📸 Capture Moments– Cloud-Based Photographer Booking Platform

☑️ Project Description

Capture Moments is an innovative web-based platform that simplifies the process of discovering, booking, and managing photography sessions. Aimed at couples, families, and event organizers, it eliminates the hassle of manual bookings and provides a beautiful, seamless experience from login to shoot completion.

Built using:
- Flask (Python) for the backend
- HTML/CSS/Bootstrap for the frontend
- AWS DynamoDB for storing user and booking data
- AWS EC2 for deployment
- AWS SES (or SMTP) for sending confirmations and support replies

🎯 Scenarios

🎉 Scenario 1: Hassle-free Booking System

Users can browse photographers based on categories like Thematic, Luxury & Destination, and Creative & Conceptual. Real-time availability and costs are shown. Users book shoots and get immediate confirmation with confetti animation.

📩 Scenario 2: Real-time Support & Communication

A dedicated support system allows users to raise issues. Admins can view and respond from a separate dashboard. SNS or SMTP emails notify both parties.

📍 Scenario 3: Location Discovery for Shoots

Users can explore curated shoot locations across India, visualized with images, descriptions, and thematic tags.

💻 Tech Stack

🔧 Tech Stack:

- Flask – Web framework (Python)
- DynamoDB – NoSQL cloud database
- AWS EC2 – Hosting platform

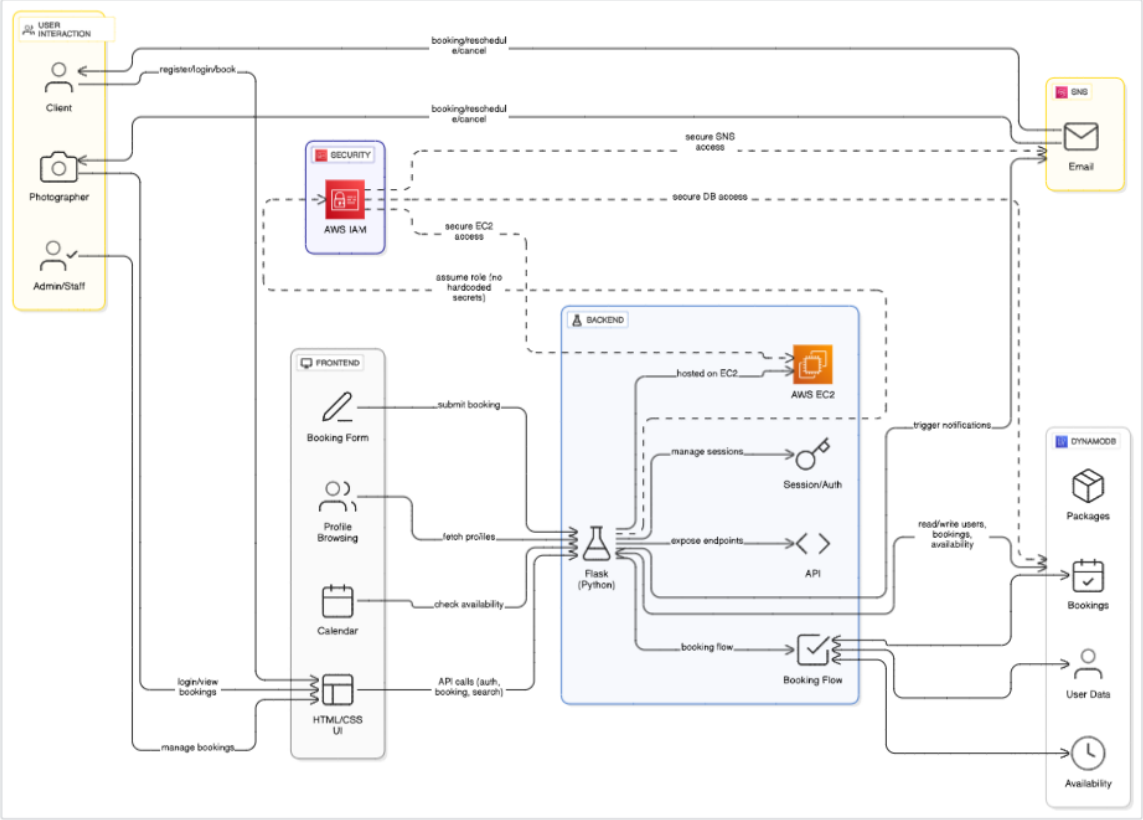
- Bootstrap – Styling
- SMTP/SNS – Notifications and email confirmations

AWS Architecture Overview:

Users → Flask App (EC2) → DynamoDB ←→ SNS/SMTP → Emails
↑
HTML + CSS (Bootstrap UI)

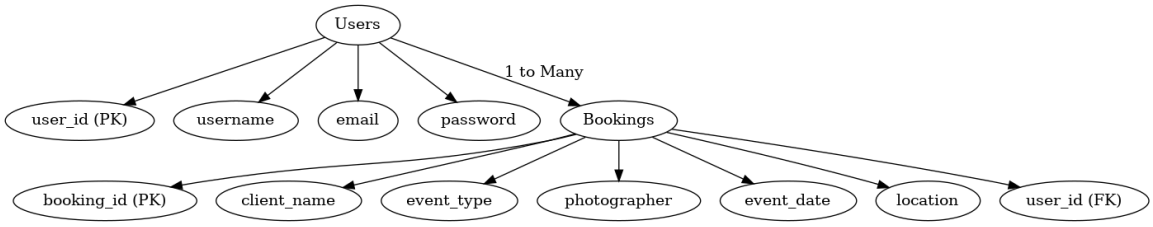
Architecture

This AWS-based architecture powers a scalable and secure web application using Amazon EC2 for hosting the backend, with a lightweight framework like Flask handling core logic. Application data is stored in Amazon DynamoDB, ensuring fast, reliable access, while user access is managed through AWS IAM for secure authentication and control. Real-time alerts and system notifications are enabled via Amazon SNS, enhancing communication and user engagement.



