This is CS50

Week 9

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Flask & Jinja

Forms

Databases

Submit

history

id	page
1	50
2	100
3	43
...	...

Flask

web development,
one drop at a time

Routes and Requests

https://birthdays.com/

protocol

https://birthdays.com/

domain

https://birthdays.com/

route

Routes

- Routes can define pages of your web application. For example,
  - `/`
  - `/about-us`
  - `/register`
  - `/submit`

/

http-server

```
flask run
```

Flask

- Flask can **listen for requests** to a certain route.
- Flask can **execute Python code** depending on the route requested.
- Flask can **render HTML files** depending on the route requested.

app.py

app.py

```
from flask import Flask

app = Flask(__name__)

@app.route("/")
def index():
    ...
```

app.py

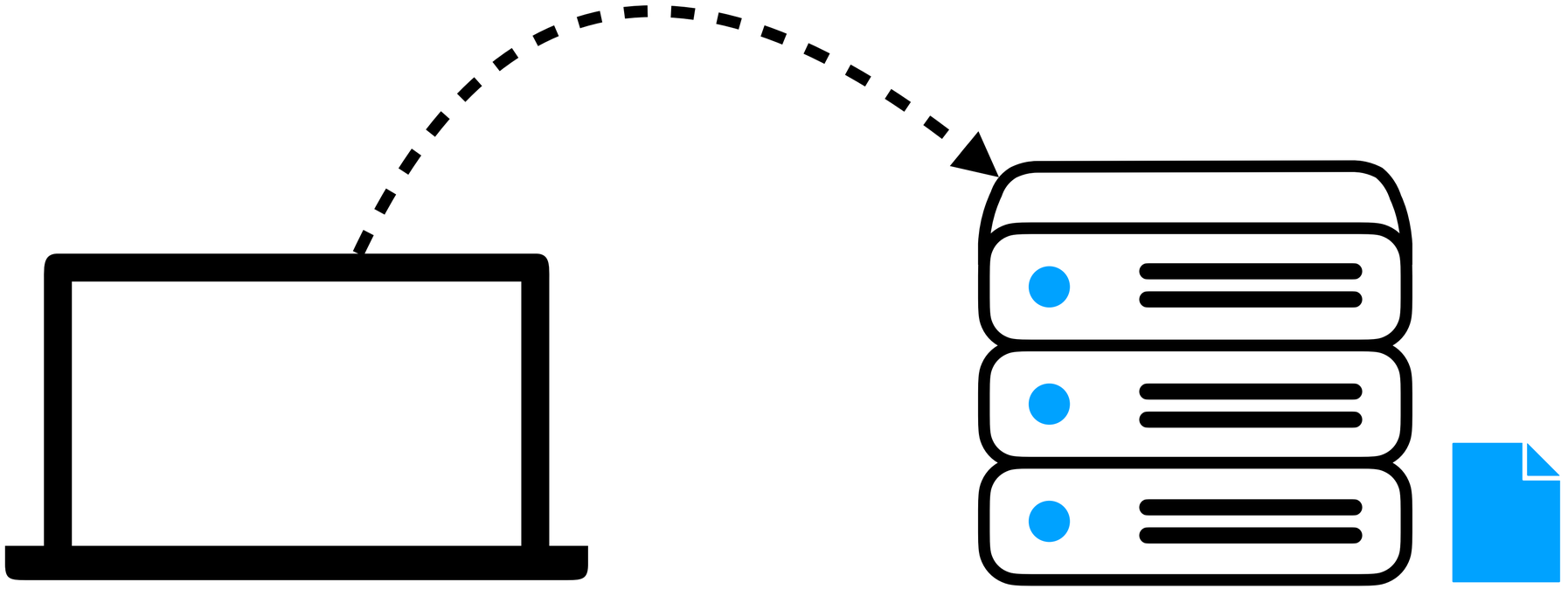
```
from flask import Flask

app = Flask(__name__)

@app.route("/")
def index():
    return "Hello, world!"
```

app.py

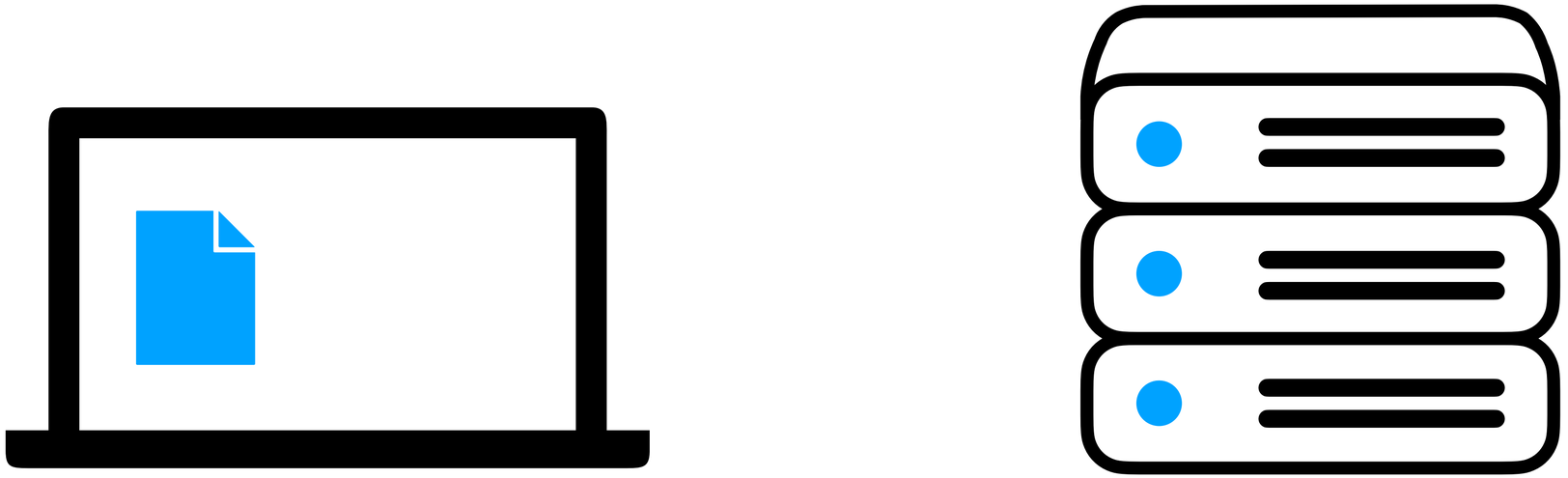
```
from flask import Flask, render_template

app = Flask(__name__)

@app.route("/")
def index():
    return render_template("index.html")
```

