**PHASE 4 – DEVELOPMENT PART 2**

**Problem Statement:**

Continue building the travel blog by setting up the IBM Cloud Static Web App and deploying the website.

Sign up for an IBM Cloud account.

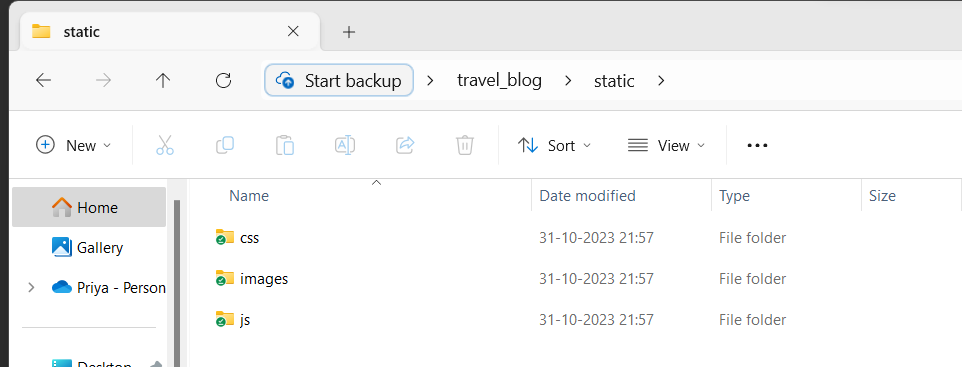
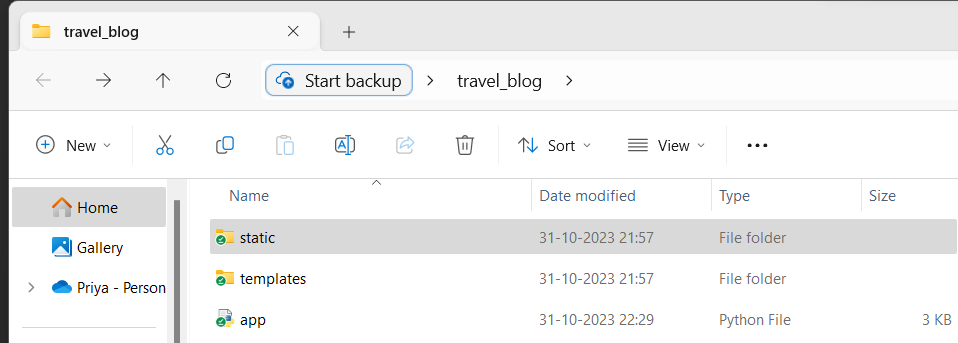
Create a new Static Web App and follow the prompts to set up the repository, build pipeline, and deployment options.

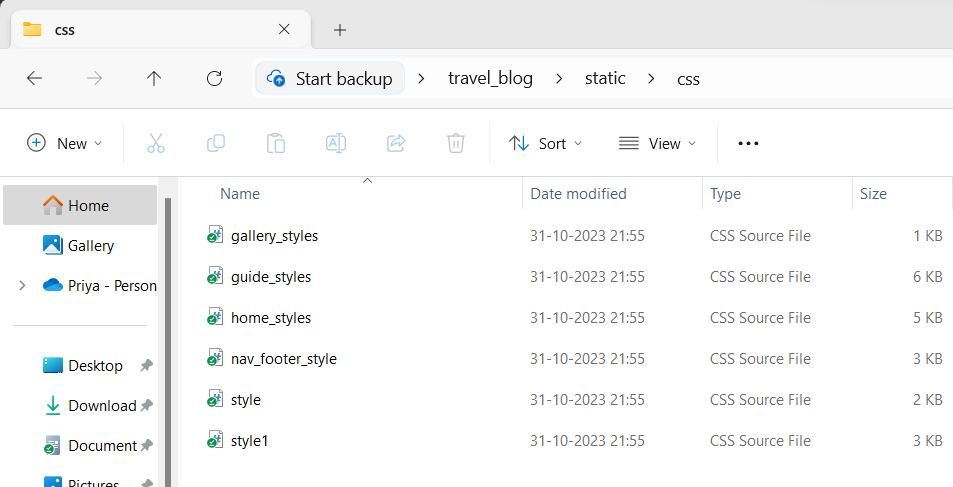
Choose a static site generator like Jekyll or Hugo to make it easy to update and manage the blog content. This would involve converting your HTML content into template files that can be easily updated.

