

TravelMemory (MERN) – AWS Cloud Deployment

EC2 · Nginx · PM2 · ALB · ASG · Cloudflare · MongoDB Atlas

Author: Rohan Mangate

Region: ap-south-1 (Mumbai)

Executive Summary

This report captures the complete AWS deployment of the TravelMemory MERN application. Nginx serves the React frontend and proxies the backend Node.js app (PM2) on port 3001. An internet-facing ALB sends "/" to tg-frontend and "/trip*" to tg-backend. Each target group is powered by an Auto Scaling Group (min=2) across multiple AZs. Cloudflare DNS exposes app.rohanmangate.online (CNAME → ALB) and frontend.rohanmangate.online (A → single frontend EC2). MongoDB Atlas provides the database via MONGO_URI. All health checks are green.

Architecture Diagram

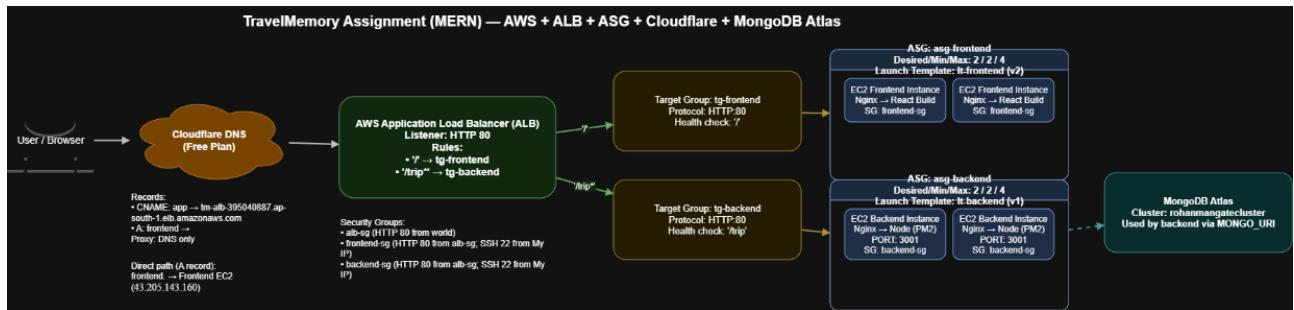


Figure: Overall architecture and data flow.

Screenshots (Validation & Console Proof)

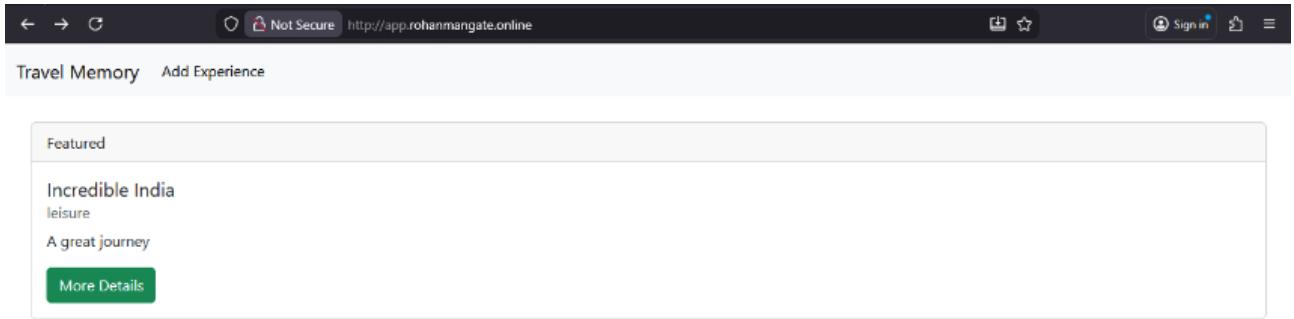
The screenshot shows the AWS EC2 Security Groups console. The top navigation bar includes the AWS logo, a search bar, and account information for 'RohanMangate (3382-9502-6911)' in 'Asia Pacific (Mumbai)'. The main page title is 'sg-016cfa7040d1f3223 - frontend-sg'. Below the title, there's a 'Details' section with fields: Security group name (frontend-sg), Security group ID (sg-016cfa7040d1f3223), Description (Security group for frontend EC2), VPC ID (vpc-0fbe67967625ab2be), Owner (338295026911), Inbound rules count (2 Permission entries), and Outbound rules count (1 Permission entry). Below the details, there are tabs for 'Inbound rules' (selected), 'Outbound rules', 'Sharing', 'VPC associations', 'Related resources - new', and 'Tags'. The 'Inbound rules' section displays two rules:

Security group rule ID	IP version	Type	Protocol	Port range	Source	Description
sgr-0ef333d114a7e0efa	IPv4	SSH	TCP	22	122.172.85.114/32	-
sgr-027bd1482a6cc0c79	IPv4	HTTP	TCP	80	0.0.0.0/0	-

At the bottom of the page, there are links for 'CloudShell', 'Feedback', and copyright information: '© 2026, Amazon Web Services, Inc. or its affiliates.' followed by 'Privacy', 'Terms', and 'Cookie preferences'.

