

Two Tier Architecture Route53

Creating a Two-Tier architecture on AWS. We'll explore the essential services involved, ensuring high availability, security, and scalability for hosting a static website.

Also, we are adopting a modular approach with enhanced security measures. The infrastructure is organized into dedicated modules, ensuring a scalable, maintainable, and secure deployment. Create an isolated network with the following components: VPC

Subnets

Route Tables

Internet Gateway

NAT gateway

Security Groups

- Create VPC with CIDR Block range (10.0.0.0/16)

Your VPCs (2) Info							
<div>Q Search</div>							
Last updated 7 minutes ago Refresh Actions Create VPC							
<div>< 1 > Settings</div>							
<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP Options	
<input type="checkbox"/>	default	vpc-0b19bebf1dba17f18	Available	172.31.0.0/16	-	Associate	
<input type="checkbox"/>	Project2-vpc	vpc-02c2e5cba9b57302c	Available	10.0.0.0/16	-	Associate	

- Create 4 subnet (2 Public subnets, 2 Private subnet)

Subnets (7) Info						
<div>Q Find resources by attribute or tag</div>						
Last updated 2 minutes ago Refresh Actions Create subnet						
<div>< 1 > Settings</div>						
<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	
<input type="checkbox"/>	-	subnet-0e98b28b703b263bb	Available	vpc-0b19bebf1dba17f18 default	172.31.32.0/20	
<input type="checkbox"/>	-	subnet-0f9e2ab8c294e4465	Available	vpc-0b19bebf1dba17f18 default	172.31.16.0/20	
<input type="checkbox"/>	-	subnet-0cf6cab1b36f2d9b4	Available	vpc-0b19bebf1dba17f18 default	172.31.48.0/20	
<input type="checkbox"/>	public-1B-two-tier-architecture	subnet-0555411355730d4b1	Available	vpc-02c2e5cba9b57302c Project2-vpc	10.0.0.0/24	
<input type="checkbox"/>	public-1A-two-tier-architecture	subnet-0d497099cb6252a27	Available	vpc-02c2e5cba9b57302c Project2-vpc	10.0.1.0/24	
<input type="checkbox"/>	Private-1A-two-tier-architecture	subnet-0c345488e0015799a	Available	vpc-02c2e5cba9b57302c Project2-vpc	10.0.3.0/24	
<input type="checkbox"/>	Private-1B-two-tier-architecture	subnet-076e6b1c748789d1f	Available	vpc-02c2e5cba9b57302c Project2-vpc	10.0.2.0/24	

- Create Internet gateway and attach to VPC

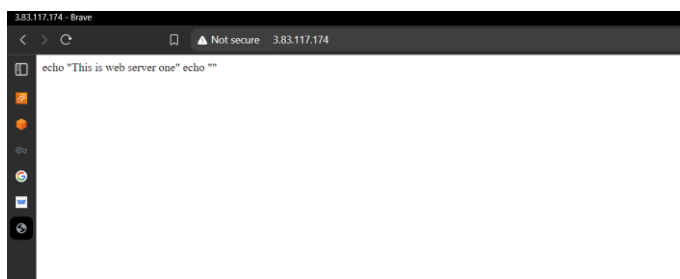
Internet gateways (2) Info						Refresh Actions Create internet gateway
<input type="text" value="Search"/>						1
<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner	
<input type="checkbox"/>	-	igw-08274aaacecf9cf0e	Attached	vpc-0b19bebf1dba17f18 default	3397128734	
<input type="checkbox"/>	two-tier-architecture-igw	igw-0ead342f2eeef287f	Attached	vpc-02c2e5cha9b57302c Project2-vpc	3397128734	

- Create Two route tables one for Public and Private subnets and add internet gateway to Public route table.