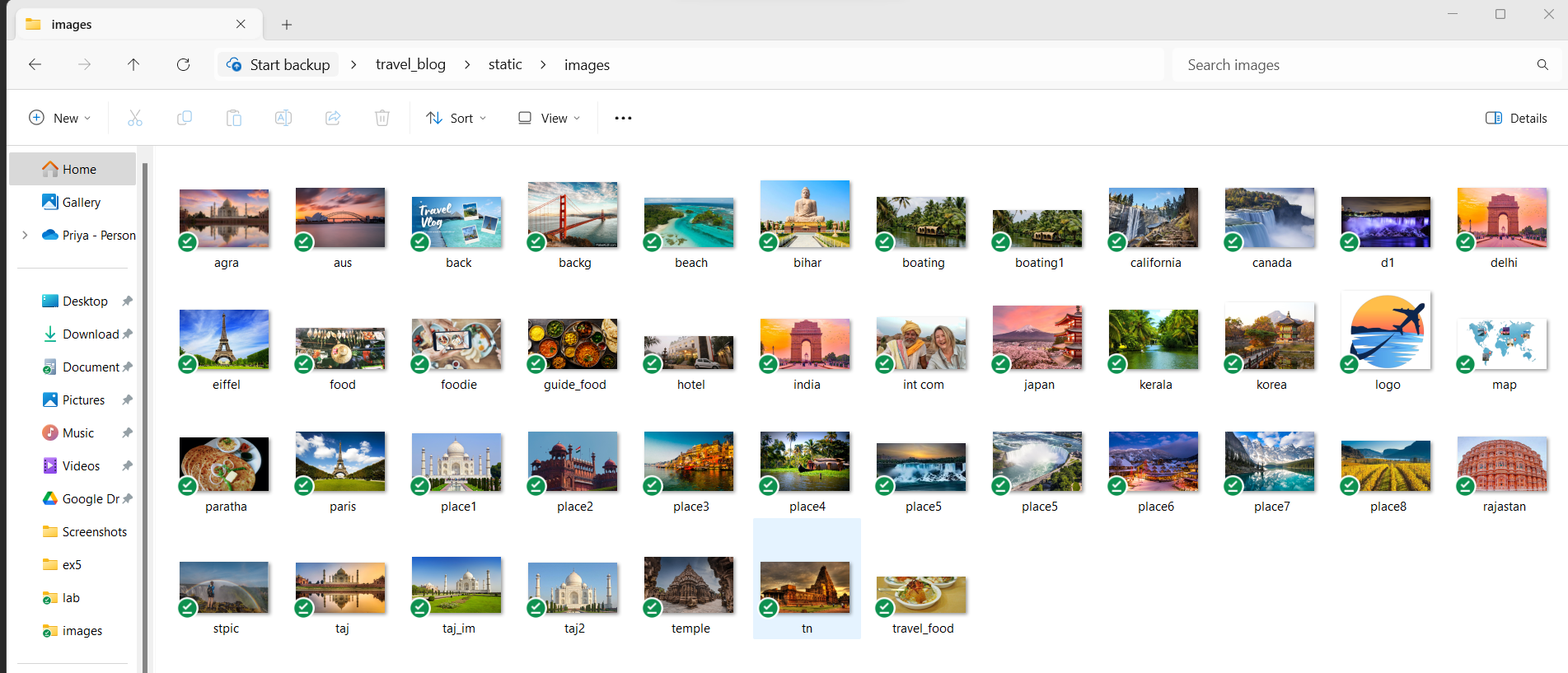
**IMPLEMENTATION:**

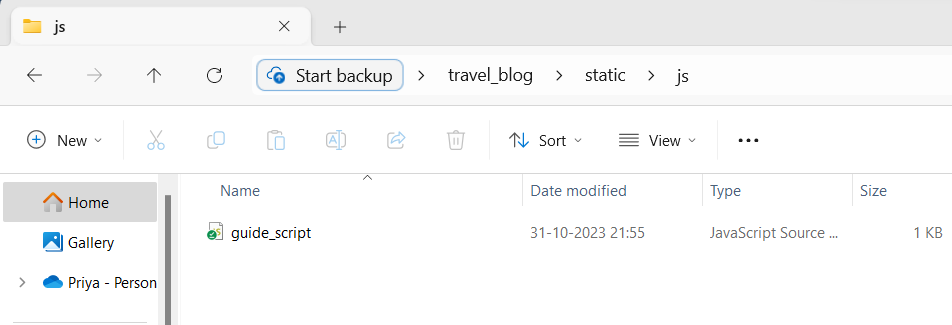
**Organisation of files:**

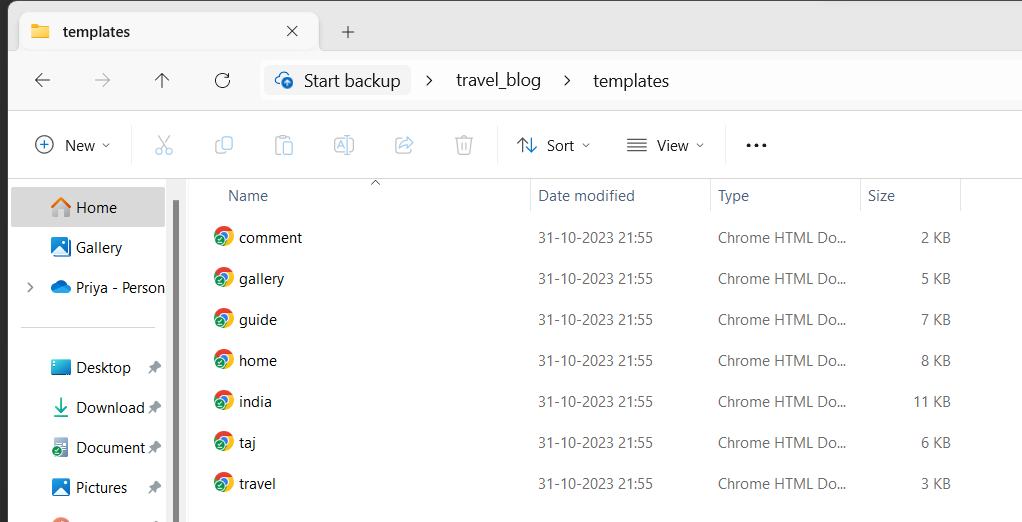
The files are stored in below format while deploying web pages with styles.











**Creation of Flask App:**

A flask app using python is create to connect with the IBM db2 cloud database and to fetch data from it. Flask is also used to provide routing within the web pages.

The flask file retrieves the data from the ibm d2 and then send it to the html file for displaying it in the webpage.

The code for the flask app is ,

**app.py**

import flask

from flask import \*

import os

os.add\_dll\_directory("C:\Program Files\IBM\SQLLIB\BIN")

import ibm\_db

from flask\_db2 import DB2

dsn\_hostname = "2d46b6b4-cbf6-40eb-bbce-6251e6ba0300.bs2io90l08kqb1od8lcg.databases.appdomain.cloud"

dsn\_uid = "jpm30609"

dsn\_pwd = "G6aftPPNLi5N5XCl"

dsn\_driver = "{IBM DB2 ODBC DRIVER}"

dsn\_database = "bludb"

dsn\_port = "32328"

dsn\_protocol = "TCPIP"

dsn\_security = "SSL"

dsn = (

"DRIVER={0};"

"DATABASE={1};"

"HOSTNAME={2};"

"PORT={3};"

