

Flask Tutorial

-ISS TA's

Agenda

What is Flask?

Flask installation

Routing in flask

Variables in flask

Building URL in flask

Rendering static files

Requests in flask

Small demo

Introduction

Flask is basically a Python module. It can work with Python only and it is a web-developing framework. It is a collection of libraries and modules. Frameworks are used for developing web platforms. Flask is such a type of web application framework. It is completely written in Python language.

What does it do?

Features of Python Flask:

- Flask is easy to use and easily understandable for new users in Web Framework.
- It can also be used as any third-party plugin extension.
- It is also used for prototyping purposes.

Installation

Note: Make sure you have python pip installed

```
pip install flask
```

Basic flask application

```
from flask import Flask
app = Flask(__name__) # Flask constructor

# A decorator used to tell the application
# which URL is associated function
@app.route('/')
def hello():
    return 'HELLO'

if __name__ == '__main__':
    app.run()
```

Routing in Flask

```
# decorator to route URL
@app.route('/hello')

# binding to the function of route
def hello_world():
    return 'hello world'
```

If a user visits `http://localhost:5000/hello` URL, the output of the `hello_world()` function will be rendered in the browser.

The `add_url_rule()` function of an application object can also be used to bind URL with the function as in above example.

```
def hello_world():
    return 'hello world'
app.add_url_rule('/', 'hello', hello_world)
```

Variables in Flask

```
from flask import Flask
app = Flask(__name__)

# routing the decorator function hello_name
@app.route('/hello/<name>')
def hello_name(name):
    return 'Hello %s!' % name

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

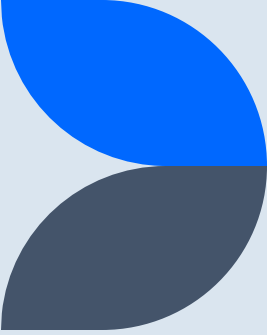

Building URL in Flask

```
@app.route('/admin') #decorator for route(argument) function
def hello_admin():    #binding to hello_admin call
    return 'Hello Admin'

@app.route('/guest/<guest>')
def hello_guest(guest): #binding to hello_guest call
    return 'Hello %s as Guest' % guest

@app.route('/user/<name>')
def hello_user(name):
    if name == 'admin': #dynamic binding of URL to function
        return redirect(url_for('hello_admin'))
    else:
        return redirect(url_for('hello_guest', guest = name))
```

Rendering static files in Flask



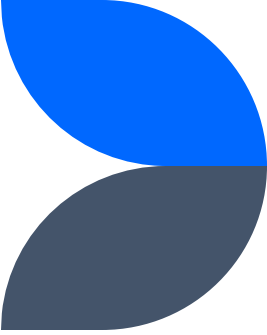
```
from flask import Flask, render_template
app = Flask(__name__)

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

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

The html file will be inside templates folder which will be sibling of the python file we wrote above

Requests in Flask



Method	Description
GET	This is used to send the data in an without encryption of the form to the server.
POST	Sends the form data to server. Data received by POST method is not cached by server.

Requests in Flask

In the html code use the method attribute

```
<form action = "/some_route" method = "POST">
```

In the route decorator

```
@app.route('/some_route', methods = ['POST', 'GET'])
```