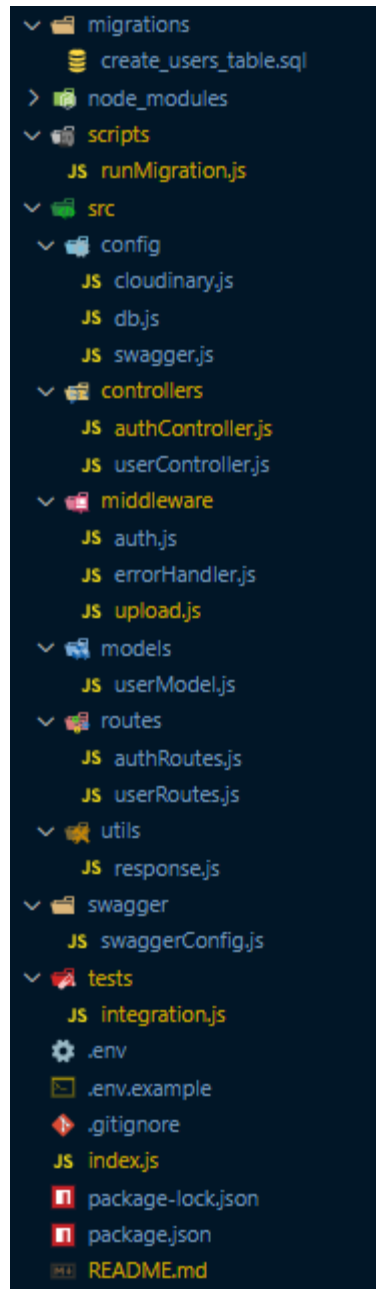


- membuat database yang bernama **user_management_api** dan sekaligus saya menjalankan migrasi /migrations/create_users_table.sql untuk membuat tabel users dengan kolom seperti di bawah

id	username	email	password	role	avatar_url	created_at	updated_at
----	----------	-------	----------	------	------------	------------	------------

- Untuk struktur project saya seperti berikut



- Jika project sudah pastikan server sudah berjalan di port 5000 dan database sudah connect kemudian kita buka <http://localhost:5000/>

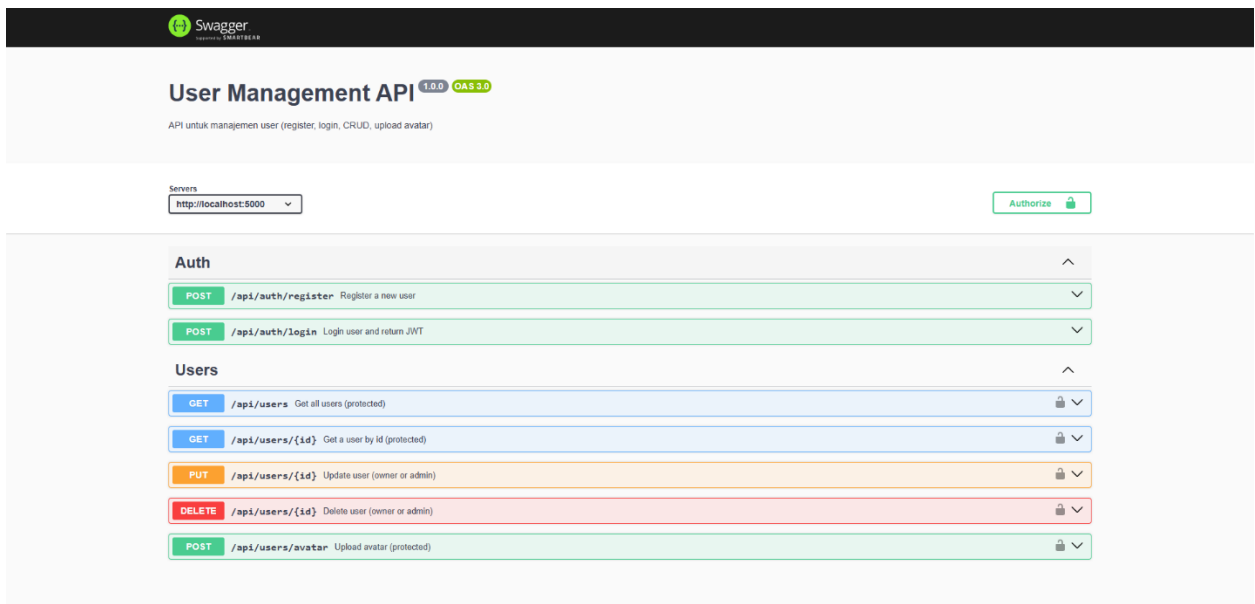
```
PS D:\academics\Celerates\Tugas\3. Back-End Development\2025-10-15\user_management_api> npm start

> user_management_api@1.0.0 start
> node index.js

[dotenv@17.2.3] injecting env (9) from .env — tip: ⚙️ specify custom .env file path with { path: './custom/path/.env' }
[dotenv@17.2.3] injecting env (0) from .env — tip: 🔑 add secrets lifecycle management: https://dotenvx.com/ops
[dotenv@17.2.3] injecting env (0) from .env — tip: 🛡️ prevent committing .env to code: https://dotenvx.com/precommit
[dotenv@17.2.3] injecting env (0) from .env — tip: 🔒 encrypt with Dotenvx: https://dotenvx.com
[dotenv@17.2.3] injecting env (0) from .env — tip: ⚙️ load multiple .env files with { path: ['.env.local', '.env'] }
🔥 Server running on port 5000
✅ Database connected successfully!
```

```
{
  status: "ok",
  time: "2025-10-20T03:31:39.405Z"
}
```

