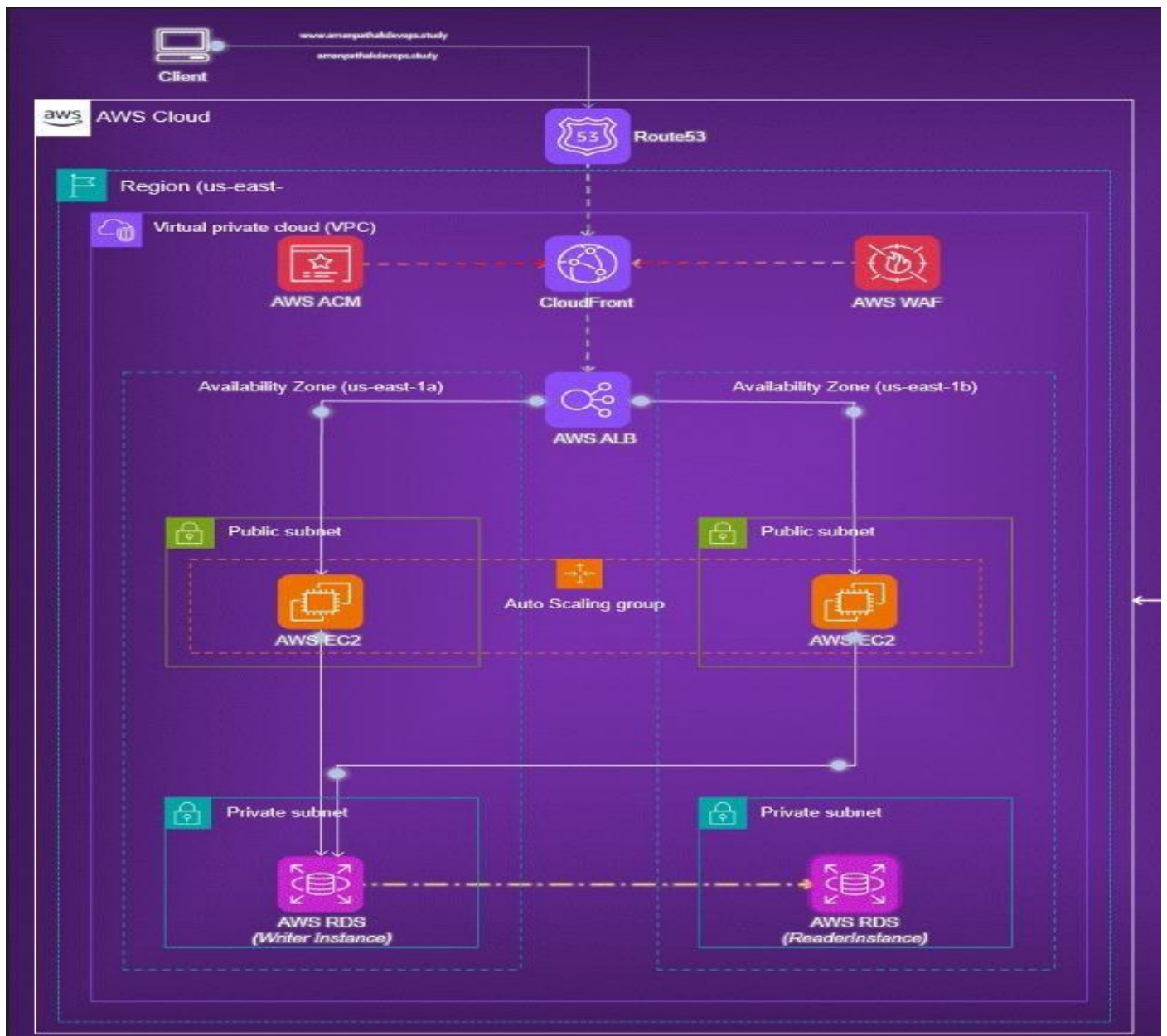


Two Tier Architecture

Task:



Required AWS Services:

- 1) Virtual Private Cloud.
- 2) Elastic cloud Compute.
- 3) Load Balancer.
- 4) Auto- Scaling Group.
- 5) Relational Database.
- 6) CloudFront.
- 7) ACM.
- 8) Route 53.