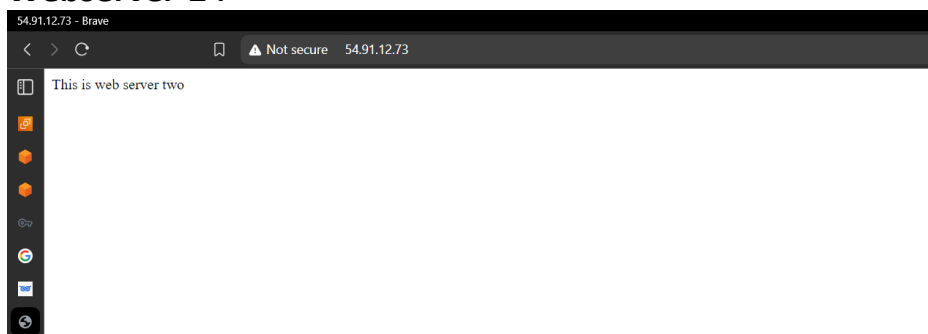
Route tables (2/3) Info							Refresh Actions Create route table
<input type="text" value="Find resources by attribute or tag"/>							1
<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	
<input checked="" type="checkbox"/>	Public-rt	rtb-0524a70e7ddf69e8f	2 subnets	-	Yes	vpc-09fb9cfccbf2701	
<input type="checkbox"/>	-	rtb-0bace52a0d9b7a614	-	-	Yes	vpc-07afcdf9fb49e1aa	
<input checked="" type="checkbox"/>	Private-rt	rtb-07ab36843f057e6e8	2 subnets	-	No	vpc-09fb9cfccbf2701	

- Launch 2 Ec2 Web server and configure with Nginx.
- Create an sample Web Page in index.html

Webserver-1 :



Webserver-2 :



Create Application Load Balancer and add 2 ec2 instances in Target Group

Target groups (1) [Info](#)



Actions ▾

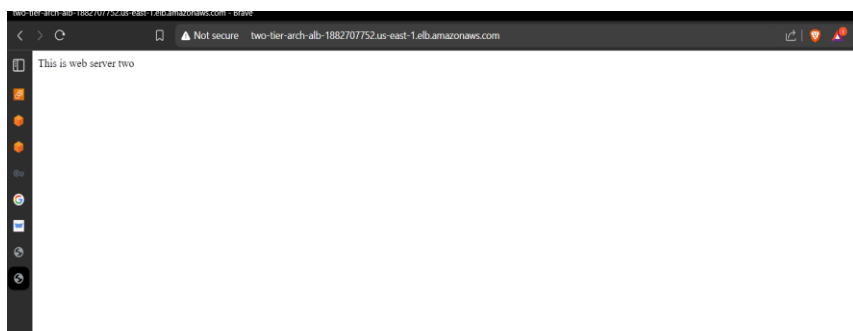
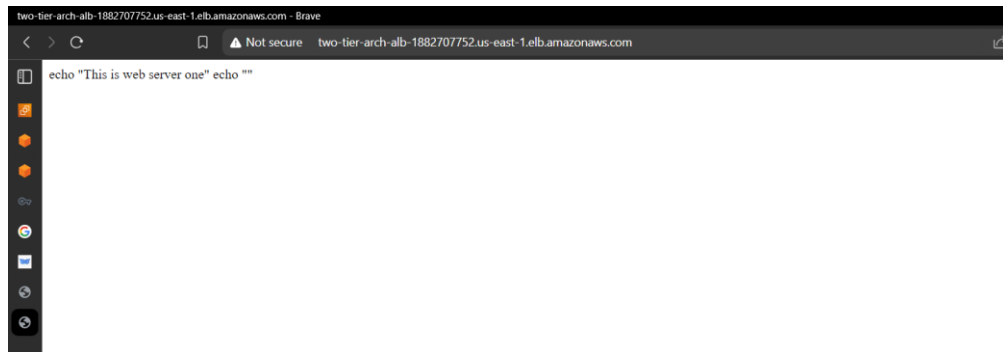
Create target group

Filter target groups

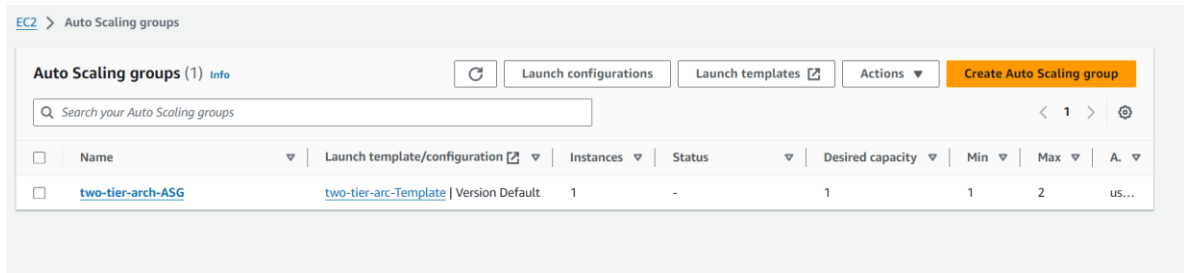
< 1 >

<input type="checkbox"/>	Name ▾	ARN ▾	Port ▾	Protocol ▾	Target type ▾	Load balancer
<input type="checkbox"/>	two-tier-architecture-tg	arn:aws:elasticloadbalanci...	80	HTTP	Instance	None associated

