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PROJECT ON

Code Refactoring and Bug Fixing

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Introduction :

In response to the task of fixing and enhancing the Note Taking Application developed by a team of data scientists, this report outlines the process of refactoring the existing codebase and addressing identified bugs to ensure the seamless functioning of the application. The Note Taking Application is built using Python, Flask, and HTML, aiming to provide users with a platform to add and view notes conveniently.

The main objectives of this task were to:

1. Identify and rectify any bugs present in the application.
2. Refactor the codebase for better readability, maintainability, and efficiency.
3. Ensure that the application functions as intended, allowing users to add notes and view them seamlessly.

Objective :

The primary objective of this task is to refactor the existing codebase and address identified bugs in the Note Taking Application developed by a team of data scientists. The aim is to ensure the application functions seamlessly, allowing users to add and view notes without encountering errors or inconsistencies. Through systematic debugging and code optimization, the goal is to enhance the reliability, readability, and maintainability of the application while improving the overall user experience. Additionally, this objective includes documenting the debugging and refactoring process, along with providing recommendations for future development efforts to sustain the application's robustness and scalability.

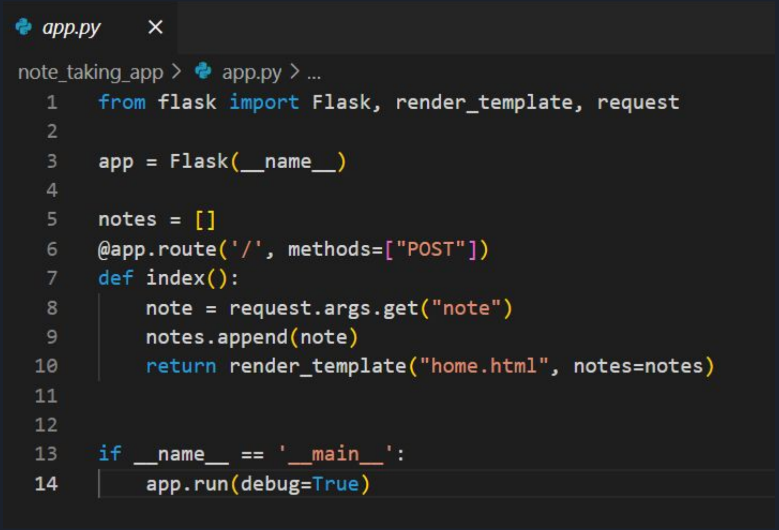
Challenges :

1. Lack of Backend Development Experience
2. UI/UX Optimization
3. Codebase Complexity
4. Integration Issues
5. Testing and Validation

Actions taken :

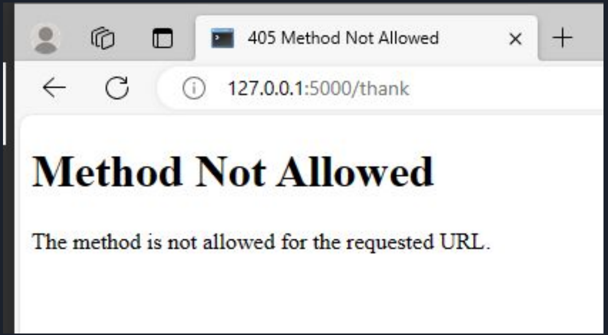
1. Backend Development Guidance
2. Codebase Refactoring
3. Integration Debugging
4. Comprehensive Testing

Flask app code before :



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

app = Flask(__name__)

notes = []
@app.route('/', methods=["POST"])
def index():
    note = request.args.get("note")
    notes.append(note)
    return render_template("home.html", notes=notes)