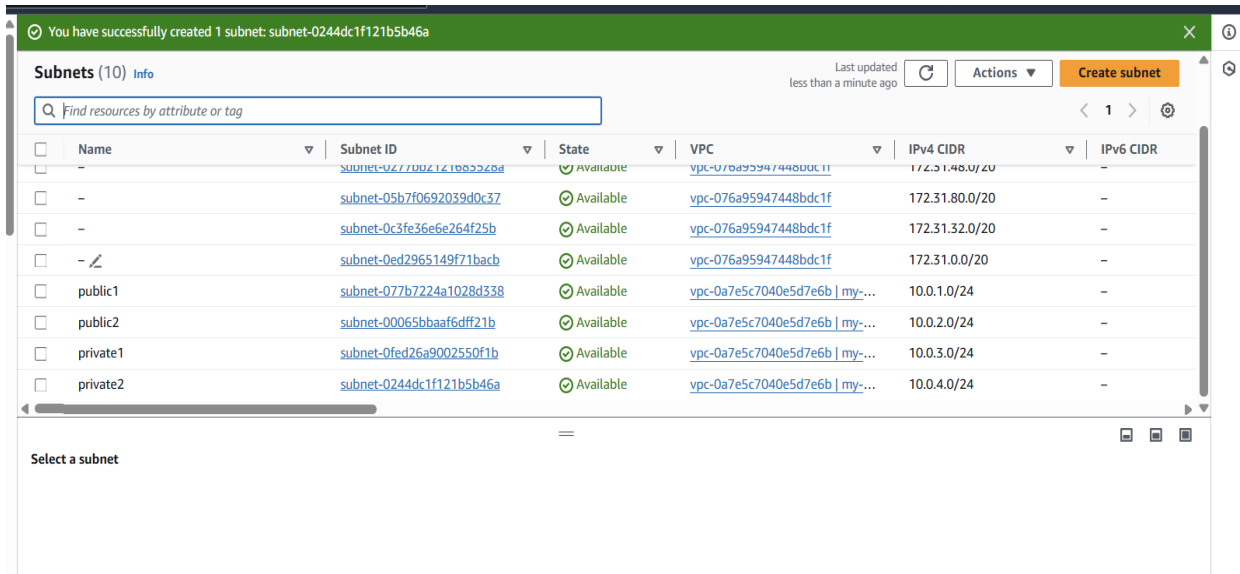
1) Virtual Private Cloud:

1. Login into your AWS Account and Search for VPC on Search Box.
2. Click on Create VPC & Subnets (public - 2 & Private – 2 in two AZ).
3. Create Two Route tables Named it as Public-rout & private-route.
4. Create Internet Gateway and Attach it to your VPC.
5. Go to edit routes in the Public-routable and Add IGW in inbound rules.
6. Create a NAT gateway and add routes in private-Routable.

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP option set
<input type="checkbox"/>	-	vpc-076a95947448bdc1f	Available	172.31.0.0/16	-	dopt-01d606309be8
<input type="checkbox"/>	my-vpc	vpc-0a7e5c7040e5d7e6b	Available	10.0.0.0/16	-	dopt-01d606309be8

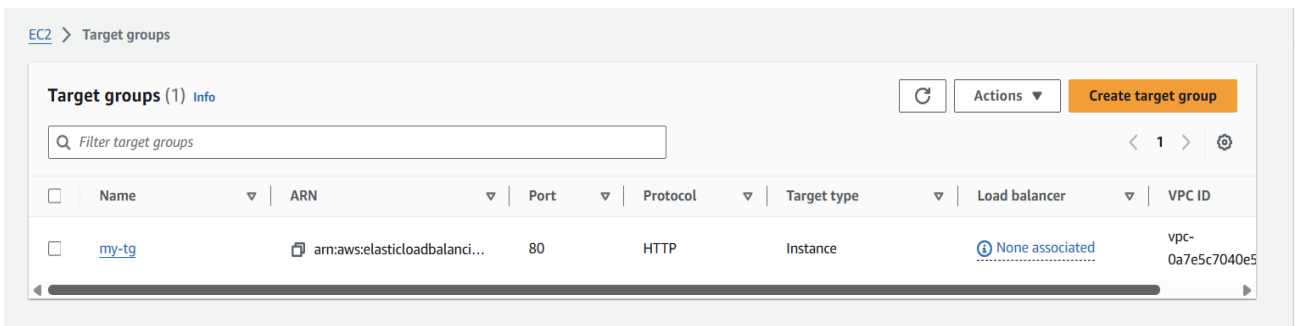
2) Elastic Cloud Compute (EC2):

1. Go & Click on Launch Instance.
2. Launch Two Ec2 instances (web Server-1 & web Server-2) in two different AZ.
3. Some Snapshots are attached below.



