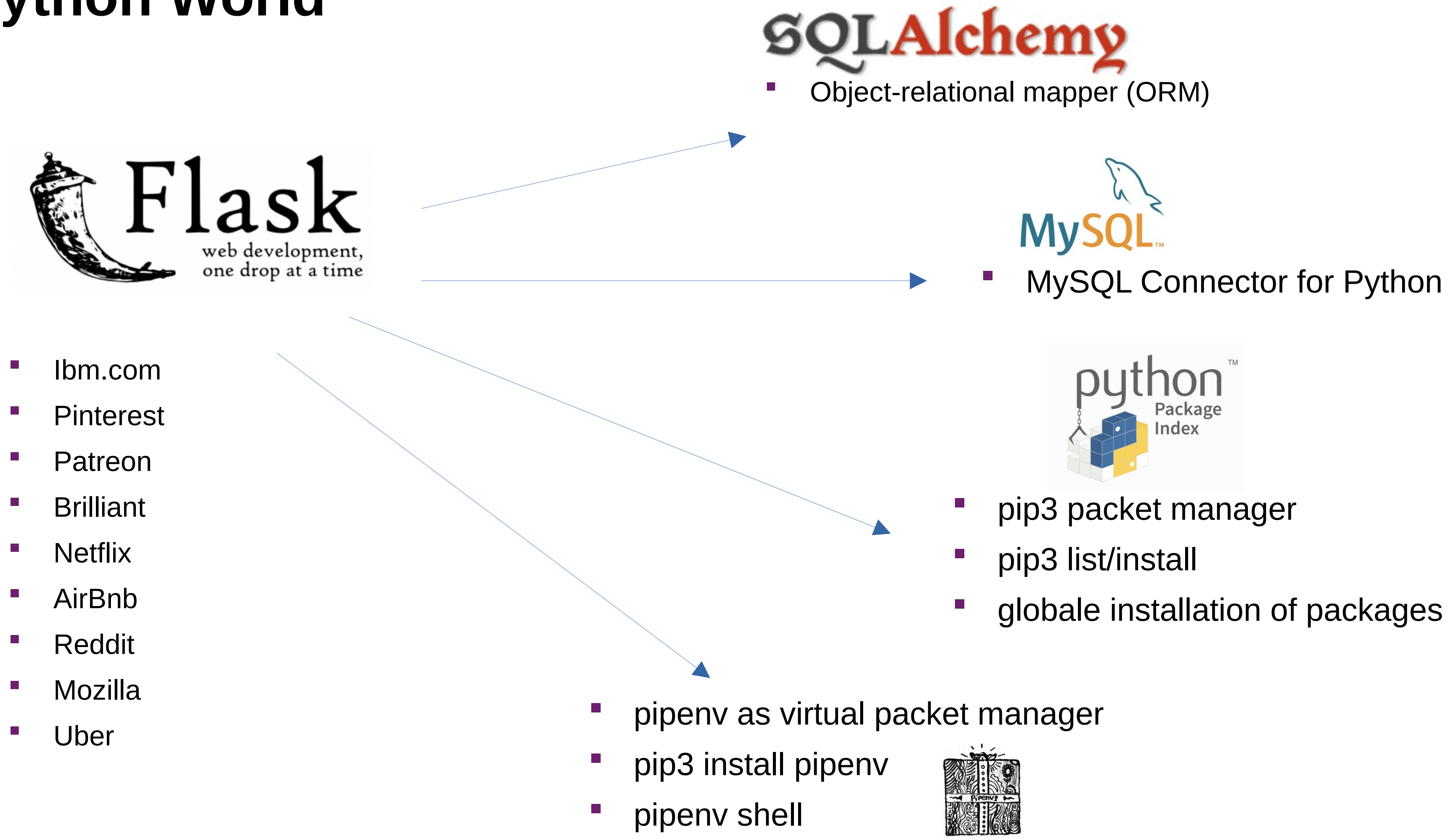
Python Flask web framework

Python World



- Ibm.com
- Pinterest
- Patreon
- Brilliant
- Netflix
- AirBnb
- Reddit
- Mozilla
- Uber

- Object-relational mapper (ORM)

