



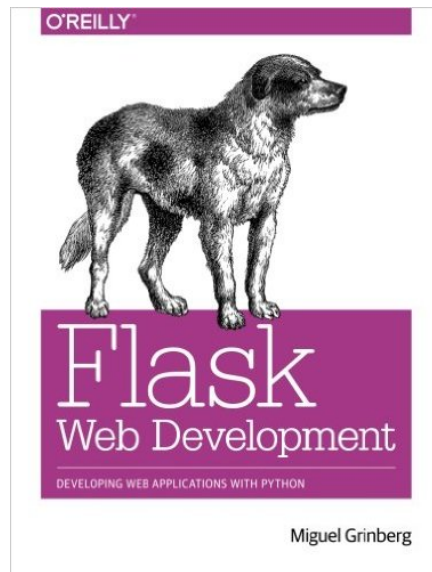
Flask III

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Resources

- Flask Web Development: Developing Web Applications with Python by Miguel Grinberg (1st Edition)



Use `git checkout v2.2`
to see the code

- Sample Course Application: SongBase:
<https://github.com/udmis/songbase>

Web Form

- Basic Web Form without Bootstrap:

What's your name?

Submit

Route that
the form data
is sent to

Two ways of
sending form
data: GET or
POST

```
<form action="/form-demo" method="get">  
What's your name?<br>  
<input type="text" name="first_name"><br><br>  
<input type="submit" value="Submit">  
</form>
```

Form data
type

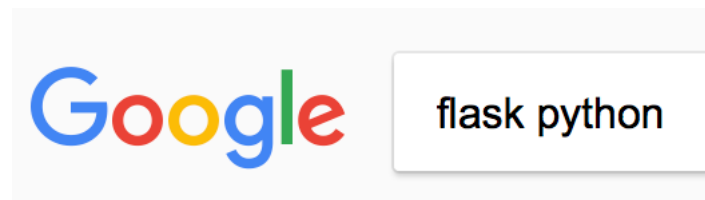
Form data
name

- You can use bootstrap to style the form:

<https://getbootstrap.com/docs/4.0/components/forms/>

GET vs. POST

- GET - Requests data from a specified resource with query string attached to the URL: **?name1=value1&name2=value2**

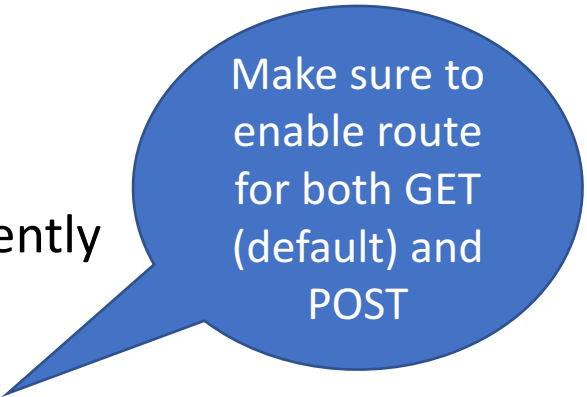


<https://www.google.com/search?ei=v0sKWsbUwbuABQ&q=flask+python>

- POST - Submits data to be processed to a specified resource, which is never shown in the URL – [POST should always be used to submit sensitive form data](#)

