



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.

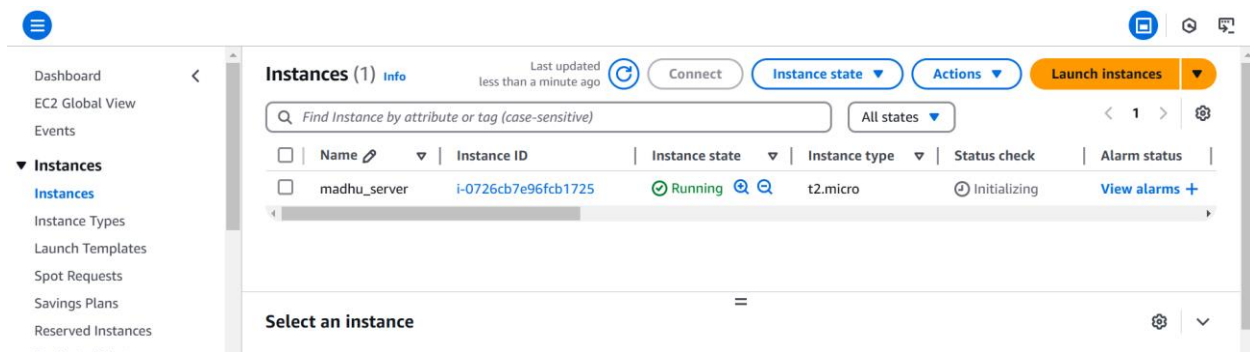
Objectives

- 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.

EC2 > Instances > i-0726cb7e96fcb1725

Dashboard
EC2 Global View
Events

▼ Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans

Instance summary for i-0726cb7e96fcb1725 (madhu_server) [Info](#)

[Connect](#) [Instance state](#) [Actions](#)

Updated 1 minute ago

Instance ID
i-0726cb7e96fcb1725

Public IPv4 address
3.86.108.169 | [open address](#)

Instance state
Running

Private IPv4 addresses
172.31.91.53

Public IPv4 DNS
ec2-3-86-108-169.compute-1.amazonaws.com | [open address](#)

IPv6 address
-

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

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

Route 53 > Get started

Register the name, such as example.com, that your users use to access your application.

You can transfer domain names to Route 53 that you registered with another domain registrar.

A hosted zone tells Route 53 how to respond to DNS queries for a domain such as example.com.

☐ **Configure health checks**
Health checks monitor your applications and web resources, and direct DNS queries to healthy resources.

☐ **Configure traffic flow**
A visual tool that lets you easily create policies for multiple endpoints in complex configurations.

☐ **Configure resolvers**
A regional service that lets you route DNS queries between your VPCs and your network.

[Cancel](#) [Get started](#)

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

Route 53
Registered domains
Register domains

Search for domain

Check availability for a domain

Standard pricing

Pricing for domain names varies by top-level domain (TLD), such as .com or .org.

Search result

Domain	Price/year	Actions
seosample.com Exact match	14.00 USD Renews at 14.00 USD	Select

Selected domains (2/5)

Domain registration fee

madhudomain.com
14.00 USD
Renews at 14.00 USD

madhu-domain.com
14.00 USD
Renews at 14.00 USD

Subtotal:
28.00 USD

The domain registration fee displayed is for 1 year. You can change duration on the next page.

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.

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.

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