Request Methods

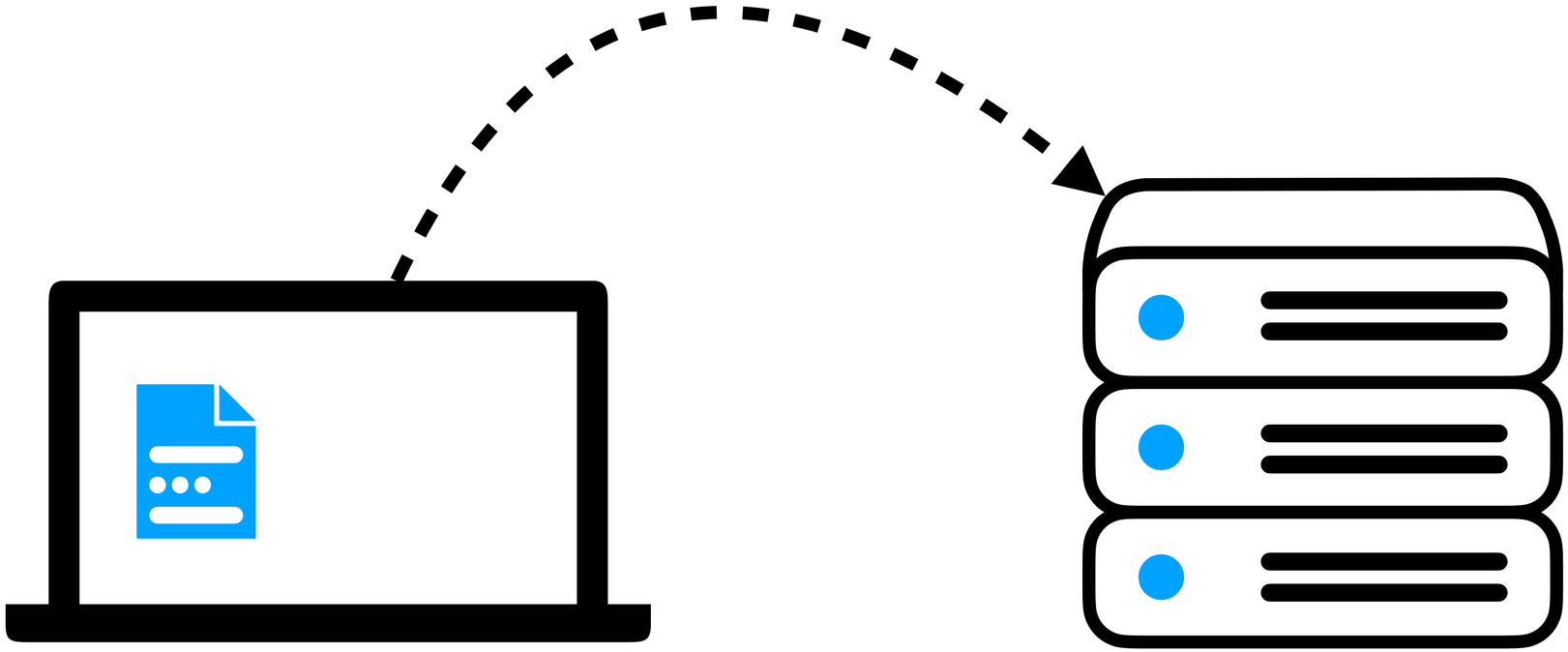
- Browsers can use different methods to request a route.



