

RAPPORT PROJET 2AMS

1. Introduction

INSPIRE HUB est une société spécialisée dans la gestion et la publication de citations inspirantes. Son objectif est de créer une API performante , permettant d'accéder à des citations. Cette API permettra également d'intégrer une API externes pour améliorer l'enrichissement des citations avec des thèmes, tags, et sources.

2. Objectifs du Projet

- Créer une API REST avec **FastAPI** pour la gestion des citations et des auteurs.
- Intégrer des **APIs externes** pour enrichir les citations.
- Offrir une **documentation automatisée** avec **Swagger**.
- Assurer la **sécurisation** de l'API via l'authentification **JWT**.
- Implémenter un système de tests avec **Postman ou Insomnia**

3. Diagramme d'Architecture en Micro-services

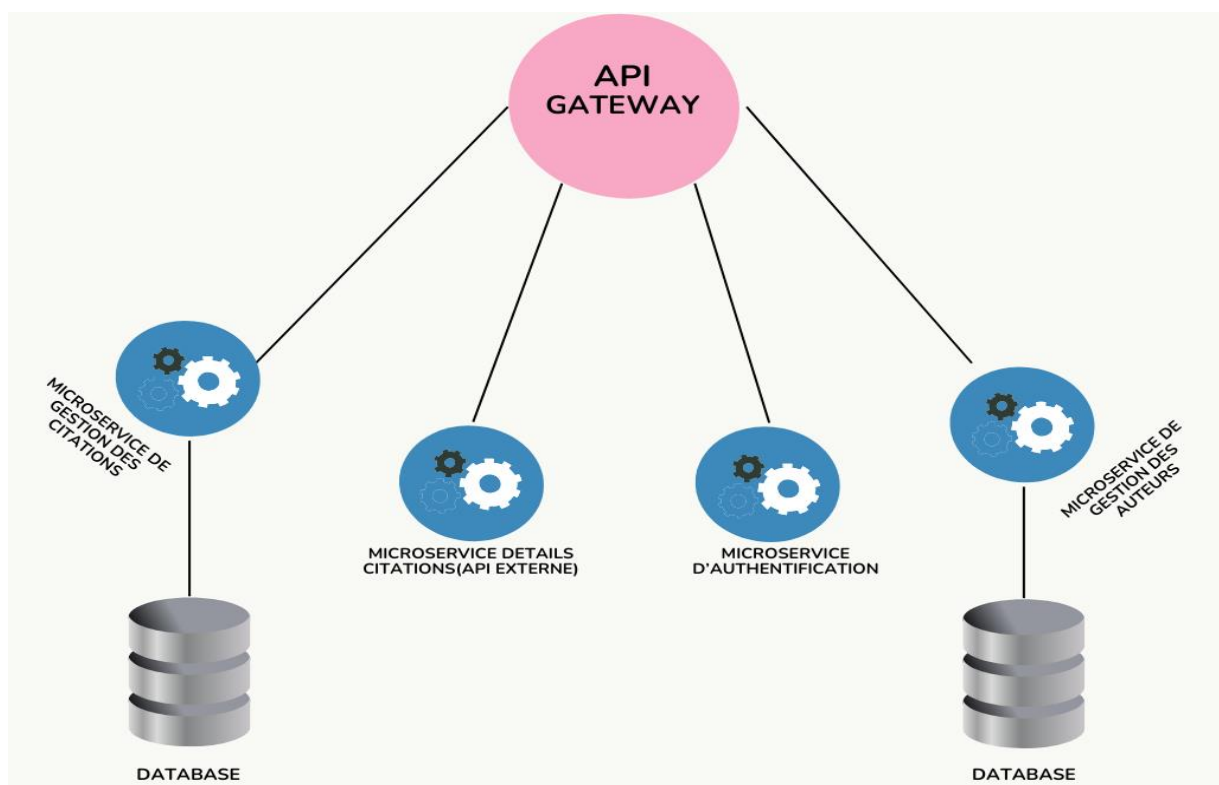
Composants principaux de l'API :