Process Web Form Data

- GET and POST form data are processed differently

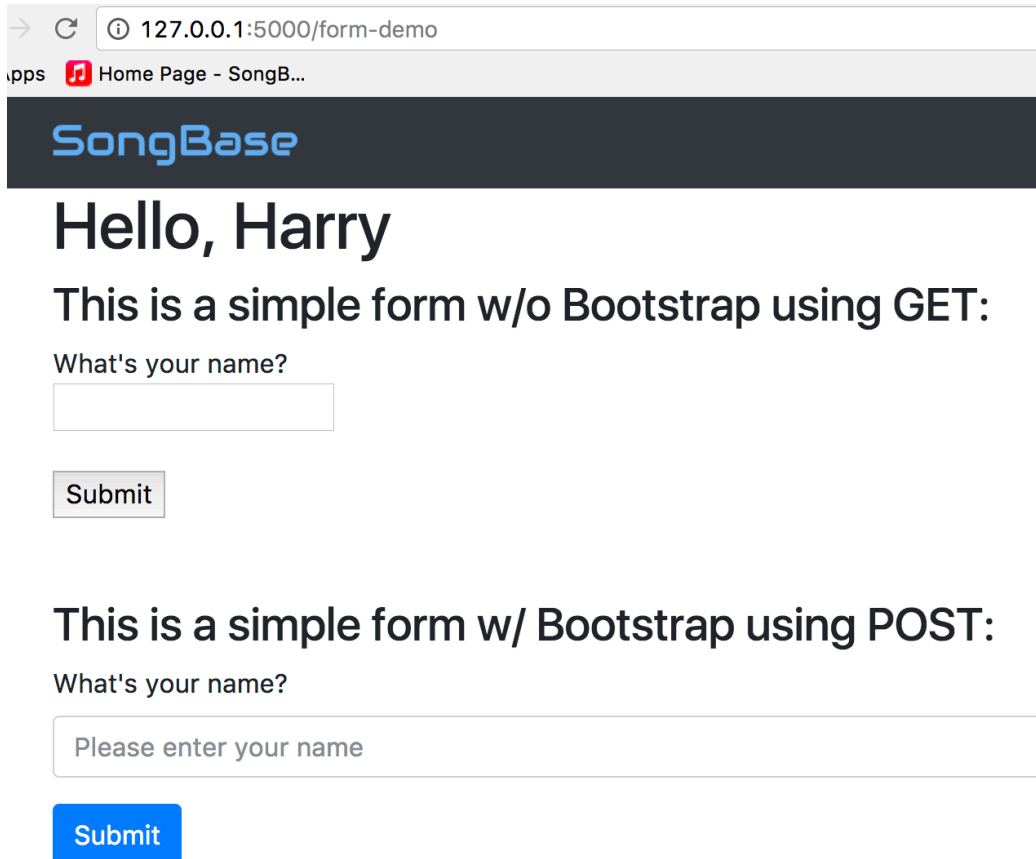


Make sure to enable route for both GET (default) and POST

```
@app.route('/form-demo', methods=['GET', 'POST'])
def form_demo():
    # how to get form data is different for GET vs. POST
    if request.method == 'GET':
        first_name = request.args.get('first_name')
        return render_template('form-demo.html', first_name=first_name)
    if request.method == 'POST':
        first_name = request.form['first_name']
        return render_template('form-demo.html', first_name=first_name)
```

Exercise

- Build a basic form demo
- <https://github.com/udmis/songbase> Use `git checkout v2.1` to see the code for this exercise



→ ↻ ⓘ 127.0.0.1:5000/form-demo

apps 🎵 Home Page - SongB...

SongBase

Hello, Harry

This is a simple form w/o Bootstrap using GET:

What's your name?

Submit

This is a simple form w/ Bootstrap using POST:

What's your name?

Submit

Redirect

- Problem with POST form in the exercise when refreshing:

Confirm Form Resubmission

The page that you're looking for used information that you entered. Returning to that page might cause any action you took to be repeated. Do you want to continue?

Cancel

Continue

When the previous request sent is a POST request with form data, a refresh would cause a duplicate form submission

- Best practice: never leave a POST request as a last request sent by the browser by responding to POST requests with a redirect instead of a normal response.

```
from flask import Flask, render_template, request, flash, redirect, url_for
```

```
# return render_template('form-demo.html', first_name=first_name)  
return redirect(url_for('form_demo'))
```

Endpoint of a Route, which is the name of the view function

User Session

Cannot pass variables and form data is no longer available after redirect

```
# return render_template('form-demo.html', first_name=first_name)
return redirect(url_for('form_demo'))
```

- User session can be used to “remember” things from one request to the next by storing them the private storage that is available to each connected client.
- By default, user sessions are stored in client-side cookies that are cryptographically signed using the **configured SECRET_KEY for Flask app**:

```
from flask import Flask, session, render_template, request
app = Flask(__name__)
app.config['SECRET_KEY'] = 'hard to get secure key'
```

```
session['first_name'] = request.form['first_name']
```

Store/Retrieve
Session Values

```
return render_template('form-demo.html', first_name=session.get('first_name'))
```


Exercise

- <https://github.com/udmis/songbase> Use ``git checkout v2.2`` to see the code after this lecture
- Read Chapter 4 on Web Forms and learn how to use WTForm and Flask-Bootstrap WTForm support (<https://pythonhosted.org/Flask-Bootstrap/forms.html> note that we import Bootstrap manually and does not use Flask-Bootstrap for base template), which you can choose to use in your project.

Exercise

- Read Chapter 4 on Web Forms and learn how to use WTForm and Flask-Bootstrap extension