Entity Relationship (ER) Diagram

An ER (Entity-Relationship) diagram visually represents the logical structure of a database by defining entities, their attributes, and the relationships between them. It helps organize data efficiently by illustrating how different components of the system interact and relate. This structured approach supports effective database normalization, data integrity, and simplified query design.



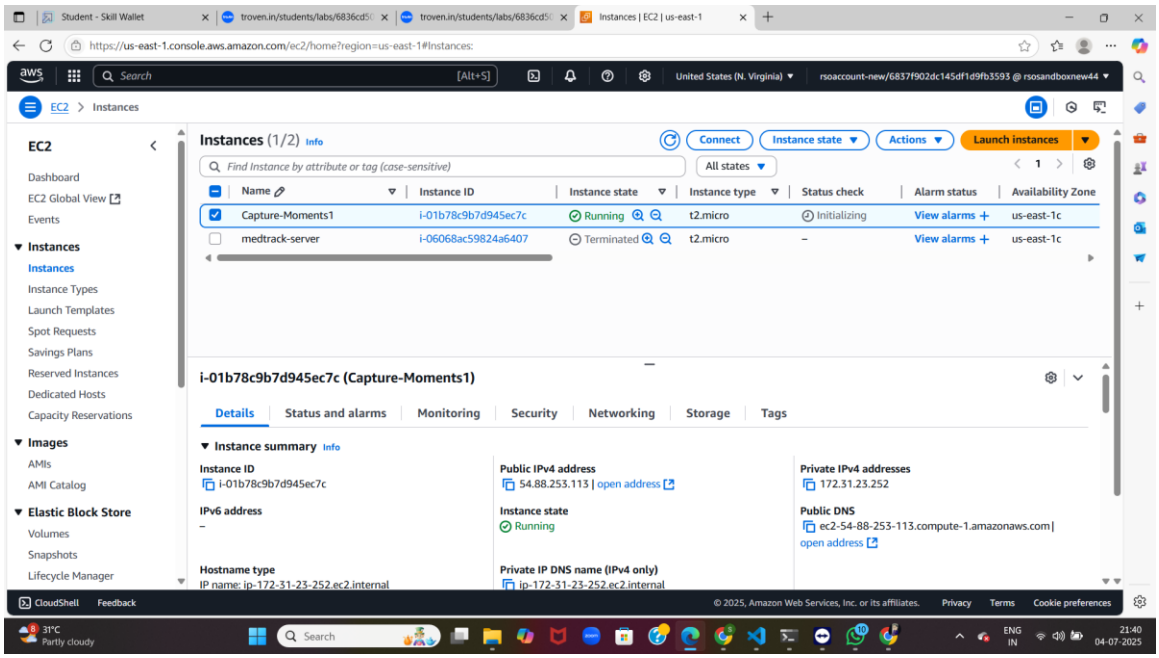
Features

Feature	Description
Sign Up/Login	Register with email or user ID; login using either.
View Photographers	Filter by category; see availability, images, and cost.
Book Photographer	Choose date → Confirm → See booking + confetti.
Explore Shoot Locations	Explore curated places based on shoot category.
Support System	Submit issues, admins reply from their panel, emails sent via SMTP/SNS.
Forgot Password	Update password via email or ID without admin.
Chat	Users and admins can exchange live messages (optional extension).
Email Notifications	Booking confirmations and support updates sent via email.

Project Setup Walkthrough

Milestone 1: AWS & IAM

Activity 1.1: Create AWS Account
Activity 1.2: Setup IAM Role with:
- AmazonDynamoDBFullAccess
- AmazonEC2FullAccess



