

Amazon Route 53



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Introduction to Route 53

What is Route 53?



- Amazon Route 53 is a highly available and scalable cloud Domain Name System(DNS) service.
- It is designed to translate names like “www.clarusway.com” into the numeric IP addresses like “192.0.2.1” that connect users to Internet applications.

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Introduction to Route 53

What does Route 53 used for?

Amazon Route 53 has 3 key functions;



- Routing
- DNS Health Checks
- Domain Name Registration.

Concepts of Amazon Route 53

- Domain Name System(DNS)
- Domain Registration
- DNS Routing
- TTL (Time to Live)

Concepts of Amazon Route 53

Domain Name System(DNS)

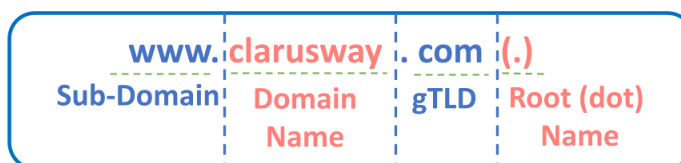


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Concepts of Amazon Route 53

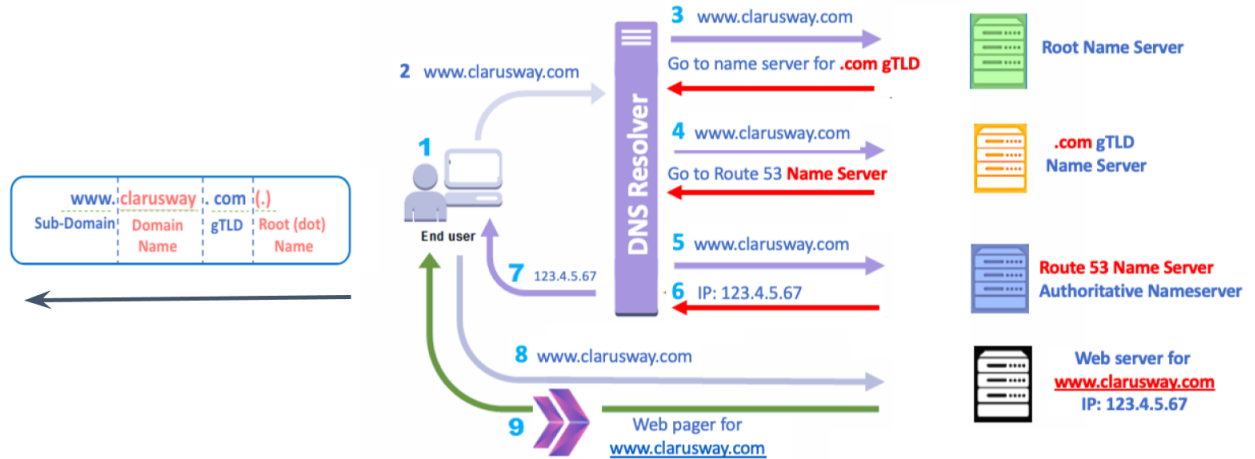
Structure of Domain Name



- **Root (dot) Name** represents the beginning of the DNS query and it is not visible.
- **gTLD** stands for Generic Top-Level Domain. The most common TLDs are **com**, **net** and **org**.
- **A Domain Name** is your website name. It represents to name of the firm, organization or foundation, amazon, google, etc.
- **Sub-domains** are commonly used to specify domains for communication purposes, device type, content type, or for other reasons. **www**, **mobile**, **mail**, **info**, etc.

Concepts of Amazon Route 53

How does DNS work?



Concepts of Amazon Route 53

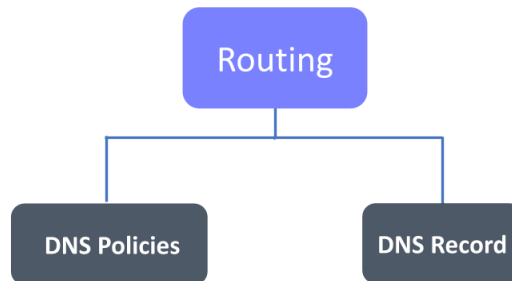
Domain Registration



- A **domain name registrar** is a company that allows you to purchase and **register** domain names.
- AWS handles the domain registrar process through the **Amazon Route 53** service.

Concepts of Amazon Route 53

DNS Routing



- Route 53 direct the internet traffic by providing a connection and mapping between your **domain and web server**
- Route 53 routes the web traffic of your domain with the help of the **DNS Record Sets** and **DNS Policies**.

