

# TravelMemory Application Deployment Using MERN Stack

## Objective;-

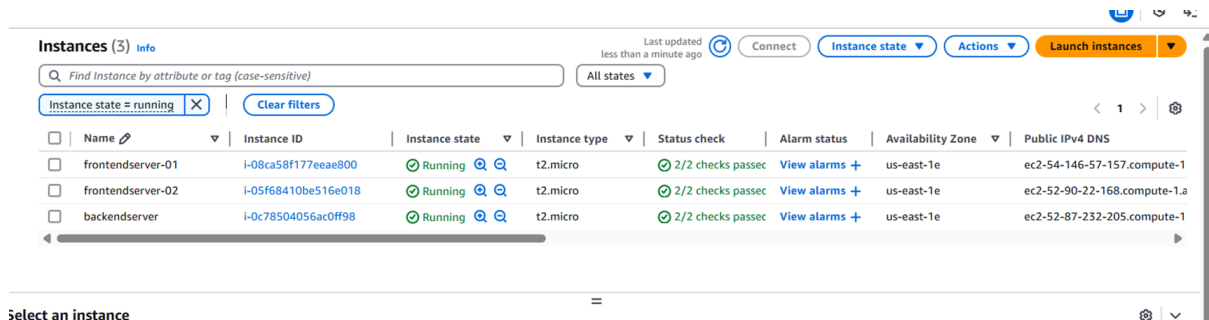
- Deploy the TravelMemory application using the MERN stack on AWS.
- Configure backend and frontend EC2 instances.
- Set up a secure, scalable, and high-performance architecture with a load balancer and Cloudflare integration.

*Scaling the Application: - Create multiple instances of both the frontend and backend servers. - Add these instances to a load balancer to ensure efficient distribution of incoming traffic.*

## Step 1: Create EC2 Instances

Create three EC2 instances on AWS with Ubuntu as the operating system:

1. **Backend Server:** backendserver
2. **Frontend Servers:** frontendserver-01, frontendserver-02

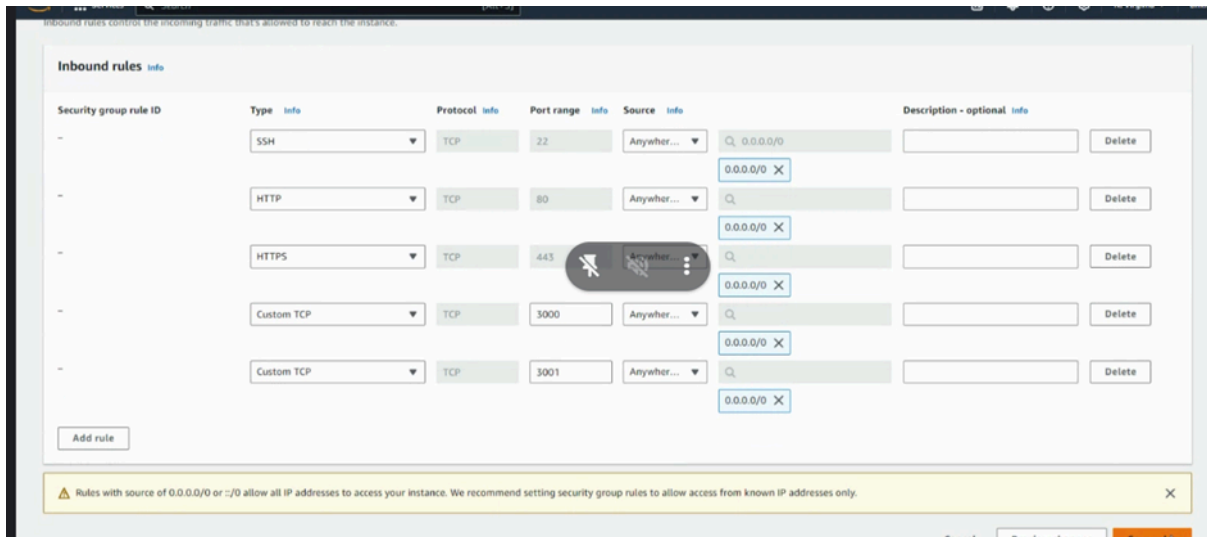


	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	frontendserver-01	i-08ca58f177eeae800	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1e	ec2-54-146-57-157.compute-1
<input type="checkbox"/>	frontendserver-02	i-05f68410be516e018	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1e	ec2-52-90-22-168.compute-1.a
<input type="checkbox"/>	backendserver	i-0c78504056ac0ff98	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1e	ec2-52-87-232-205.compute-1