Milestone 2: DynamoDB Setup

Table: users
- email (partition key)
- user_id
- password

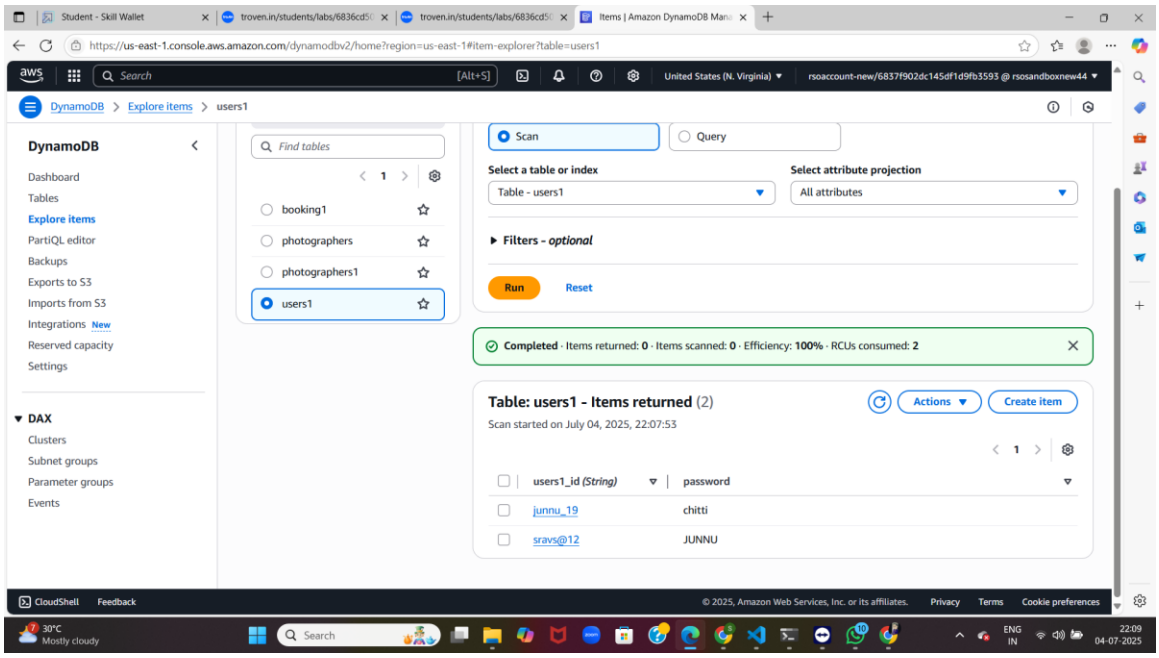
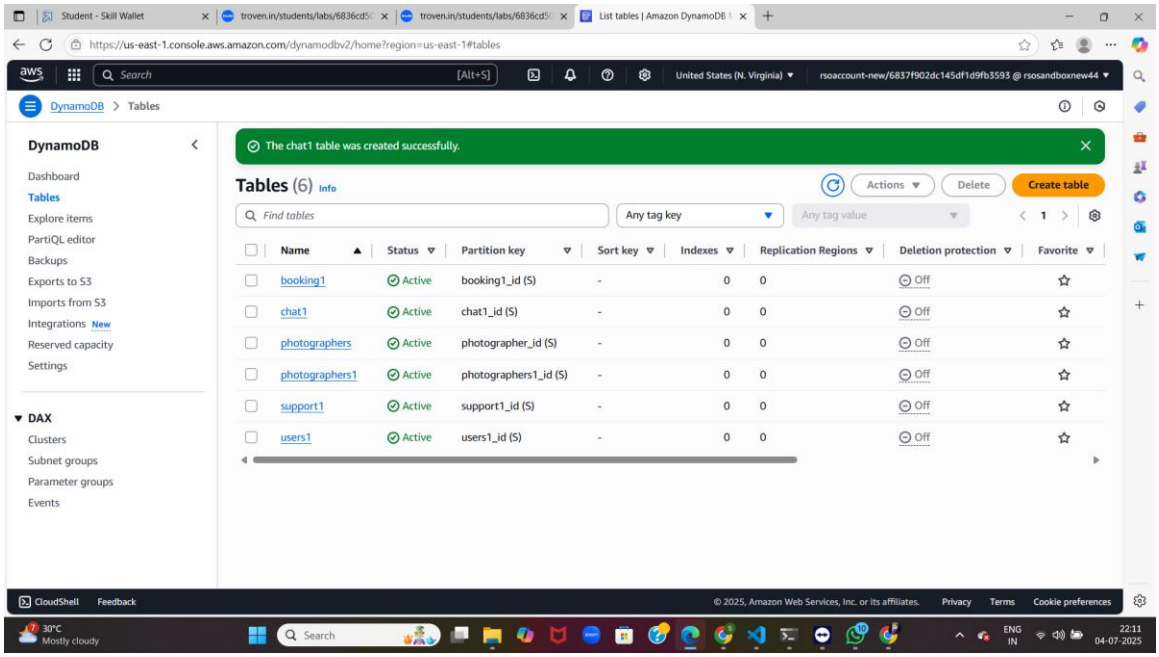
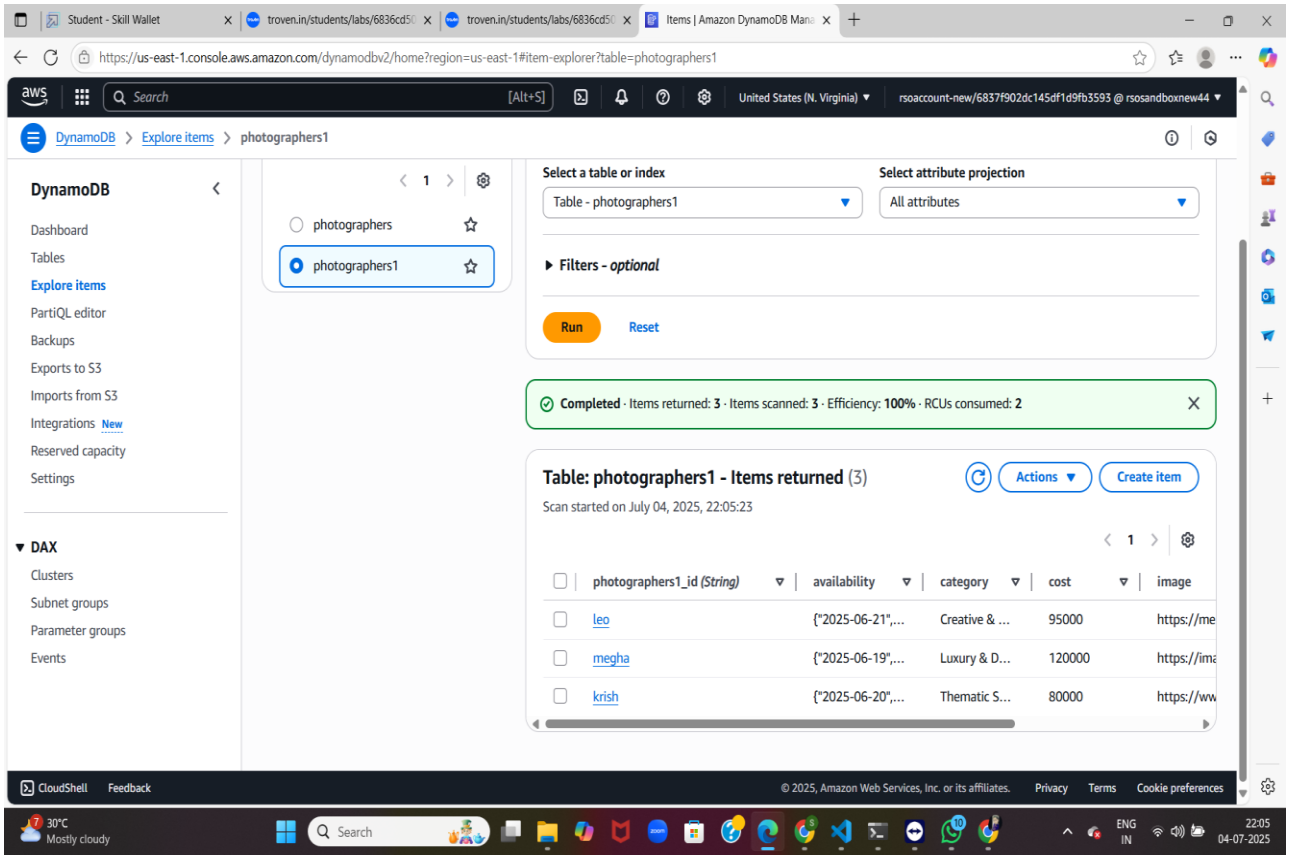


