



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.

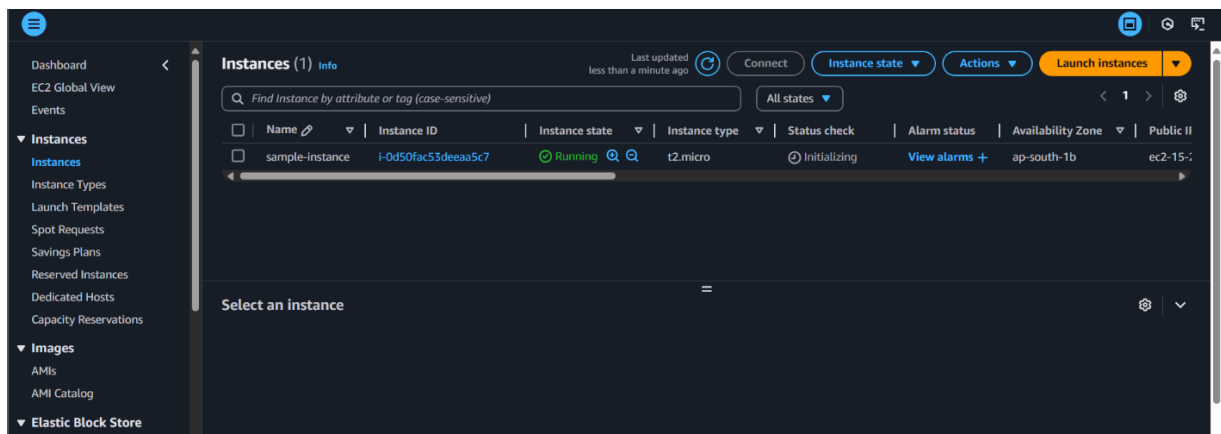
Objectives

- 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-0d50fac57 (Instance) Info

Updated less than a minute ago

Public IPv4 address copied

Instance ID: i-0d50fac53deea5c7

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

Private IP 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-0d50fac53deea5c7

