**Rout53** :- it supports ipv6 and it is a global specific service you cant define it in region.

**Roles or work of rout53 :-**

1. DNS management
2. Traffic management
3. Availability monitoring
4. Domain registration

**DNS :-**  DNS is the system that translates human-readable domain names into IP addresses.

Last server know about your website that is known as a authoritative server

The server know about your root like .com, .in, .org etc that is known as top level domain

The servers between authoritative and top level domain is known as recursive server or name server

**PART –II:**-

**Benefits of rout53 or work of rout53 :-**

1. Register a domain
2. As a DNS, it rout internet traffic to the resources for your domain
3. Check the health check of your resources, rout53 sends automated requests over the internet to a resources (it can be a web server) to verify that the resources is reachable, functional or available.

Also you can choose to receive notifications when a resource becomes unavailable and choose to route internet traffic away from unhealthy resources.

**You can use rout53 for combining of these functions :-**

1. For eg. You can use rout53 both to require your domain name to rout insert together for the domain
2. Or you can use rout53 to route internet traffic for domain that you register with another domain register.

When you register a domain with rout53 the service automatically makes itself the DNS service for domain by doing the following.

1. It create a hosted zone that has the some name as your domain
2. It assign a set of four name server to the hosted zone, unique to the account.

When someone uses a browser to access your website these name server inform the browser where to find your resources, such as a web server or an amazon s3 bucket.

1. It get the name server from the hosted zone and add them to the domain

**AWS supports :-**

1. Generic top level domain eg. .com, .org, .net (basically used in india)
2. Geographic top level domain eg. .in, .us, .pk, .cn ( used in another contry)

**Registering a domain with route53 :-**

1. You can register a domain with rout53. If the TLD(top level domain) as included on the supported TLD list.
2. If the TLD (top level domain) is not included you can’t register the domain with rout53

**Using rout53 as your service:-**

You can use rout53 as the DNS service for any domain. Even if the TLD for the domain is not included on the supported TLD list.

**Limitation of rout-53:-**

Each amazon rout-53 account is limited to a maximum of 500 hosted zones and 10,000 resources record sets per hosted zone you can increase this limit by requesting to AWS.

**Steps to configure Rout-53:-**

1. You need to register a domain, this can be rout-53 or another DNS register, but then you connect your domain name in that register to rout-53.
2. Create hosted zone on rout-53 this is clone automatically if you registered your domain using rout-53.

Inside the hosted zone you need to create record sets.

**Delegate to route-53 :-**

* this step connect everything and make it works.
* Connect the domain name to the route-53 hosted zone this is called delegation.
* Update your domain register with the connect name server for your route-53 hosted zone.
* No other customer hosted zone will share this delegation set with you.
* Doing this means route-53 DNS service will be serving DNS traffic for the domain of the hosted zone.

**If you are using another domain provider and you did all the changes :-**

* When you migrate from one DNS provider to another, for an existing domain this change can take upto 48 hours to be effective.
* This is because name server DNS records are typically cached across the DNS system globally on the internet for upto 48 hours time to leave(TTL) period.

**Tranfering a domain to route-53 :-**

* You can transfer a domain to routr-53 if the TLD (top level domain)is included on the following list.
* If the TLD is not included you can’t transfer the domain to rout-53.
* For most TLD you need to get an authorization code from the current registration to transfer a domain.

**Hw:-**

**Difference between :-**

1. **Recursive DNS**
2. **Authorization DNS server**
3. **Root domain server**
4. **Name server**

**What is hosted zone**

Hosted zone is a place where SOS and name server is stored.

**Route-53 hosted zone :-**

* A route-53 hosted zone is a collection of records for a specified domain.
* You create a hosted zone for a domain, and then you create records to tell the domain name system how you want traffic to be routed for that domain.
* Basically a hosted zone is a container that holds information about how you want to rout traffic for a domain and its subdomains.
* You can create **public**(internet access) hosted zone and **private**(internal DNS) hosted zones.
* For each public hosted zone that you create amazon route-53 automatically creates a name server(NS) records and a start of authority (SOA) record don’t change these records.
* Name server will create 4 and SOA will create only one automatically when you will create a hosted zone. Name server is unique in hosted zone it not repeat in another hosted zones also.
* Route-53 automatically create a name server records with the same name as your hosted zone.
* It list the four name server that are the authentitative name server for your hosted zone.
* Do not add changes or delete name server in this records.

**Steps of rout-53 :-**

1. Domain registration :-
2. DNS management :-