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**)

    - Domain Name registration (www.example.com)
    - Route internet/Internal traffic
    - Manage health checks for DNS services

    1. Domain Name registration
        a. www.example.com, www.example.org etc.
    2. Route internet/VPC traffic
        a. Hosted Zone
            i. 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
        a. 80 → http
        b. 443 → https
    4. FQDN → Fully Qualified Domain Name

Routing Policies in Route53

1. **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.
2. **Weighted routing policy** - Use to route traffic to multiple resources in proportions that you specify.
3. **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.
4. **Failover routing policy** - Use when you want to configure active-passive failover.
5. **Geolocation routing policy** - Use when you want to route traffic based on the location of your users.
6. **Geoproximity routing policy** - Use when you want to route traffic based on the location of your resources and, optionally, shift traffic from resources in one location to resources in another.
7. **Multivalue answer routing policy** - Use when you want Route 53 to respond to DNS queries with up to eight healthy records selected at random.

Routing Policies in Route53

1. Simple Policy

Simple Routing Policy:
Use a simple routing policy when you have a single resource that performs a given function for your domain, for example, one web server that serves content for the example.com website. In this case, Amazon Route 53 responds to DNS queries based only on the values in the resource record set, for example, the IP address in an A record.

2. Weighted Routing Policy

Weighted Routing Policy:
Use the weighted routing policy when you have multiple resources that perform the same function (for example, web servers that serve the same website) and you want Amazon Route 53 to route traffic to those resources in proportions that you specify (for example, one quarter to one server and three quarters to the other).

3. Low latency Routing Policy → Less query and faster response time

Latency Routing Policy:
Use the latency routing policy when you have resources in multiple Amazon EC2 data centers that perform the same function and you want Amazon Route 53 to respond to DNS queries with the resources that provide the best latency. For example, you might have web servers for example.com in the Amazon EC2 data centers in Ireland and in Tokyo. When a user browse to www.example.com, Amazon Route 53 chooses to respond to the DNS query based on which data center gives your user the lowest latency.

4. Failover Routing Policy

Failover Routing Policy (Public Hosted Zones Only):
Use the failover routing policy when you want to configure active passive failover, in which one resource takes all traffic when it's available and the other resource takes all traffic when the first resource isn't available.

5. Geolocation Routing Policy

Geolocation Routing Policy:
Use the geolocation routing policy when you want Amazon Route 53 to respond to DNS queries based on the location of your users.

FQDN → Fully Qualified Domain Name