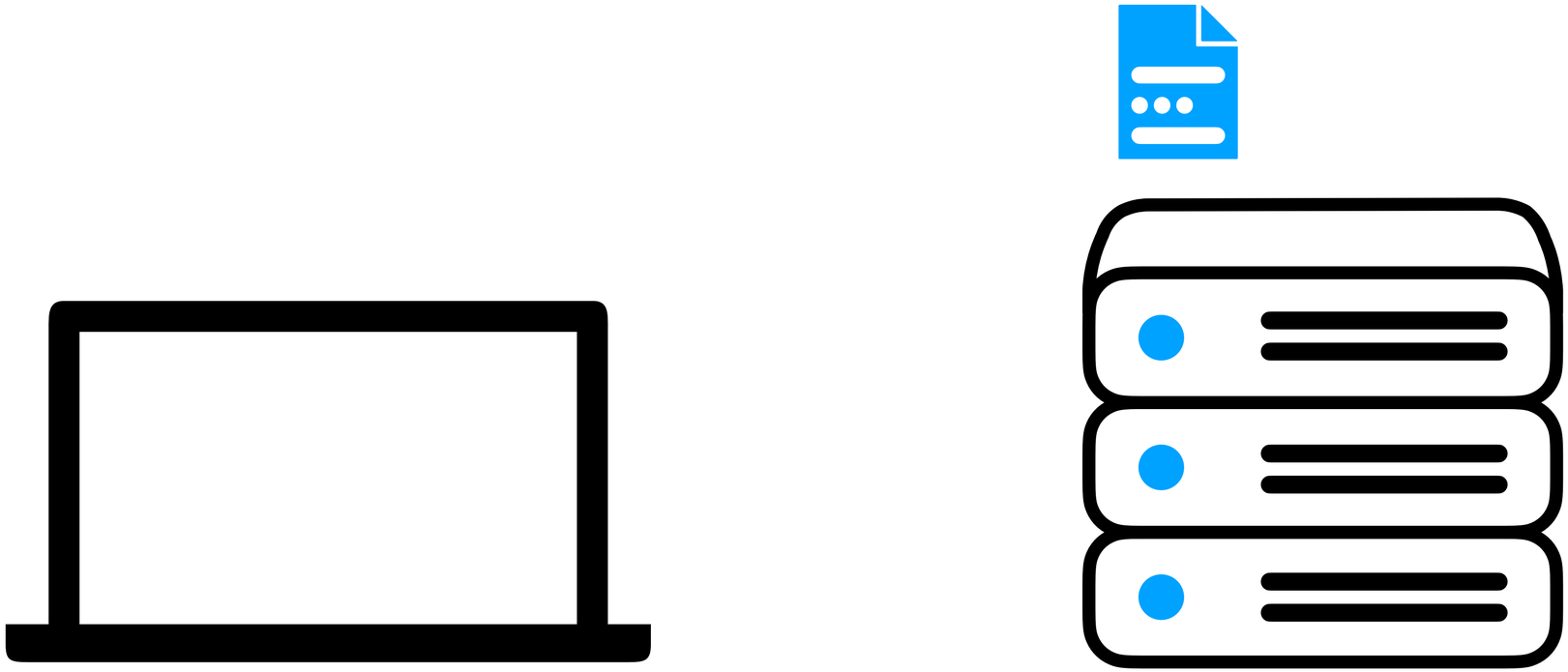
GET requests



GET requests



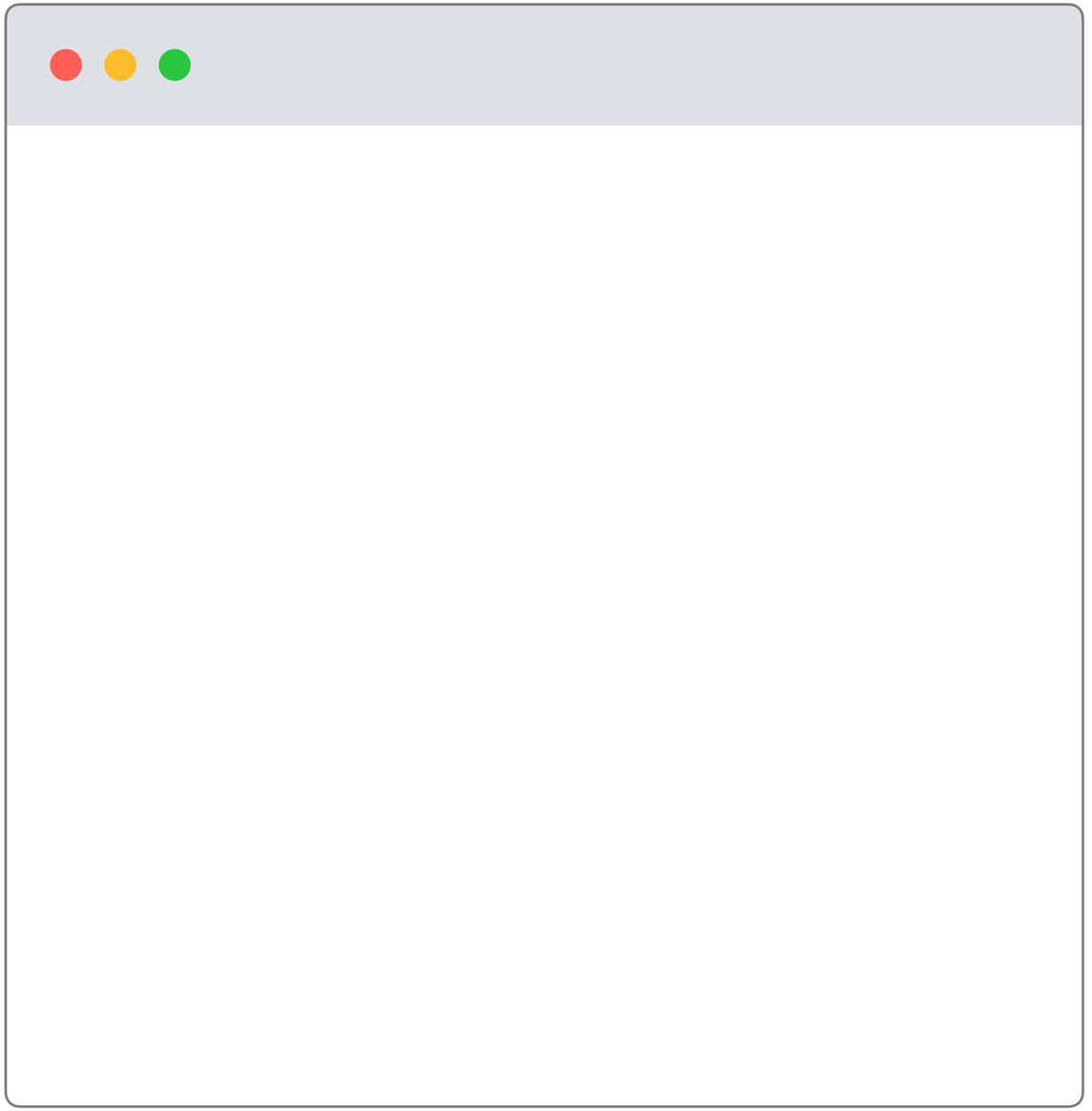
