

E-commerce Application on IBM Cloud Foundry

Project: Artisanal E-Commerce Platform

Introduction

This document will contain the details about the development aspects of our project, addressing the implementation of basic structures to start with our project. The objective is to set up a flask project in a virtual environment and initial html elements with few app options like login page, home page, market page.

Development Overview:

Activating the virtual environment:

Env or virtualenv is used to manage Python packages for different projects. Using virtualenv allowed us to avoid installing Python packages globally which could break system tools or other projects while working as a team. virtualenv using pip.

```
pip install virtualenv
```

To create a virtual environment the following command was used:

```
$ python3 -m venv env
```

For activating the virtual environment in terminal:

```
source env/bin/activate
```

Directory Overview:

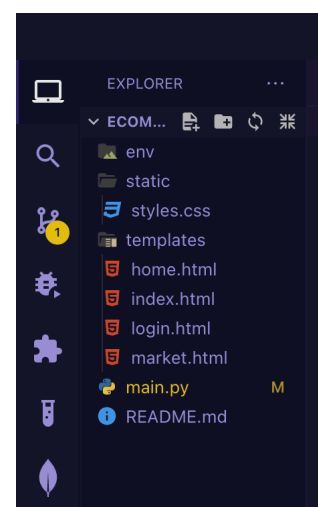
The Main directory contains the virtual environment, static folder, templates folder, python file and readme.

The virtual environment helps us to avoid installing the python libraries globally.

The static folder contains styles.css which is styles the web application.

The templates folder contains html files used as a separate apps in the project.

The main.py is python file that integrates the web application with python programming.



Front end development:

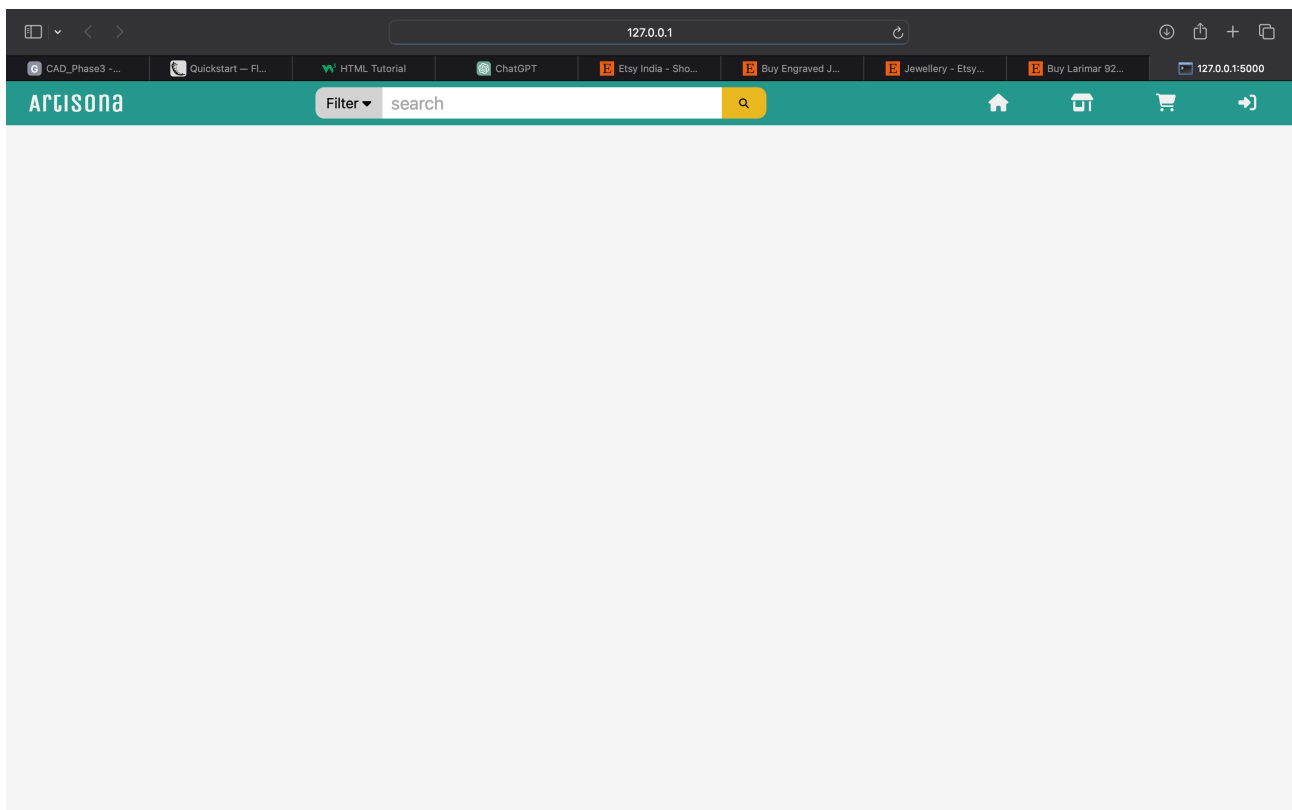
Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<link rel="stylesheet" href="static/styles.css">
<title>{% block title %} {% endblock %} </title>
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link href="https://fonts.googleapis.com/css2?family=Montserrat&family=Unica+One&display=swap" rel="stylesheet">
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.2/css/all.min.css" integrity="sha512-z3gLPd7yknf1YoNbCzqRKc4qyor8gaKU1qmn+CSHxbuBusANI9QpRohGBreCFkKxLhei6S9CQXFEbbKuqLg0DA==" crossorigin="anonymous" referrerpolicy="no-referrer" />
</head>
<body>
<div class="menu_bar">
<h1 class="logo">Artisona</h1>
<div class="searchbar">
<button class="filter">Filter <i class="fa-solid fa-caret-down"></i></button>
<form action="search">
<input type="text" placeholder="search">
</form>
<button class="search"><i class="fa-solid fa-magnifying-glass"></i></button>
</div>
<ul>
<li><a href="{{ url_for('home_page')}}"><i class="fa-solid fa-house"></i></a></li>
<li><a href="{{ url_for('market')}}"><i class="fa-solid fa-shop"></i></a></li>
<li><a href=""><i class="fa-solid fa-cart-shopping"></i></a></li>
<li><a href="{{ url_for('login')}}"><i class="fa-solid fa-right-to-bracket"></i></a></li>
</ul>
</div>