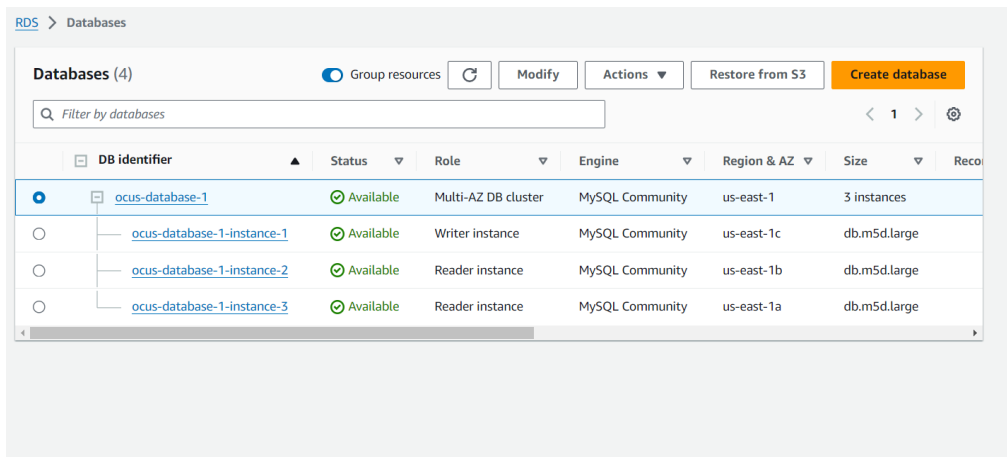
- ## Test Load Balancer with Load balancer DNS Name



- **For Creation of Autoscaling we required Launch template.**



- **Create RDS and attach 2 Ec2 instances to the RDS for database access**



- Tested writer instance in Public server
-

```
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 68
Server version: 8.0.35 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

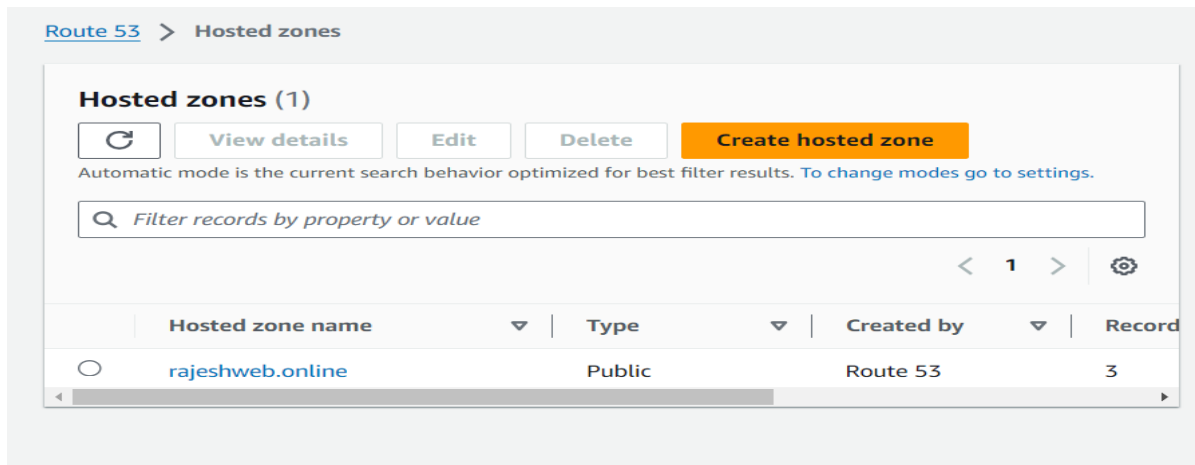
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> create database pavan;
Query OK, 1 row affected (0.003 sec)

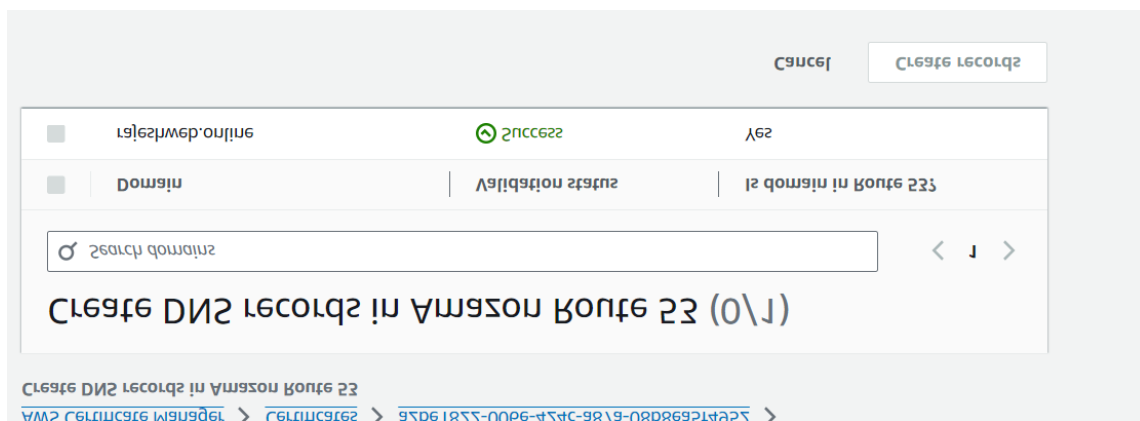
MySQL [(none)]> use pavan;
Database changed
MySQL [pavan]> create tables pavan1;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'tab
les pavan1' at line 1
MySQL [pavan]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| pavan |
| performance_schema |
| sys |
+-----+
5 rows in set (0.001 sec)

MySQL [pavan]> |
```