- Kemudian kita langsung tes dengan UI Swagger dengan url <http://localhost:5000/api/docs/>



Di sini kita bisa melakukan pengujian langsung terhadap seluruh endpoint REST API, seperti *register*, *login*, serta operasi CRUD dan *upload avatar*, tanpa perlu menggunakan aplikasi pihak ketiga seperti Postman.

Register

Auth

POST /api/auth/register Register a new user

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

```
{  "username": "Muhammad Wildan Arif Maulana",  "email": "wildan@example.com",  "password": "Password123"}}
```

Execute

Responses

Code	Description	Links
201	Created	No links

(Contoh error: password tidak memenuhi syarat maka akan muncul respons)

Responses

Curl

```
curl -X 'POST' \  'http://localhost:5000/api/auth/register' \  -H 'accept: */*' \  -H 'Content-Type: application/json' \  -d '{  "username": "Muhammad Wildan Arif Maulana",  "email": "wildan_example@email.com",  "password": "Password123"}'
```

Request URL

http://localhost:5000/api/auth/register

Server response

Code	Details
400	Error: Bad Request

Undocumented

Response body

```
{  "message": "Password does not meet complexity requirements",  "data": null,  "error": "Password must be at least 8 characters and include uppercase, lowercase, number, and special character"}
```

Download

Response headers

```
connection: keep-alive
content-length: 185
content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https: data:;form-action 'self';frame-ancestors 'self';img-src 'self' data:;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https: 'unsafe-inline';upgrade-insecure-requests
content-type: application/json; charset=utf-8
cross-origin-opener-policy: same-origin
cross-origin-resource-policy: same-origin
date: Mon, 20 Oct 2025 03:54:01 GMT
etag: W/"9c020c7685f8f3d8/eyJ7LEVAdS"
keep-alive: timeout=5
origin-agent-cluster: ?1
referrer-policy: no-referrer
strict-transport-security: max-age=31536000; includeSubDomains
vary: Origin
x-content-type-options: nosniff
x-dns-prefetch-control: off
x-download-options: noopen
x-frame-options: SAMEORIGIN
x-permitted-cross-domain-policies: none
x-ssr-protection: 0
```

Kalau semua di cek sudah benar maka responsnya

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:5000/api/auth/register' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
    "username": "Muhammad Wildan Arif Maulana",
    "email": "wildan@example.com",
    "password": "Password123!"
  }'
```

Request URL

http://localhost:5000/api/auth/register

Server response

Code

Details

201

Response body

```
{
  "message": "User registered",
  "data": {
    "id": 2,
    "username": "Muhammad Wildan Arif Maulana",
    "email": "wildan@example.com",
    "role": "user",
    "avatar_url": null,
    "created_at": "2025-10-20T05:39:48.272Z"
  },
  "error": null
}
```

Download

Response headers