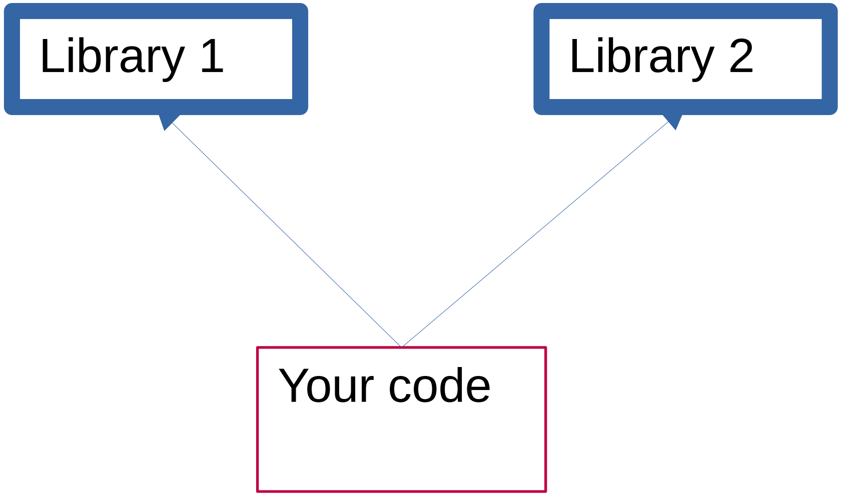
- MySQL Connector for Python

- pip3 packet manager
- pip3 list/install
- globale installation of packages

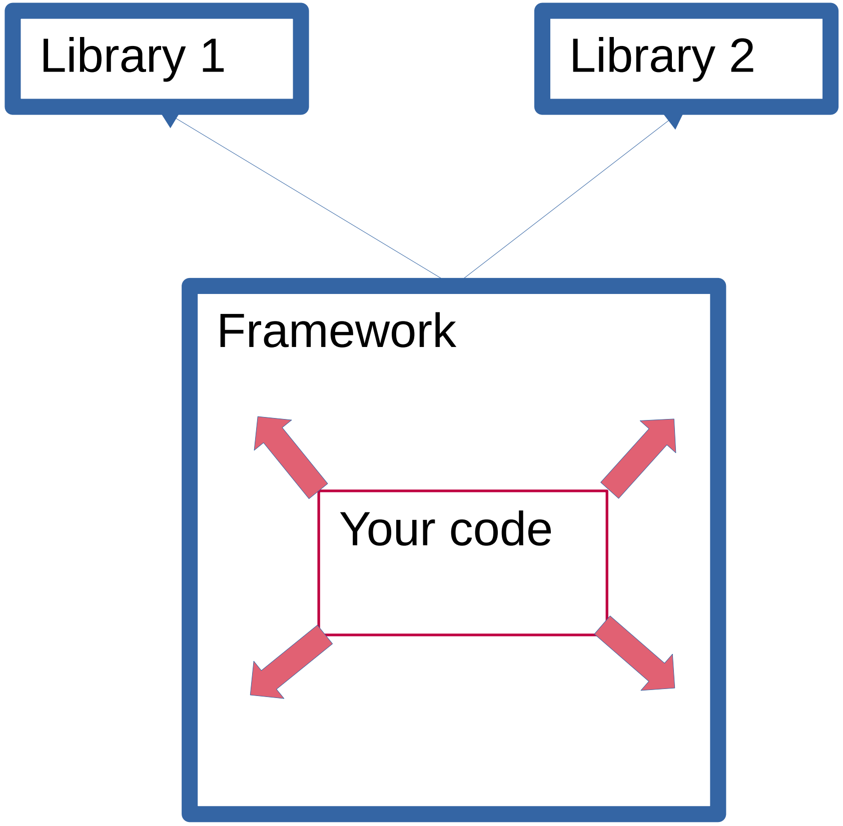
- pipenv as virtual packet manager
- pip3 install pipenv
- pipenv shell

What are “frameworks” for?

No framework



With framework



Flask

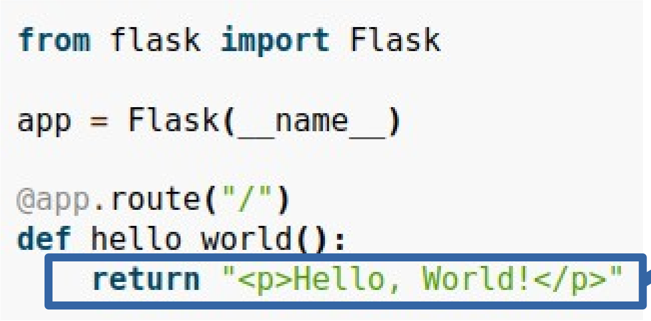
web development,
one drop at a time

- Created 2010 under BSD License
- Micro web framework
  - lightwight
  - only include what you need
- Routes
- Debugging
- Templates
- HTTP Methods (GET, POST)
- Cookies
- Sessions
- Logging
- JSON Responding
- Extensions are easy to integrate

Installation:

