



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.

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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

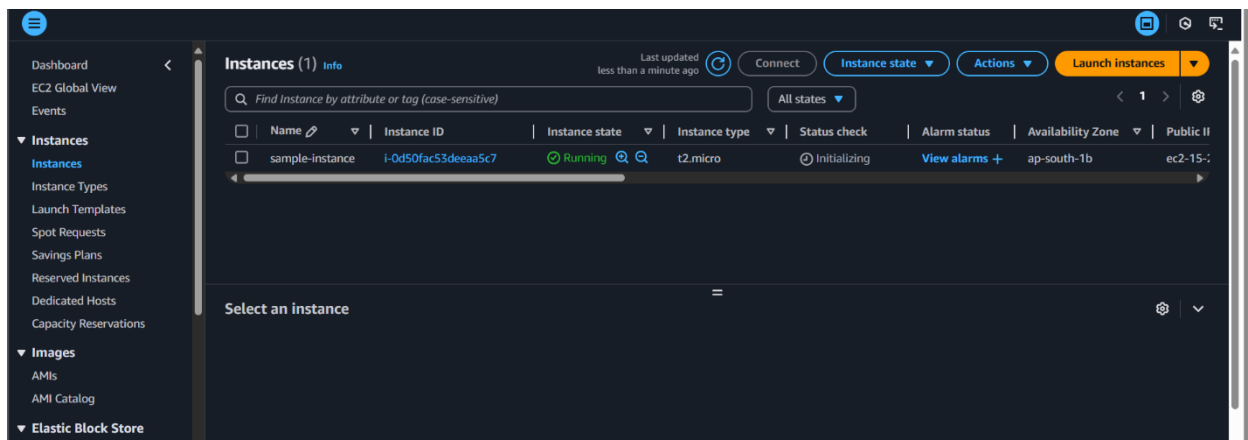
- Set up a DNS record using a cloud provider's DNS service (e.g., AWS Route 53).
- Map your web application's IP or Load Balancer to a domain name.
- Verify and test DNS resolution by accessing the domain in a web browser.

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

[Public IPv4 address copied](#)

Instance ID
i-0d50fac537deaa5c7

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

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-0d50fac537deaa5c7

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

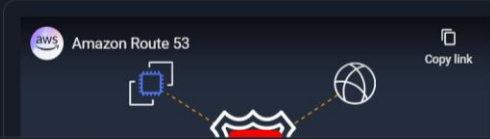
Get started by registering a domain, configuring DNS, or using another Route 53 feature.

[Get started](#)

Pricing (US)

[View pricing](#)

How it works

 [Copy link](#)

More resources

[Documentation](#)

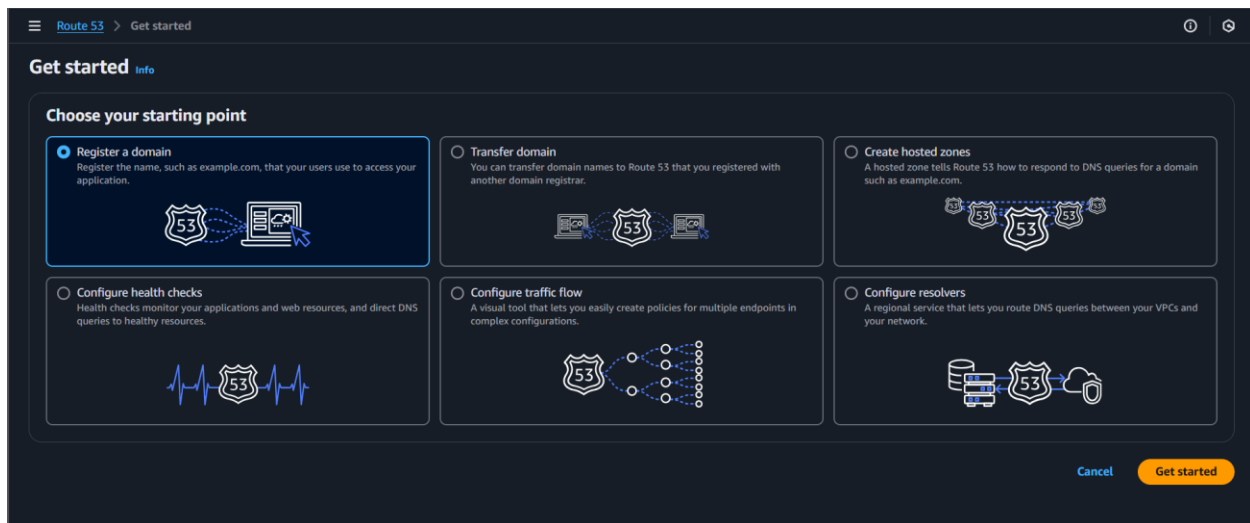
[API reference](#)