```
connection: keep-alive
content-length: 201
content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https: data:;form-action 'self';frame-ancestors 'self';img-src 'self' data;;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https: 'unsafe-inline';upgrade-insecure-requests
content-type: application/json; charset=utf-8
cross-origin-opener-policy: same-origin
cross-origin-resource-policy: same-origin
date: Mon, 20 Oct 2025 05:39:48 GMT
etag: W/"c9-1X5Z6CVaM37qVma2ZCoZlBhPg"
keep-alive: timeout=5
origin-agent-cluster: ?1
referrer-policy: no-referrer
strict-transport-security: max-age=31536000; includeSubDomains
vary: Origin
x-content-type-options: nosniff
x-dns-prefetch-control: off
x-download-options: noopen
x-frame-options: SAMEORIGIN
x-permitted-cross-domain-policies: none
x-xss-protection: 0
```

Responses

Code	Description	Links
201	Created	No links

Dan otomatis di database sudah menambah 1 user baru

123 id	AZ username	AZ email	AZ password	AZ role	AZ avatar_url	created_at	updated_at
2	Muhammad Wildan A	wildan@example.	\$2b\$10\$WQOqmaUrg	user	[NULL]	2025-10-20 12:39:48.272 +0700	2025-10-20 12:39:48.272 +0700

Login

POST

/api/auth/login

Login user and return JWT

^

Parameters

Cancel

Reset

No parameters

Request body required

application/json

▼

Edit Value | Schema

```
{
  "email": "willdan@example.com",
  "password": "Password123!"
}
```

Kita akan mendapatkan token dari proses login dan kita akan meng copy token tersebut untuk langkah selanjutnya

Curl

```
curl -X 'POST' \
'http://localhost:5000/api/auth/login' \
-H 'accept: */*' \
-H 'content-type: application/json' \
-d '{
  "email": "wildan@example.com",
  "password": "Password123!"
}'
```

Request URL

