Database

Flask Fundamentals

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Flask

Flask is a lightweight WSGI web application framework. It is designed to make getting started quick and easy, with the ability to scale up to complex applications. It began as a simple wrapper around Werkzeug and Jinja and has become one of the most popular Python web application frameworks.

- Install Flask:

```
$ pip install flask
```

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#1 Initial Server

```
from flask import Flask

app = Flask(__name__)

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

#2 Home Route

```
from flask import Flask

app = Flask(__name__)

@app.route('/')
def index():
    return '<h1><i>Welcome!</i></h1>'

if __name__ == '__main__':
    app.run(
        debug = True,
        host = 'localhost',
        port = 1234
    )
```

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#3 Render HTML

```
. . .
@app.route('/')
def index():
    return render_template('home.html')
    # render html file from templates dir
. . .
```

Create an HTML file on **'templates'** dir!

```
<!DOCTYPE html>
<html lang="en">
<head></head>
<body>
    <h1>Welcome to my app!</h1>
</body>
</html>
```

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#4 jsonify

```
data = [
    {'name': 'Andi', 'age': 22},
    {'name': 'Budi', 'age': 23},
    {'name': 'Caca', 'age': 24}
]

@app.route('/data')
def data():
    return jsonify(Students)
```

#5 Dynamic route

```
@app.route('/data/<string:nama>')
def names(nama):
    return 'Halo %s!' % nama

@app.route('/data/<int:nomor>')
def numbers(nomor):
    return 'Ini %d!' % nomor
```

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#6 Error handler

```
@app.errorhandler(404)
def not_found(error):
    return '<h1>Maaf not found!</h1>'
```

Or you can create json return, html render, etc.

```
@app.errorhandler(404)
def not_found(error):
    return make_response(
        jsonify({'status': 'Not Found'}),
        404
    )
```

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#7 Redirect

```
@app.route('/home')
def home():
    return redirect('/')
```

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#8 HTTP Request

```
@app.route('/data', methods=['GET', 'POST', 'PUT', 'DELETE'])
def data():

    if request.method == 'POST':
        return jsonify({'status': 'You\'re POST-ing'})

    elif request.method == 'GET':
        return jsonify({'status': 'You\'re GET-ing'})

    elif request.method == 'PUT':
        return jsonify({'status': 'You\'re PUT-ing'})

    elif request.method == 'DELETE':
        return jsonify({'status': 'You\'re DELETE-ing'})

    else:
        return jsonify({'status': 'Others'})
```

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#9 POST Request

```
@app.route('/data', methods=['GET', 'POST'])
def data():
    if request.method == 'POST':
        body = request.json

        print(body['name'])
        print(body['age'])
        # body json :
        # {"name":"lintang", "age":26}

        return jsonify({
            'name': body['name'],
            'age': body['age']
        })
    else:
        return jsonify({'status': 'You\'re GET-ing'})
```

#10 Upload Files

```
@app.route('/uploader', methods = ['GET', 'POST'])

def uploadfile():

   if request.method == 'POST':
      f = request.files['file']
      filename = secure_filename(f.filename)
      f.save(os.path.join(
         app.config['UPLOAD_FOLDER'], filename)
      )

      return 'File uploaded successfully'
```