Frontend UI via ALB (app.rohanmangate.online)

File: Screenshot 2026-02-21 122747.png



Experience Details via ALB

File: Screenshot 2026-02-22 064935.png

← → C Not Secure http://app.rohanmangate.online/experiencedetails/6999004cbc3f2cfef7213669

Travel Memory Add Experience

Incredible India

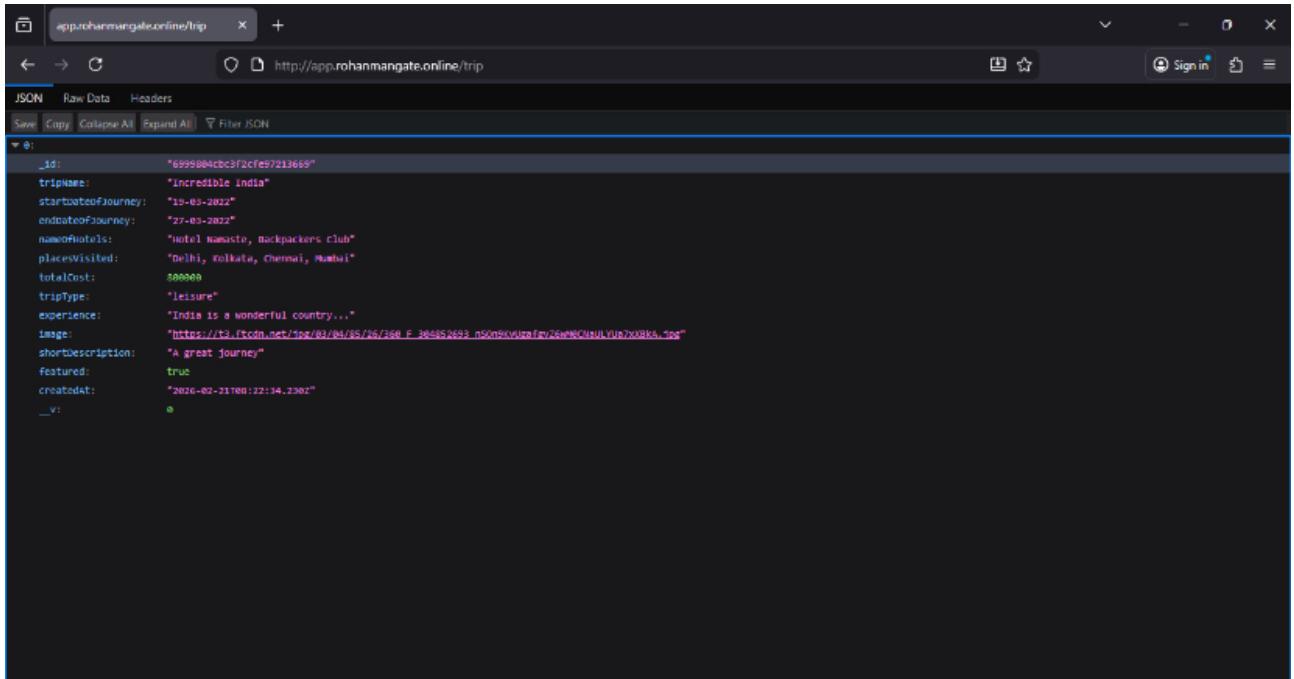


Name of Hotel: Hotel Namaste, Backpackers Club
Start Date: 19-03-2022 End Date: 27-03-2022
Places Visited: Delhi, Kolkata, Chennai, Mumbai
Total Cost: 800000
Trip Type: leisure

India is a wonderful country...