```
http://localhost:5000/api/auth/login
```

Server response

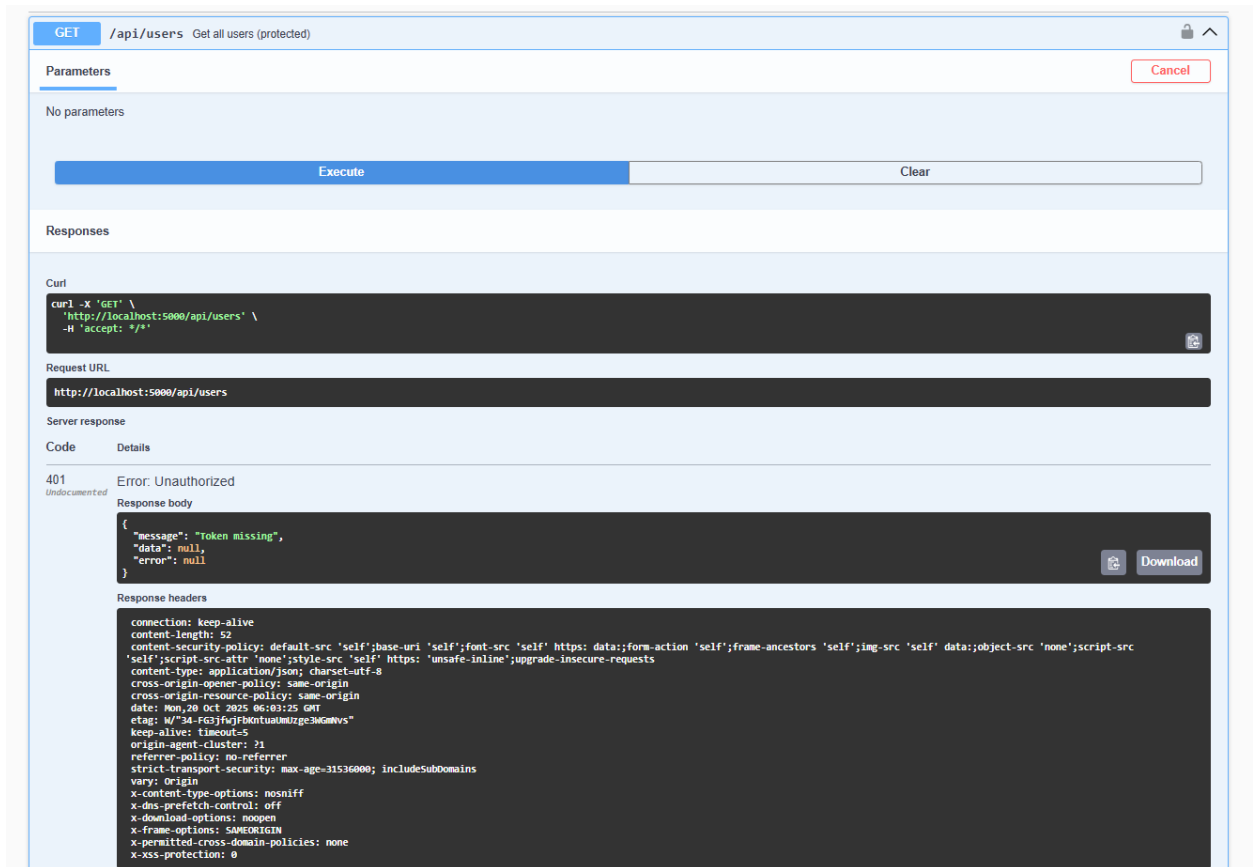
Code	Details
200	<p>Response body</p> <pre>{ "message": "Login successful", "data": { "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc2UiOiwiZndhaWkiOjEzbnBkYm5AZDhhbXBzZW5jb2w1Cllyb2x1IjoideDlCiiIsImNhdCI6MTczNDkzMjcwOTM0CiwiaWF0IjoxNjYyODQ0eDAq.L1i0wiYor2d3twnfVeiIDG0E4Kpqh3Cv2ATKQ-QRv" }, "error": null }</pre> <p>Download</p> <p>Response headers</p> <pre>connection: keep-alive content-length: 258 content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https;data:;form-action 'self';frame-ancestors 'self';img-src 'self' data;;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https;'unsafe-inline';upgrade-insecure-requests content-type: application/json; charset=utf-8 cross-origin-opener-policy: same-origin cross-origin-resource-policy: same-origin date: Mon, 20 Oct 2025 05:49:18 GMT etag: W/"102-IspbcQddB6ziIfectFFV7FXyzs" keep-alive: timeout=5 origin-agent-cluster: ?1 referrer-policy: no-referrer strict-transport-security: max-age=31536000; includeSubdomains vary: Origin x-content-type-options: nosniff x-dns-prefetch-control: off x-download-options: noopen x-frame-options: SAMEORIGIN x-permitted-cross-domain-policies: none x-xss-protection: 0</pre>

