**[Route 53:](https://aws.amazon.com/route53/)**

Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service.

* ELBs do not have a pre-defined IPv4 address. You resolve them using a DNS name
* The Apex ( naked) domain record MUST be an A record or an alias
* Aliases map AWS resources to zone records
* Alias records you are not charged for, CNAME records you are charged for
* Always chose an alias record, over a CNAME record, as alias records are free, and can be mapped to a domain apex record where CNAMES cannot
* Limit of 50 Domain Names can be managed in Route53. This limit can be raised by support.
* Route 53 Routing Policies:
  + **Simple**
    - Default routing policy when you create a new record set
    - Most common when you have a single resource that performs given function for your domain
    - Route53 will respond to DNS queries that are only in the record set.
    - No Intelligence is built into the response
  + **Weighted**
    - Let you split traffic based on different weights defined
    - 1 AZ can be set to 90%, and another can be set to 10% for example
    - **Used for A/B testing and blue/green type of deployment**
  + **Latency**
    - Allows you to route your traffic based on the lowest network latency for your end user. (Which region will give them the fastest response time)
    - Create a latency resource record set in each region that hosts your website
    - When Route53 receives a query for your site, it selects the latency resource for the region that gives the user the lowest latency
  + **Fail-over**
    - Used when you want to create an active/passive set up
    - Route53 will monitor the health of your primary site using a health check
    - Health check monitors the health of your endpoints
  + **Geo-location**
    - Lets you choose where your traffic will be sent based on the geographic location of your users
    - Good if you want all queries from Europe to be routed to a fleet of EC2 instances in one of the EU regions
    - Servers in these locations could have all prices and language set to EU standards for example
    - **Multivalue Answer Routing**
    - Multivalue answer routing distributes DNS responses across multiple IP addresses. If a web server becomes unavailable after a resolver caches a response, a client can try up to eight other IP addresses from the response to avoid downtime.
    - Use a multivalue answer routing policy when you're:
    - Creating more than one record of the same name and type
    - Routing traffic to multiple resources
    - Associating a Route 53 health check with records