"PROTOCOL={4};"

"UID={5};"

"PWD={6};"

"SECURITY={7};").format(dsn\_driver, dsn\_database, dsn\_hostname, dsn\_port, dsn\_protocol, dsn\_uid, dsn\_pwd,dsn\_security)

#print the connection string to check correct values are specified

try:

conn = ibm\_db.connect(dsn, "", "")

print ("Connected to database: ", dsn\_database, "as user: ", dsn\_uid, "on host: ", dsn\_hostname)

except:

print ("Unable to connect: ", ibm\_db.conn\_errormsg() )

app = Flask(\_\_name\_\_)

@app.route("/")

def display():

return render\_template("home.html")

@app.route("/travel")

def travel():

return render\_template("travel.html")

@app.route("/taj")

def taj():

query = "SELECT \* FROM dest"

stmt = ibm\_db.exec\_immediate(conn, query)

data= []

res = ibm\_db.fetch\_assoc(stmt)

while res:

data.append(res)

res = ibm\_db.fetch\_assoc(stmt)

return render\_template("taj.html",data=data)

@app.route("/guide")

def guide():

return render\_template("guide.html")

@app.route("/gallery")

def gallery():

return render\_template("gallery.html")

@app.route("/india")

def india():

query = "SELECT \* FROM keyfacts"

stmt = ibm\_db.exec\_immediate(conn, query)

key\_facts\_data = []

result = ibm\_db.fetch\_assoc(stmt)

while result:

key\_facts\_data.append(result)

result = ibm\_db.fetch\_assoc(stmt)

return render\_template("india.html", key\_facts\_data=key\_facts\_data)

#return render\_template("index.html")

@app.route('/submit-comment', methods=['POST'])

def submit\_comment():

comment = request.form.get('comment')

if conn:

# Insert the comment into the database

stmt = ibm\_db.prepare(conn, "INSERT INTO comments (comment) VALUES (?)")

if ibm\_db.execute(stmt, (comment,)):

return redirect(request.referrer)

else:

return "Database error"

else:

return "Database connection error"

if \_\_name\_\_=="\_\_main\_\_":

app.run(debug=True)

**The above code is as follows,**

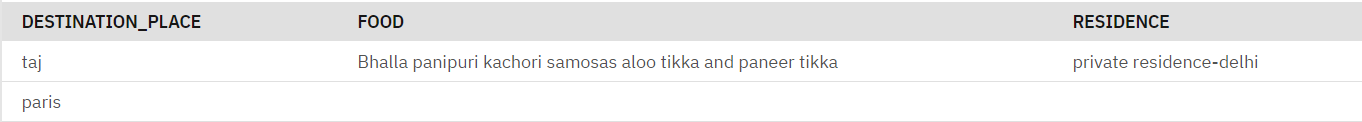
The webpages are connected to IBM cloud through flask application. The connection is established by specifying the database connection details like hostname, username (UID), password (PWD), database name, port, and protocol. An instance of the Flask application is created.

Several routers are specified,

/: Renders the "home.html" template.

/travel: Renders the "travel.html" template.

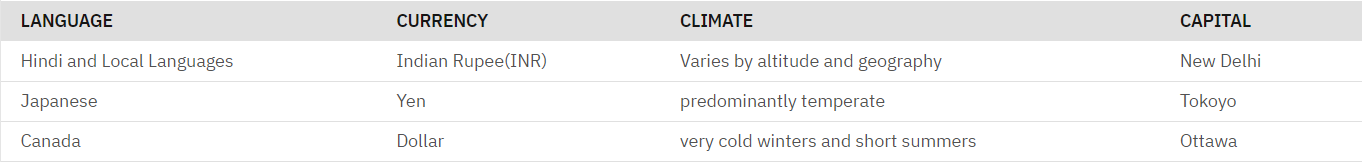
/taj: Retrieves data from the "dest" table in the database and renders the "taj.html" template.