Responses

Code	Description	Links
200	OK	No links

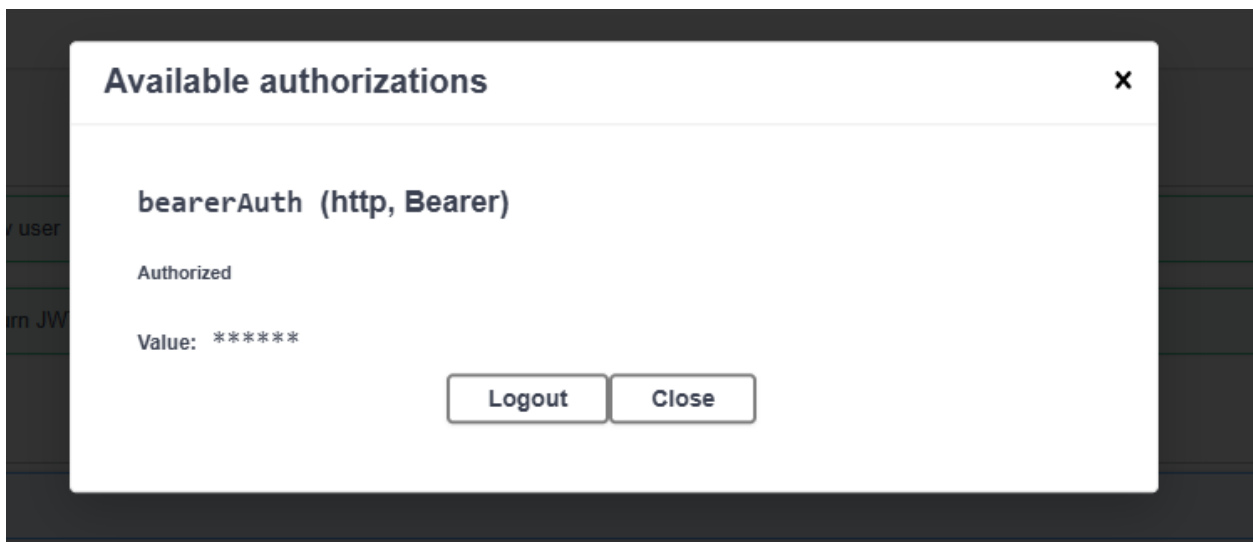
CRUD pada salah satu user

Semisal kita belum memasukkan token dia akan memberi pesan “token missing”



Kita akan memasukkan token yang kita copy dari proses login ke dalam Authorize di Swagger UI (contoh: dari token id 2)

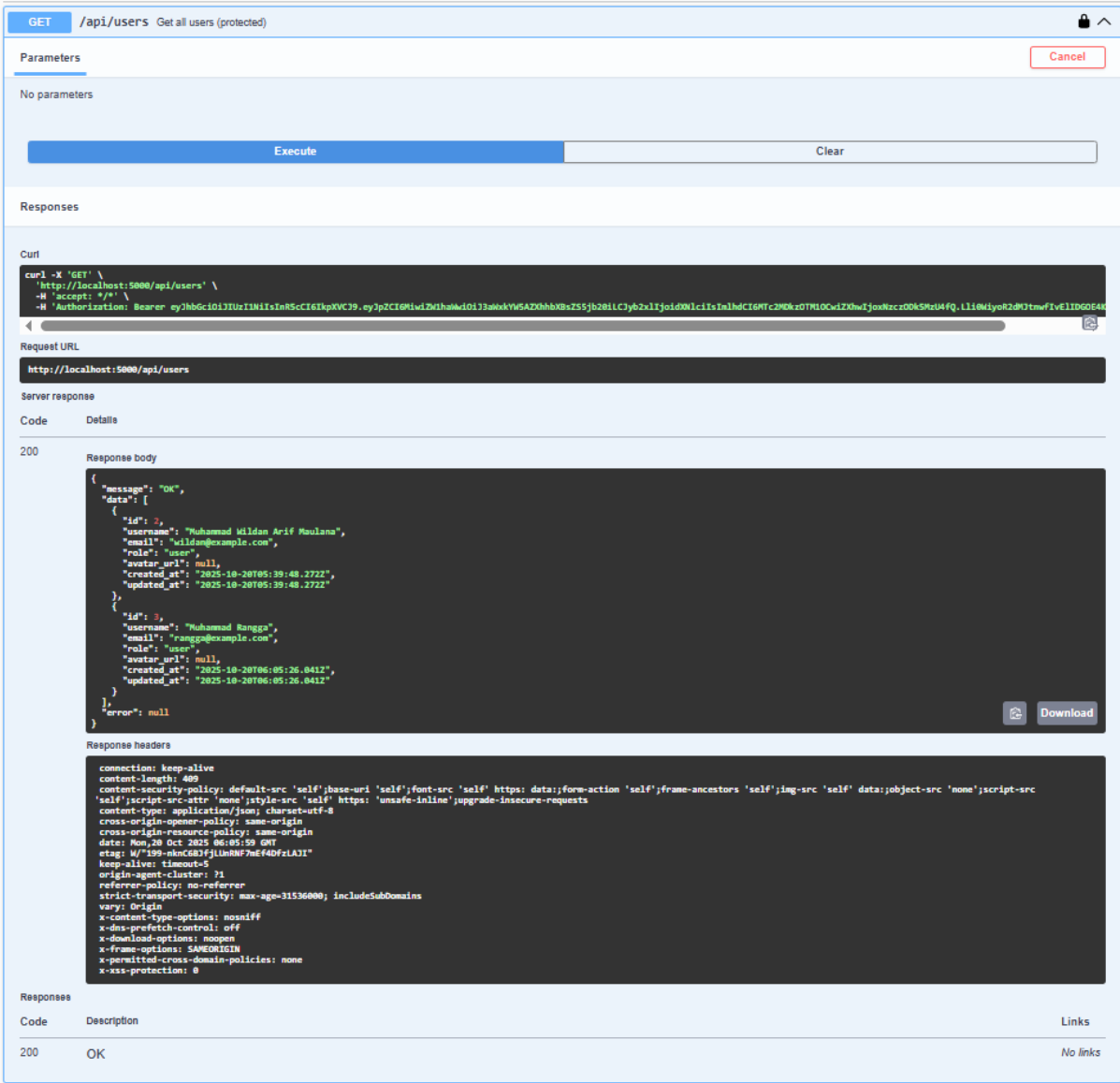
Ketika berhasil akan seperti gambar dibawah



GET semua user

Endpoint-> GET /api/users

Expected-> 200, array user. user yang barusan didaftarkan muncul. avatar_url harus null atau URL jika sudah upload.



Note: kebetulan Setelah registrasi saya coba lagi, jadi ada 2 data user

GET user by id

Endpoint-> GET /api/users/{id} (isi id user yang diambil dari list)

Expected-> 200, detail user.

Authorization-> Bearer token required

Expected-> 200, response contains avatar_url or message success. Hasil file akan di-upload ke Cloudinary.

POST

/api/users/avatarUpload avatar (protected)

Parameters

No parameters

Request body

multipart/form-data

file

string(\$binary)

Choose Filewildanarif.jpg

☐ Send empty value

Execute

Clear

Responses


Curl