- Create Hostedzone in Route 53



- Configure Nameservers in Domain purchased website



- I have purchsed domain in Godaddy.
- So editing my own Nameservers in Godaddy website.

- In order to secure a webpage we required SSL/TLS Certificates in ACM

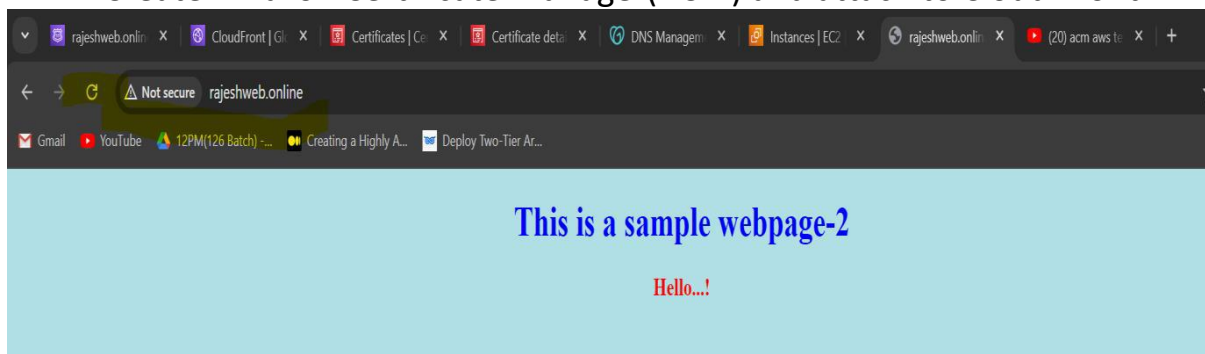
Certificate status

Identifier	Status
a2be1822-006e-424c-a87a-08b8ea5f4952	Issued
ARN	
arn:aws:acm:us-east-1:339712873420:certificate/a2be1822-006e-424c-a87a-08b8ea5f4952	
Type	
Amazon Issued	

