

# **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](http://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**

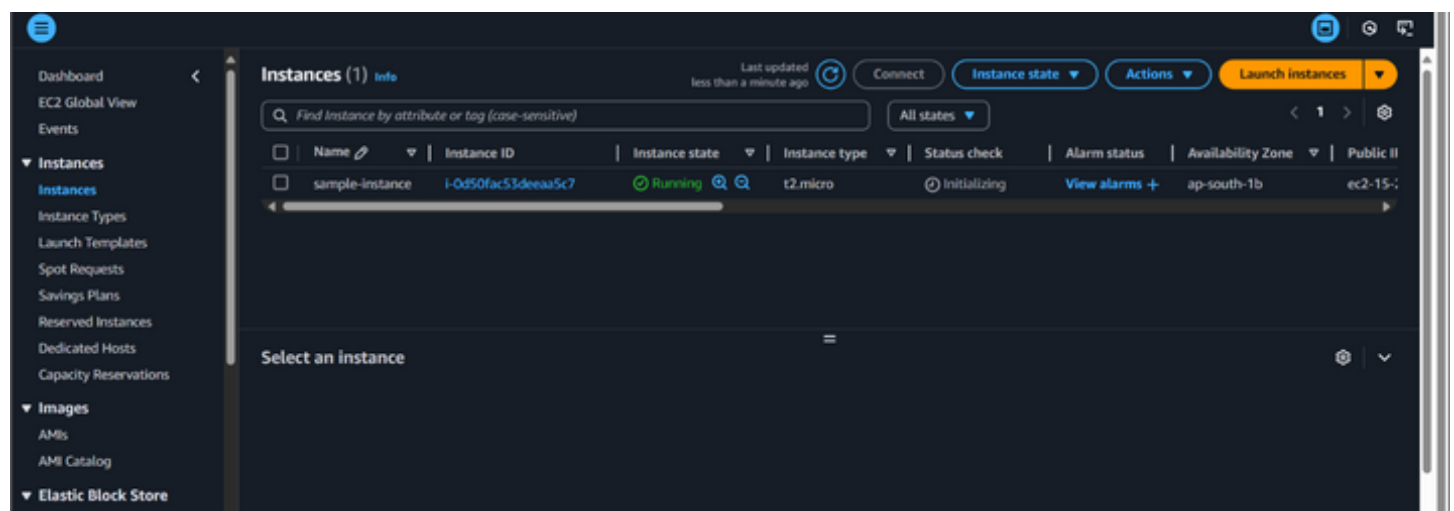
- Set up a DNS record using a cloud provider's DNS service (e.g., AWS Route 53).
- Map your web application's IP or Load Balancer to a domain name.
- Verify and test DNS resolution by accessing the domain in a web browser.

## 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-Od50fac53deaaa5c7 (Instance)** Info

Updated less than a minute ago

**Instance ID**  
i-Od50fac53deaaa5c7

**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-Od50fac53deaaa5c7

**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 recommendation s. | 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](#)