- **API Gateway** : Un point d'entrée unique pour toutes les requêtes client. Il permet de rediriger les demandes vers les micro-services appropriés.
- **Service de Gestion des Citations** : Ce service gère toutes les opérations sur les citations. Il communique directement avec une base de données (MySQL).
- **Service de Gestion des Auteurs** : Ce service gère les informations liées aux auteurs (biographie, nom, prénoms, citations). Il communique directement avec une base de données (MySQL)
- **Service d'Enrichissement ou détails citations** : Ce service communique avec une API externe (CiteAS) pour enrichir les citations avec des **tags**, des **thèmes** ou des **sources** provenant d'autres plateformes.
- **Service d'Authentification** : Un micro-service dédié à la gestion de l'authentification des utilisateurs via **JWT**
- **Base de Données** : Une base de données relationnelle (MySQL) où les citations et les auteurs sont stockées.
- **Service de Citation journalière** (Bonus) : Ce service délivre une citation aléatoire chaque jour.

4. Technologies utilisées

- **Backend** : Python, Fast API
- **Base de données** : MySQL via WampServer
- **Sécurisation** : JWT (JSON Web Tokens) pour l'authentification
- **Frameworks** : **SQLAlchemy** (pour l'interaction avec la base de données), **Pydantic** (pour la validation des données)
- **APIs externes** : CiteAS API “<https://citeas.org/api>”
- **Documentation** : **Swagger** sur les url <http://127.0.0.1:8000/docs> et <http://127.0.0.1:8000/redoc>
- **Tests** : **Postman** ou **Insomnia** pour les tests

5. Diagramme d'Architecture



CAPTURES DES TESTS DE CHAQUE ENDPOINT

- `@app.get("/token")`

Curl

```
curl -X 'GET' \
  'http://127.0.0.1:8000/token' \
  -H 'accept: application/json'
```

Request URL

http://127.0.0.1:8000/token

Server response

Code	Details
200	<p>Response body</p> <pre>{ "token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJleHAiOjE3Mzg5NzU0MDcsInN1YiI6InVzZXIifQ.SQLGZKYOGtdvy6avYc3lCsmtdmRwBXG2ckpgTM_NyY" }</pre> <p>Response headers</p> <pre>content-length: 135 content-type: application/json date: Fri, 07 Feb 2025 23:43:27 GMT server: uvicorn</pre>

Responses

Code	Description	Links
200	Successful Response	No links

Media type

application/json

Controls Accept header.

- @app.get("/")

Curl

```
curl -X 'GET' \
  'http://127.0.0.1:8000/' \
  -H 'accept: application/json'
```

Request URL

http://127.0.0.1:8000/

Server response

Code	Details
200	<p>Response body</p> <pre>{ "message": "Welcome to the Inspire Hub API!" }</pre> <p>Response headers</p> <pre>content-length: 45 content-type: application/json date: Fri, 07 Feb 2025 23:46:38 GMT server: uvicorn</pre>

Responses

Code	Description	Links
200	Successful Response	No links

Media type

application/json

Controls Accept header.

- @app.get("/quotes")

Code	Details						
200	<div><div>Response body</div><div><pre>[{ "id": 1, "text": "If you can't explain it simply, you don't understand it well enough.", "author": "Albert Einstein", "tags": "intelligence, knowledge, simplicity, understanding", "source": "https://en.wikiquote.org/wiki/Albert_Einstein" }, { "id": 2, "text": "Winners have simply formed the habit of doing things losers don't like to do.", "author": "Albert Gray", "tags": "winners, habit, losers", "source": "https://www.goodreads.com/quotes/524224" }, { "id": 3, "text": "How we spend our days is, of course, how we spend our lives.", "author": "Annie Dillard", "tags": "passion, try, live", "source": "https://www.goodreads.com/quotes/530337" }, { "id": 4, "text": "Discover the great ideas that lie inside you by discovering the power of sleep.", "author": "Arianna Huffington", "tags": "Sleep, Ideas", }]</pre></div><div><div>Download</div></div></div> <div><div>Response headers</div><div><pre>content-length: 6116 content-type: application/json date: Fri, 07 Feb 2025 23:50:38 GMT server: uvicorn</pre></div></div> <tr><td>Responses</td><td></td></tr> <tr><th>Code</th><th>Description</th></tr> <tr><td></td><td>Links</td></tr>	Responses		Code	Description		Links
Responses							
Code	Description						
	Links						