Table: bookings
- booking_id (UUID)



- photographer_id
- date
- user_email


Student - Skill Wallet
Items | Amazon DynamoDB
https://us-east-1.console.aws.amazon.com/dynamodbv2/home?region=us-east-1#item-explorer?table=photographers1
Search [Alt+S]
United States (N. Virginia)
DynamoDB > Explore items > photographers1
DynamoDB
Dashboard
Tables
Explore items
PartiQL editor
Backups
Exports to S3
Imports from S3
Integrations New
Reserved capacity
Settings
DAX
Clusters
Subnet groups
Parameter groups
Events
photographers
photographers1
Select a table or index
Table - photographers1
Select attribute projection
All attributes
Filters - optional
Run
Reset
Completed · Items returned: 3 · Items scanned: 3 · Efficiency: 100% · RCUs consumed: 2
Table: photographers1 - Items returned (3)
Scan started on July 04, 2025, 22:05:23
Actions
Create item
photographers1_id (String)
availability
category
cost
image
leo
{"2025-06-21",...
Creative & ...
95000
https://me
megha
{"2025-06-19",...
Luxury & D...
120000
https://ima
krish
{"2025-06-20",...
Thematic S...
80000
https://ww
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
30°C
Mostly cloudy
Search
ENG
IN
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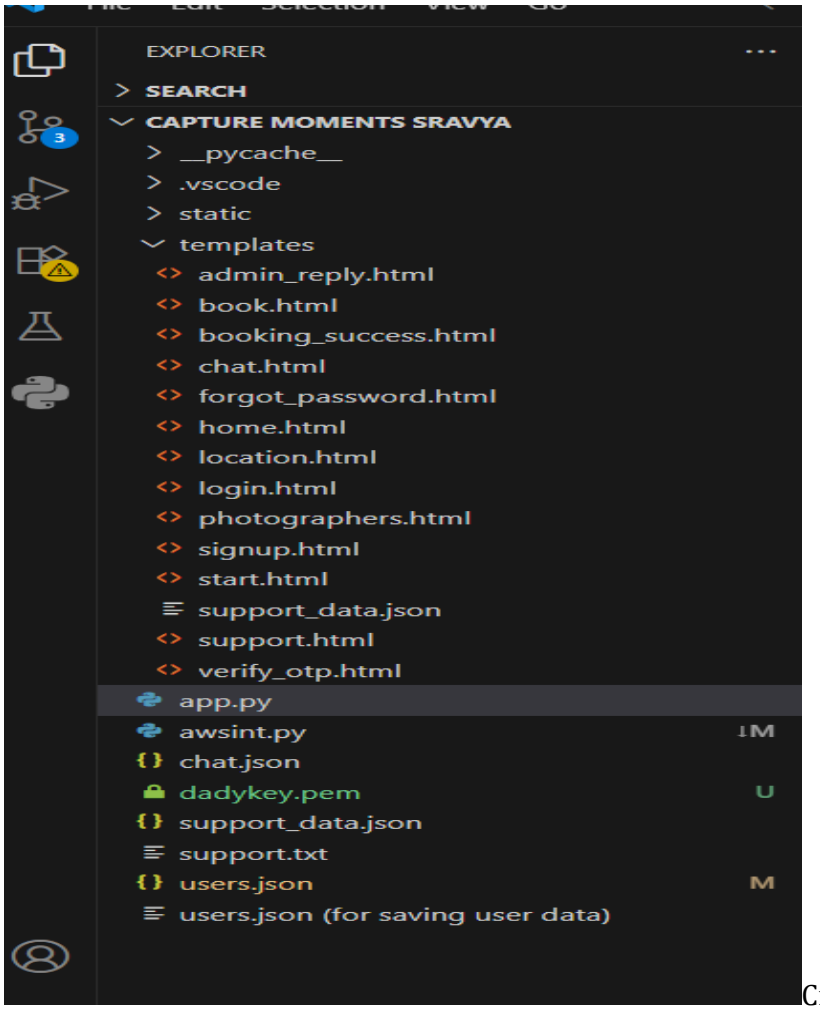
04-07-2025