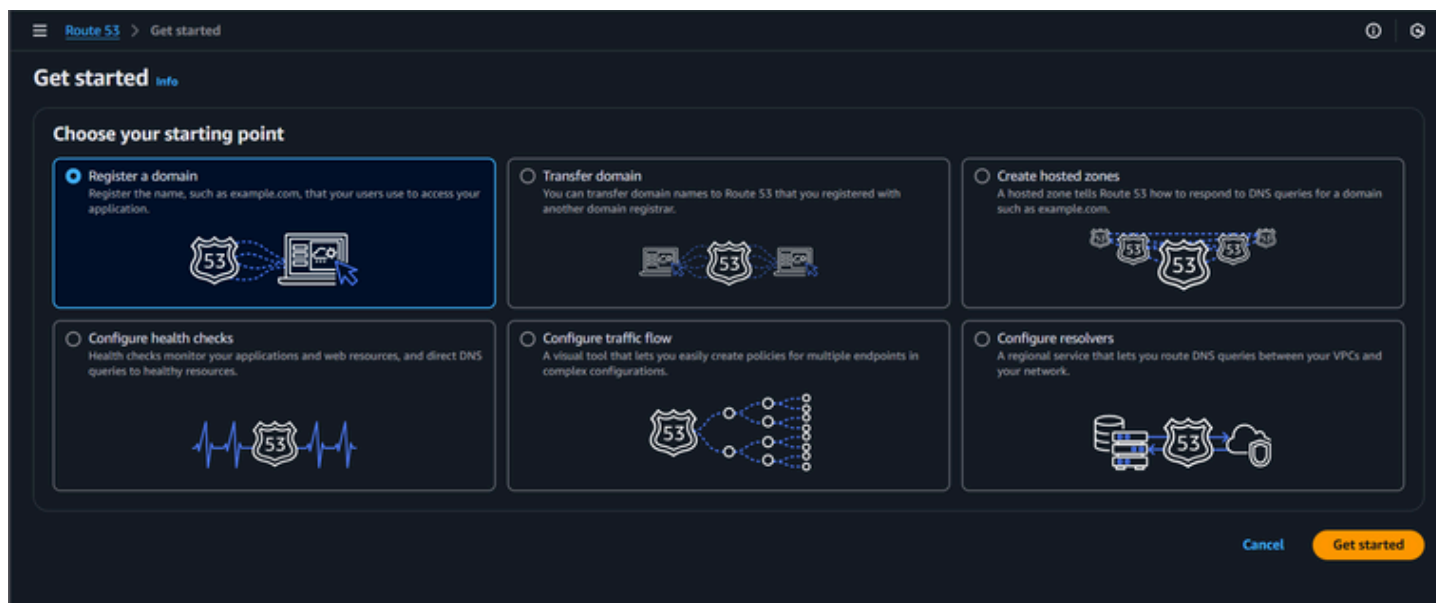
[API reference](#)

[FAQs](#)