POST requests



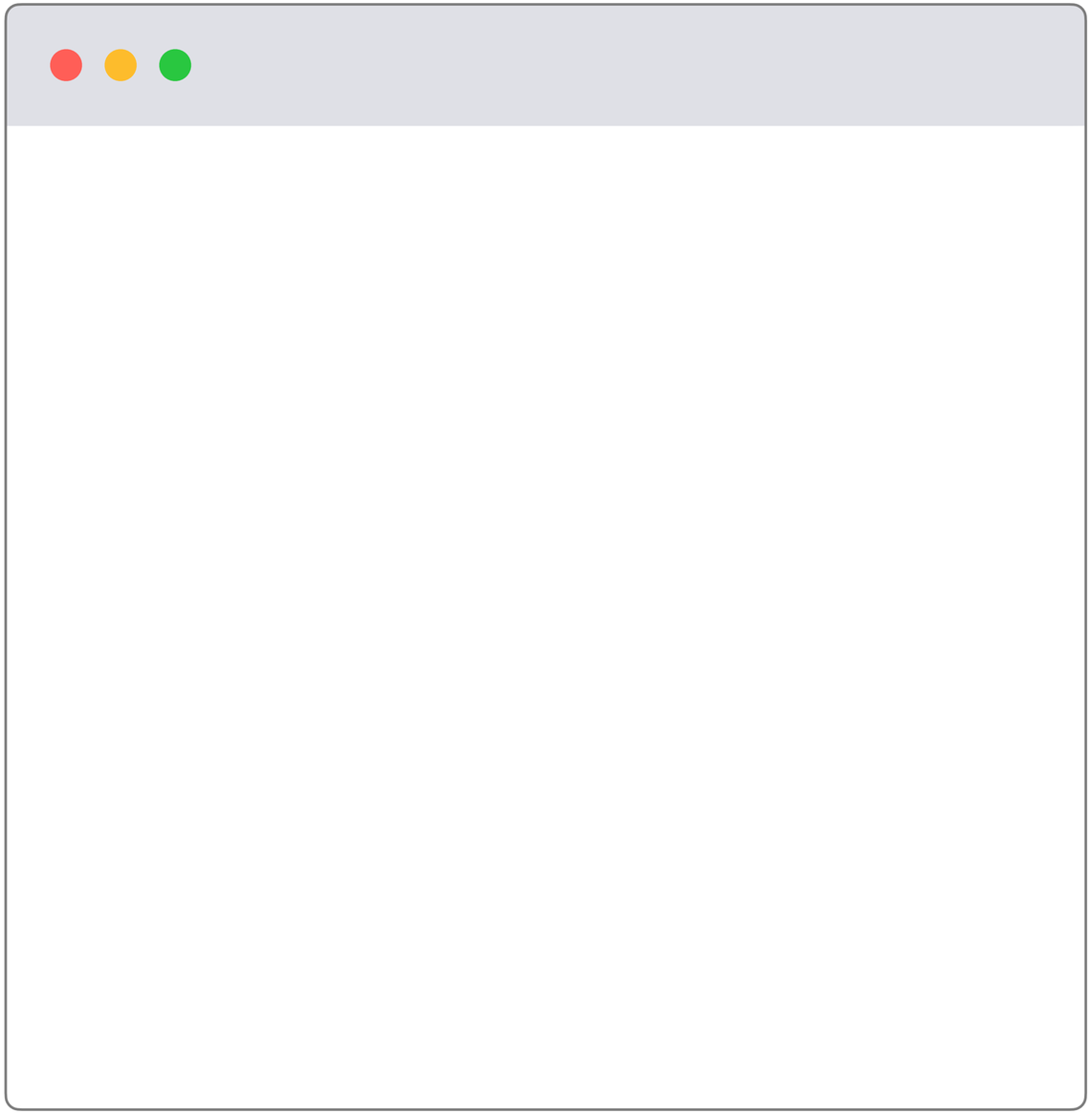
POST requests

Forms

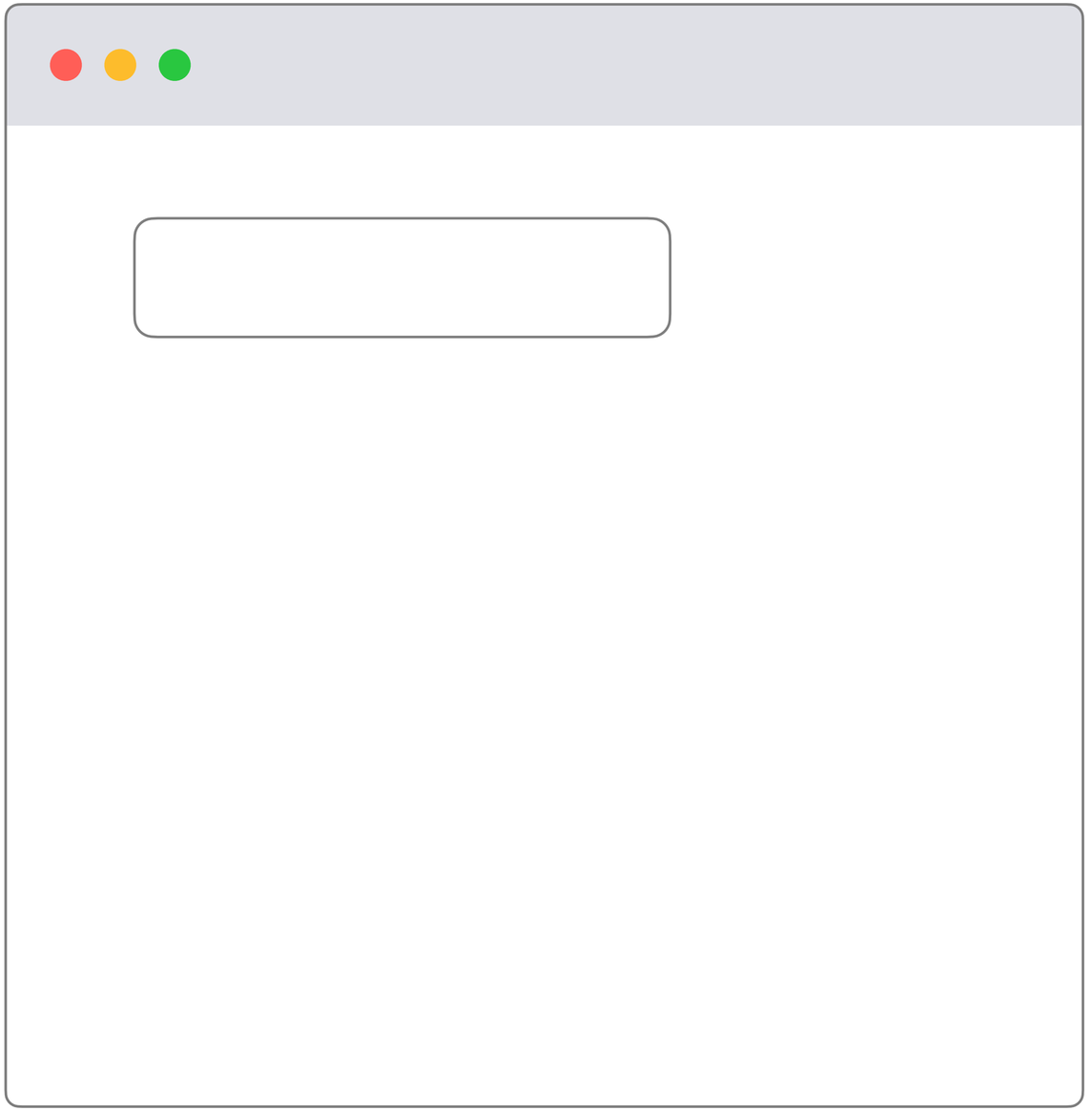
```