Backend JSON /trip via ALB path rule

File: Screenshot 2026-02-22 065000.png

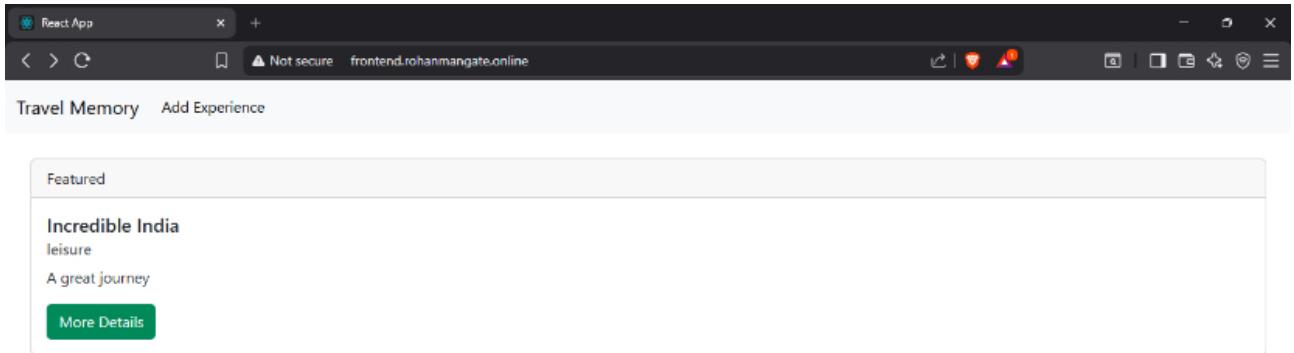


The screenshot shows a browser window with the URL <http://app.rohanmangate.online/trip>. The page displays a JSON object representing a trip. The JSON structure includes fields such as _id, tripName, startdateofJourney, enddateofJourney, namoHotels, placesVisited, totalCost, tripType, experience, image, shortDescription, featured, and createdAt. The JSON data is as follows:

```
_id: "6999884cbc3f2cfe57213669"
tripName: "Incredible India"
startdateofJourney: "19-05-2022"
enddateofJourney: "27-05-2022"
namoHotels: "NOMO HOTELS, BACKPACKERS CLUB"
placesVisited: "Delhi, Kolkata, Chennai, Mumbai"
totalCost: 800000
tripType: "leisure"
experience: "India is a wonderful country..."
image: "https://t3.ftcdn.net/jpg/03/04/95/26/398_F_394952693_n50m9kvduafgvzae900hulvub7x88k6.jpg"
shortDescription: "A great journey"
featured: true
createdAt: "2026-02-21T00:22:34.230z"
__v: 0
```

Direct Frontend EC2 UI (frontend.rohanmangate.online)

File: Screenshot 2026-02-22 065027.png



Direct Frontend EC2 – Experience Details page

File: Screenshot 2026-02-22 065053.png

React App

Not secure frontend.rohanmangate.online/experiencedetails/6999004cbc3f2cfe97213669

Travel Memory Add Experience

Incredible India



Name of Hotel: Hotel Namaste, Backpackers Club
Start Date: 19-03-2022 End Date: 27-03-2022
Places Visited: Delhi, Kolkata, Chennai, Mumbai
Total Cost: 800000
Trip Type: leisure

India is a wonderful country..

Cloudflare Overview – Domain Active

File: Screenshot 2026-02-22 065116.png

AWS Search bar: load balancers Ask Amazon Q Asia Pacific (Mumbai) AWSAdministratorAccess/Rohan_Mangate

EC2 > Security Groups > sg-0dc8ffb230bec7134 - alb-sg

sg-0dc8ffb230bec7134 - alb-sg

Details

Security group name alb-sg	Security group ID sg-0dc8ffb230bec7134	Description security group for ALB	VPC ID vpc-0fbeb67967625ab2be
Owner 338295026911	Inbound rules count 1 Permission entry	Outbound rules count 1 Permission entry	

Inbound rules | Outbound rules | Sharing | VPC associations | Related resources - new | Tags

Inbound rules (1)

Security group rule ID	IP version	Type	Protocol	Port range	Source
sgr-0253ff4dad27ff865	IPv4	HTTP	TCP	80	0.0.0.0/0

Cloudflare DNS – CNAME app → ALB, A frontend → EC2

File: image.png

The screenshot shows the AWS Management Console interface for managing security groups. The left sidebar has navigation links for EC2, Images, Elastic Block Store, and Network & Security. Under Network & Security, 'Security Groups' is selected. The main content area displays the details for a specific security group named 'sg-0dc8ffb230bec7134 - alb-sg'. It shows the security group name, ID, owner, and basic statistics like inbound and outbound rule counts. Below this, the 'Inbound rules' tab is selected, showing one rule: a TCP port 80 rule from 0.0.0.0/0 to an HTTP port. There are tabs for Outbound rules, Sharing, VPC associations, Related resources, and Tags.