3) Elastic Load Balancer:

1. Firstly, We Need to Create a Target Group and Target Group Attachment.
2. Create a Load Balancer and Include Two EC2 Instances.



Successfully created load balancer: my-lb

It might take a few minutes for your load balancer to fully set up and route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.

EC2 > Load balancers > my-lb

my-lb

Details

Load balancer type

Application

Status

Provisioning

VPC

vpc-0a7e5c7040e5d7e6b

Load balancer IP address type

IPv4

Scheme

Internet-facing

Hosted zone

Z35XDOTRQ7X7K

Availability Zones

subnet-077b7224a1028d338 us-east-1a (use1-az4)

subnet-00065bbaaf6dff21b us-east-1b (use1-az5)

Date created

September 7, 2024, 16:37 (UTC)

Load balancer ARN

arn:aws:elasticloadbalancing:us-east-1:891377141179:loadbalancer/app/my-lb/6268ccfbbb87db9e

my-lb-1151441528.us-east-1.elb.amazonaws.com (A Record)

Listeners and rules

Network mapping

Resource map - new

Security

Monitoring

Integrations

Attributes

Tags

Listeners and rules (1) Info

Manage rules

Manage listener

Add

4) EC2 Instances After Auto Scaling:

Instances (3) Info

Last updated less than a minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

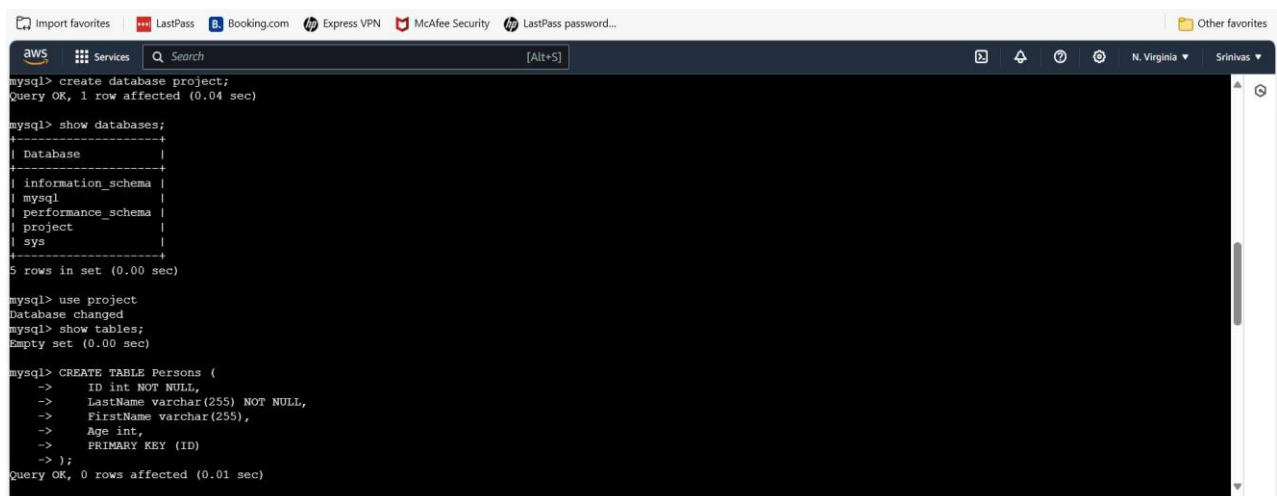
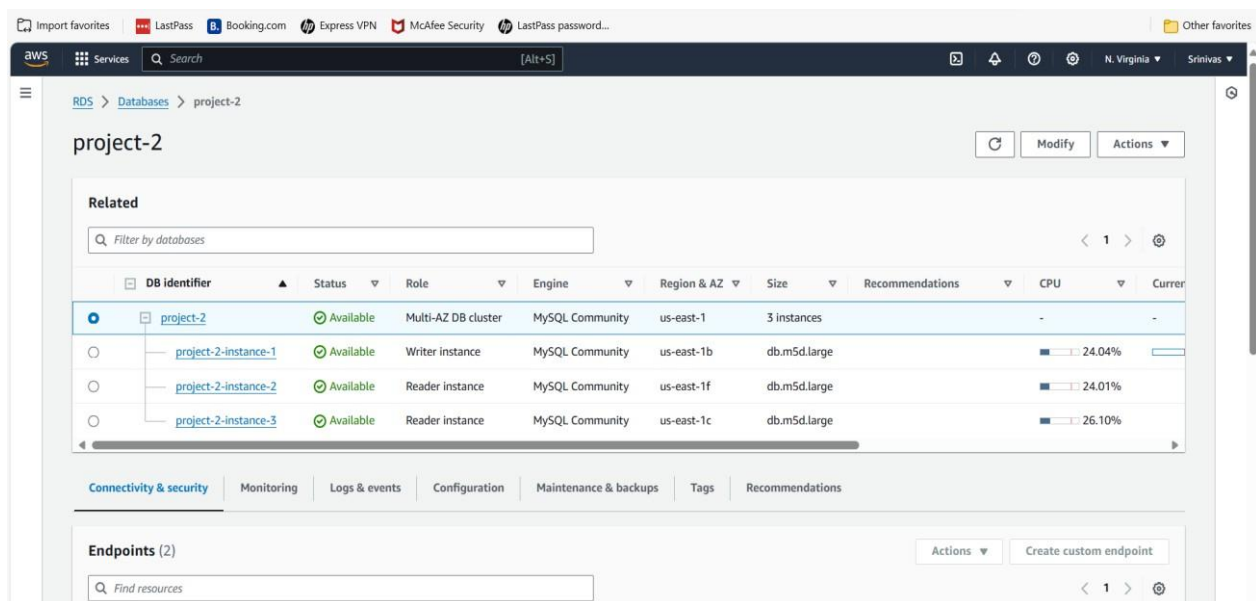
Instance state = running

