

# Intro to Flask

# **Learning Objectives:**

After this lesson, you will be able to:

• Write a basic Flask application.

#### **Discussion: Commonalities**

What do you think these websites have in common?

- Pinterest
- Instagram
- LinkedIn

#### They're each:

- High on user interactivity.
- Handling a large server load.

What else?

### They All Use Flask



#### Some quick notes about Flask:

- It's a Python micro web framework.
- It can create and write the entire back-end in Python!
- It can do small tasks (e.g., create a microblog or stand up a simple API).
- It can do complex tasks (e.g., Pinterest's API or create a Twitter clone).

#### Flask Syntax

How?

We just make a normal Python app.

It looks like:

```
# Import Flask class from flask library. (Note the upper/lowercase conventic
from flask import Flask
# Initialize an instance of the Flask class.
# This starts the website!
app = Flask( name )
# The default URL ends in / ("my-website.com/").
# Could be instead "my-website.com/about" or anything - more on this later.
@app.route('/')
```

# We Do: Let's Try!

We'll run the Flask app like any other app.

- We need to install Flask!
  - pip install flask

Create a file called my\_website.py.

Start with:

```
# Import Flask class from flask library.
from flask import Flask
```

### We Do: The Main Flask App

Let's add:

```
# Initialize an instance of the Flask class.
# This starts the website!
app = Flask( name )
# The default URL ends in / ("my-website.com/").
@app.route('/')
# Function that returns the page: Display "Hello, World!"
def index():
 return 'Hello, World!'
```

## We Do: Flask App — Try it!

Run the app like normal:

```
python my_website.py
```

Go to:

```
http://localhost:5000/
```

You made a web app!

Let's change the string:

```
def index():
    # The "return" determines what's displayed.
    return 'Hello, World!'
```

## I Do: Displaying the App

It's just Python — we can write any code.

• But return essentially just takes strings.

```
def index():
 my list = ["Hey", "check", "this", "out"]
 return my_list[0] # Works!
```

#### Conversely:

```
def index():
 my list = ["Hey", "check", "this", "out"]
 return my_list # WON'T WORK
```

#### We Do: Flask Variations

app and index are just naming conventions.

- def index(): could be def monkey():.
- app could be guitar.
  - Be sure to change it in all places!

But, naming variables sensibly is important!

```
from flask import Flask

guitar = Flask(__name__)
@guitar.route('/')

def monkey():
    return 'Hello, World!'

if __name__ == '__main__':
    guitar.run(debug=True)
```

### Flask History

Let's back up. Where did Flask come from?

- Before 2010:
  - No easy method for Python websites.
- 2010:
  - A few developers built Flask to fix this.

Flask is built on two libraries:

- Werkzeug:
  - Interfaces with the web.
  - Helps handle request and connections.
- Jinja:
  - We'll be using this later!
  - We can write templates for all pages across our web app.

#### **Summary: Flask**

- A Python micro web framework
- Developed in 2010

#### Looks like this:

```
# Import Flask class from flask library.
from flask import Flask
# Initialize an instance of the Flask class.
app = Flask(__name__)
# The default URL ends in / ("my-website.com/").
@app.route('/')
# Function that returns the page: Display "Hello, World!"
def index():
```

# **Additional Reading**

- Flask Documentation
- A Flask Tutorial to Follow Along With
- The Flask Mega-Tutorial
- A Great Guide to Those Weird "Decorators"