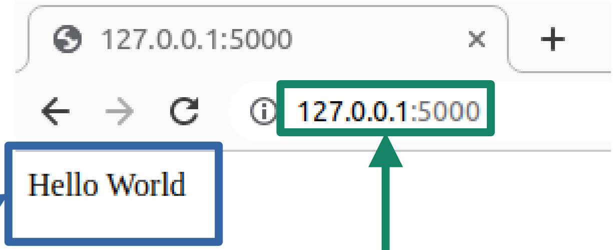
- pip3 install flask
- apt-get install python-flask

Create a minimal Python program :



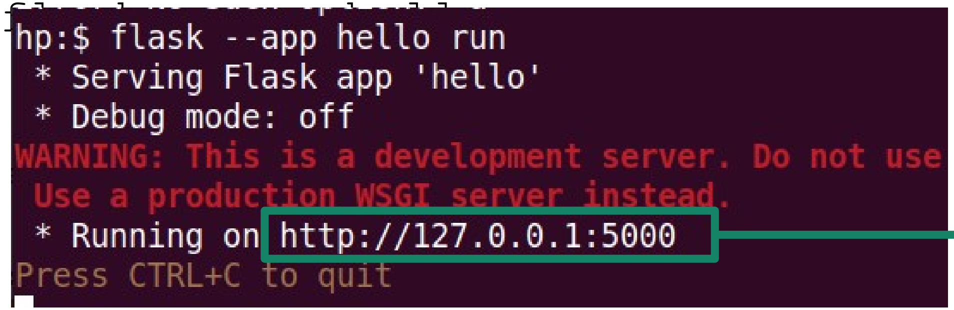
```
from flask import Flask

app = Flask(__name__)

@app.route("/")
def hello_world():
    return "<p>Hello, World!</p>"
```

saved as "**hello.py**"



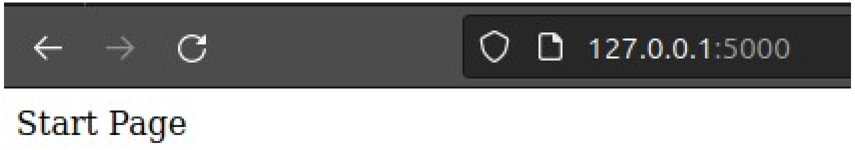
Hello World

Running a development webserver :



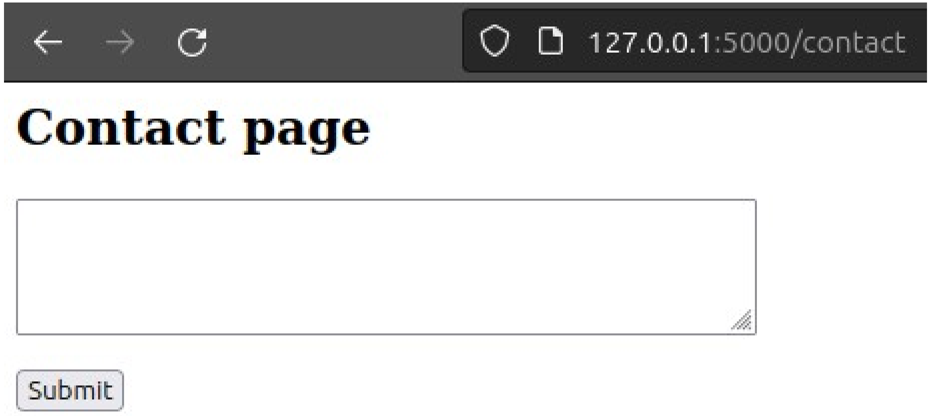
```
hp:$ flask --app hello run
 * Serving Flask app 'hello'
 * Debug mode: off
WARNING: This is a development server. Do not use
 Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

```python
@app.route("/")
def index():
    return "Start Page"
```



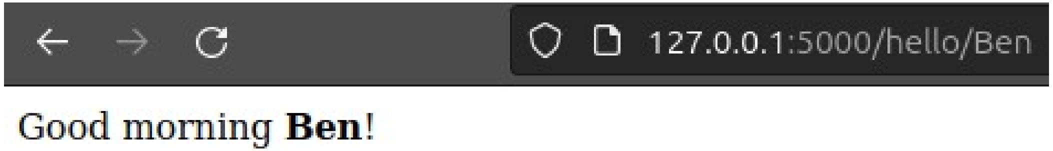
Start Page