```
curl -X 'POST' \
  'http://localhost:5000/api/users/avatar' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc2UiOiJkaWkiOjI3aWokYVw5A2ZkbnBxS25jb2NlLCJybzxiIjoiaWoiOmNlciiSiImhdCjE6MTc2MDkzOTM0Cwi2ZXhwIjozMjc2ODk5MzU4FQ.1LI0WiyoR2dM3tmfFivElIDG0e4K' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@wildanarif.jpg;type=Image/Jpeg'
```

Request URL

http://localhost:5000/api/users/avatar

Server response

Code	Details	
200	<div><div>Response body</div><pre>{ "message": "Avatar uploaded", "data": { "url": "https://res.cloudinary.com/wildnrfm/image/upload/v1760942389/avatars/ljnvow6iqkl1vt3huce3.jpg" }, "error": null }</pre><div> Download</div></div> <div><div>Response headers</div><pre>connection: keep-alive content-length: 153 content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https: data:;form-action 'self';frame-ancestors 'self';img-src 'self' data:;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https: 'unsafe-inline';upgrade-insecure-requests content-type: application/json; charset=utf-8 cross-origin-opener-policy: same-origin cross-origin-resource-policy: same-origin date: Mon, 20 Oct 2025 06:39:49 GMT etag: W/"99-v8fx1980w1IURf0dc3lyG8dCBM" keep-alive: timeout=5 origin-agent-cluster: ?1 referrer-policy: no-referrer strict-transport-security: max-age=31536000; includeSubDomains vary: Origin x-content-type-options: nosniff x-dns-prefetch-control: off x-download-options: noopen x-frame-options: SAMEORIGIN x-permitted-cross-domain-policies: none x-xss-protection: 0</pre></div>	
Responses		
Code	Description	Links
200	OK	No links

Setelah upload, GET /api/users/{id} kita cek avatar_url. Dan coba buka URL di browser untuk memastikan avatar tersebut sudah tersimpan ke cloudinary, seharusnya menampilkan avatar yang diupload.

GET

/api/users/{id} Get a user by id (protected)

Parameters

Cancel

Name	Description
id * required integer (path)	<input type="text" value="2"/>

ExecuteClear

Responses

200

Response body