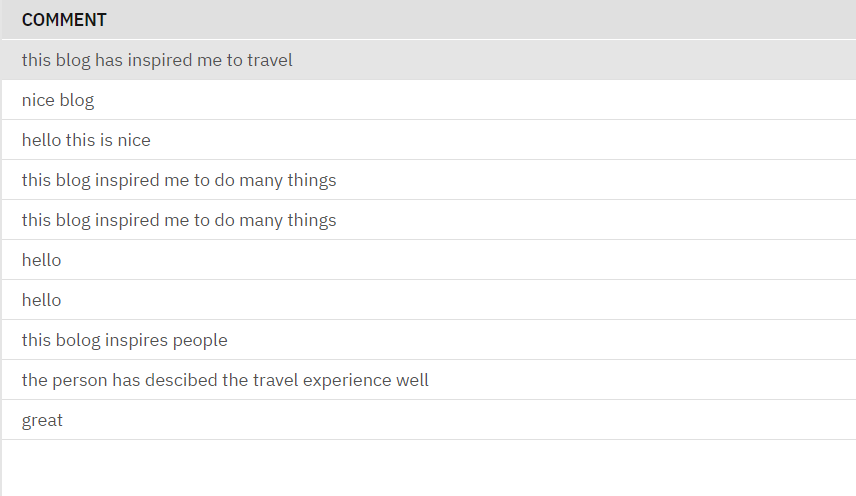
/guide: Renders the "guide.html" template.

/gallery: Renders the "gallery.html" template.

/india: Retrieves data from the "keyfacts" table in the database and renders the "india.html" template.



The /submit-comment route is used for handling form submissions of blog users. It expects a POST request with a "comment" parameter, and it attempts to insert this comment into a database table named "comments".



**A Sample page in the website that implements data render from flask**

**india.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="styles.css">-->

<link rel="stylesheet" href="{{ url\_for('static', filename='css/guide\_styles.css') }}">

<link rel="stylesheet" href="{{ url\_for('static', filename='css/nav\_footer\_style.css') }}">

<link rel="icon" href="{{ url\_for('static', filename='images/logo.png') }}">

<link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css" rel='stylesheet'>

<script src="{{ url\_for('static', filename='js/guide\_script.js') }}"></script>

<title>Travel Guides</title>

</head>

<body onload="showSlides(slideIndex)">

<div class="text-container">

<div>

<h1 class="text">INDIA</h1><br>

</div>

</div>

<section class="header1">

<nav>

<div class="nav-links"id="navLinks">

<ul>

<li><a href="/">HOME</a></li>

<li><a href="/travel">STORIES</a></li>

<li><a href="/guide">TRIPS&GUIDES</a></li>

<li><a href="/gallery">GALLERY</a></li>

<li><a href="CON.html">CONTACT</a></li>

</ul>

</div>

</nav>

</section>

<br>

<div>

<div class="slideshow-container">

<div class="mySlides fade">

<a href="/taj">

<img src="{{ url\_for('static', filename='images/taj.jpg') }}" style="width:100%; height:80%;">

</a>

</div>

<div class="mySlides fade">

<img src="{{ url\_for('static', filename='images/boating.jpg') }}" style="width:100%">

</div>

<a class="prev" onclick="plusSlides(-1)">&#10094;</a>

<a class="next" onclick="plusSlides(1)">&#10095;</a>

</div>

</div>

<div class="nav2-back">

<nav class="nav2">

<ul>

<li><a href="#about">About India</a></li>

<li><a href="#destinations">Top Destinations</a></li>

<li><a href="#culture">Getting Around</a></li>

<li><a href="#food">Food</a></li>

<li><a href="#tips">Travel Tips</a></li>

</ul>

</nav>

</div>

<section id="about">

<h2 class="sub-heads">About India</h2>

<p class="abt">India, the land of contrasts and cultural diversity, beckons with open arms.

This vibrant country in South Asia is a kaleidoscope of history, traditions,

and awe-inspiring landscapes. From the snow-capped peaks of the Himalayas in

the north to the sun-kissed shores of the south, India's natural beauty is boundless.