GET

/quotes/search{quote_id} Read Quote

Parameters

NameDescription

quote_id * required
integer
(path)3

ExecuteClear

Responses

Curl

```
curl -X 'GET' \
'http://127.0.0.1:8000/quotes/search3' \
-H 'accept: application/json' \
-H 'Authorization: Bearer eyJ0eXA1OjKVY1QlcHhjbGc1OjI1UzI1Ni19.eyJleHAIOjE3MzgZNTUsInNlYVtIGlnVzZKIiF0.v3BaMBNgNSyY6McLHDNF.iqn_RXPUBH0r-dyvkIMaFc'
```

Request URL

```
http://127.0.0.1:8000/quotes/search3
```

Server response

CodeDetails

200Response body

```
{
  "id": 3,
  "text": "How we spend our days is, of course, how we spend our lives.",
  "author": "Annie Dillard",
  "tag": "passion, try, live",
  "source": "https://www.goodreads.com/quotes/538337"
}
```

Download

Response headers

```
content-length: 182
content-type: application/json
date: Sat, 08 Feb 2025 00:39:08 GMT
server: uvicorn
```


- `@app.put("/quotes/{quote_id}")`

Request body

required

application/json

```
{  
  "id": 2,  
  "text": "UPDATE TEST",  
  "author": "UPDATE TEST",  
  "tags": "UPDATE TEST",  
  "source": "UPDATE TEST"  
}
```

Execute

Clear

Responses

Curl

```
curl -X 'PUT' \  
  http://127.0.0.1:8000/quotes/2/ \  
  -H 'accept: application/json' \  
  -H 'Authorization: Bearer eyJ0eXAiOiJKV1QiLCBoGciOiJIUzI1NiIsInR5cCI6IkpZYTEwMDcsInYiOiJlbnVvZXkiOQ==SQLGZYKGYdvyGawYcw7j1CsrtaDmRWBG2ckpgTLM_NyY' \  
  -H 'Content-Type: application/json' \  
  -d '{  
    "id": 2,  
    "text": "UPDATE TEST",  
    "author": "UPDATE TEST",  
    "tags": "UPDATE TEST",  
    "source": "UPDATE TEST"  
  }'  

```

Request URL

```
http://127.0.0.1:8000/quotes/2
```

Server response

Code

Details

Response body

```
{  
  "message": "Quote has been updated successfully"  
}
```

Download

- `@app.delete("/quotes/{quote_id}")`

Request body

required

application/json

```
{
  "id": 2,
  "text": "UPDATE TEST",
  "author": "UPDATE TEST",
  "tags": "UPDATE TEST",
  "source": "UPDATE TEST"
}
```

Execute

Clear

Responses

Curl

```
curl -X 'PUT' \
  'http://127.0.0.1:8000/quotes/2' \
  -H 'accept: application/json' \
  -H 'Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJleHAiOjE3Mzg5MzUwMDcsInR1Ii6InVzZXIiOQ_SQ6ZKYGtdvdyGavYc3lC5etabwBmB0ZckpgTl_NyY' \
  -H 'Content-Type: application/json' \
  -d {
    "id": 2,
    "text": "UPDATE TEST",
    "author": "UPDATE TEST",
    "tags": "UPDATE TEST",
    "source": "UPDATE TEST"
  }
```

Request URL

http://127.0.0.1:8000/quotes/2

Server response

Code

Details

200

Response body

```
{
  "message": "Quote has been updated successfully"
}
```

Download

- `@app.get("/authors")`

GET

/authorsRead Authors

Parameters

No parameters

Execute

Clear

Responses

Curl

```
curl -X 'GET' \
'http://127.0.0.1:8000/authors/' \
-H 'accept: application/json' \
-H 'Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiIsInR5cCI6IWRXZG9zaW80dCsiInN1YiI6InVzZXIifQ.SQkZYOGtDvYgavYc3lCSmtaOmRMhXG2ckpgTM_NyY'
```

