Advanced Programming with Python

sessions and cookies

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Plan for today

- Review last day's homework
- HTML Forms
- Sessions and Cookies
- Authentication

Forms

Forms in HTML are pieces of the UI which we use to send data from client to server.

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```
<form action="/handle-login" method="POST">



</form>
```

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```
<form action="/handle-login" method="POST">
    <input type="text" name="username"/>


</form>
```

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Forms

Forms in HTML are pieces of the UI which we use to send data from client to server.

```
<form action="/handle-login" method="POST">
    <input type="text" name="username"/>
    <input type="password" name="password"/>

</form>
```

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Forms

Forms in HTML are pieces of the UI which we use to send data from client to server.

```
<form action="/handle-login" method="POST">
    <input type="text" name="username"/>
    <input type="password" name="password"/>
    <input type="submit"/>
</form>
```

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Forms

Whenever a form is submitted, it will send an HTTP requests to the `URL` specified in **`action`**, with the method specified in **`method`**, and sending the form data in the body of the request

Receiving form data in flask

```python
from flask import request

@app.route("/handle-login", method=["POST"])
def handle_login():
    username = request.form["username"]
    password = request.form["password"]

    # Now, do whatever you want with user and password, for e
    # new session for the user
```

Adding login to Twitter for dogs!

Adding login to Twitter for dogs!

Let's add login functionality to Twitter for dogs!!

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Sessions

There's a feature of most web applications that we haven't yet discussed, **sessions**.

Session help us authenticate users given some piece of data in their request. This piece of data can be: - A cookie - An API token - A JWT - ...

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Sessions & cookies

Sessions can be used to authenticate users by relying on cookies

Cookies are headers that the server sends alongside the HTTP response, that the client **will send back** in subsequent requests to that host!

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Sessions & cookies

Whiteboard

Let's whiteboard the whole flow of cookies and sessions

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Using sessions in flask

sessions in flask are handled by importing the session object from flask:

```
from flask import request, session

@app.route("/handle-login", method=["POST"])
def handle_login():
    username = request.form["username"]
    password = request.form["password"]

    # The session object behaves like a dictionary
    session["username"] = username # this way, we can identify
                                  # the user
```

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Using sessions in flask

We also use the session object to log the user out.

```
from flask import  session

@app.route("/logoug")
def handle_login():
    # removing a session object by their key, like in a
    # normal dictionary
    session.pop("username")
```

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Using sessions in flask

sessions in flask are handled by importing the session object from flask:

```
from flask import session

@app.route("/")
def index():
    if "user_id" in session: # session behaves like a diction
        return render_template("index.html")
    else:
        return render_template("login.html")
```

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