



Placement Empowerment Program

Cloud Computing and DevOps Centre

Implement DNS for Your Application: Set up a DNS record to map your web application's IP or load balancer to a domain name.

Name: VINISHA AKANYA A

Department : IT



Introduction

Domain Name System (DNS) is a crucial component of web applications, enabling human-readable domain names (e.g., www.example.com) to be mapped to machine-readable IP addresses. This eliminates the need for users to remember complex numerical IP addresses, enhancing accessibility and user experience.

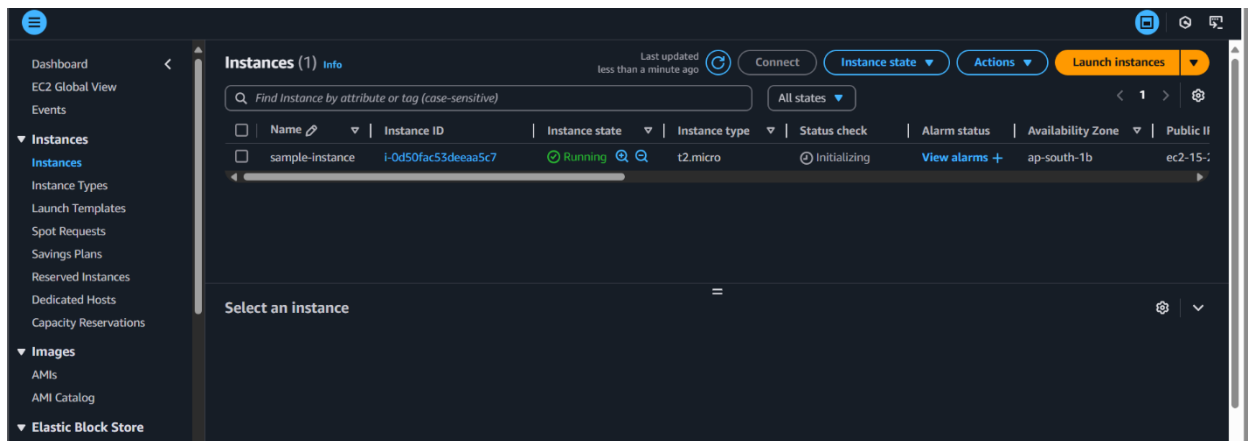
Objectives

- Set up a DNS record using a cloud provider's DNS service (e.g., AWS Route 53).
- Map your web application's IP or Load Balancer to a domain name.
- Verify and test DNS resolution by accessing the domain in a web browser.

Step by Step Overview

1. Create an EC2 instance

- log into your aws account.
- create an EC2 instance.



2. Open the EC2 dashboard

Find your instance and copy the Public IPv4 Address.

Instance summary for i-0d50fac537 Info

Updated less than a minute ago

Instance ID
i-0d50fac537

IPv6 address
-

Hostname type
IP name: ip-172-31-15-59.ap-south-1.compute.internal

Answer private resource DNS name
IPv4 (A)

Auto-assigned IP address
15.207.71.54 [Public IP]

IAM Role
-

IMDSv2
Required

Public IPv4 address
15.207.71.54 | open address

Instance state
Running

Private IP DNS name (IPv4 only)
ip-172-31-15-59.ap-south-1.compute.internal

Instance type
t2.micro

VPC ID
vpc-0dc478e33f2218481

Subnet ID
subnet-0e71bd486fe2bba26

Instance ARN
arn:aws:ec2:ap-south-1:575108950355:instance/i-0d50fac537

Private IPv4 addresses
172.31.15.59

Public IPv4 DNS
ec2-15-207-71-54.ap-south-1.compute.amazonaws.com | open address

Elastic IP addresses
-

AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name
-

Managed
false

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3. Register a domain name

- Open Amazon Route53

Network & Content Delivery

Amazon Route 53

A reliable way to route users to internet applications

Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service.