{% block content %}
{% endblock %}
</body>
</html>
```

This is an HTML template that serves as the base template for our web application. It provides the overall structure and common elements for all pages on your website. The `{% block content %}` and `{% endblock %}` are Jinja2 template tags define a block named 'content' that can be overridden by

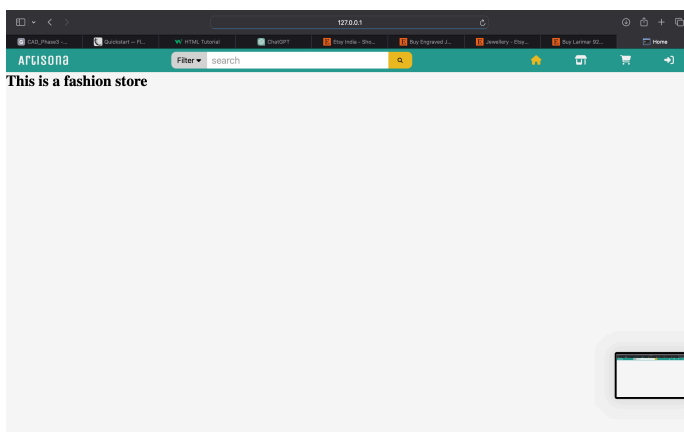
child templates. The actual content of individual pages will replace this block in child templates. This allows for dynamic content to be inserted for each page.



Home.html

```
{% extends 'index.html' %}
{% block title %} Home {% endblock %}

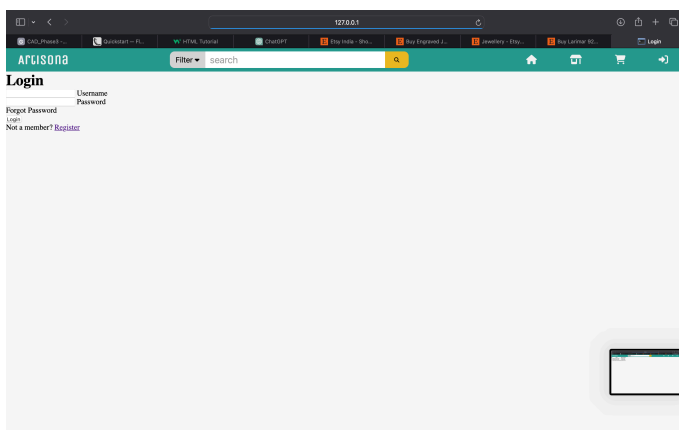
{% block content %}
<h1>This is a fashion store</h1>
{% endblock %}
```



This is a Jinja2 template that extends the 'index.html' base template. It overrides two blocks: 'title' and 'content'.

Login.html

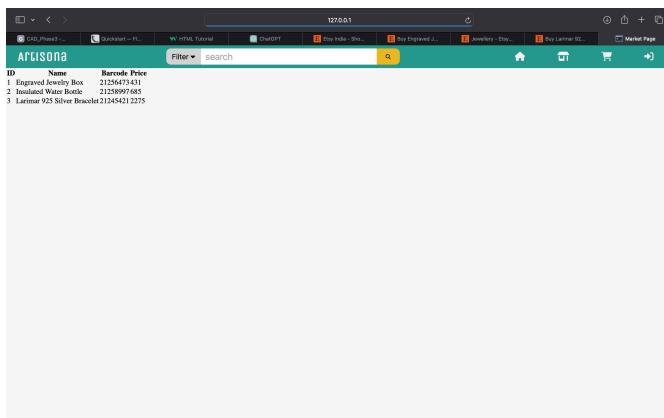
```
{% extends 'index.html' %}
{% block title %} Login {% endblock %}
{% block content %}
<div class="container" >
<div class="center">
<h1>Login</h1>
<form method="post">
<div class="txt_field">
<input type="text" required>
<label>Username</label>
</div>
<div class="txt_field">
<input type="password" required>
<label>Password</label>
</div>
<div class="pass">Forgot Password</div>
<input type="submit" value="Login">
<div class="signup_link">
Not a member? <a href="">Register</a>
</div>
</form>
</div>
</div>
{% endblock %}
```



'Login' page will replace the corresponding blocks in the 'index.html' template, resulting in a complete HTML page for the 'Login' section of your website. Users can enter their login credentials and submit the form for authentication.

Market.html