Clear filters

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>		i-0912cf6780cae16ef	Running	t2.micro	Initializing	View alarms +	us-east-1a	-
<input type="checkbox"/>	instance1-public	i-0cc42f3e9bad710d2	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-
<input type="checkbox"/>	instance2-public	i-0127030d5c98b60dd	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1b	-

5) Amazon RDS:

1. Create a Database in Multi-Cluster AZ and including Private Subnet which is in Available in AZ.
2. Take write Instance endpoint and paste it in Git bash and connect to My-Sql Server.
3. Create a Database Name is Project.
4. Create a Table Name is Person.
5. Insert Data into Table.
6. Some Snapshots are Attached Below.



```
mysql> use project;
Database changed
mysql> INSERT INTO Persons (ID, LastName, FirstName, Age)
  -> VALUES ('101', 'Motu', 'Pathulu', '22');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Persons (ID, LastName, FirstName, Age)
  -> VALUES ('102', 'chota', 'Bheem', '23');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Persons (ID, LastName, FirstName, Age)
  -> VALUES ('103', 'chota', 'Bheem', '23');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Persons (ID, LastName, FirstName, Age)
  -> VALUES ('103', 'chowdary', 'Sinchan', '19');
ERROR 1062 (23000): Duplicate entry '103' for key 'Persons.PRIMARY'
mysql> INSERT INTO Persons (ID, LastName, FirstName, Age)
  -> VALUES ('104', 'chowdary', 'Sinchan', '19');
Query OK, 1 row affected (0.00 sec)
```

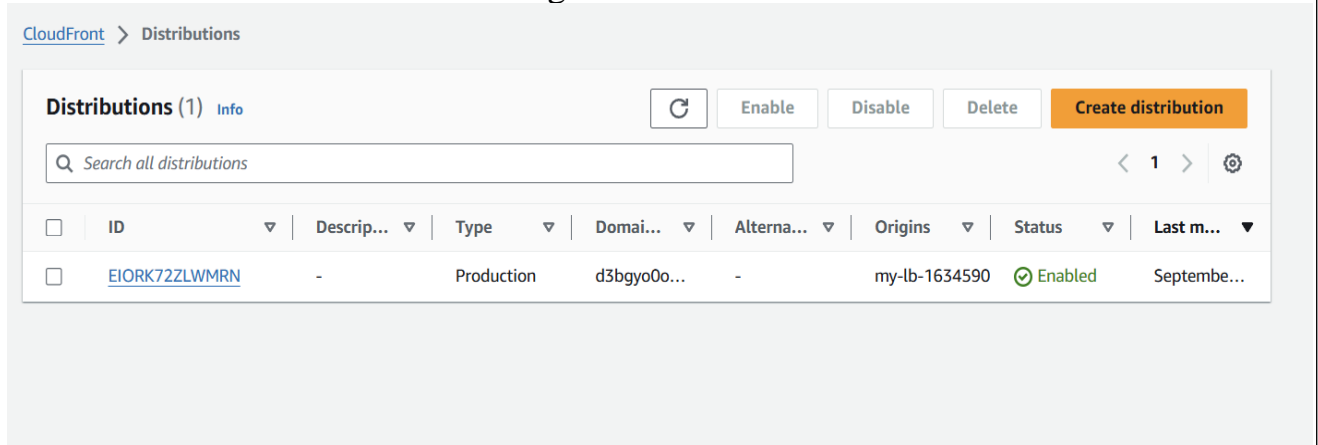
corresponds to your MySQL server version for the right syntax to use near 'Persons' at line 1

```
mysql> select * from Persons;
+-----+-----+-----+-----+
| ID   | LastName | FirstName | Age |
+-----+-----+-----+-----+
| 101  | Motu    | Pathulu   | 22  |
| 102  | chota   | Bheem     | 23  |
| 103  | chota   | Bheem     | 23  |
| 104  | chowdary | Sinchan   | 19  |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> 
```