Get started with Route 53

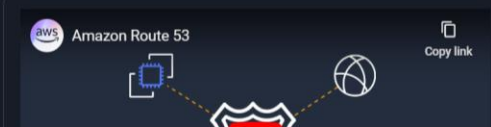
Get started by registering a domain, configuring DNS, or using another Route 53 feature.

Get started

Pricing (US)

[View pricing](#)

How it works



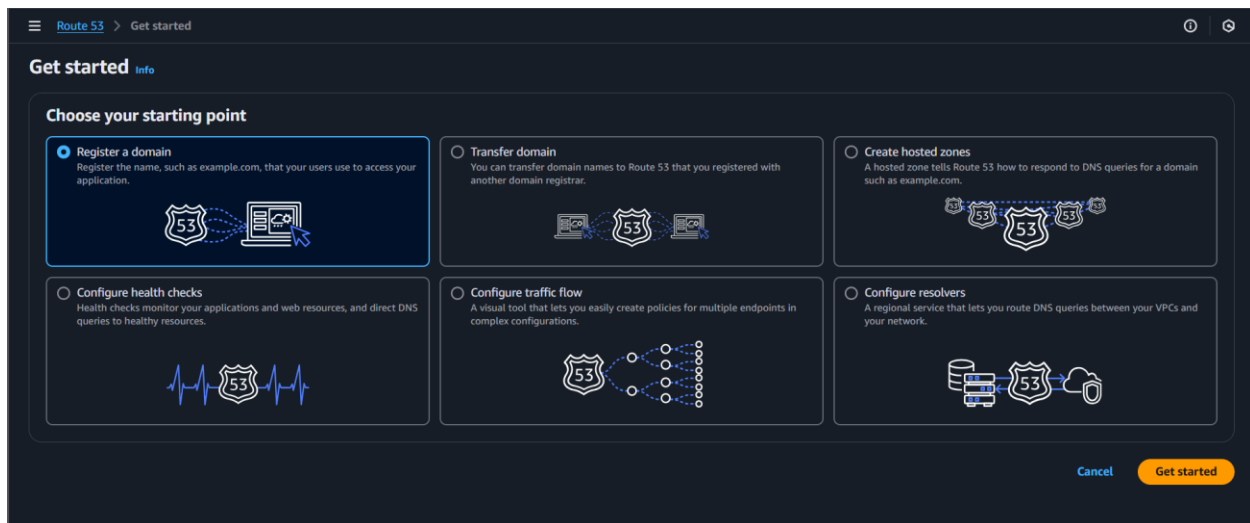
More resources

- [Documentation](#)
- [API reference](#)
- [FAQs](#)

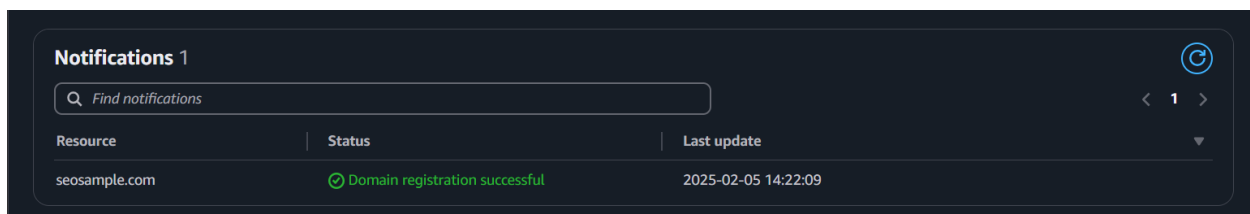
CloudShell Feedback

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- Click **Register Domain** and follow the steps to purchase a domain.