```
{% extends 'index.html' %}
{% block title %} Market Page {% endblock %}
{% block content %}
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Barcode</th>
<th>Price</th>
</tr>
</thead>
<tbody>{% for item in item_name %}
<tr>
<td>{{ item.id }}</td>
<td>{{ item.name }}</td>
<td>{{ item.barcode }}</td>
<td>{{ item.price }}</td>
</tr> {% endfor %}
</tbody>
</table>
{% endblock %}
```



The screenshot shows a web browser window with a dark theme. The address bar shows '127.0.0.1'. The page has a teal header with the text 'AfriSona' and a search bar. Below the header, there is a table with the following data:

ID	Name	Barcode	Price
1	Engraved Jewelry Box	21256479431	
2	Insulated Water Bottle	212589097685	
3	Larimar 925 Silver Broochet	212454212275	

It is a Jinja2 template that extends the 'index.html' base template and defines content for a "Market Page." This template is used to showcase items, such as products or goods, with details.

Styles

```
*{
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}
body{
  background-color: whitesmoke;
}
.menu_bar{
  background-color: #219C90;
  height: 50px;
  width: 100%;
  display: flex;
  align-items: center;
  justify-content: space-between;
  padding: 10px 5px;
}
.logo{
  color: #F0F0F0;
  font-size: 28px;
  font-family: 'Unica One', sans-serif;
  font-weight: bold;
  margin-left: 20px;
}
.logo span{
  color: #4F709C;
}
.menu_bar ul {
  list-style: none;
  display: flex;
}
.menu_bar ul li{
  padding: 10px 30px;
}
.menu_bar ul li a{
  color: #F0F0F0;
  text-decoration: none;
  font-size: 20px;
  font-family: 'Montserrat', sans-serif;
  font-weight: 400;
}
.menu_bar ul li a: hover{
  color: #E9B824;
}
.menu_bar ul li a i{
```

```

padding: 5px;
}.menu_bar .searchbar input{
height: 35px;
width: 380px;
margin: 0;
border-style: none;
padding: 5px 10px;
font-size: 20px;
color: rgb(0, 0, 0);
}
.menu_bar .searchbar{
display: flex;
justify-content: space-between;
align-items: center;
padding: 5px;
}
.menu_bar .searchbar .filter{
border-radius: 10px 0 0 10px;
padding-right: 10px;
background-color: lightgray;
width: 75px;
font-size: 16px;
}
.menu_bar .searchbar .filter:hover{
background-color: rgb(183, 181, 181);
}
.menu_bar .searchbar .search{
background-color: #E9B824;
border-radius: 0 10px 10px 0;
}
.menu_bar .searchbar .search:hover{
background-color: #EE9322;
}
.menu_bar .searchbar button{
height: 35px;
width: 50px;
border-style: none;
color: black;
}

```

Back end development:

Setting up a flask

Flask is used for developing web applications using python. It was installed in the activated virtual environment. By using the pip command

```
pip install Flask
```

A basic structure for a Flask web application with routing, rendering templates, and passing data from the server to the web pages. It can serve as a starting point for developing our project.

```
from flask import Flask, render_template

app = Flask(__name__)
@app.route("/")
def base():
    return render_template("index.html")

@app.route("/home")
def home_page():
    return render_template('home.html')

@app.route("/market")
def market():
    return render_template('market.html', item_name=
        {'id': 1, 'name': 'Engraved Jewelry Box', 'barcode': '21256473', 'price': 431},
        {'id': 2, 'name': 'Insulated Water Bottle', 'barcode': '21258997', 'price': 685},
        {'id': 3, 'name': 'Larimar 925 Silver Bracelet', 'barcode': '21245421', 'price': 2,275}
    )
@app.route("/login")
def login():
    return render_template("login.html")
if __name__ == "__main__":
    app.run(debug = True)
```

Future work:

Since, only the basic structure of the application has been laid out we would start by integrating a login authentication system, intractable home page, populated market place using database.