Immerse yourself in the rich tapestry of India's history as you visit ancient

temples and explore the architectural marvels that tell stories of a bygone era.

Wander through bustling cities where modernity coexists harmoniously with tradition.

But what truly defines India is the warmth and hospitality of its people. Come,

discover the essence of India and create memories that last a lifetime</p>

</section>

<section id="facts">

<h2 class="sub-heads">Key Facts</h2>

<div class="fact-container">

<div class="fact-item">

<div class="circle">

<i class="fa-solid fa-language"></i>

</div>

<div class="fact-text">

<p>Language</p>

<p>{{ key\_facts\_data[0].get('LANGUAGE') }}</p>

</div>

</div>

<div class="fact-item">

<div class="circle">

<i class="fa-solid fa-indian-rupee-sign"></i>

</div>

<div class="fact-text">

<p>Currency</p>

<p>{{ key\_facts\_data[0].get('CURRENCY') }}</p>

</div>

</div>

<div class="fact-item">

<div class="circle">

<i class="fa-solid fa-cloud"></i>

</div>

<div class="fact-text">

<p>Climate</p>

<p>{{ key\_facts\_data[0].get('CLIMATE') }}</p>

</div>

</div>

<div class="fact-item">

<div class="circle">

<i class="fa-solid fa-building"></i>

</div>

<div class="fact-text">

<p>Capital</p>

<p>{{ key\_facts\_data[0].get('CAPITAL') }}</p>

</div>

</div>

</div>

</section>

<section id="destinations">

<h2 class="sub-heads">Top Destinations</h2>

<div class="dest-img-container">

<div class="img-item">

<a href="/taj"><img src="{{ url\_for('static', filename='images/taj2.jpg') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Agra</div>

</div>

<div class="img-item">

<a href="#"><img src="{{ url\_for('static', filename='images/delhi.jpg') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Delhi</div>

</div>

<div class="img-item">

<a href="#"><img src="{{ url\_for('static', filename='images/kerala.png') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Kerala</div>

</div>

<div class="img-item">

<a href="#"><img src="{{ url\_for('static', filename='images/tn.jpg') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Tamilnadu</div>

</div>

<div class="img-item">

<a href="#"><img src="{{ url\_for('static', filename='images/rajastan.jpg') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Rajastan</div>

</div>

<div class="img-item">

<a href="#"><img src="{{ url\_for('static', filename='images/bihar.png') }}" width="400px" height="250px" class="dest-img-style" ></a>

<div class="image-text">Bihar</div>

</div>

</div>

</section>

<section id="culture">

<h2 class="sub-heads">Getting Around</h2>

<div class="ga-content">

<h4>Buses</h4><br>

<p>Buses are extremely popular in India. Both Goibibo and Redbus are the best sites to use for booking buses.

These sites have options ranging from public state transportation to private buses. Prices range from $10-$20 USD,

depending on where you'd like to go.</p>

</div>

<div class="ga-content">

<h4>Trains</h4><br>

<p>Trains are another common mode of transportation. You can find information on IRCTC, the government website for the railway system.

Sleeper class is always a great option for shorter rides, as tickets start as low as $3 USD.</p>

</div>

<div class="ga-content">

<h4>Cars</h4><br>

<p>

Ola and Uber work best for internal travel throughout the cities.

</p>

</div>

<div class="ga-content">

<h4>Metros</h4><br>

<p>

Kolkata, Delhi, Chennai, Bengaluru, Hyderabad, Jaipur, Gurgaon, Mumbai, Kochi, and Lucknow have Metro facilitiy to travel within places

</p>

</div>

</section>

<section id="food">

<h2 class="sub-heads">Food</h2>

<div class="food-content">

<div class="food-text">

<p>

India has a diverse culinary heritage, with each region having its own cooking style and specialty dishes.

For example, the North is known for hearty meat-based dishes like butter chicken, biryani, and kebabs.

The South is known for its vegetarian fare, including dosas, idlis, and sambar.

<br><br>

Indian food is distinguished by its use of spices. Different herbs are used to prepare various dishes.

