# VEnv

## install

pip install virtualenv

## Create a virtual environment

virtualenv env

## activate

# Install Flask

Pip intall flask

Check version flask –version

# First pgm

Create python file “market.py”

Check website

<https://flask.palletsprojects.com/en/2.1.x/quickstart/#a-minimal-application>

clear terminal with “clear” and add following commands

1. set FLASK\_APP=market.py
2. $env:FLASK\_APP = "market.py"
3. flask run

Text

Description automatically generated

127.0.0.1.5000 is home address

Should see the web page with hello world

Hit Ctrl+C to quit

Type flask run to run program again.

## Turn on debug mode to make easy

$env:FLASK\_ENV = "development"

Now no need to run and restart web server. Change python and refresh page.

# Adding another page

Add following code

@app.route("/about")  
def about\_page():  
 return "<h1>About page</h1>"

In browse add “/about”

Graphical user interface, text, application

Description automatically generated

# Cuastom about jpages

Change code as following

@app.route("/about/<username>")  
def about\_page(username):  
 return f"<h1>This is the about page of {username}</h1>"

Add about/Ranju to get the about page of user

Graphical user interface, text, application, Word

Description automatically generated

# Styling and templates

Create new directory called templates (name is important)

Graphical user interface, text, application

Description automatically generated

Create an html file in the template folder and call it home

Add h1 tag in body as following

<h1>Home Page</h1>

In market.py Import render template as following

from flask import Flask, render\_template

change market.py as following

from flask import Flask, render\_template  
  
app = Flask(\_\_name\_\_)  
  
@app.route("/")  
def home\_page():  
 return render\_template("home.html")

It will run the home page.

# Styling with bootstrap

Copy code from the following page

<https://getbootstrap.com/docs/4.5/getting-started/introduction/>

copy code to html file

Web page should be updated

Add @app.route(“/home”) so that when adderess has /home it takes to home jpage

@app.route("/")  
@app.route("/home")  
def home\_page():  
 return render\_template("home.html")

Copy following code at start in body tag

<nav class = "navbar navbar-expand-md navbar-dark bg-dark">  
 <a class = "navbar-brand" href="#">Flask Market</a>  
 <button class = "navbar-toggler" type="button" data-toggle="collapse" data-target = "#navbarNav"></button>  
 <div class = "collapse navbar-collapse" id = "navbarNav">  
  
 </div>  
</nav>

Add following code inside the div tag of nav bar

<ul class="navbar-nav mr-auto">  
 <li class="nav-item active">  
 <a class="nav-link" href="#">Home <span class="sr-only">(current)</span></a>  
 </li>  
 <li class="nav-item">  
 <a class="nav-link" href="#">Market</a>  
 </li>

</ul>

<ul class="navbar-nav">  
 <li class="nav-item">  
 <a class="nav-link" href="#">Login</a>  
 </li>  
 <li class="nav-item">  
 <a class="nav-link" href="#">Register</a>  
 </li>  
</ul>

We should get a nav bar on top

Graphical user interface, text, application

Description automatically generated

Below body tag add the following for grey bg

</body>  
 <style>  
 body {  
 background-color: #212121;  
 color: white;  
 }  
 </style>  
</html>

# Sending date to template

Create new template as following in py file

@app.route("/market")  
def market\_page():  
 return render\_template("market.html")

Create new html file called market in template folder

Graphical user interface, text, application, chat or text message

Description automatically generated

For ease copy code from home.html

Change title and h1 appropriately

In address bar <http://127.0.0.1:5000/market> add this to get new page.

You should get new jpage

Add phone to new route as following

@app.route("/market")  
def market\_page():  
 return render\_template("market.html", item\_name="Phone")

To access the new item in webpage add jinja code

In market.html add the following under list and h1

Text

Description automatically generated

Refresh market page to see the item.