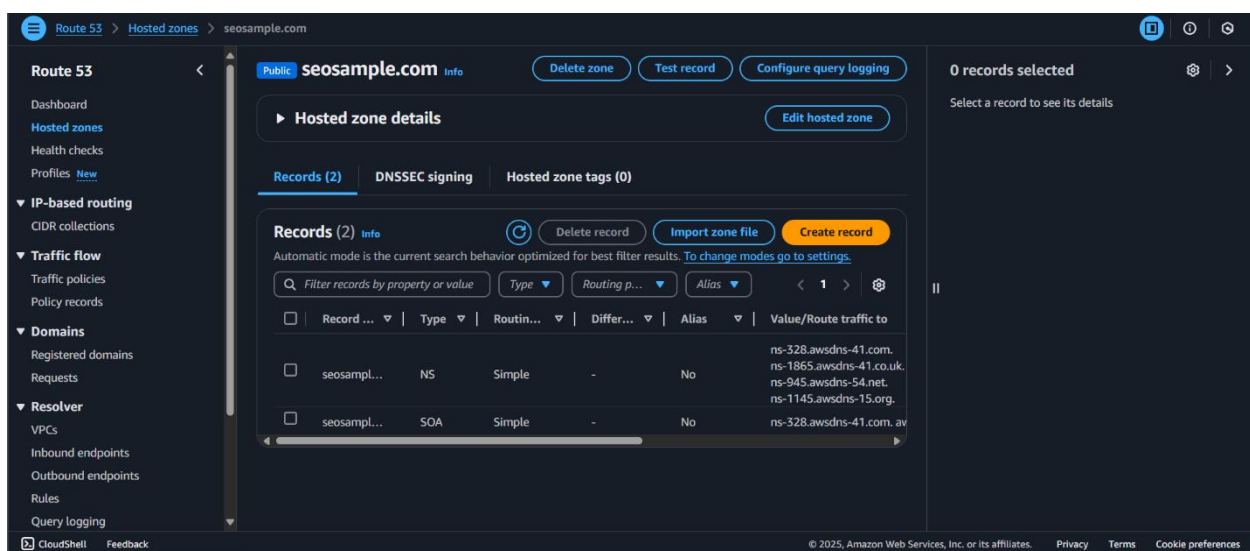


- Now you have successfully registered a Domain. (it might take a few minutes)



4. Hosted Zone

When you register the domain, AWS automatically creates a host zone.



5. Create Records

- Click **Create record**.
- Choose **Simple routing** → Click Next.
- Configure the record:
 - Record name: Leave blank for root domain (example.com) or enter www for www.example.com.
 - Record type: Choose **A – IPv4 address**.
 - Value: Paste your EC2 Public IPv4 Address (e.g., 3.123.45.67).
 - TTL: Keep default (300 seconds).
- Click Create record.

The screenshot shows the 'Create record' wizard in AWS Route 53. The breadcrumb trail is 'Route 53 > Hosted zones > seosample.com > Create record'. The 'Quick create record' section has a 'Record 1' dropdown. The 'Record name' field contains 'subdomain' and the 'Record type' dropdown is set to 'A - Routes traffic to an IPv4 address and some AWS resources'. The 'Value' field contains '15.207.71.54'. The 'TTL (seconds)' field is set to '300' with buttons for '1m', '1h', and '1d'. The 'Routing policy' dropdown is set to 'Simple routing'. There are 'Switch to wizard', 'Delete', and 'Add another record' buttons.

The screenshot shows the AWS Route 53 console. A blue banner at the top states: 'Record for seosample.com was successfully created. Route 53 propagates your changes to all of the Route 53 authoritative DNS servers within 60 seconds. Use "View status" button to check propagation status.' Below this, the 'Hosted zone details' for 'seosample.com' are displayed. The 'Records (3)' tab is selected, showing a table of records.

Record	Type	Routing policy	Alias	Value/Route traffic to
seosaml...	A	Simple	No	15.207.71.54

6. Verify the Domain

Wait a few minutes, then test if the domain resolves correctly.

Using **nslookup** <domainname.com> - you can test the configurations of your EC2 instance.

```
Server:  dns.google
Address:  8.8.8.8

Non-authoritative answer:
Name:     seosample.com
Address:  15.207.71.54
```

Outcome:

- Custom Domain Access
- Improved User Experience & Branding
- DNS Mapping to Web Application
- Verification of DNS Configuration