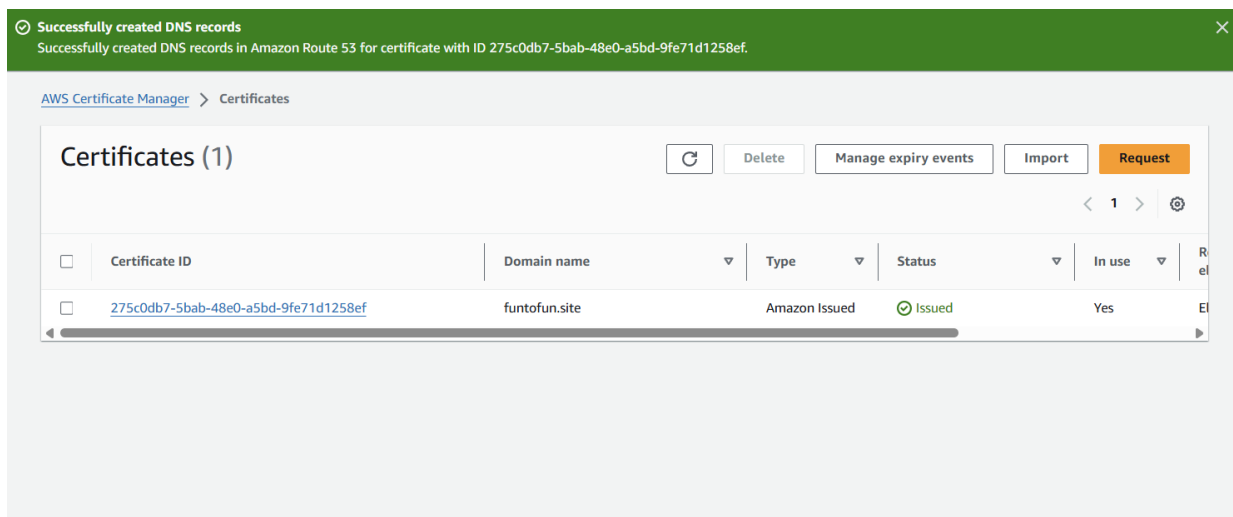
6) Amazon CloudFront:

1. Create a CloudFront and Enable WAF for Protection.
2. Create Amazon Certificate Management and add it to CloudFront.



7) Amazon Certification Management:

1. Create ACM and add it to CloudFront.



Domain Name System:

The screenshot shows the Hostinger DNS management page for the domain **funtofun.site**. The left sidebar contains a 'Main menu' with options: 'Domain Overview', 'DNS / Nameservers' (selected), and 'Domain Ownership'. The main content area has a heading 'Nameservers handle internet requests for your domain. You can use Hostinger nameservers or use custom nameservers.' Below this, a list of Hostinger nameservers is shown: `ns-116.awsdns-14.com`, `ns-1288.awsdns-33.org`, `ns-2014.awsdns-59.co.uk`, and `ns-655.awsdns-17.net`. The 'Select Nameservers' section has two radio buttons: 'Use Hostinger nameservers (recommended)' and 'Change nameservers' (selected). Below the radio buttons, there are four input fields for custom nameservers. The first field contains `ns-778.awsdns-33.net`. The other three fields are empty. At the bottom, there are 'Save' and 'Cancel' buttons.

HOSTINGER

< Main menu

Select domain
funtofun.site

Domain Overview

DNS / Nameservers

Domain Ownership

Give feedback

Nameservers handle internet requests for your domain. You can use Hostinger nameservers or use custom nameservers.