A screenshot of a computer

Description automatically generated

Add following dictionary to the market route. Change return item\_name to items as following

@app.route("/market")  
def market\_page():  
 items = [  
 {'id': 1, 'name': 'Phone', 'barcode': '893212299897', 'price': 500},  
 {'id': 2, 'name': 'Laptop', 'barcode': '123985473165', 'price': 900},  
 {'id': 3, 'name': 'Keyboard', 'barcode': '231985128446', 'price': 150}  
 ]  
 return render\_template("market.html", items=items)

Change item name in market.html as following

Text

Description automatically generated

In market.html it looks like this

Text

Description automatically generated

We will add them in to a bootstrap table

Add the following code to market.html replacing <p> {{ items }} </p>

<table class="table table-hover table-dark">  
 <thead>  
 <tr>  
 <!-- Your Columns HERE -->  
 <th scope="col">ID</th>  
 </tr>  
 </thead>  
 <tbody>  
 <!-- Your rows inside the table HERE: -->  
 <tr>  
 <td>Value for Id</td>  
 </tr>  
 </tbody>  
</table>

In table head add the following

<th scope="col">ID</th>  
<th scope="col">Name</th>  
<th scope="col">Barcode</th>  
<th scope="col">Price</th>

In table body add the following

<td>Value for Id</td>  
<td>Value for Name</td>  
<td>Value for Barecode</td>  
<td>Value for Price</td>

When you refresh you should get as following

A screenshot of a computer

Description automatically generated

To display row in loop change ins side <tbody> as following and actual values

<tbody>  
 <!-- Your rows inside the table HERE: -->  
 {% for item in items %}  
 <tr>  
 <td>{{ item.id }}</td>  
 <td>{{ item.name }}</td>  
 <td>{{ item.barcode }}</td>  
 <td>${{ item.price }}</td>  
 </tr>  
 {% endfor %}  
</tbody>

Pjage will look like this

A screenshot of a computer

Description automatically generated

To add buttons as one more option

Add one more column in <thead>

<thead>  
 <tr>  
 <!-- Your Columns HERE -->  
 <th scope="col">ID</th>  
 <th scope="col">Name</th>  
 <th scope="col">Barcode</th>  
 <th scope="col">Price</th>  
 <th scope="col">Options</th>  
 </tr>  
</thead>

Add a column in <tbody> as following

<tbody>  
 <!-- Your rows inside the table HERE: -->  
 {% for item in items %}  
 <tr>  
 <td>{{ item.id }}</td>  
 <td>{{ item.name }}</td>  
 <td>{{ item.barcode }}</td>  
 <td>${{ item.price }}</td>  
 <td>  
 <button class="btn btn-outline btn-info">More Info</button>  
 <button class="btn btn-outline btn-success">Purchase This Item</button>  
 </td>  
 </tr>  
 {% endfor %}  
</tbody>

Web page should look like this

A screenshot of a computer

Description automatically generated

# Template inheritance

To create a base template to inherit from

Create a base.html file in template folder

A screenshot of a computer

Description automatically generated with medium confidence

Delete whats in it and add the following code to the base.html

<!doctype html>  
<html lang="en">  
 <head>  
 <!-- Required meta tags -->  
 <meta charset="utf-8">  
 <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">  
 <!-- Bootstrap CSS -->  
 <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/css/bootstrap.min.css" integrity="sha384-TX8t27EcRE3e/ihU7zmQxVncDAy5uIKz4rEkgIXeMed4M0jlfIDPvg6uqKI2xXr2" crossorigin="anonymous">  
 <title>Base Title</title>  
 </head>  
 <body>  
 <!-- Navbar here -->  
 <!-- Future Content here -->  
  
  
  
 <!-- Optional JavaScript -->  
 <!-- jQuery first, then Popper.js, then Bootstrap JS -->  
 <script src='https://kit.fontawesome.com/a076d05399.js'></script>  
 <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj" crossorigin="anonymous"></script>  
 <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js" integrity="sha384-9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN" crossorigin="anonymous"></script>  
 <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js" integrity="sha384-B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV" crossorigin="anonymous"></script>  
 </body>  
 <style>  
 body {  
 background-color: #212121;  
 color: white  
 }  
 </style>  
</html>

Open home.html and delete everything

Add the following

{% extends "base.html" %}

Copy navigation bar from market.html to base in the same place.