## Security Group Configuration:-

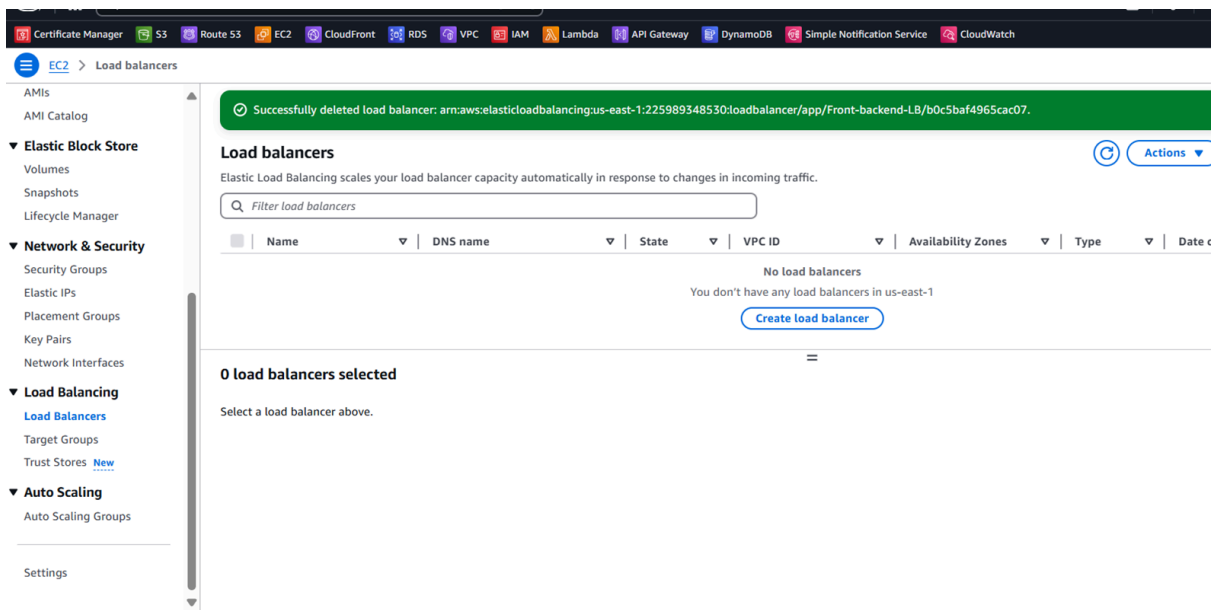
Configure the security group to allow the following ports:

- **SSH (Port 22):** For remote server management.
- **HTTP (Port 80):** For web traffic.
- **HTTPS (Port 443):** For secure web traffic.
- **Port 3000:** For the backend server.
- **Port 3001:** For frontend servers.