<form>
</form>
```



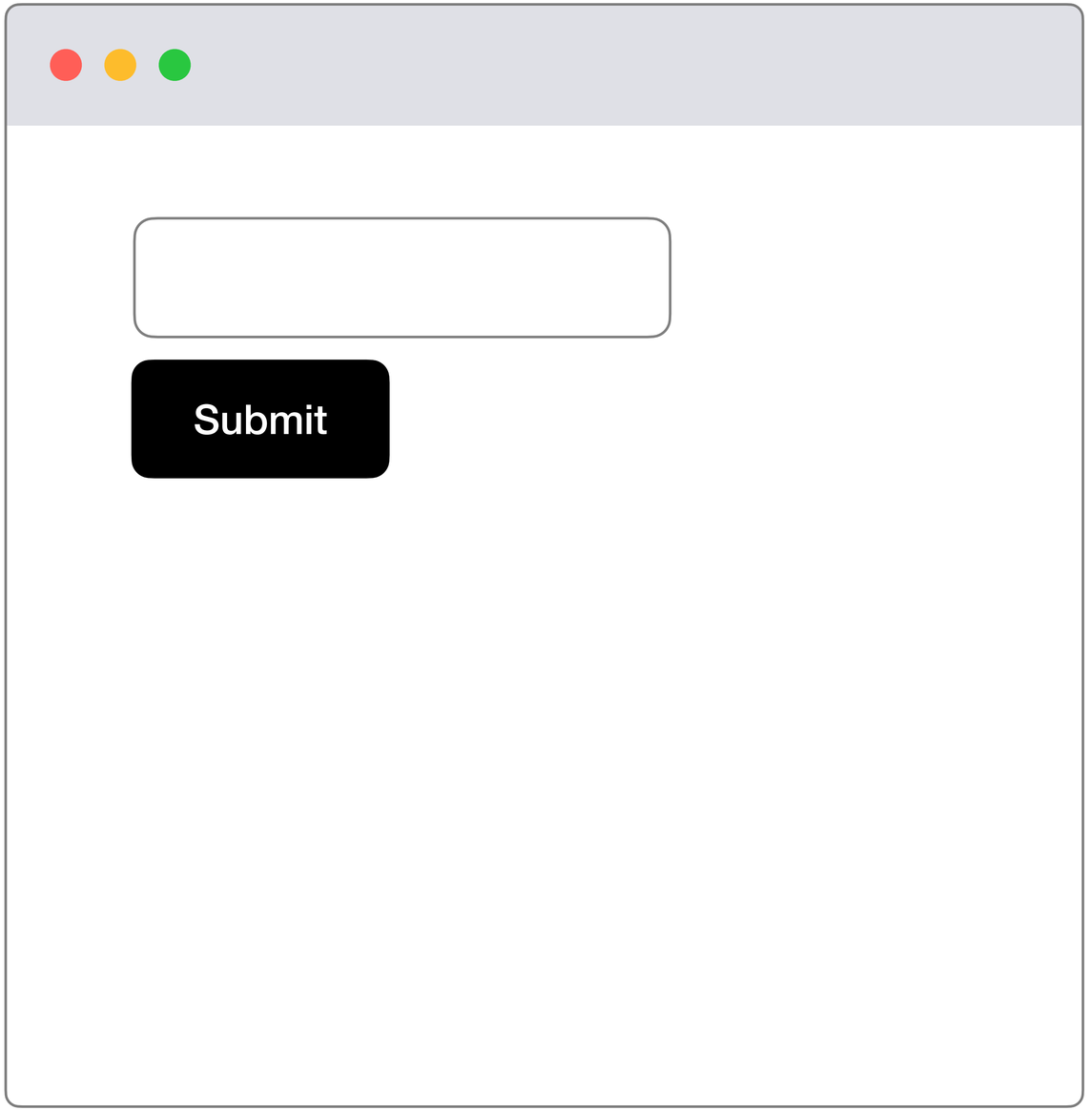
```
<form>
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