Now home page will have navigation bar and grey bg colour

# To get page title.

Change title tag in base.html as following

<title>  
 {% block title %}  
  
 {% endblock %}  
</title>

In home.html add code as following

{% block title %}  
 Home Page  
{% endblock %}

This should give the title home page to home.html

Graphical user interface, text, application

Description automatically generated

## Changing contents

In base.html add the following under nav

{% block content %}  
  
{% endblock %}

In home.html add the following

{% block content %}  
 Home page contents to appear soon...  
{% endblock %}

Now home jpage will have that text.

In market.html add the following to the start of the file before all html tags

{% extends "base.html" %}  
{% block title %}  
 Home Page  
{% endblock %}  
  
{% block content %}  
  
{% endblock %}

Copy the table tag and all its contents into the **block content**

Delete all of the html

Final market.html file will look like this

{% extends "base.html" %}  
  
{% block title %}  
 Market Page  
{% endblock %}  
  
{% block content %}  
<table class="table table-hover table-dark">  
 <thead>  
 <tr>  
 <!-- Your Columns HERE -->  
 <th scope="col">ID</th>  
 <th scope="col">Name</th>  
 <th scope="col">Barcode</th>  
 <th scope="col">Price</th>  
 <th scope="col">Options</th>  
 </tr>  
 </thead>  
 <tbody>  
 <!-- Your rows inside the table HERE: -->  
 {% for item in items %}  
 <tr>  
 <td>{{ item.id }}</td>  
 <td>{{ item.name }}</td>  
 <td>{{ item.barcode }}</td>  
 <td>${{ item.price }}</td>  
 <td>  
 <button class="btn btn-outline btn-info">More Info</button>  
 <button class="btn btn-outline btn-success">Purchase This Item</button>  
 </td>  
 </tr>  
 {% endfor %}  
 </tbody>  
</table>  
{% endblock %}

No change to the pages as we are inheriting and showing the same layout and display

# Connecting Market and Home buttons

In base.html add /home inside href in the a tag of base.html will work

But its not efficient.

To work by calling the route in market.py add the following to base.html

<li class="nav-item active">  
 <a class="nav-link" href="{{ url\_for("home\_page") }} ">Home <span class="sr-only">(current)</span></a>  
</li>

Make same changes for market page

<li class="nav-item">  
 <a class="nav-link" href="{{ url\_for("market\_page")}}">Market</a>  
</li>

# Model and Database

Use database instead of passing values.

Store in a file.

Using SQLite to store data.

## Install flask tool

1. Hit Ctrl+C to stop website
2. Type - pip install flask-sqlalchemy

In market.py

from flask\_sqlalchemy import SQLAlchemy

add following line

Text

Description automatically generated

Add db columns as following just above the @app.route(“/”)

class Item(db.Model):  
 id = db.Column(db.Integer(), primary\_key=True)  
 name = db.Column(db.String(length=30), nullable=False, unique=True)  
 price = db.Column(db.Integer(), nullable=False)  
 barcode = db.Column(db.String(length=12), nullable=False, unique=True)  
 description = db.Column(db.String(length=1024),j nullable=False, unique=True)

Add following code just above db = SQLAlchemy(app)

app.config["SQLALCHEMY\_DATABASE\_URI"]= "sqlite:///market.db"

Now we can run the jprogram to create the db file

Type python in terminal to get the python command

Text

Description automatically generated

Type “from market import db”

Text

Description automatically generated

Now run “db.create\_all()” command

Text

Description automatically generated with medium confidence

Th;is will create a db file in project directory

Graphical user interface, text, application, chat or text message

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## Adding items to database

To add iteams add the following

Graphical user interface, text

Description automatically generated

To check if item is added add following command

A picture containing text

Description automatically generated

Add one more item as following and check if added as show below

Graphical user interface, text, application

Description automatically generated

To do from 1:42:39

https://www.youtube.com/watch?v=Qr4QMBUPxWo