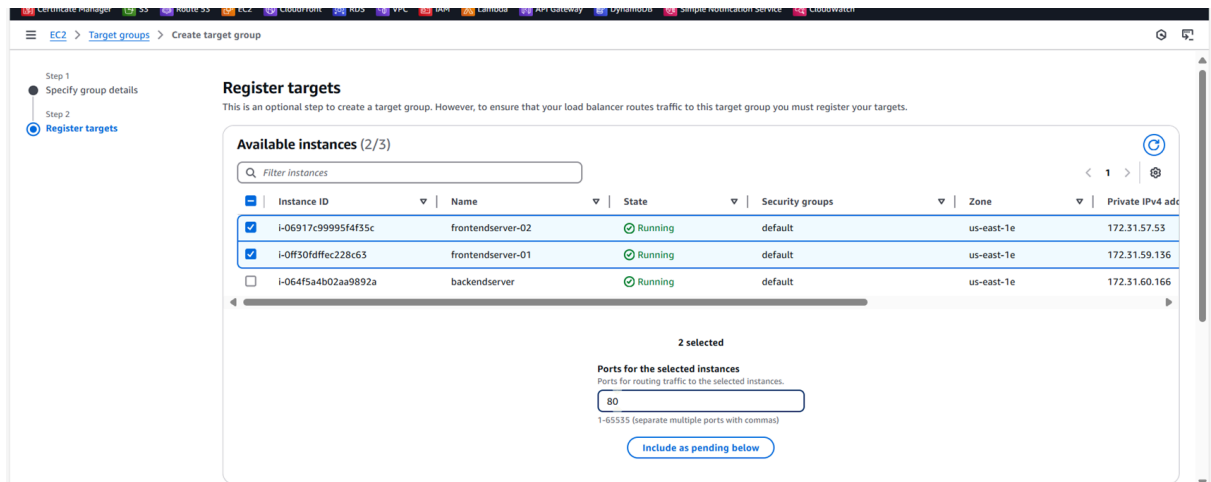


Navigate to tab - EC2 > select Loadbalancer>select **create load balancer :**

Loadbalancer name :- **TravelmemoryLB**



Create **Targetgroup**:- name it as **TravelmemTG** and assign frontenserver-01 and 02 EC2 instances - include as pending below and attach to Loadbalancer. **Mention port - 80** as we are running in nginx



Navigate to **loadbalancer** page and copy the DNS name as highlighted below and hit in the browser.

Navigation bar: Gmail, Settings, google Meet – mym..., Yahoo Mail, github- Manage acc..., Hero Vired: LMS, AWS, ChatGPT, AI, AWS Certified cloud..., AWS - login, Other favo

Search bar: [Alt+S]

Services: Certificate Manager, S3, Route 53, EC2, CloudFront, RDS, VPC, IAM, Lambda, API Gateway, DynamoDB, Simple Notification Service, CloudWatch

EC2 > Load balancers > TravelmemoryLB

Left sidebar:

- AMIs
- AMI Catalog
- Elastic Block Store
  - Volumes
  - Snapshots
  - Lifecycle Manager
- Network & Security
  - Security Groups
  - Elastic IPs
  - Placement Groups
  - Key Pairs
  - Network Interfaces
- Load Balancing
  - Load Balancers
  - Target Groups
  - Trust Stores **New**
- Auto Scaling
  - Auto Scaling Groups
- Settings

**TravelmemoryLB** [Actions]

**Details**

<b>Load balancer type</b> Application	<b>Status</b> Active	<b>VPC</b> vpc-0e01b20567365c1a4	<b>Load balancer IP address type</b> IPv4
<b>Scheme</b> Internet-facing	<b>Hosted zone</b> Z355XDOTRQ7X7K	<b>Availability Zones</b> subnet-0936d93a0f24e51c us-east-1e (use1-az3) subnet-094e999d2a1a0c642 us-east-1b (use1-az1)	<b>Date created</b> November 29, 2024, 02:28 (UTC+08:00)
<b>Load balancer ARN</b> arn:aws:elasticloadbalancing:us-east-1:225989348530:loadbalancer/app/TravelmemoryLB/d701ea2adc6c191e		<b>DNS name</b> TravelmemoryLB-418782673.us-east-1.elb.amazonaws.com (A Record)	

Listeners and rules | Network mapping | Resource map - new | Security | Monitoring | Integrations | Attributes | Capacity - new | Tags

**Listeners and rules (1)** [Info] [Manage rules] [Manage listener] [Add listener]

A listener checks for connection requests on its configured protocol and port. Traffic received by the listener is routed according to the default action and any additional rules.

Filter listeners

Protocol:Port	Default action	Rules	ARN	Security policy	Default SSL/TLS certificate

Could see the frontendpage in loadbalancer. Ensure its working fine.

← ↻ ⚠ Not secure | travelmemorylb-418782673.us-east-1.elb.amazonaws.com

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