

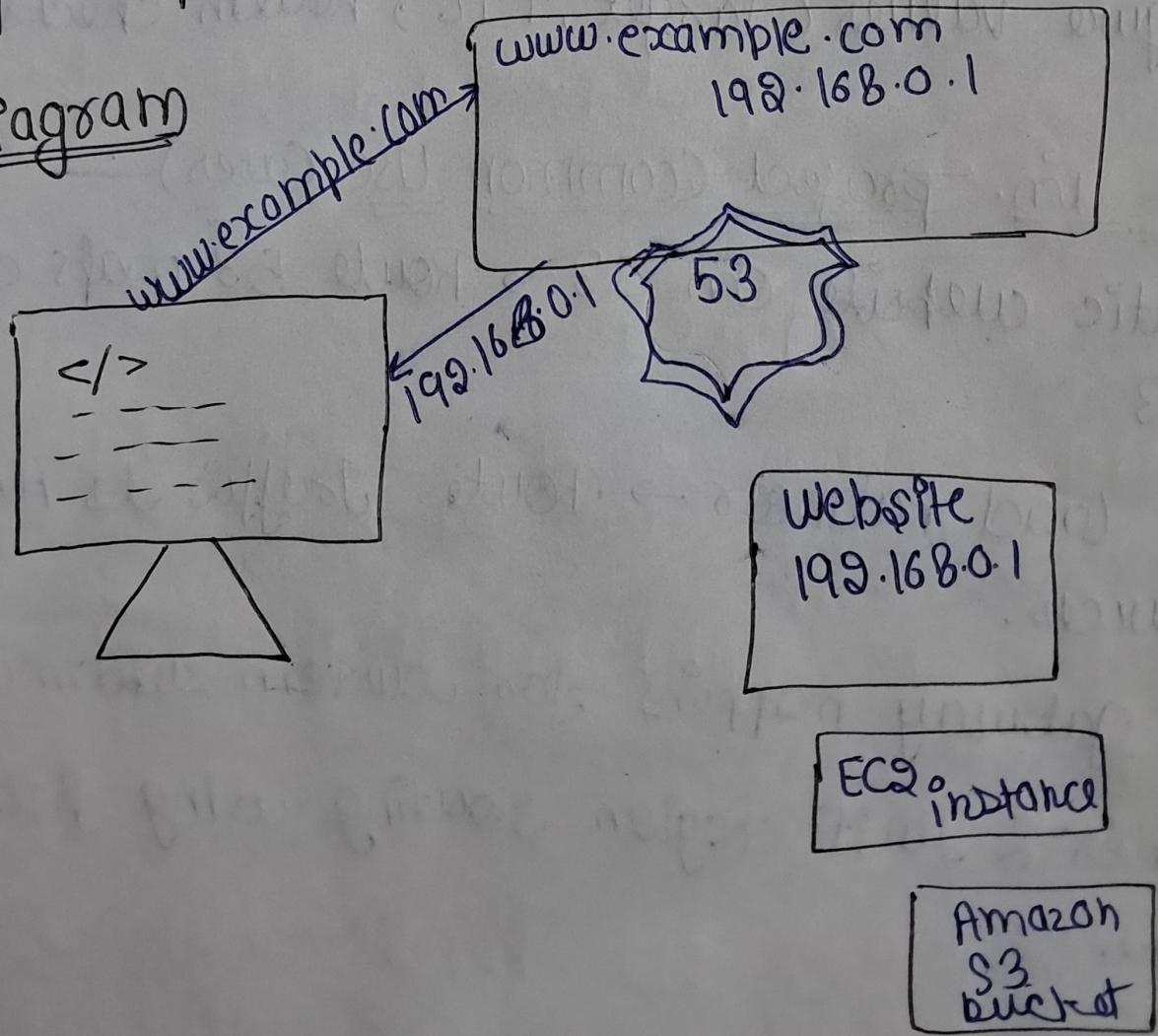
Amazon Router 53

AWS Route 53 is a scalable DNS Service for domain registration, traffic routing, and health checking capabilities.

DNS + Domain Name System, is the internal service that translates human-friendly domain name like `www.abcd.com` into machine readable IP addresses

Default port for DNS Service is 53

Diagram



Steps to Use Route 53

1. Domain Registration (optional)

- Register new domain or use an existing one
- Get access to Hosted Zone automatically. (Route 53 uses Domain).

2. Hosted Zone

- Public Hosted Zone → for internet-facing resources
- Private Hosted Zone → for internal AWS VPC routing

3. Add DNS record

- Add A/AAAA/Alias/CNAME record for routing
- Configure values (Target, TTL, health checks)

4. Use in Project (common Use Cases)

- Static website on S3 → Route 53 maps domain to S3
- EC2 load balancer → Route traffic to AWS resources.
- API gateway mapping for custom subdomains
- Failover & Multi-Region routing using health checks.

5. Add health checks: configure health checks to monitor endpoints & trigger failures when needed.

helps to track the Routing policies

Route 53

Types of Records

= A Record (IPv4): maps a domain name to an IPv4 address.

= Example: www.google.com \Rightarrow 12.34.56.78

= AAAA Record (IPv6): maps a domain name to an IPv6 address.

= Example: www.example.com \Rightarrow 2001:db8::

= CNAME Record: maps a domain name to another domain name (alias).

= Examples: blog.example.com \Rightarrow www.example.co

= MX Record: Direct mail to an email Server

= Examples: example.com \Rightarrow mail.example.com (Priority 10).

- TXT Record :- Provides text information to external sources for verification or configuration.
- Example :- example.com \Rightarrow "v=spf1 include:-spf.example.com ~all"
- NS Record :- Specifies the authoritative name servers for the domain.
example.com \Rightarrow ns-123.awsschm-45.org.
- SRV Record :- specifies the location of services
 - example - _sip._tcp.example.com \Rightarrow 10 60 50
sipserver.example.com

Use Cases

1. Hosting Websites :- Manage domain names and route traffic to web applications.
2. Load Balancing :- Distributing traffic across multiple endpoints using weighted or latency based routing.
3. Disaster Recovery :- Use health checks & failover routing for high availability.

⇒ Multi-Region deployment: Route traffic to the closest region for low latency.

Summary of Billing

- ⇒ Cost vary based on usage and the type of configuration (e.g. standard vs. advanced routing policies).
- ⇒ Billable components include hosted zones, DNS questions, queries, health checks, domain registration, and traffic policies.
- ⇒ Free Tier: Route 53 does not include a free tier, so charges start as soon as you use its services.

Some Tips Points

- 1: Route 53 is Global, not region-specific
- 2: Alias Record Don't charge for DNS Queries (Unlike CNAME).
- 3: S3 static website hosting does not support HTTPS directly so use → ACM + CloudFront + Route 53
- 4: TTL controls caching duration for DNS Records.