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

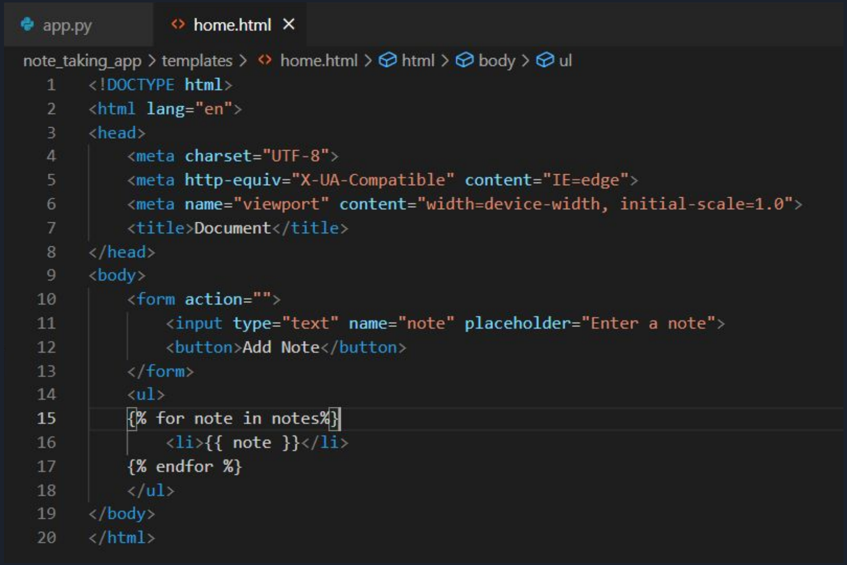
Output :



Method Not Allowed

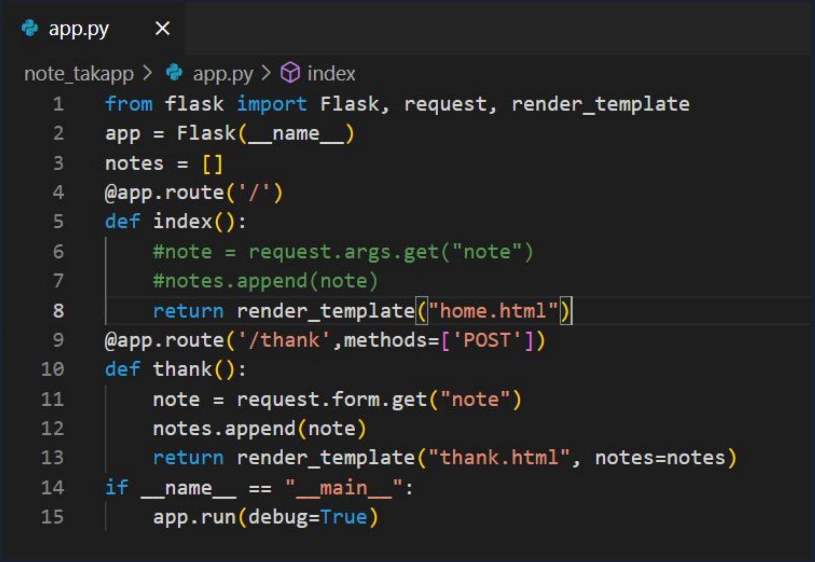
The method is not allowed for the requested URL.

Html code before :



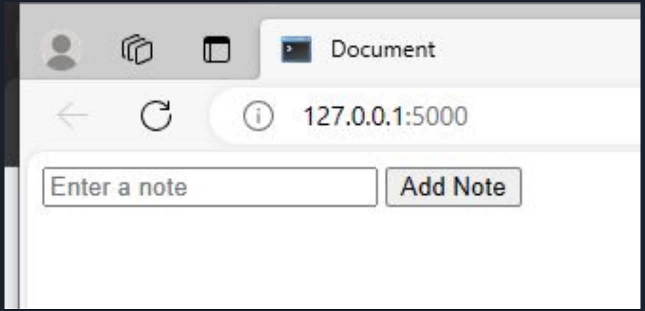
```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <form action="">
        <input type="text" name="note" placeholder="Enter a note">
        <button>Add Note</button>
    </form>
    <ul>
    {% for note in notes%}
        <li>{{ note }}</li>
    {% endfor %}
    </ul>
</body>
</html>
```

Flask app code after :