[FAQs](#)

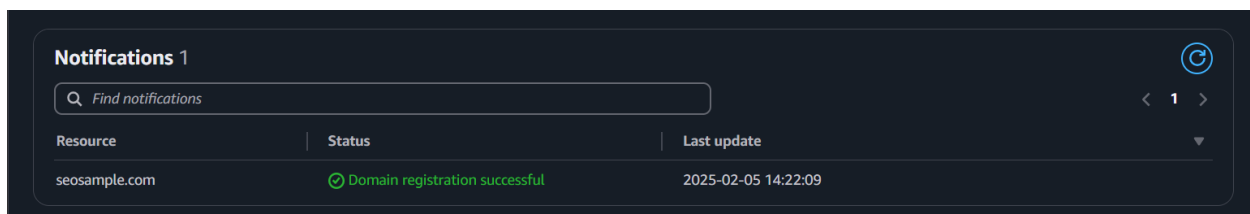
CloudShell Feedback

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

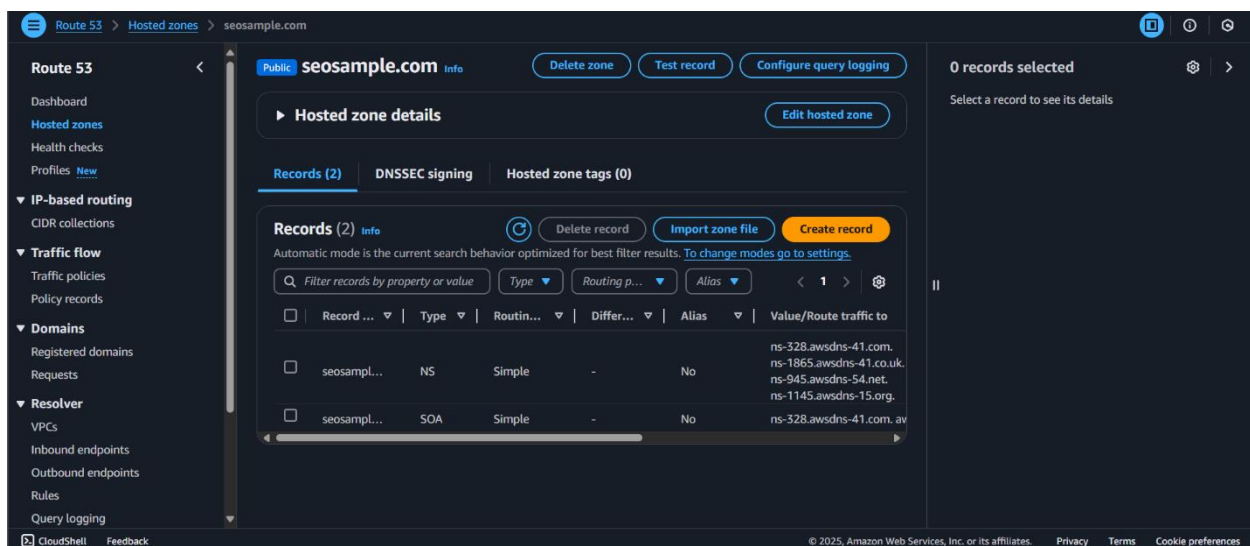


- Now you have successfully registered a Domain. (it might take a few minutes)



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 'Record name' is 'subdomain' and the 'Record type' is 'A - Routes traffic to an IPv4 address and some AWS resources'. The 'Value' is '15.207.71.54' and the 'TTL (seconds)' is '300'. The 'Routing policy' is 'Simple routing'.

The screenshot shows the 'Hosted zone details' for 'seosample.com'. A blue notification 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 the banner, the 'Hosted zone details' section shows 'Records (3)' and 'DNSSEC signing'. The 'Records (3)' section shows a table with columns: Record name, Type, Routing policy, Alias, and Value/Route traffic to. The table contains one record: 'seosampl...' with Type 'A', Routing policy 'Simple', Alias 'No', and Value '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.

```
C:\Users\ERW00446>nslookup seosample.com
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