

# Route53 Authoritative DNS system

Authoritative DNS is the original source of DNS records for a domain. Allow you to set for example TTLs

## TLD

- .com
- .net etc

----- FQDN -----  
api.aws.amazon.com  
host----- SLD---- TLD  
----- subdomain-----

FQDN – fully qualified domain name

## Record Types

```
### SOA (Start of Authority)
    - mandatory for a zone. Basic dns information like dns server for that
    zone, current version of data file. Default TTL

### A and AAAA
    - IP v4 and v6 (AAAA) maps host to IP address

### CNAME
    - Alias, can't be used for zone apex (naked domain). Points to another FQDN

### MX
    - mail servers

### NS
    - name servers which contain authoratitive records

### PTR
    - Pointer is oposite of A. Used for Reverse DNS

### SPF
    - Authorized IP addresses for sending mail. Spam protection

### Text
    - Any text

### Servcie (SRV)
    - strange record for service discovery like HTTP server with protocol [TCP]
```

## Functions

```
### Domain registration
### DNS service
### Health Check
  - Protocol (HTTPS, HTTP, TCP)
  - Port
  - IP Address
  - You can use CloudWatch for alarms
```

## Components

```
### Hosted zone
  Collection on record sets. Think domain (zone apex)
  - Zone can be public or private
  - Private zone can be visible within VPC
### Record set
  Has records for domain/subdomains with the same suffix
### Routing Policies
  - Simple
    Single endpoint not balancing
  - Weighted
    You can send portion of the traffic to different domains
  - Latency based
    Request is routed to the endpoint with lowest latency
  - Geolocation
    Requests are routed based on location
    - You can have hierachy of policies e.g.:
      - All traffic from Europe to Frankfurt
      - All traffic from UK to Dublin
    Smalles region always takes precedence
    - You should create default policy for unrecognized ip addresses to
avoid No Answer
  - Failover
    When endpoint fails traffic is routed to other endpoint. Can't be
created for private zone
```