Milestone 3: Flask Application Development



Create app.py

Use boto3 to connect to DynamoDB

Routes:

/signup

/login

/forgot-password

/show-photographers

/book

/location/support

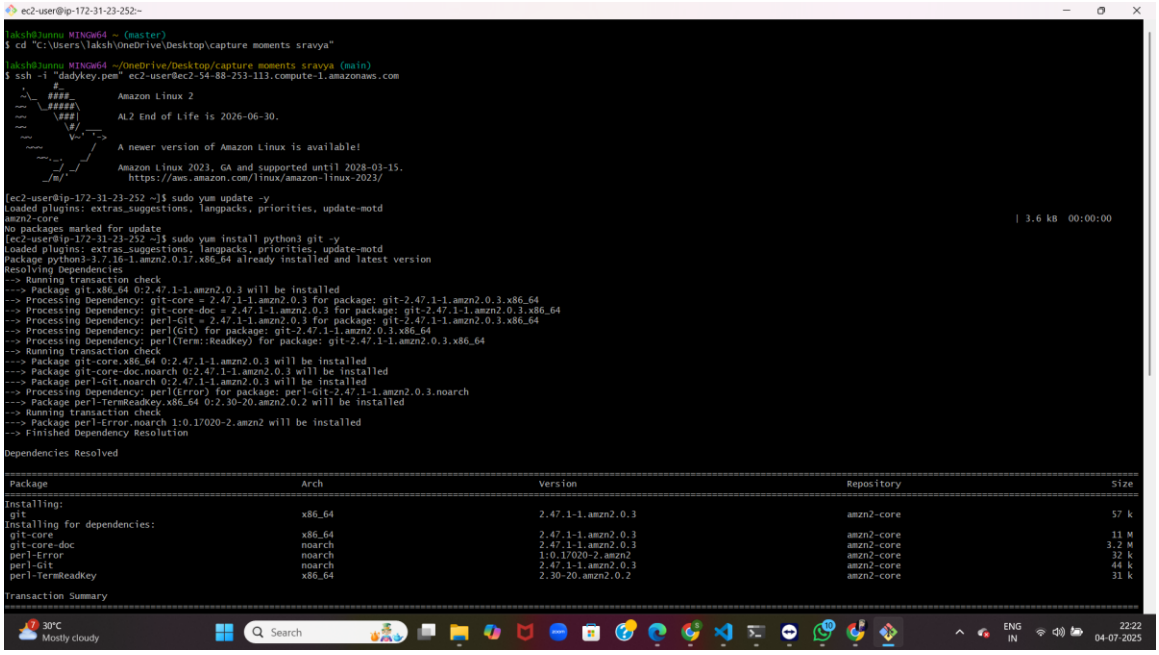
/admin/reply

Milestone 4: EC2 Deployment

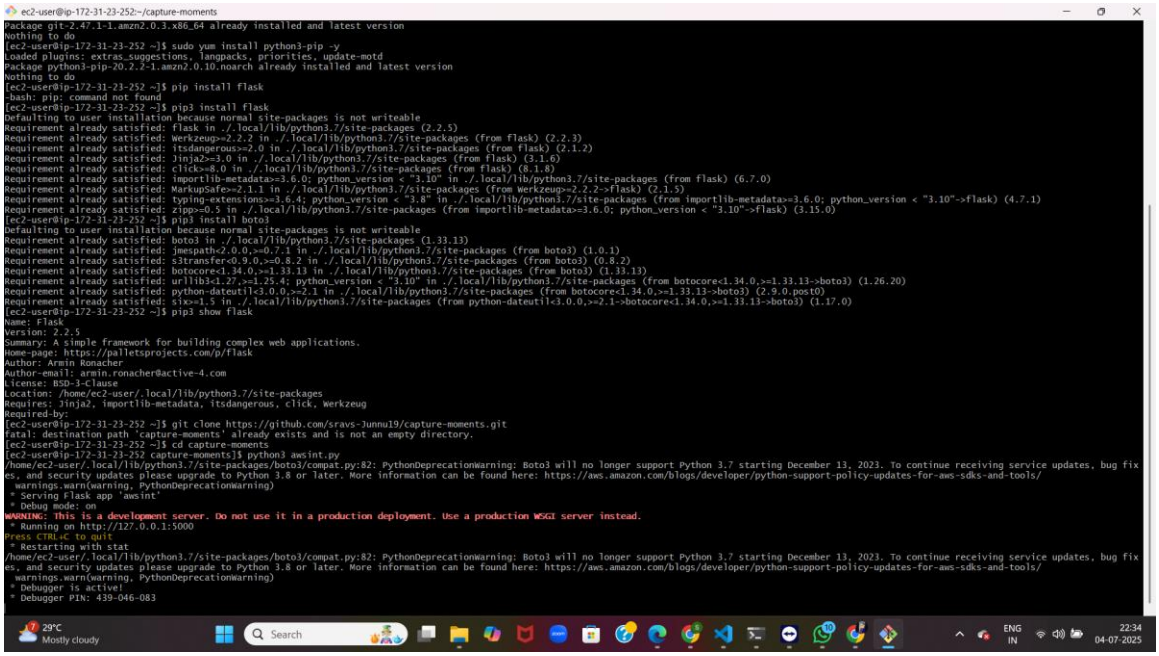
Launch EC2 Instance

sudo yum install python3 git

Clone your repo:

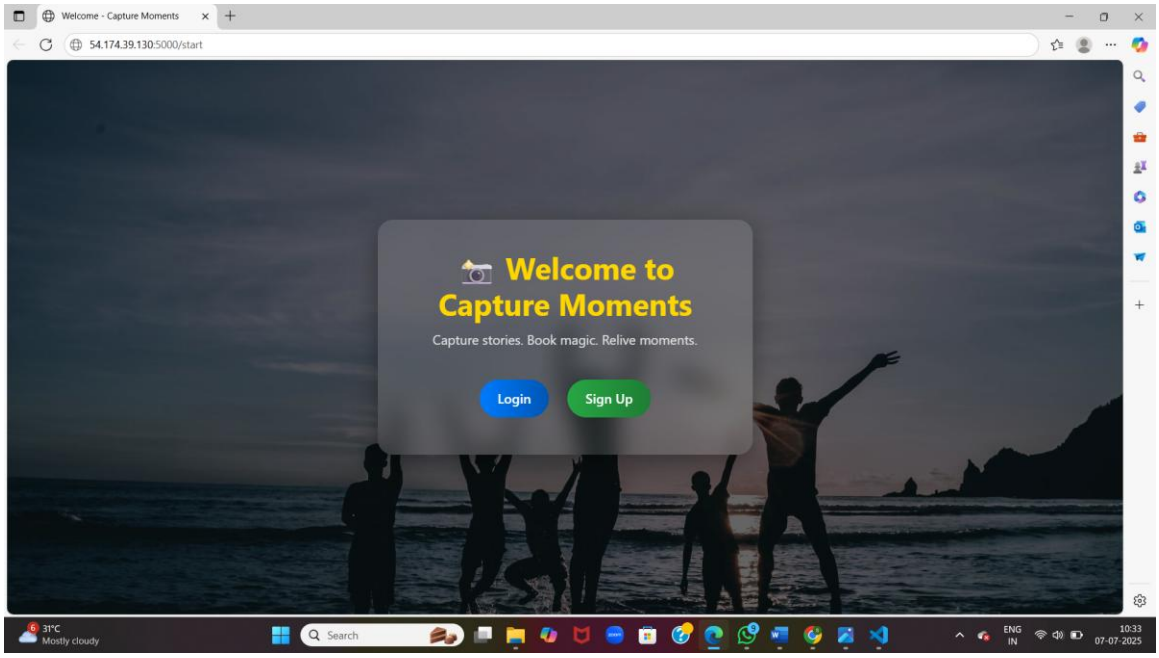


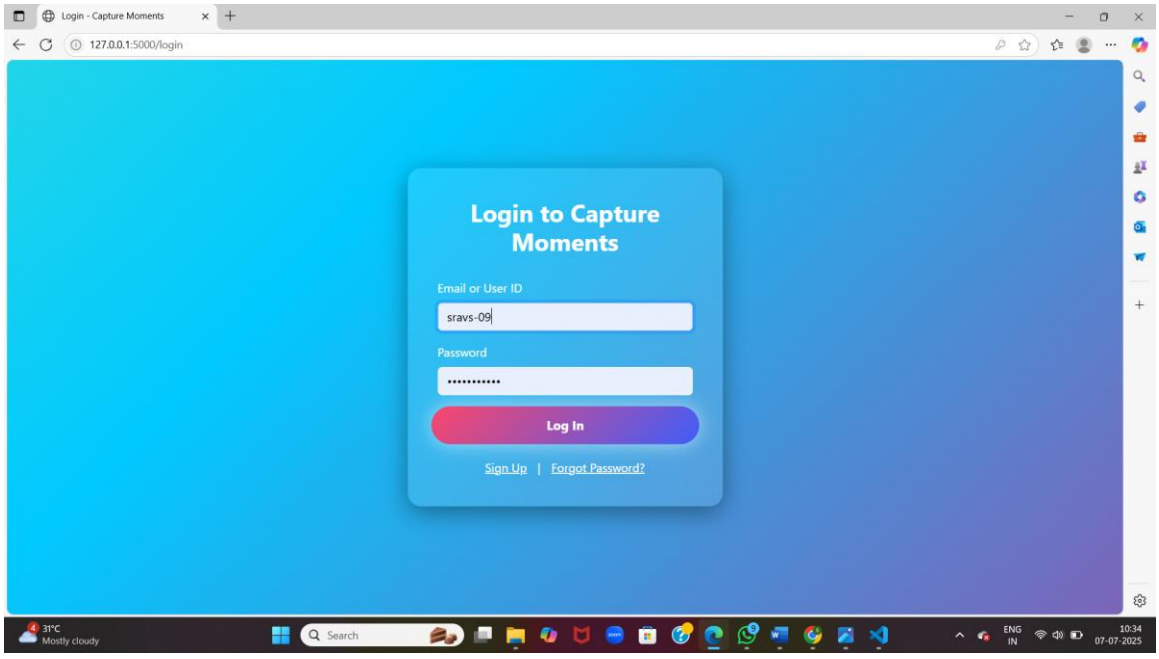
git clone https://github.com/your-username/capture-moments.git
cd capture-moments
pip3 install -r requirements.txt



Milestone 5: Testing & Verification

Test signup, login, forgot-password, book photographer, explore locations, and support features