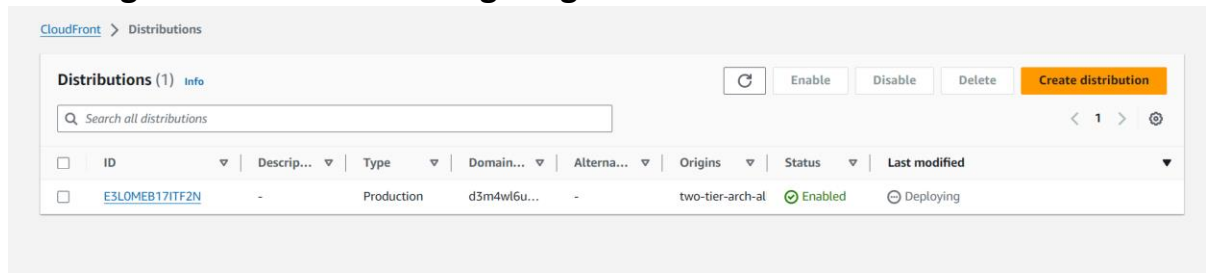
Domains (1) Create records in Route 53 Export to CSV

Domain	Status	Renewal status	Type	CNAME name
rajeshweb.online	Success	-	CNAME	_2d3bf2f366d8d624878f35ac114

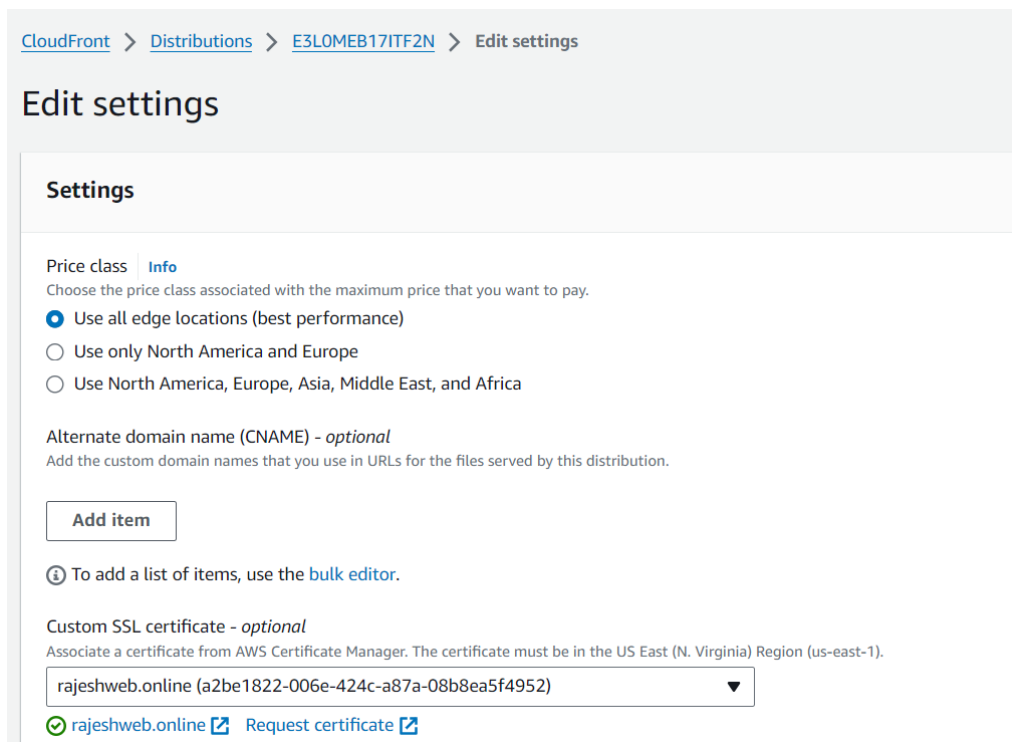
- Create Amazon Certificate Manager(ACM) and attach to Cloud Front



- **Creating Cloud Front and configuring**



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- Create a record in Route 53 add Cloud front in record.

[Route 53](#) > [Hosted zones](#) > [rajeshweb.online](#) > Create record

Create record [Info](#)

Quick create record [Switch to wizard](#)

▼ Record 1 [Delete](#)

Record name [Info](#)

rajeshweb.online

Record type [Info](#)

A – Routes traffic to an IPv4 address and some AWS resources ▼

Keep blank to create a record for the root domain.

☒ Alias

Route traffic to [Info](#)

Alias to CloudFront distribution ▼

US East (N. Virginia) ▼

An alias to a CloudFront distribution and another record in the same hosted zone are global and available only in US East (N. Virginia).

