**AWS Route53 Notes**

**AWS DNS Service (Domain Name System)**

* Internet traffic – Public hosted zone - Example (Internet Gateway)
* Internal VPC – Private hosted zone e.g. (NAT gateway)

**Uses:**

A client is hosting a website a cluster of EC2 instances running in AWS behind an ALB and need a DNS service. You suggested Route53.

1. Client is requesting you to help create a public hosted zone to host this ALB Cname endpoint to customers can access the website using a FQDN ([**www.example.com**](http://www.example.com))

* Domain Name registration ([www.example.com](http://www.example.com))
* Route internet/Internal traffic
* Manage health checks for DNS services

1. Domain Name registration
   1. [www.example.com](http://www.example.com), [www.example.org](http://www.example.org) etc.
2. Route internet/VPC traffic
   1. Hosted Zone
      1. Multiple records
         1. A Record 🡪 IPv4 IP
         2. AAAA Record 🡪 IPv6 IP Address
         3. NS 🡪 Name Servers
         4. SOA 🡪 Start of Authority
         5. MX – Mail exchange
         6. CName 🡪 Canonical Name
3. Health Check for Resource Endpoint e.g IP, DNS name, FQDN
   1. 80 🡪 http
   2. 443 🡪 https
4. FQDN 🡪 Fully Qualified Domain Name

**Routing Policies in Route53**

* **Simple routing policy** – Use for a single resource that performs a given function for your domain, for example, a web server that serves content for the example.com website.
* **Failover routing policy** – Use when you want to configure active-passive failover.
  + **Example**: We used this policy with disaster recovery implementation when we had a database in us-east-1 and back up on us-east-2
* **Geolocation routing policy** – Use when you want to route traffic based on the location of your users.
  + **Example**: My organization was building a website that target users in US and Asia, I used this policy and deployed web servers in Us data center and a data center in Asia to route traffic to customers based on language
* **Latency routing policy** – Use when you have resources in multiple AWS Regions, and you want to route traffic to the region that provides the best latency.
  + **Example**: My organization was building a website that target users in US and Asia, I used this policy and deployed web servers in Us data center and a data center in Asia to route traffic to customers based on which data center is closest to customer.
* **IP-based routing policy** – Use when you want to route traffic based on the location of your users and have the IP addresses that the traffic originates from.
  + **Example**: When I wanted to route traffic to specific set of user in our on premises data center
* **Weighted routing policy** – Use to route traffic to multiple resources in proportions that you specify.
  + **Example**: I built an application cluster and since I had 2 instances in the cluster, one instance had a larger instance type, I routed 60 percent of traffic to that instance and 40 percent to the lesser instance
* **Multivalue answer routing policy** – Use when you want Route 53 to respond to DNS queries with up to eight healthy records selected at random.

You can read more here

<https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html>