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

Amazon Route 53

Copy link

More resources

Documentation

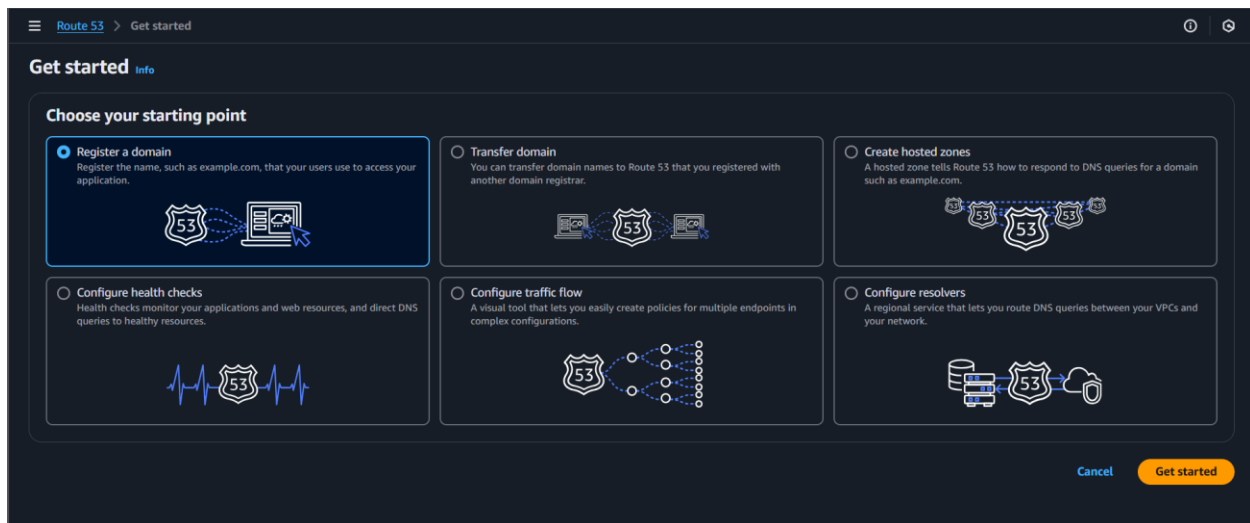
API reference

FAQs

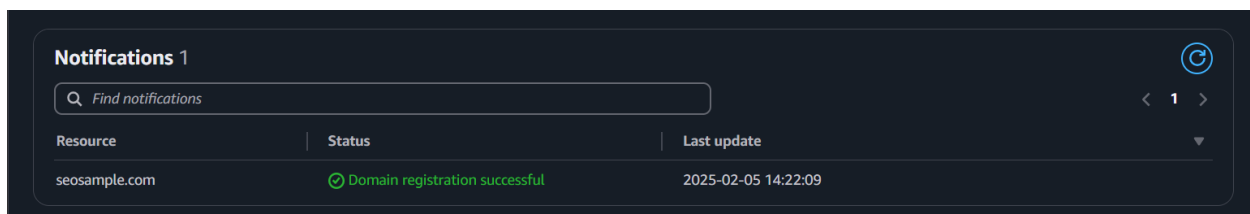
CloudShell Feedback

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

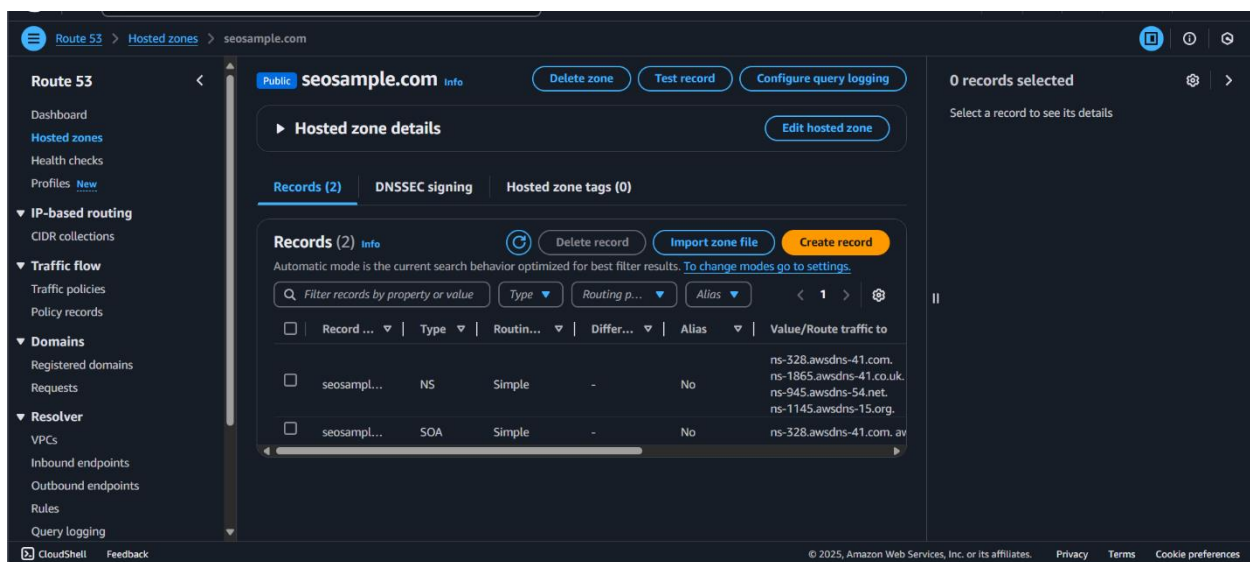


- Now you have successfully registered a Domain. (it might take a few minutes)



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.

Route 53 > Hosted zones > seosample.com > Create record

Create record Info

Quick create record

Record 1

Record name Info: subdomain seosample.com

Record type Info: A - Routes traffic to an IPv4 address and some AWS resources

Value Info: 15.207.71.54

TTL (seconds) Info: 300 (1m, 1h, 1d)

Routing policy Info: Simple routing

Buttons: Switch to wizard, Delete, Add another record

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.

Public **seosample.com** Info

Buttons: Delete zone, Test record, Configure query logging, Edit hosted zone

Hosted zone details

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

Records (3) Info

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

Filter records by property or value

Record ...	Type	Routin...	Differ...	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.

```
C:\Users\nandh>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