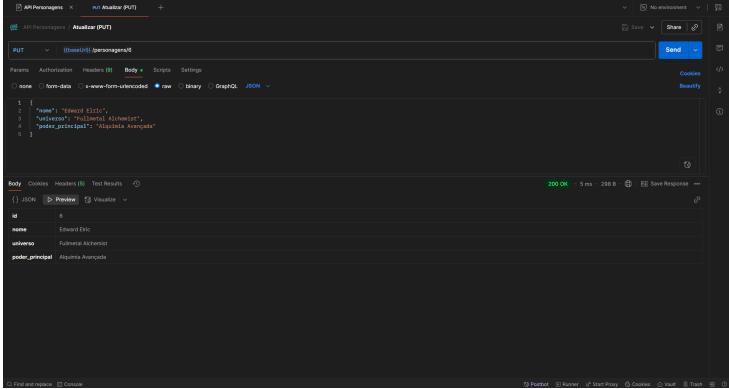












7) Casos de Teste — Tabela Rápida

ID	Ação	Requisição	Esperado
CT01	Listar	GET /personagens/	200 + array de objetos + X-Total-Count
CT02	Filtrar	GET /personagens/?universo=Naruto	200 + somente itens de "Naruto"
CT03	Obter (OK)	GET /personagens/2	200 + objeto id=2
CT04	Obter (404)	GET /personagens/999	404 + { detail: }
CT05	Criar (OK)	POST /personagens/ body válido	201 + objeto com id
CT06	Criar (400)	POST /personagens/ body faltando campo	400 + { detail: }
CT07	Atualizar	PUT /personagens/{id} body válido	200 + objeto atualizado
CT08	Remover	DELETE /personagens/{id}	204 sem corpo