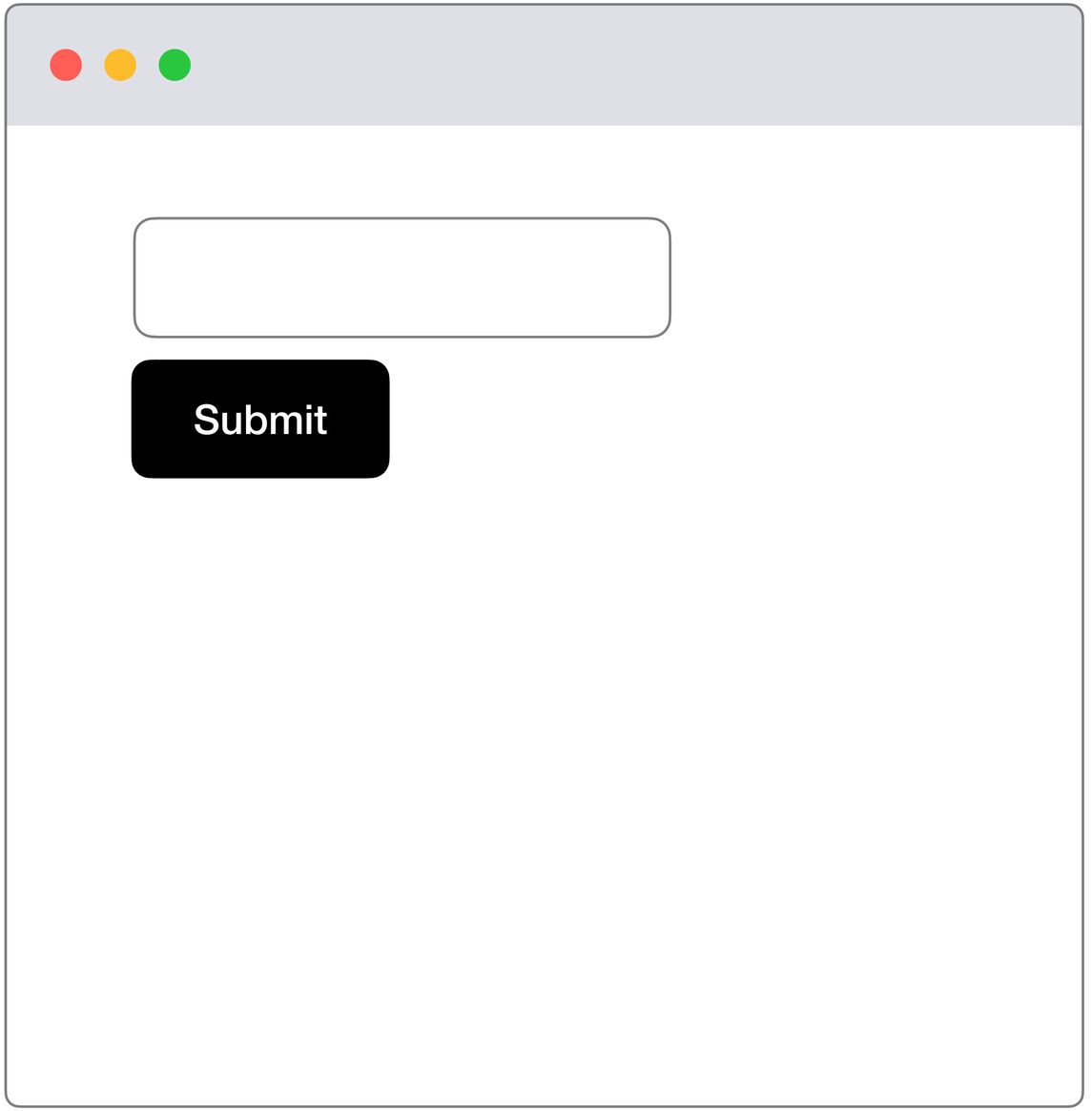
```
<form>
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