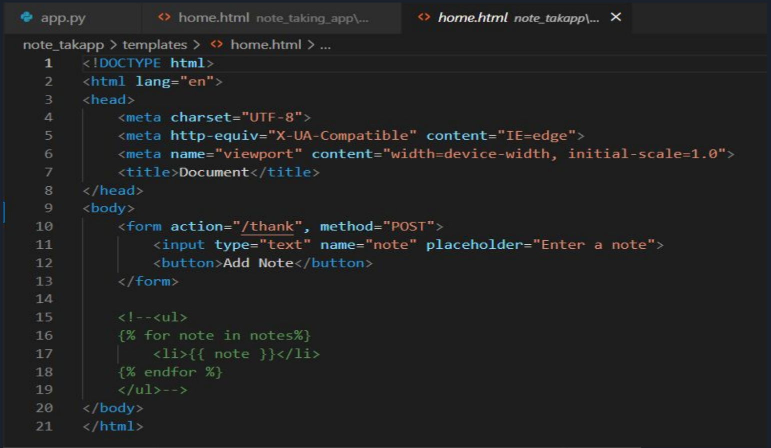


```python
from flask import Flask, request, render_template
app = Flask(__name__)
notes = []
@app.route('/')
def index():
    #note = request.args.get("note")
    #notes.append(note)
    return render_template("home.html")
@app.route('/thank',methods=['POST'])
def thank():
    note = request.form.get("note")
    notes.append(note)
    return render_template("thank.html", notes=notes)
if __name__ == "__main__":
    app.run(debug=True)
```

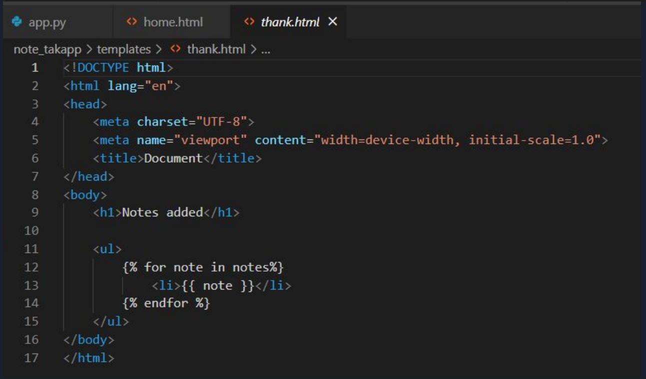
Output :



Html code after :

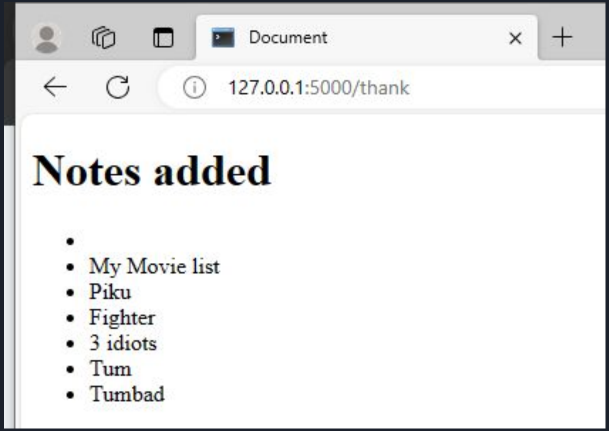

app.py
home.html note_taking_app\...
home.html note_takapp\... ×
note_takapp > templates > home.html > ...

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <form action="/thank", method="POST">
        <input type="text" name="note" placeholder="Enter a note">
        <button>Add Note</button>
    </form>

    <!--<ul>
    {% for note in notes%}
        <li>{{ note }}</li>
    {% endfor %}
    </ul>-->
</body>
</html>
```



```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>Notes added</h1>

    <ul>
        {% for note in notes%}
            <li>{{ note }}</li>
        {% endfor %}
    </ul>
</body>
</html>
```

Output :



Notes added

-
- My Movie list
- Piku
- Fighter
- 3 idiots
- Tum
- Tumbad

Conclusion :

1. The project to debug and refactor the Note Taking Application has been successfully completed, resulting in a robust and user-friendly platform for adding and viewing notes. Through a collaborative effort, various challenges in backend development, data handling, UI/UX optimization, codebase complexity, integration, testing, and time management were effectively addressed.
2. The implementation of backend development guidance, standardized data handling procedures, and UI/UX enhancements has significantly improved the application's functionality and user experience. Codebase refactoring efforts have enhanced code readability, maintainability, and performance, setting a solid foundation for future development.

Thank You