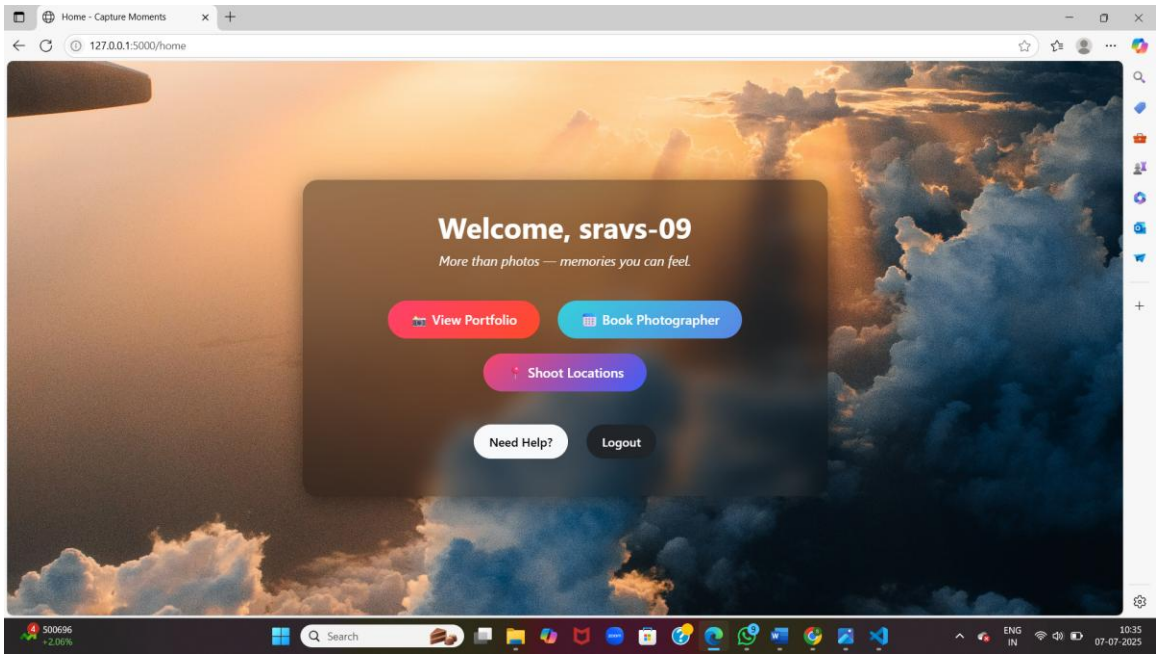




Sample Pages

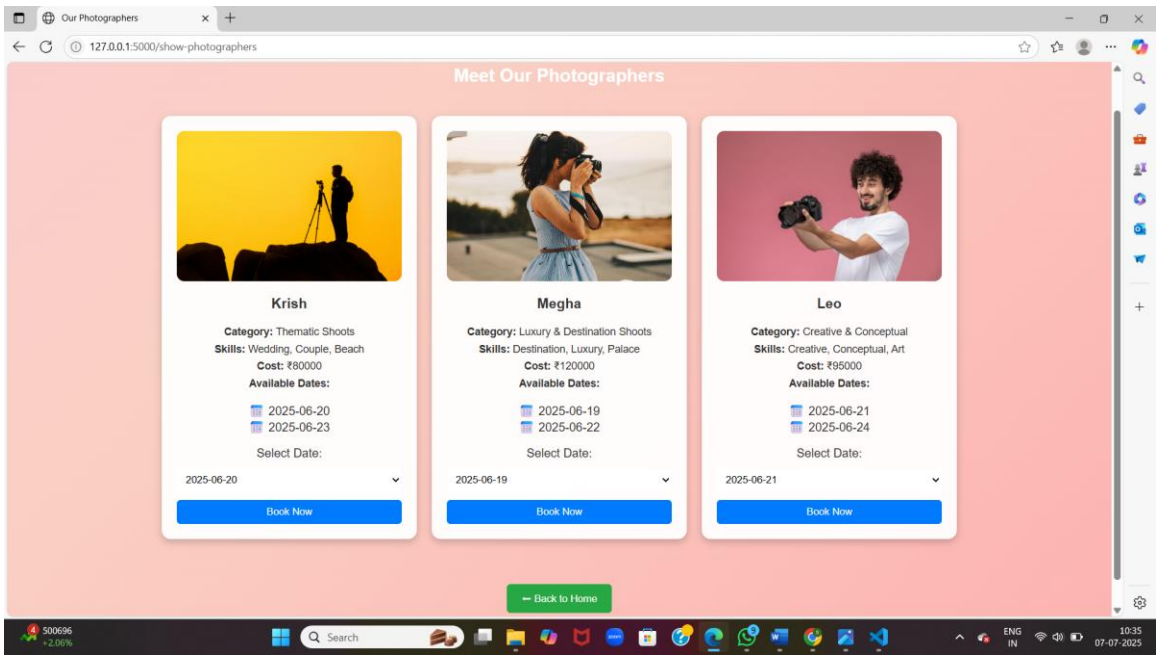
✅ Home Page

Buttons: View Photographers | Book Photographer | Explore Gallery



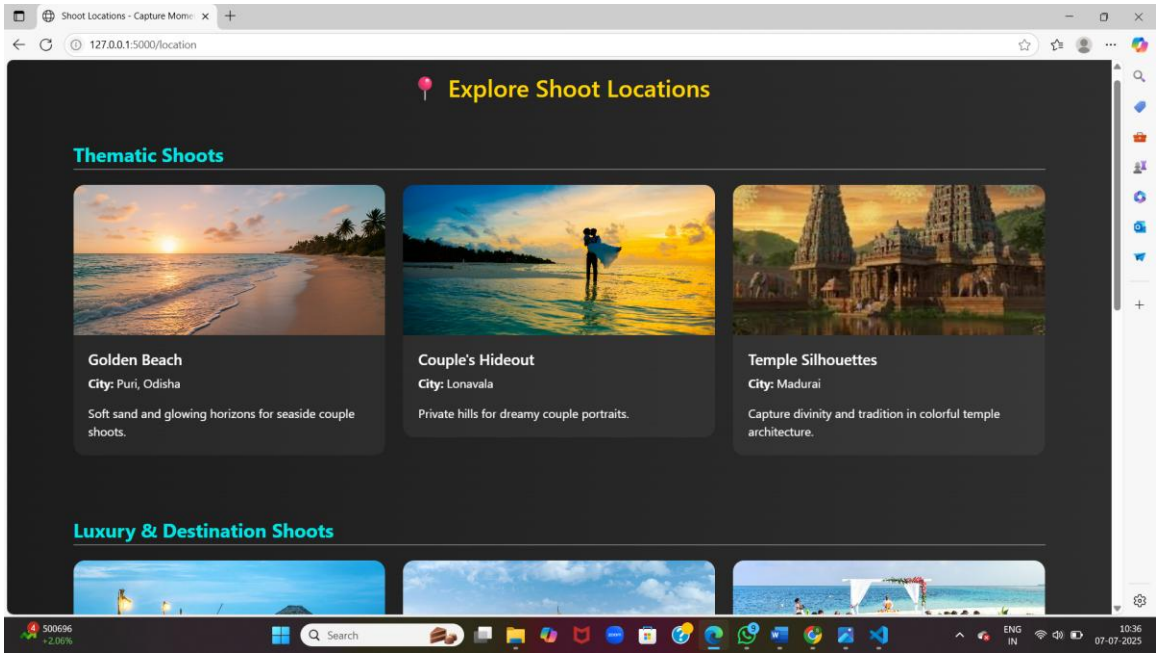
👨‍💼 Photographer Cards

- Name
- Category
- Cost
- Availability Dates
- Book Now button



📍 Location Explorer

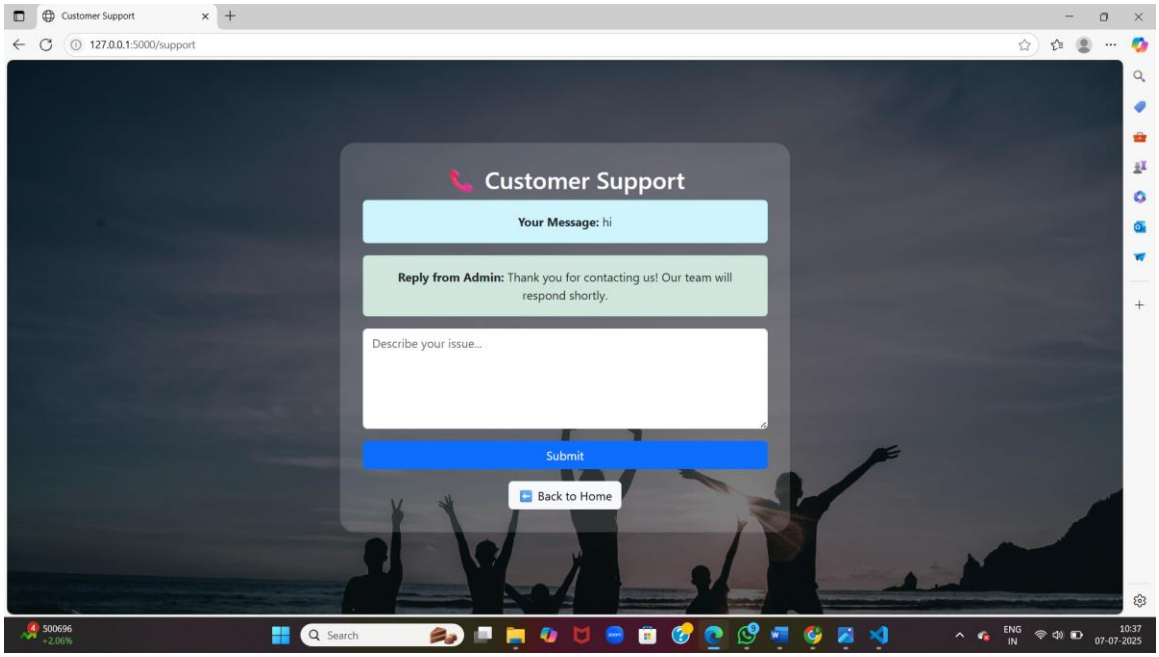
- Filter by shoot type
- Visual preview of location



🔐 Forgot Password

Innovative UI with:

- Glassmorphism + blurred background
- Form: Email/User ID, New Password



☑ Conclusion

Capture Moments uses a modern cloud-first design to streamline booking and photography services. By integrating AWS technologies and intuitive design, the platform enables:
- Effortless user experiences
- Efficient admin operations
- High availability and reliability

This project showcases the power of cloud computing and Python in transforming traditional photography services into a seamless digital platform.

🙏 A Special Thank You

I would like to express my sincere gratitude to my **mentors** for their invaluable **guidance, encouragement, and support** throughout this journey. Your mentorship has been the backbone of this project's success.

– With heartfelt thanks, Lakshmi Sravya 💐