Concepts of Amazon Route 53

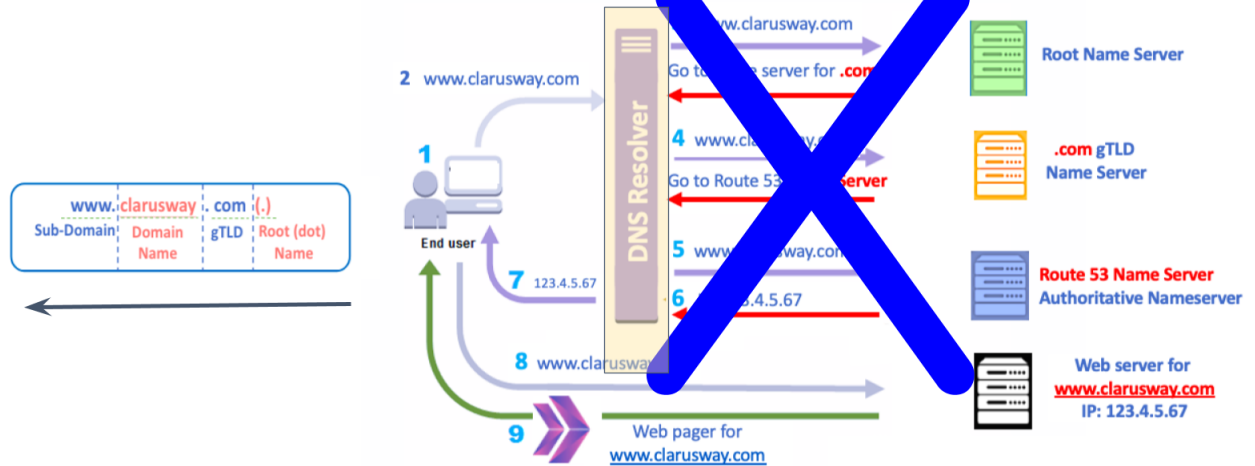
TTL (Time to Live)



- TTL(Time to Live) is a parameter that determines how long ISPs (Internet Service Provider) will **cache the DNS record**.
- If the DNS resolver receives a request for the same domain before the TTL expires, **the resolver returns the cached** value.
- It decreases the workload of the name servers.

Concepts of Amazon Route 53

TTL (Time to Live)



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*Amazon Route 53 works as an Authoritative Nameserver

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Route 53 Components & Solutions

- Hosted Zones
- DNS Record Sets

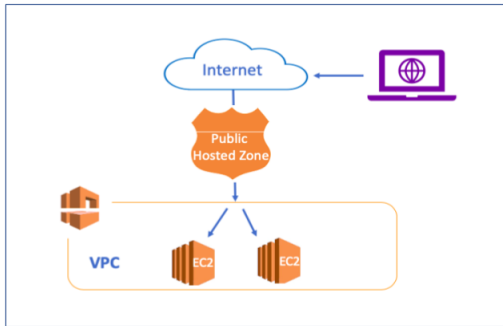
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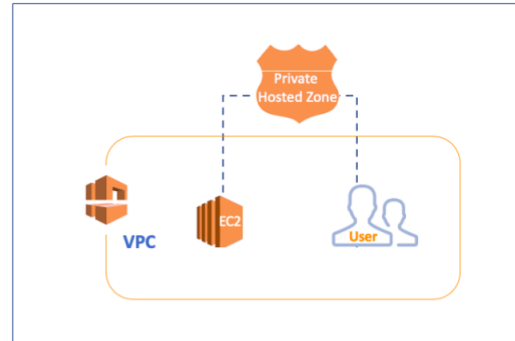
Route 53 Components & Solutions

Hosted Zones

Public Hosted Zone



Private Hosted Zone



Route 53 Components & Solutions

DNS Record Sets

A Record

www.clarusway.com = 1.2.3.4.56

- DNS Record Sets are **documents** that help you to manage your domain name.
- Thanks to the DNS record we can associate our web site to the IP(s)

Route 53 Components & Solutions

DNS Record Sets

- NS (Name Server Record)
- SOA (Start of Authority Record)
- A (Address Record)
- CNAME (Canonical Name Record)
- ALIAS (Alias Record)
- PTR (Pointer Record)
- TXT (Text Record)
- CAA (Certification Authority Authorization)
- MX (Mail Exchange Record)
- NAPTR (Name Authority Pointer Record)
- AAAA (IPv6 Address Record)
- SPF (Sender Policy Framework)
- SRV (Service Locator)

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Route 53 Components & Solutions

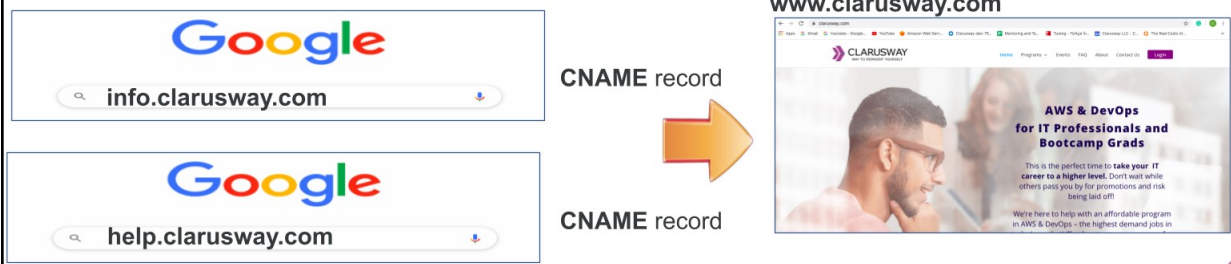
DNS Record Sets

- **SOA (Start Of Authority):** contains administrative basic information about the associated domain.
-
- **NS (Name Server):** It contains a list of servers authorized to host Name Server.
- These two records are **created automatically** by Route 53 when you register a domain name.
- **You are not recommended to add, change, or delete** name servers in these records.

Route 53 Components & Solutions

DNS Record Sets- A Records- CNAME Records

- “**A Records**” are used for matching with the domain or subdomain to IPs.
- “**CNAME Records**” are used to point a domain or subdomain to another hostname.



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Route 53 Components & Solutions

DNS Record Sets- Alias

- “**Alias Records**” mapping to the AWS resources endpoint such as Amazon S3 Buckets.
- This is a DNS feature of **Route 53 only**.
- Alias records are **not stand-alone record**.