</p>

<br>

<h4>Some Traditional Indian dishes</h4><br>

<ul>

<li>Masala dosa</li>

<li>Chaat</li>

<li>Dal Makhani</li>

<li>Vada pav</li>

<li>Paratha</li>

<li>Barfi</li>

<li>Pani Puri</li>

</ul>

<br>

<h4>Some of the Snacks and sweets includes</h4><br>

<ul>

<li>Samosas</li>

<li>Pakoras</li>

<li>Jalebi</li>

<li>Rasagulla</li>

<li>Kulfi</li>

<li>Gulab Jamun</li>

<li>Kaju Katli</li>

<li>Laddoo</li>

</ul>

</div>

<img src="{{ url\_for('static', filename='images/food.jpg') }}" alt="food" width="500px">

</div>

</section>

<section id="tips">

<h2 class="sub-heads">Travel Tips</h2>

<div class="tip-content">

<i class="fa-solid fa-check"></i>&nbsp;&nbsp;&nbsp;

Planning: Research accommodations, transportation schedules, and local guides.

</div>

<div class="tip-content">

<i class="fa-solid fa-indian-rupee-sign"></i>&nbsp;&nbsp;&nbsp;

Budget: India is one of the most affordable countries to visit.

</div>

<div class="tip-content">

<i class="fa-solid fa-suitcase"></i>&nbsp;&nbsp;&nbsp;

Packing: Pack items to protect you from the heat or chilly winds in the north.

</div>

<div class="tip-content">

<i class="fa-solid fa-globe"></i>&nbsp;&nbsp;&nbsp;

Visa: Nearly all international visitors require a visa. A tourist visa costs about $150 and allows you to stay for up to 180 days.

</div>

<div class="tip-content">

<i class="fa-solid fa-bed"></i>&nbsp;&nbsp;&nbsp;

Avoiding burnout: Have realistic expectations about how much you can see.

</div>

<div class="tip-content">

<i class="fa-solid fa-user"></i>&nbsp;&nbsp;&nbsp;

Trusting people: Be careful who you trust, especially in the north.

</div>

<div class="tip-content">

<i class="fa-solid fa-shirt"></i>&nbsp;&nbsp;&nbsp;

Covering up: Dress conservatively.

</div>

</ul>

</div>

</section>

<div class="comment-box">

<h1>Leave a Comment</h1>

{% include "comment.html" %}

</div>

<section class="footer">

<h2>Follow on</h2>

<div class="icons">

<i class="fa-brands fa-instagram"></i>

<i class="fa-brands fa-facebook"></i>

<i class="fa-brands fa-linkedin"></i>

<i class="fa-brands fa-twitter"></i>

<i class="fa-brands fa-youtube"></i>

</div>

</section>

</body>

</html>

**In this file,**

The key facts of That has the language,Climate,Currency and Capital of a specific country is retrieved from the database.

The flask application is connected with html pages through creating static and template folder which contains contents for building the websites with styles.

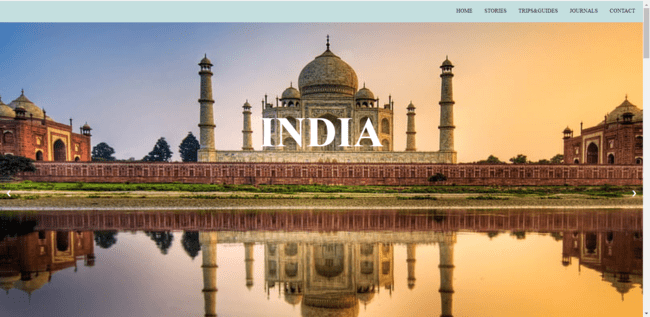
The values stored in ibm cloud databases can be retrived flask framework.

