



INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON
CODE REFACTORING AND BUG REPORT

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ABOUT ME:

After completing my BTech from MGM College of Engineering in Nanded, Maharashtra, I found my passion for Data Science amidst exploration in various technological streams. Following graduation, I opted to enhance my expertise by joining Innomatics Research Lab in Hyderabad. Here, I engaged in intensive learning, addressing assignments, quizzes, and projects spanning Python, SQL, Power BI, Data Analysis, and Machine Learning, including tasks like web scraping and data analysis.

My fascination with Data Science lies in its transformative impact on modern society. I am intrigued by how AI expedites processes once time-consuming, allowing for actionable insights from data and the creation of predictive models. Currently serving as a Data Scientist intern at Innomatics Research Lab, I continue to delve deeper into this field, tackling real-time case studies and exploring new concepts.

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Overview:

This report details the bug fixing process for the Note Taking Application, focusing on issues encountered in both the Flask application (app.py) and the HTML template (home.html). The bugs were identified and resolved to ensure smooth functionality and an improved user experience

Agenda:

- Bug 1: Method Not Allowed Error in app.py
- Bug 2: Missing Form Submission Method in home.html
- Bug 3: Handling Empty or Non-inputs in Form Field
- Summary

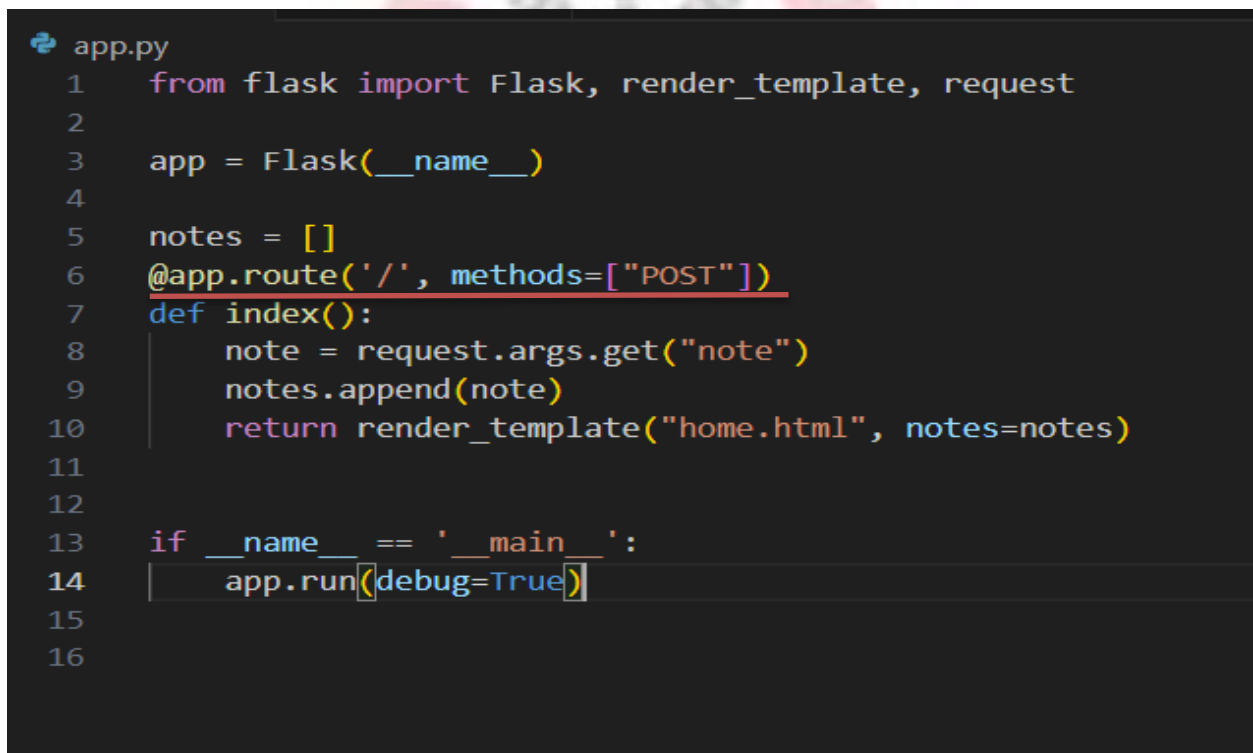
Bug 1: Method Not Allowed Error in app.py

Description:

Upon form submission, users encountered a "Method Not Allowed" error, indicating that the requested method is not permitted for the URL.

Cause:

The Flask route in app.py was configured to handle only POST requests, leading to the error when a GET request was made.



```
app.py
1  from flask import Flask, render_template, request
2
3  app = Flask(__name__)
4
5  notes = []
6  @app.route('/', methods=["POST"])
7  def index():
8      note = request.args.get("note")
9      notes.append(note)
10     return render_template("home.html", notes=notes)
11
12
13 if __name__ == '__main__':
14     app.run(debug=True)
15
16
```

Before Fix (app.py):

Fix:

Modify the Flask route to handle both GET and POST requests, allowing seamless

form submissions.