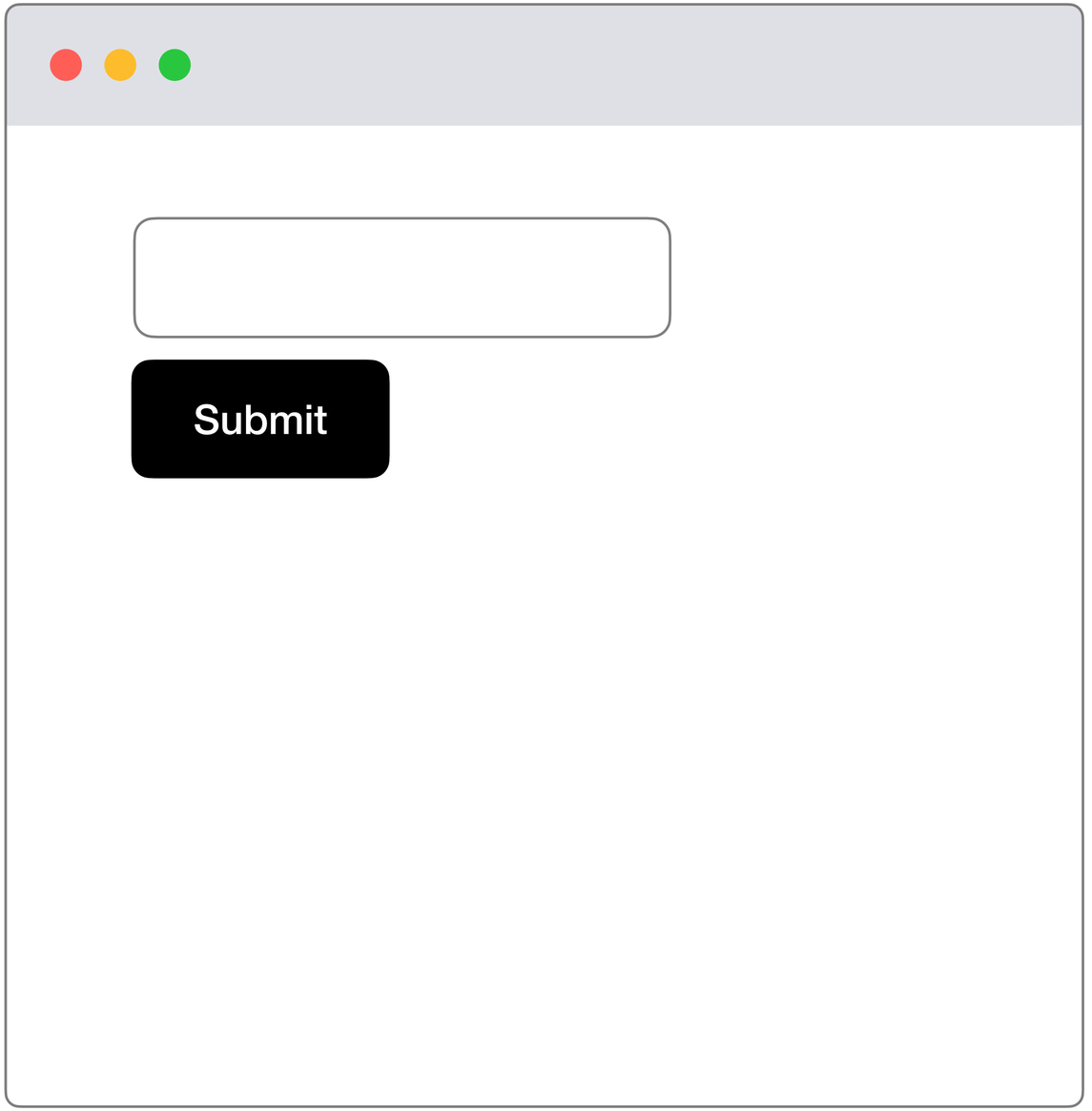
```
<form>
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