```python
@app.route("/contact", methods=['GET', 'POST'])
def contact():
    return """<h2>Contact page</h2>
    <p><textarea rows="4" cols="50"></textarea></p>
    <p><input type="submit" value="Submit"></p>"""
```



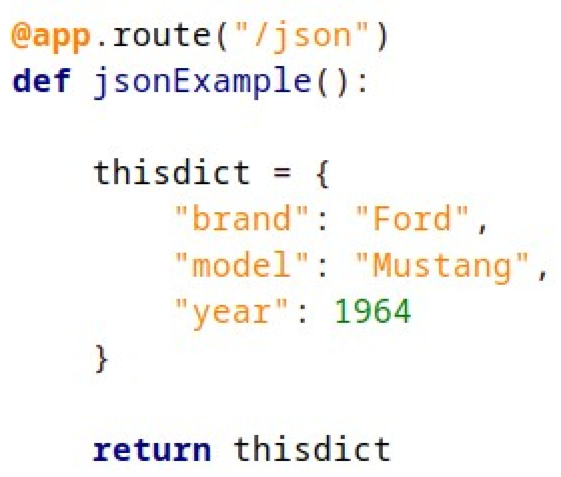
Contact page

```python
@app.route("/hello/<name>")
def hello(name):
    return "Good morning <b>" + name + "</b>!"
```

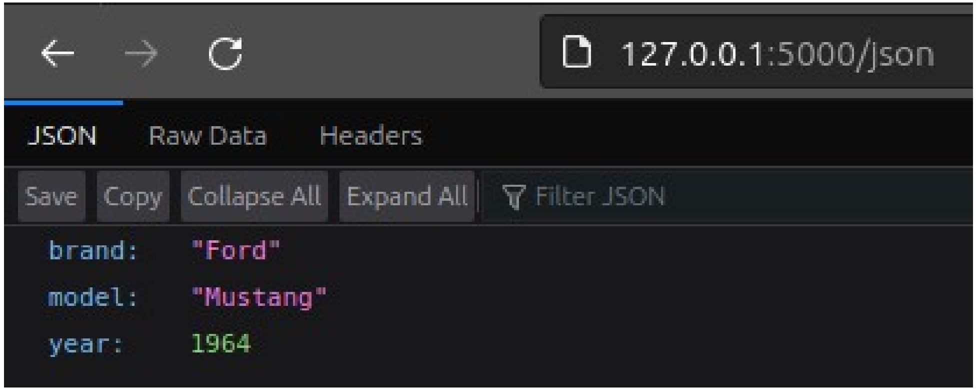


Good morning **Ben**!

JSON Response (for REST APIs)



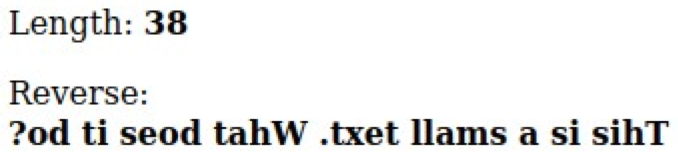
```python
@app.route("/json")
def jsonExample():

    thisdict = {
        "brand": "Ford",
        "model": "Mustang",
        "year": 1964
    }

    return thisdict
```



```
brand:    "Ford"
model:    "Mustang"
year:     1964
```

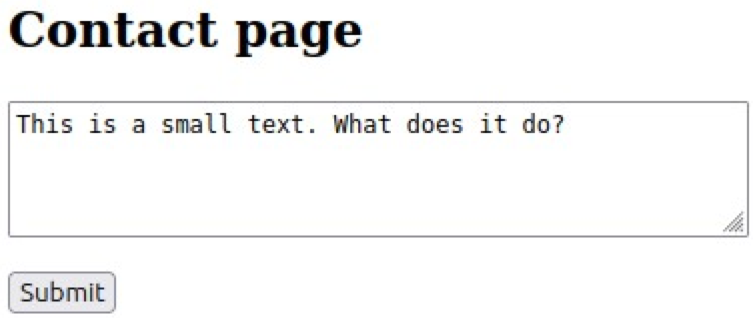
HTTP Methods

```
@app.route("/contact", methods=['GET', 'POST'])
def contact():
    output = []
    if (request.method == 'POST'):
        text = request.form['text']

        output.append("<p>Length: <b>" + str(len(text)) + "</b></p>")

        output.append("<p>Reverse: <br /><b>" + text[::-1] + "</b></p>")

        return "\n".join(output)



    else:
        return """<h2>Contact page</h2>
        <form action="/contact" method="post">
        <p><textarea rows="4" cols="50" name="text"></textarea></p>
        <p><input type="submit" value="Submit"></p>
        </form>"""
```



Length: **38**

Reverse:
?od ti seod tahW .txet llams a si sihT



Contact page

```
This is a small text. What does it do?
```