

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

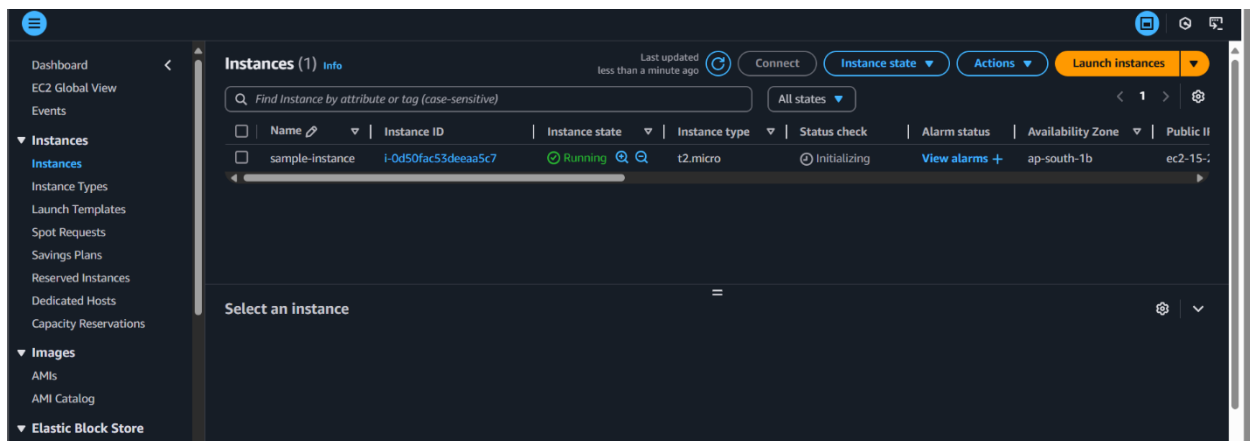
- Set up a DNS record using a cloud provider's DNS service (e.g., AWS Route 53).
- Map your web application's IP or Load Balancer to a domain name.
- Verify and test DNS resolution by accessing the domain in a web browser.

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-0d50fac53deea5c7 Info

Updated less than a minute ago

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

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](#)

