NGANDU MIKOMBE Steve

M2 Sécurité Informatique

Travail de Programmation Réseau

```python
from flask import Flask, jsonify, request

app = Flask(__name__)

# Sample data
books = [
    {"id": 1, "title": "The Great Gatsby", "author": "F. Scott Fitzgerald"},
    {"id": 2, "title": "To Kill a Mockingbird", "author": "Harper Lee"},
    {"id": 3, "title": "1984", "author": "George Orwell"}
]

# GET method to retrieve all books
@app.route('/books', methods=['GET'])
def get_books():
    return jsonify({'books': books})

# GET method to retrieve a specific book
@app.route('/books/<int:id>', methods=['GET'])
def get_book(id):
    book = [book for book in books if book['id'] == id]
    return jsonify({'book': book[0]})

# POST method to add a new book
@app.route('/books', methods=['POST'])
def add_book():
    book = {
        'id': request.json['id'],
        'title': request.json['title'],
        'author': request.json['author']
    }
    books.append(book)
    return jsonify({'book': book}), 201

# PUT method to update an existing book
@app.route('/books/<int:id>', methods=['PUT'])
def update_book(id):
    book = [book for book in books if book['id'] == id]
    if len(book) == 0:
        abort(404)
    book[0]['title'] = request.json.get('title', book[0]['title'])
    book[0]['author'] = request.json.get('author', book[0]['author'])
```

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```python
    return jsonify({'book': book[0]})

# DELETE method to remove a specific book
@app.route('/books/<int:id>', methods=['DELETE'])
def delete_book(id):
    book = [book for book in books if book['id'] == id]
    if len(book) == 0:
        abort(404)
    books.remove(book[0])
    return jsonify({'result': True})

if __name__ == '__main__':
    app.run(debug=True)
```

```python
import requests

# GET request to retrieve all books
response = requests.get('http://localhost:5000/books')
print(response.json())

# GET request to retrieve a specific book
response = requests.get('http://localhost:5000/books/1')
print(response.json())

# POST request to add a new book
new_book = {'id': 4, 'title': 'The Catcher in the Rye', 'author': 'J.D.
Salinger'}
response = requests.post('http://localhost:5000/books', json=new_book)
print(response.json())

# PUT request to update an existing book
updated_book = {'title': 'Animal Farm', 'author': 'George Orwell'}
response = requests.put('http://localhost:5000/books/3', json=updated_book)
print(response.json())

# DELETE request to remove a specific book
response = requests.delete('http://localhost:5000/books/2')
print(response.json())
```