```
{
  "message": "OK",
  "data": {
    "id": 2,
    "username": "Wildan Arif Saja",
    "email": "wildan@example.com",
    "role": "user",
    "avatar_url": "https://res.cloudinary.com/wildnrfm/image/upload/v1760942389/avatars/ljnvov6iqk11vt3wuce3.jpg",
    "created_at": "2025-10-20T05:39:48.272Z",
    "updated_at": "2025-10-20T06:39:49.696Z"
  },
  "error": null
}
```

Download

Response headers

```
connection: keep-alive
content-length: 307
content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https: data:image-action 'self';frame-ancestors 'self';img-src 'self' data:object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https: 'unsafe-inline';upgrade-insecure-requests
content-type: application/json; charset=utf-8
cross-origin-opener-policy: same-origin
cross-origin-resource-policy: same-origin
date: Mon, 20 Oct 2025 06:44:17 GMT
etag: W/"133-a/Eu0v0AFHMQZf8eAvctfHkS7A"
keep-alive: timeout=5
origin-agent-cluster: ?1
referrer-policy: no-referrer
strict-transport-security: max-age=31536000; includeSubDomains
vary: Origin
x-content-type-options: nosniff
x-dns-prefetch-control: off
x-download-options: noopen
x-frame-options: SAMEORIGIN
x-permitted-cross-domain-policies: none
x-xss-protection: 0
```

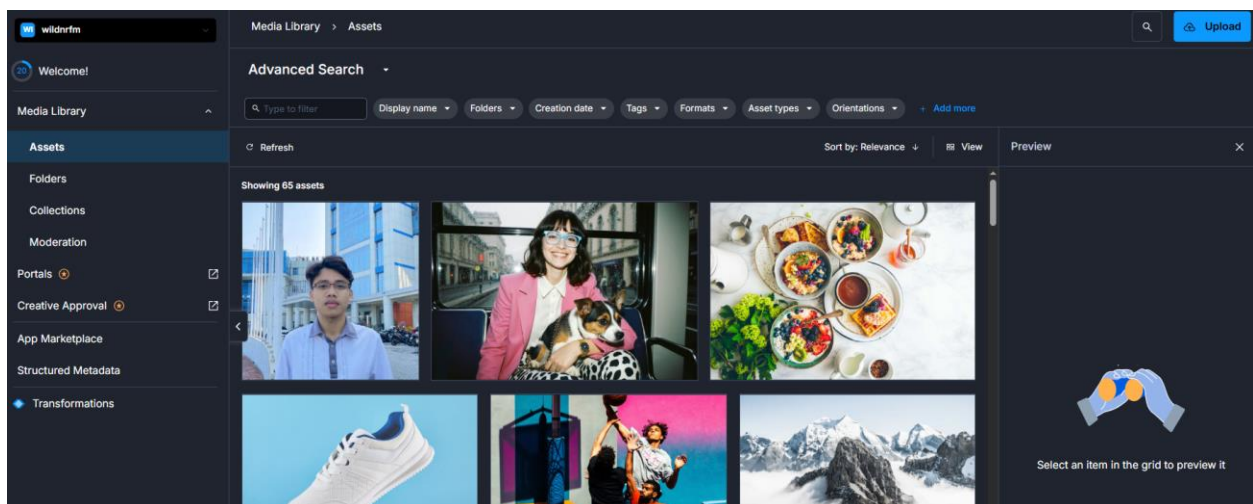
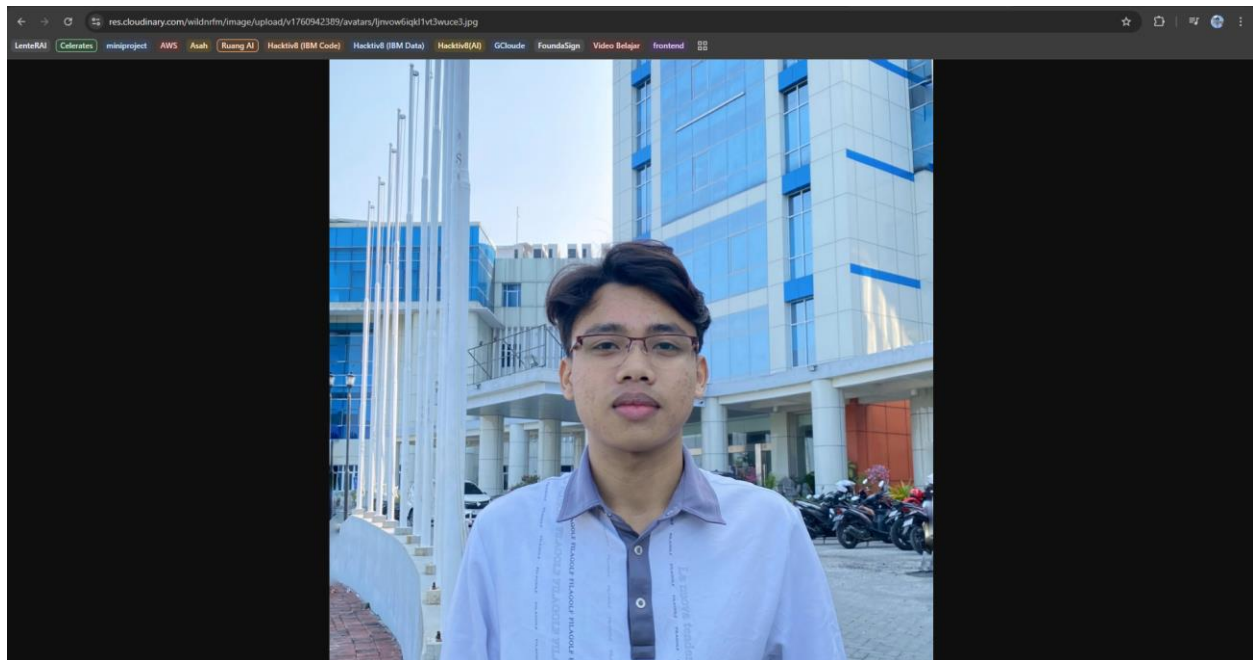
Responses

Code	Description	Links
200	OK	No links

Di database sudah berhasil, dan memperbarui kolom **avatar_url** dan **updated_at**

2	Wildan Arif Saja	wildan@example.	\$2b\$10\$WQOqmaUrgvLK9W	user	https://res.clou	2025-10-20 12:39:48.272 +0700	2025-10-20 13:39:49.696 +0700
---	------------------	-----------------	--------------------------	------	------------------	-------------------------------	-------------------------------

Untuk url nya pun juga sudah bisa tampil avatar user



Terakhir kita coba **delete** user tersebut

Endpoint-> DELETE /api/users/{id}

Expected-> 200, user deleted (atau 403 jika Anda tidak diizinkan; tergantung role/auth rules).

403	Error: Forbidden <i>Undocumented</i>
	<div><div>Response body</div><div><pre>{ "message": "Forbidden: can only manage your own profile", "data": null, "error": null }</pre></div></div>
	<div><div>Response headers</div><div><pre>connection: keep-alive content-length: 82 content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https:data;form-action 'self';frame-ancestors 'self';img-src 'self' data;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https:'unsafe-inline';upgrade-insecure-requests content-type: application/json; charset=utf-8 cross-origin-opener-policy: same-origin cross-origin-resource-policy: same-origin date: Mon, 20 Oct 2025 06:51:36 GMT etag: W/"22-us89H2LOu8t86B9y0nT9tqR0BA" keep-alive: timeout=5 origin-agent-cluster: ?1 referrer-policy: no-referrer strict-transport-security: max-age=31536000; includeSubDomains vary: Origin x-content-type-options: nosniff x-dns-prefetch-control: off x-download-options: noopen x-frame-options: SAMEORIGIN x-permitted-cross-domain-policies: none x-xss-protection: 0</pre></div></div>
Responses	
Code	Description
200	OK

Kalau user id 2 ingin menghapus user lainnya pun juga tidak bisa seperti gambar diatas, dia hanya bisa menghapus dirinya sendiri seperti gambar di bawah

200

Response body