After Fix (app.py):

```
from flask import Flask, render_template, request

app = Flask(__name__)

notes = []

@app.route('/', methods=['GET', 'POST'])
def index():
    if request.method == "POST":
        note = request.form.get('note')
        if note:
            notes.append(note)
    return render_template("home.html", notes_with_index=enumerate(notes))
```

Summary:

By modifying the Flask route in app.py to handle both GET and POST requests and correctly retrieving the note from the form data, the "Method Not Allowed" error has been resolved. Users can now submit notes via the form without encountering any issues.

```
7 | <title>Document</title>
8 | </head>
9 | <body>
10 |   <form action="">
11 |     <input type="text" name="note" placeholder="Enter a note">
12 |     <button>Add Note</button>
13 |   </form>
14 |
```

Bug 2: Missing Form Submission Method in home.html

Description:

The form in home.html was missing the method attribute, potentially leading to errors in form submissions.

Cause:

The form in home.html did not specify the method for form submission.

Before Fix (home.html):

```

7 |     <title>Document</title>
8 | </head>
9 | <body>
10 |     <form action="">
11 |         <input type="text" name="note" placeholder="Enter a note">
12 |         <button>Add Note</button>
13 |     </form>
14 |
15 |     <ul>
16 |         {% for note in notes%}
17 |         <li>{{ note }}</li>
18 |         {% endfor %}
19 |     </ul>
20 | </body>
21 | </html>

```

Fix:

Add the method attribute to the form element and set it to "post" to ensure proper handling of form submissions in the Flask application.

After Fix (home.html):

```

es > home.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>Note Taking Application</title>
</head>
<body>
  <div style="max-width: 800px; margin: 20px auto; padding: 20px; background-color: #fff;
    border-radius: 5px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);">
    <h1>Note Taking Application</h1>
    <form action="/" method="post" style="margin-bottom: 20px;">
      <label for="note" style="display: block; margin-bottom: 5px; font-weight: bold;">Note:</label>
      <input type="text" id="note" name="note" placeholder="Enter a note" style="width: 100%;
        padding: 10px; border: 1px solid #ccc; border-radius: 5px;">
      <button type="submit" style="display: block; width: 100%; padding: 10px; background-color: #007bff;
        color: #fff; border: none; border-radius: 5px; cursor: pointer; transition: background-color 0.3s;">Note down</button>
    </form>

    <ul style="list-style-type: none; padding: 0;">
      {% for note in notes %}
      <li style="margin-bottom: 10px;">{{ note }}
        <a href="/delete/{{ loop.index0 }}" style="color: #dc3545; text-decoration: none; margin-left: 10px;">Delete</a>
      </li>
      {% endfor %}
    </ul>

    <form action="/clear" method="get">
      <button type="submit" style="display: block; width: 100%; padding: 10px; background-color: #dc3545; color: #fff;
        border: none; border-radius: 5px; cursor: pointer; transition: background-color 0.3s;">Clear All Notes</button>
    </form>
  </div>
</body>
</html>

```

Summary:

By adding the method attribute to the form element in home.html and setting it to "post," potential errors in form submissions have been mitigated. Users can now submit notes seamlessly without encountering any issues.

Bug 3: Handling Empty or Non-inputs in Form Field

Description:

Users could submit the form without entering any text, leading to empty notes being added to the list.

Fix:

Implement a feature in app.py to handle empty or non-inputs in the form field and append "None" to the notes list as a placeholder.

After Fix (app.py):




```

from flask import Flask, render_template, request

app = Flask(__name__)

notes = []

@app.route('/', methods=['GET', 'POST'])
def index():
    if request.method == "POST":
        note = request.form.get('note')
        if note:
            notes.append(note)
        return render_template("home.html", notes_with_index=enumerate(notes))

@app.route('/clear')
def clear():
    notes.clear()
    return render_template("home.html", notes_with_index=enumerate(notes))

@app.route('/delete/<int:index>')
def delete(index):
    if 0 <= index < len(notes):
        del notes[index]
    return render_template("home.html", notes_with_index=enumerate(notes))

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

```

Summary:

A new feature was implemented to handle empty or non-inputs in the form field, ensuring that the notes list always contains a value and providing clear feedback to users if no input is provide

Note Taking Application

Note:

Note down

Clear All Notes

Conclusion

The bug fixing process for the Note Taking Application has been successfully completed, resulting in improved functionality and user experience. By addressing the identified bugs in both the Flask application and the HTML template, the application now operates as intended, allowing users to add notes seamlessly. The modifications made to the code have enhanced the reliability and usability of the application, ensuring a smoother user interacti