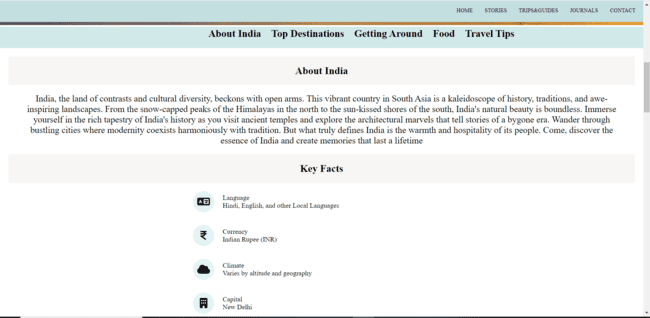
Dynamic content is injected into the HTML template using placeholders enclosed in double curly braces {{ ... }}. These placeholders are expected to be replaced with actual data by a web application framework like Flask. For example, {{ key\_facts\_data[0].get('LANGUAGE') }} is used to display information about the language, currency, climate and capital.

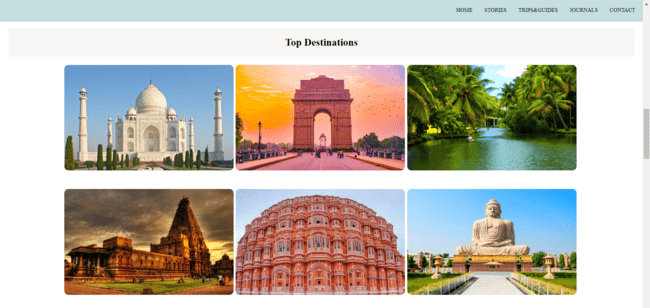
A section for leaving comments is included at the end of the page. It includes a form for user input and is likely connected to the web application's backend for processing comments.

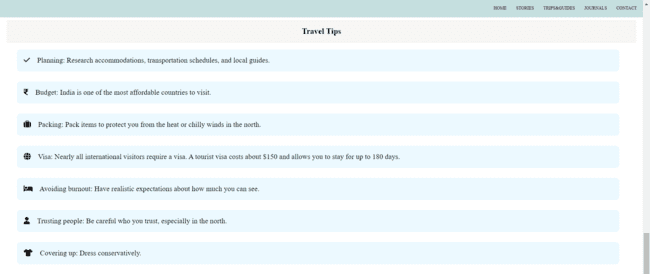
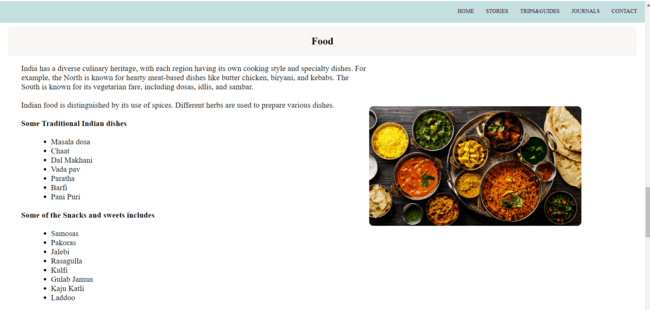
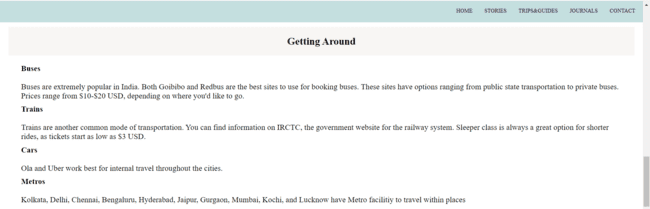
Dynamic contents are inserted into the comment table in ibm cloud database.

When a use leaves a comment the comment will be stored in the database.

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**DOCKER FILE:**

Docker is a container engine technology that can speed up development, ease testing, and support automated deployment.

FROM python:3.11.1

WORKDIR /travel\_blog

COPY . /travel\_blog

RUN pip install -r requirements.txt

EXPOSE 5000

CMD python ./app.py

**requirements.txt**

flask

**Step to deploy :**

1.Create a docker file

2. Built the docker image

3.Run the docker image

4.Use Kubernetes

5.Deploy in cloud