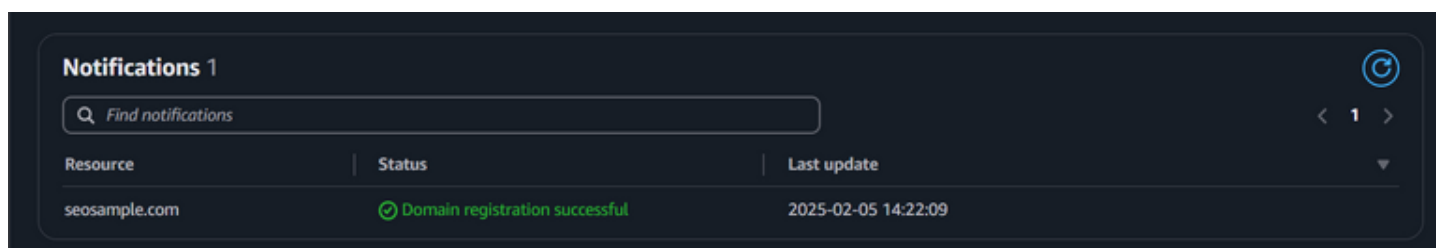
CloudShell Feedback

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

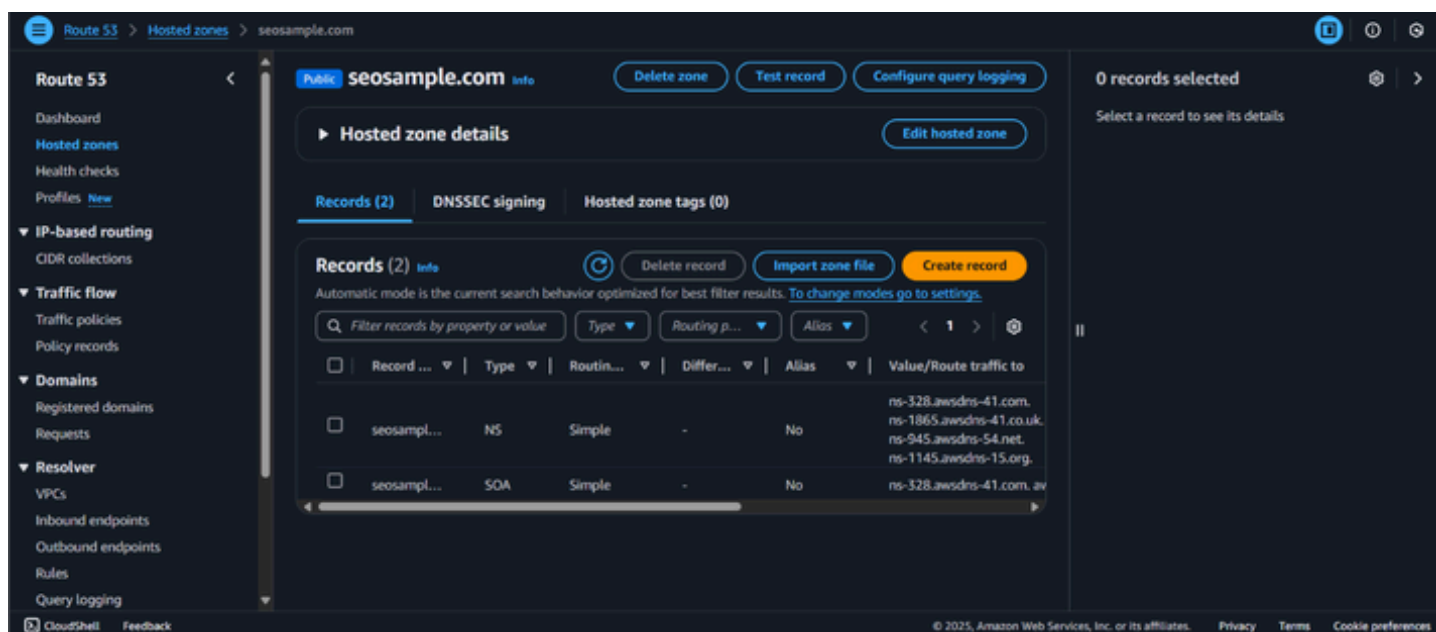


- Now you have successfully registered a Domain. (it might take a few minutes)



## 4. Hosted Zone

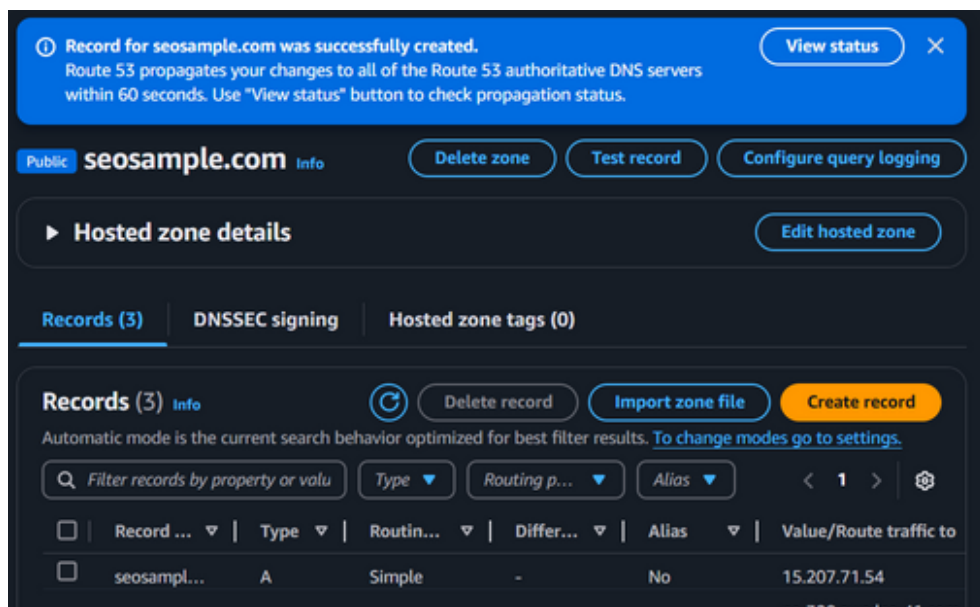
When you register the domain, AWS automatically creates a host zone.



## 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.

The screenshot shows the AWS Route 53 'Create record' console. The breadcrumb navigation at the top reads 'Route 53 > Hosted zones > seosample.com > Create record'. The main heading is 'Create record' with an 'info' link. Below this is a 'Quick create record' section with a 'Switch to wizard' link. A 'Record 1' section contains a 'Record name' field with 'subdomain' and a domain dropdown set to 'seosample.com'. A 'Record type' dropdown is set to 'A - Routes traffic to an IPv4 address and some AWS resources'. An 'Alias' checkbox is checked. The 'Value' field contains '15.207.71.54'. Below the value field is a note: 'Enter multiple values on separate lines.' The 'TTL (seconds)' field is set to '300', with buttons for '1m', '1h', and '1d'. A 'Routing policy' dropdown is set to 'Simple routing'. At the bottom right is an 'Add another record' button.



## 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