Request URL

```
http://127.0.0.1:8000/authors
```

Server response

CodeDetails

200

Response body

```
[
  {
    "id": 1,
    "first_name": "Albert",
    "last_name": "Einstein",
    "bio": "Albert Einstein was a German-born theoretical physicist who developed the theory of relativity, one of the two pillars of modern physics. His work is also known for its influence on the philosophy of science.",
    "quotes": []
  },
  {
    "id": 2,
    "first_name": "Albert",
    "last_name": "Gray",
    "bio": "Albert Gray was a well-known motivational speaker and author. He is best known for his book The Common Denominator of Success.",
    "quotes": []
  },
  {
    "id": 3,
    "first_name": "Annie",
    "last_name": "Dillard",
    "bio": "Annie Dillard is an American author, best known for her narrative prose in both fiction and non-fiction. She has published works of poetry, essays, prose, and literary criticism, as well as two novels and one memoir.",
    "quotes": []
  },
  {
    "id": 4,
    "first_name": "Arianna",
    "last_name": "Huffington",
```

- `@app.get("/authors/{author_id}")`

GET

/authors/{author_id}

Read Author

Parameters

Name	Description
author_id * required	
integer	
(path)	

Execute

Clear

Responses

Curl

```
curl -X 'GET' \  
  'http://127.0.0.1:8000/authors/8' \  
  -H 'accept: application/json' \  
  -H 'Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJ1eHAiOiJlZmZ5NzUwODcsInN1ViI6InVzZXIiLC5QLGZKY0GtdyGavYyJ1SmtaDmBdXG2ckpgTM_NyY'
```

Request URL

```
http://127.0.0.1:8000/authors/8
```

Server response

Code	Details
200	<div>Response body</div> <div><pre>{ "id": 8, "first_name": "Brian", "last_name": "Tracy", "bio": "Brian Tracy is a Canadian-American motivational public speaker and self-development author. He is the author of over seventy books that have been translated into dozens of languages.", "quotes": [] }</pre></div> <div><div>Download</div></div>

- `@app.put("/authors/{author_id}")`

- `@app.post("/authors/new_author")`

```
{  
  "id": 60,  
  "first_name": "TEST",  
  "last_name": "TEST",  
  "bio": "TEST",  
  "quotes": []  
}
```

Execute

Clear

Responses

Curl

```
curl -X 'POST' \  
  'http://127.0.0.1:8000/authors/new_author' \  
  -H 'accept: application/json' \  
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJleHAiOjEzMzg5MzUwMDcsInN1YmVzZXIiOiQSQkZKY0GtdydyGavYc3lCsmTaDmlRWBXG2ckpgTm_NyY' \  
  -H 'Content-Type: application/json' \  
  -d '{  
    "id": 60,  
    "first_name": "TEST",  
    "last_name": "TEST",  
    "bio": "TEST",  
    "quotes": []  
  }'  
'
```

Request URL

```
http://127.0.0.1:8000/authors/new_author
```

Server response

CodeDetails

200

Response body

```
{  
  "id": 60,  
  "first_name": "TEST",  
  "last_name": "TEST",  
  "bio": "TEST",  
  "quotes": []  
}
```

Download

- `@app.get("/quotes/dayquote")`

GET

/quotes/dayquote

Get Day Quote

Parameters

No parameters

Execute

Clear

Responses

curl

```
curl -X 'GET' \
  https://127.0.0.1:8080/quotes/dayquote \
  -H 'accept: application/json' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpzZW50L3M2IiwiaWF0Ij01NjE2MTUyMjE1fQ.S0L2KXVGtdyGavY3JCSetaQwRdKG2ckpgTM_NyY'
```

Request URL

http://127.0.0.1:8080/quotes/dayquote

Server response

Code

Details

200

Response body

```
{
  "message": "Today's quote is:",
  "quote": {
    "id": 1,
    "text": "I attribute my success to this: I never gave or took an excuse.",
    "author": "Florence Nightingale",
    "tags": "excuse, excuse, success",
    "source": "https://www.goodreads.com/quotes/161358"
  }
}
```

Download

Response headers

```
content-length: 239
content-type: application/json
date: Sat, 08 Feb 2025 00:20:29 GMT
server: uvicorn
```

Responses

Code

Description

Links

200

Successful Response

No links