`ns-116.awsdns-14.com`
`ns-1288.awsdns-33.org`
`ns-2014.awsdns-59.co.uk`
`ns-655.awsdns-17.net`

Select Nameservers

☐ Use Hostinger nameservers (recommended)

☒ Change nameservers

`ns-778.awsdns-33.net`

`ns-1301.awsdns-34.org`

`ns-126.awsdns-15.com`

`ns-1650.awsdns-14.co.uk`

Save Cancel

8) Amazon Route 53:

1. Create a route 53 and Create a CNAME record in Route 53.
2. Change The Name Servers in DNS (Hostinger) with your Route 53 Name Server.

The screenshot shows the Amazon Route 53 console. The browser address bar displays `ast-1.console.aws.amazon.com/route53/v2/hostedzones?region=us-east-1#`. The console header shows the user is logged in as 'Srinivas'. The main content area is titled 'Route 53 > Hosted zones'. It shows a list of 'Hosted zones (1)'. The first zone is for the domain `funtofun.site`, which is a 'Public' zone created by 'Route 53' with a 'Record count' of 3. The 'Hosted zone name' column shows `funtofun.site` and the 'Hosted zone...' column shows `Z054753538RP...`. The console also includes a search bar, a 'Create hosted zone' button, and a table with columns for 'Hosted zone name', 'Type', 'Created by', 'Record count', 'Description', and 'Hosted zone...'.

ast-1.console.aws.amazon.com/route53/v2/hostedzones?region=us-east-1#

Booking.com Express VPN McAfee Security LastPass password... Other favorites

[Alt+S]

Route 53 > Hosted zones

Hosted zones (1)

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Filter records by property or value

< 1 >

Hosted zone name	Type	Created by	Record count	Description	Hosted zone...
funtofun.site	Public	Route 53	3	-	Z054753538RP...

Route 53 > Hosted zones > funtofun.site

Public funtofun.site Info Delete zone Test record Configure query logging

► Hosted zone details Edit hosted zone

Records (3) DNSSEC signing Hosted zone tags (0)

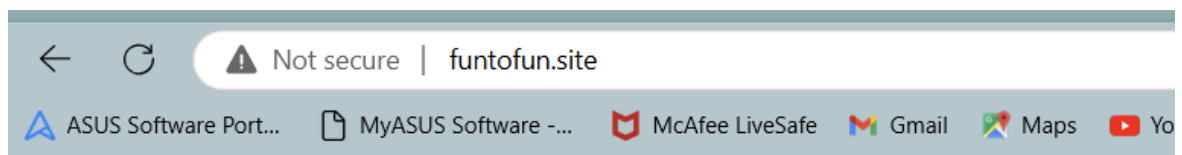
Records (3) Info Refresh Delete record Import zone file Create record

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

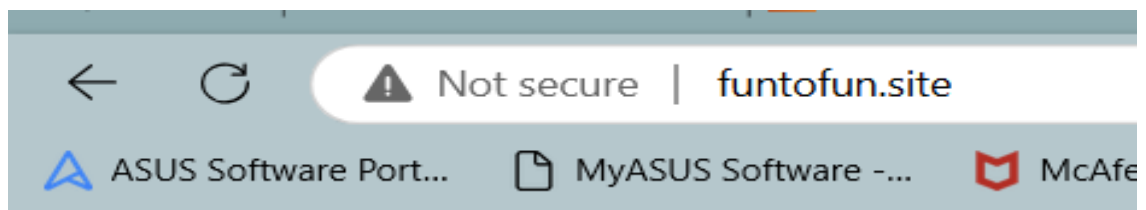
Filter records by property or value Type ▼ Routing policy ▼ Alias ▼ < 1 >

<input type="checkbox"/>	Record name	Type	Routin...	Differ...	Alias	Value/Route traffic to	TTL (s...)	Health ...
<input type="checkbox"/>	funtofun.site	NS	Simple	-	No	ns-778.awsdns-33.net. ns-1301.awsdns-34.org. ns-126.awsdns-15.com. ns-1650.awsdns-14.co.uk.	172800	-
<input type="checkbox"/>	funtofun.site	SOA	Simple	-	No	ns-778.awsdns-33.net. awsd...	900	-
<input type="checkbox"/>	_4e785437b412d4f442d5621ac...	CNAME	Simple	-	No	_0a11e20acea9d0011ece37c...	300	-

Outputs:



This is from instance2 public



This is from public instance 1