

Essential Skills: Assignment Web services

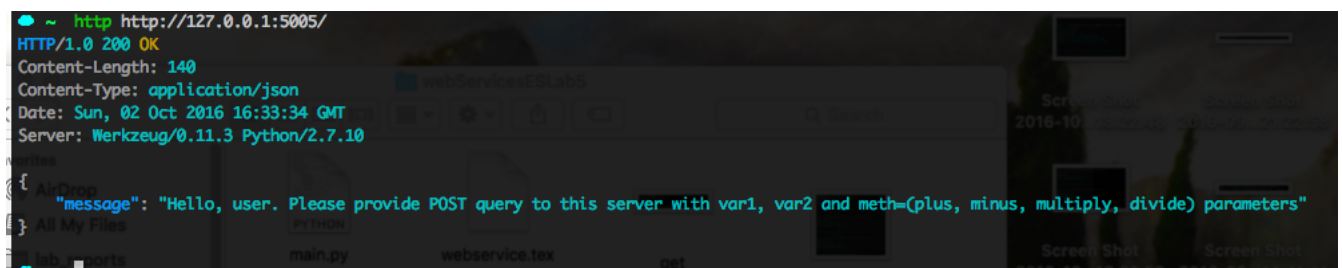
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1 REST calculator

Calculator can add, subtract, multiply or divide 2 vars. Also it connects to another webserver that make greeting from username.

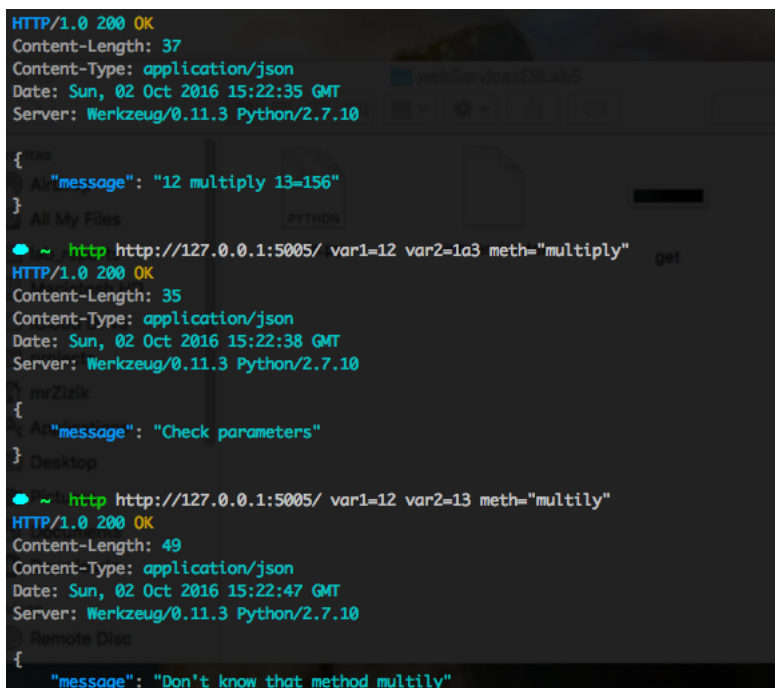
Written on python, using Flask framework. Using urllib2 to make REST GET request to another service. If you try to make GET query on it, it'll answer with message.



```
~ http http://127.0.0.1:5005/
HTTP/1.0 200 OK
Content-Length: 140
Content-Type: application/json
Date: Sun, 02 Oct 2016 16:33:34 GMT
Server: Werkzeug/0.11.3 Python/2.7.10

{
  "message": "Hello, user. Please provide POST query to this server with var1, var2 and meth=(plus, minus, multiply, divide) parameters"
}
```

You can work with calculator via POST method



```
HTTP/1.0 200 OK
Content-Length: 37
Content-Type: application/json
Date: Sun, 02 Oct 2016 15:22:35 GMT
Server: Werkzeug/0.11.3 Python/2.7.10

{
  "message": "12 multiply 13=156"
}

~ http http://127.0.0.1:5005/ var1=12 var2=13 meth="multiply"
HTTP/1.0 200 OK
Content-Length: 35
Content-Type: application/json
Date: Sun, 02 Oct 2016 15:22:38 GMT
Server: Werkzeug/0.11.3 Python/2.7.10

{
  "message": "Check parameters"
}

~ http http://127.0.0.1:5005/ var1=12 var2=13 meth="multy"
HTTP/1.0 200 OK
Content-Length: 49
Content-Type: application/json
Date: Sun, 02 Oct 2016 15:22:47 GMT
Server: Werkzeug/0.11.3 Python/2.7.10

{
  "message": "Don't know that method multily"
}
```

1.1 Code:

```
#!/flask/bin/python
from flask import Flask, jsonify, request

app = Flask(__name__)
from pprint import pprint as pprint
import json
```

```

import urllib2

@app.route('/', methods=['GET'])
def hello():
    greetings = urllib2.urlopen("http://188.130.155.37:8080/User").read()
    return jsonify({'message': greetings + ' please provide POST query to this server with var1, v

@app.route('/', methods=['POST'])
def calc():
    response = ""
    req = json.loads(request.data)
    if checkVars(req):
        var1=int(req['var1'])
        var2=int(req['var2'])
        meth=str(req['meth'])
        if (req["meth"]=="plus"):
            summ = var1+var2
            response = str(var1) + " plus " + str(var2) + "=" + str(summ)
        elif (req["meth"]=="minus"):
            minus = var1-var2
            response = str(var1) + " minus " + str(var2) + "=" + str(minus)
        elif (req["meth"]=="multiply"):
            multiply = var1*var2
            response = str(var1) + " multiply " + str(var2) + "=" + str(multiply)
        elif (req["meth"]=="divide"):
            divide = var1/var2
            response = str(var1) + " divide " + str(var2) + "=" + str(divide)
        else:
            response = "Don't know that method " + meth
    else:
        response = "Check parameters"
    return jsonify({'message': response})

def checkVars(req):
    return req['var1'].isdigit() and req['var2'].isdigit() and req['meth']!= None

if __name__ == '__main__':
    app.run(host='0.0.0.0', port=5005, debug=True)

```