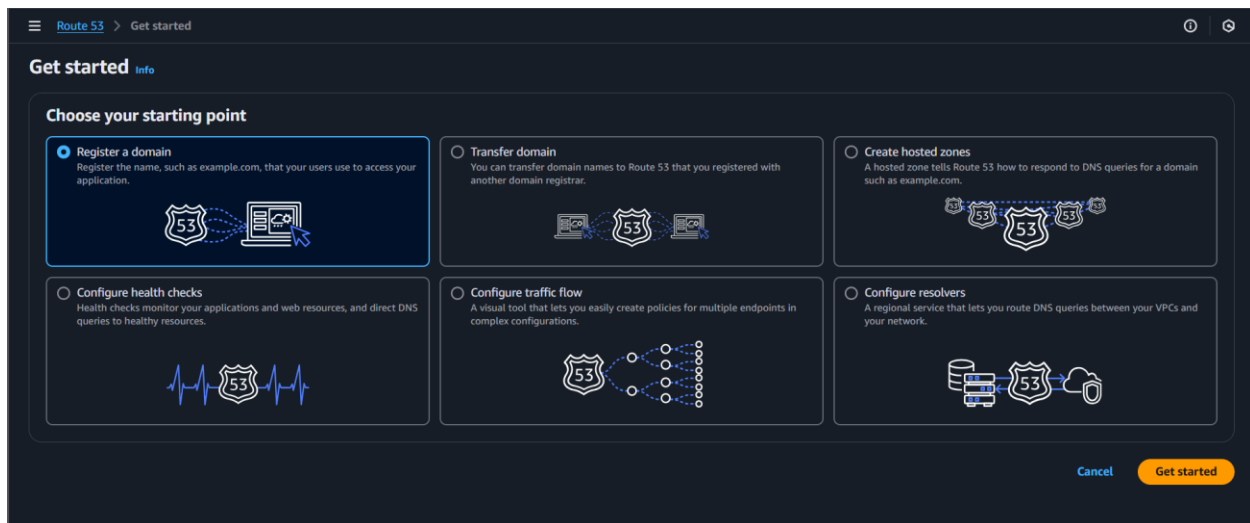
How it works

More resources

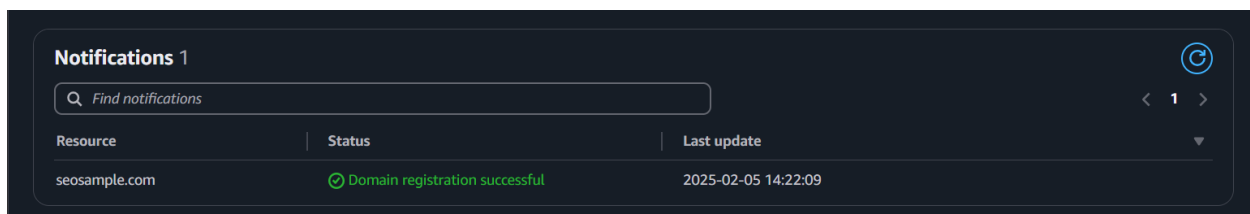
- [Documentation](#)
- [API reference](#)
- [FAQs](#)

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

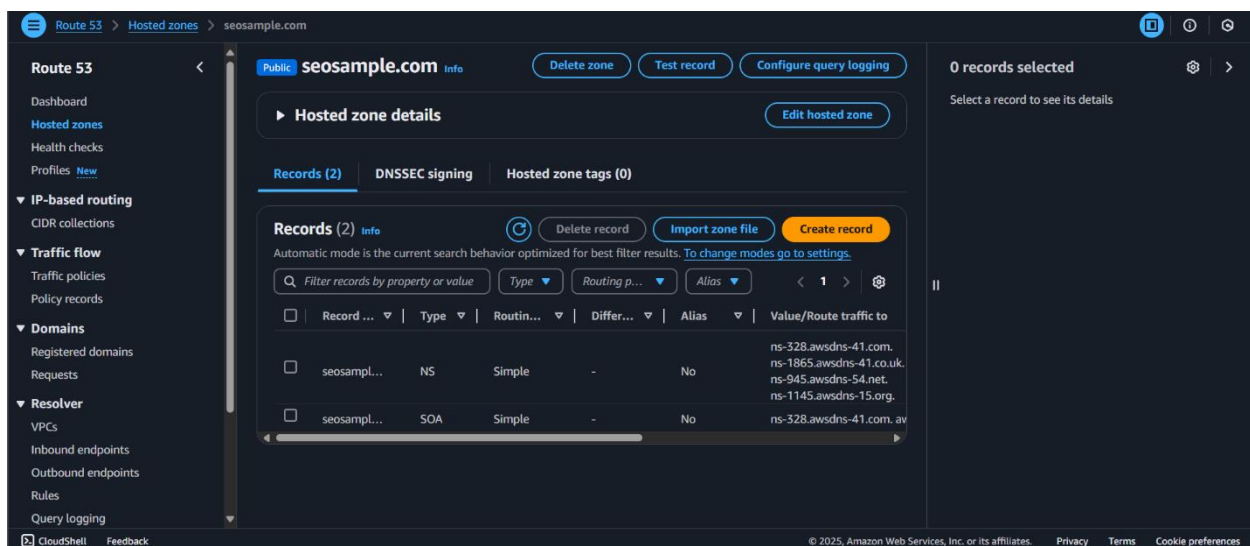


- Now you have successfully registered a Domain. (it might take a few minutes)



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 Switch to wizard

▼ Record 1 Delete

Record name Info seosample.com
Keep blank to create a record for the root domain.

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

☒ **Alias**

Value Info
Enter multiple values on separate lines.

TTL (seconds) Info 1m 1h 1d Recommended values: 60 to 172800 (two days)

Routing policy Info Simple routing

Add another record

Record for seosample.com was successfully created. View status ×
 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 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.

Type ▼ Routing p... ▼ Alias ▼ < 1 > ⚙️

<input type="checkbox"/>	Record ... ▼	Type ▼	Routin... ▼	Differ... ▼	Alias ▼	Value/Route traffic to
<input type="checkbox"/>	seosampl...	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