```
{
  "message": "User deleted",
  "data": {
    "id": 2
  },
  "error": null
}
```

Download

Response headers

```
connection: keep-alive
content-length: 55
content-security-policy: default-src 'self';base-uri 'self';font-src 'self' https: data:;form-action 'self';frame-ancestors 'self';img-src 'self' data:;object-src 'none';script-src 'self';script-src-attr 'none';style-src 'self' https: 'unsafe-inline';upgrade-insecure-requests
content-type: application/json; charset=utf-8
cross-origin-opener-policy: same-origin
cross-origin-resource-policy: same-origin
date: Mon,20 Oct 2025 06:54:29 GMT
etag: W/"57-icc7Aks3lHmqA4azQescAR0qq+8"
keep-alive: timeout=5
origin-agent-cluster: ?1
referrer-policy: no-referrer
strict-transport-security: max-age=31536000; includeSubDomains
vary: Origin
x-content-type-options: nosniff
x-dns-prefetch-control: off
x-download-options: noopen
x-frame-options: SAMEORIGIN
x-permitted-cross-domain-policies: none
x-xss-protection: 0
```

Responses

Code	Description	Links
200	OK	No links

Nah otomatis user dengan id 2 di database juga ikut terhapus

	123 id	AZ username	AZ email	AZ password	AZ role	AZ avatar_url	created_at	updated_at
1	3	coba	coba@example.cc	\$2b\$10\$ipP5WQkMTq9dd9x	user	[NULL]	2025-10-20 13:05:26.041 +0700	2025-10-20 13:59:00.238 +0700