```
<form>
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



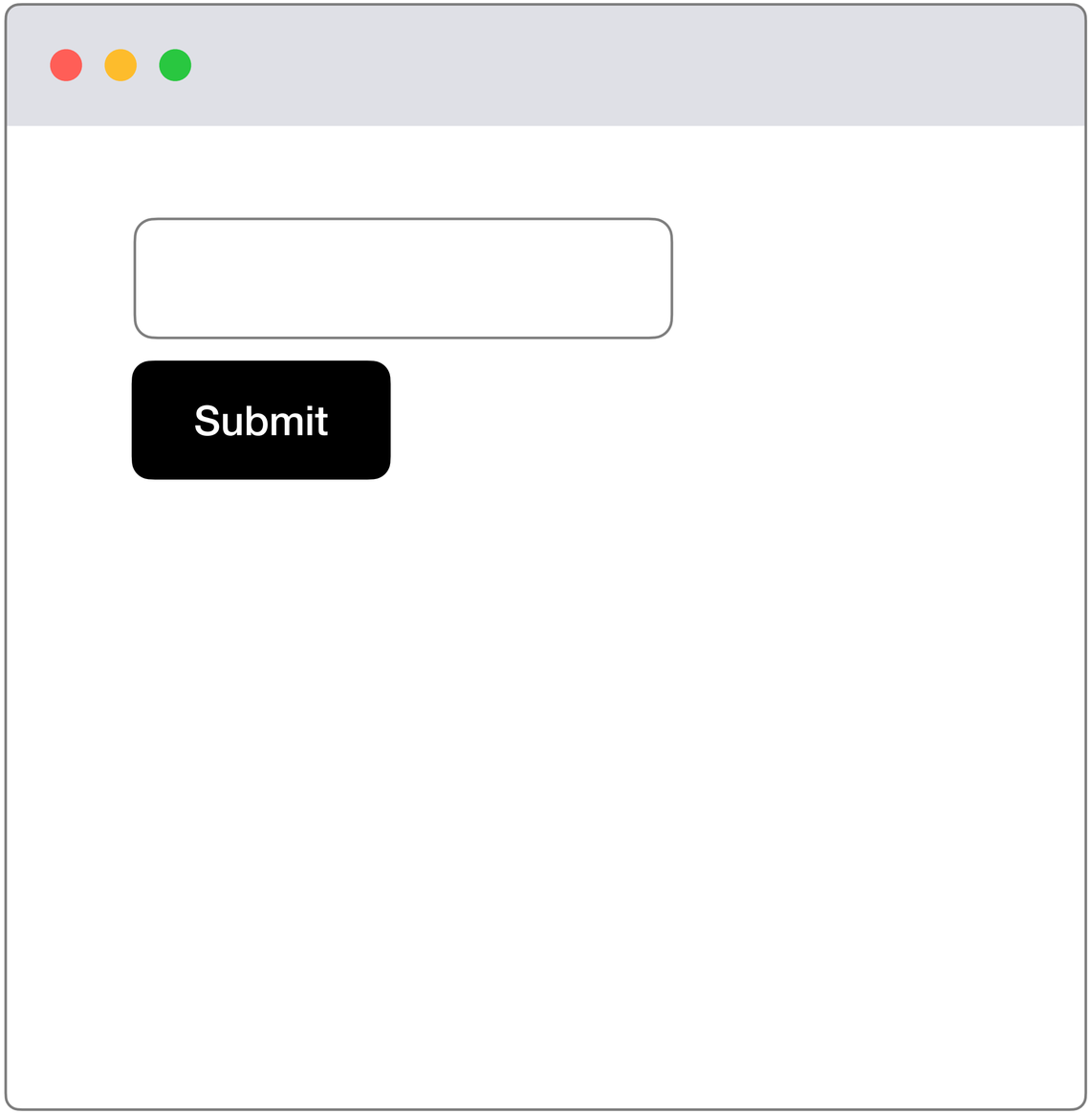
```
<form action="/" method="post">
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



Route to request

↓

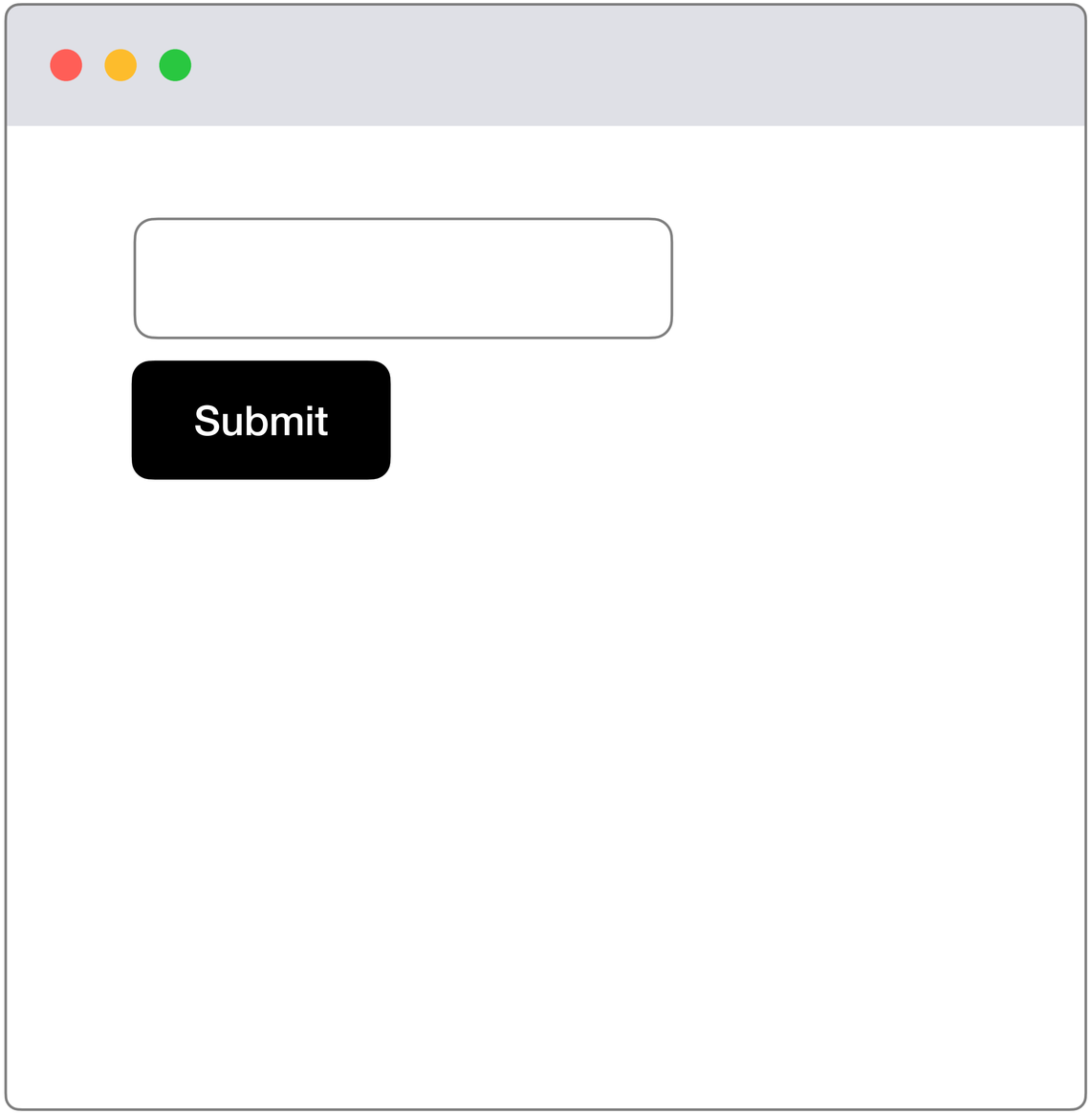
```
<form action="/" method="post">
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



Request method

↓

```
<form action="/" method="post">
    <input type="text">
    <button type="submit">
        Submit
    </button>
</form>
```



Python

```
request.form.get("email")
```

HTML

```
<form action="/" method="post">
    <input name="email">
    <button type="submit">
        Submit
    </button>
</form>
```

HTML Form Elements

- `<input>`
  - `<input type="text">`
  - `<input type="number">`
  - `<input type="checkbox">`

Databases

```
sqlite> CREATE TABLE responses (
   ...>     id INTEGER,
   ...>     name TEXT,
   ...>     PRIMARY KEY(id)
   ...> );
```

responses

id	name

```
sqlite> INSERT INTO responses (name)
   ...> VALUES ('Carter');
```

responses

id	name

```
sqlite> INSERT INTO responses (name)
   ...> VALUES ('Carter');
```

responses

id	name
1	Carter

```
sqlite> INSERT INTO responses (name)
   ...> VALUES ('Cecelia');
```

responses

id	name
1	Carter

```
sqlite> INSERT INTO responses (name)
   ...> VALUES ('Cecelia');
```

responses

id	name
1	Carter
2	Cecelia

```
db.execute("INSERT INTO responses (name)
            VALUES ('Alyssa');")
```

responses

id	name
1	Carter
2	Cecelia

```
db.execute("INSERT INTO responses (name)
            VALUES ('Alyssa');")
```

responses

id	name
1	Carter
2	Cecelia
3	Alyssa

```
db.execute("INSERT INTO responses (name)
            VALUES (?);", placeholder)
```

responses

id	name
1	Carter
2	Cecelia
3	Alyssa

This is CS50

Week 9