X

Routing policy [Info](#)

Simple routing ▼

Evaluate target health

☐ No

[AWS Certificate Manager](#) > [Certificates](#) > [a2be1822-00be-424c-a8/a-08b8ea514952](#) >
Create DNS records in Amazon Route 53

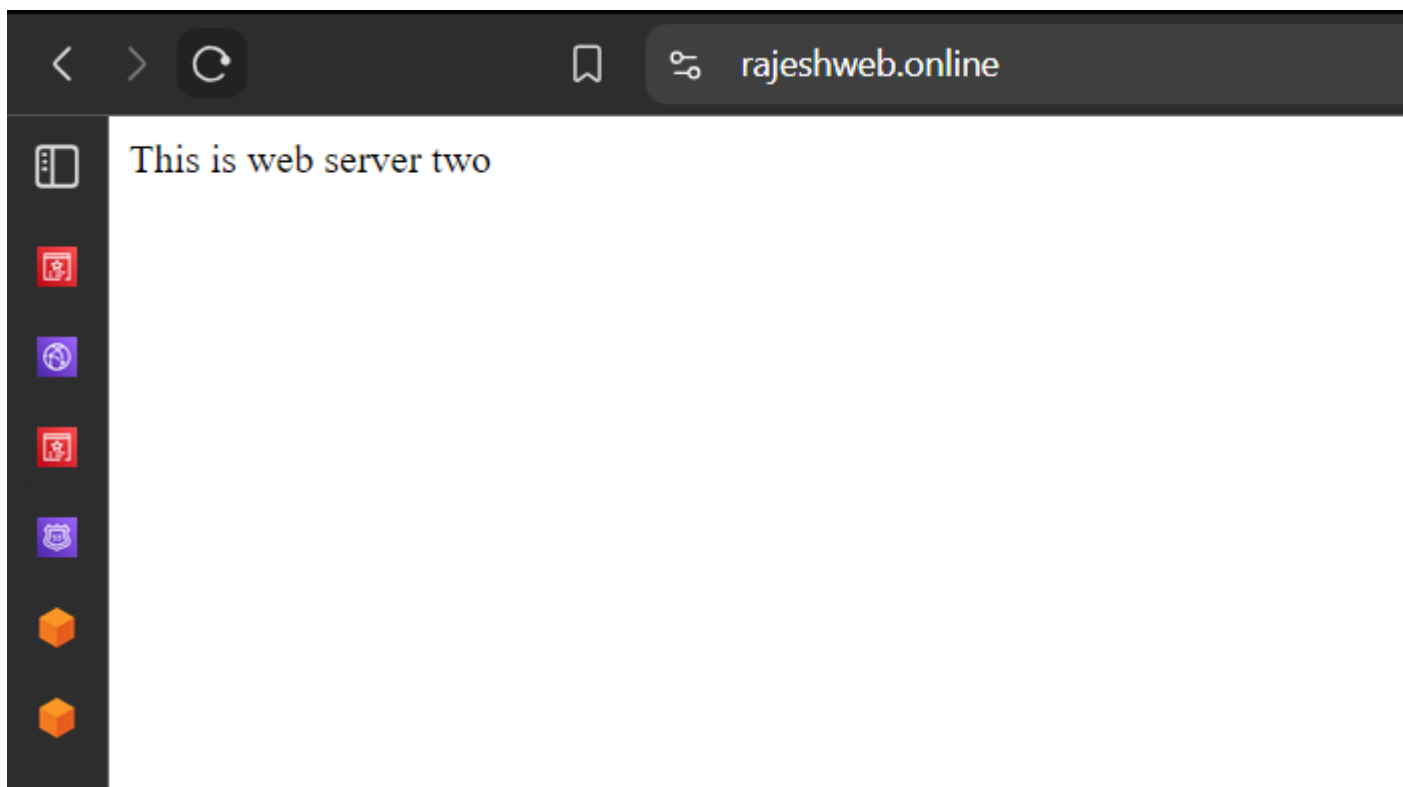
Create DNS records in Amazon Route 53 (0/1)

< 1 >

<input type="checkbox"/>	Domain	Validation status	Is domain in Route 53?
<input type="checkbox"/>	rajeshweb.online	✓ Success	Yes

[Cancel](#) [Create records](#)

- Test the out with our own DNS Name.



My Domain name is rajeshweb.online