# Amazon Route 53

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# Introduction to Amazon Route 53

The name of Route 53 is inspired by TCP or UDP port 53, where DNS server requests are addressed

# 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.

Route 53 bize domain saglayan AWS hizmetidir. Bizim browser a yazdigimiz adresi ip adresine cevirmektedir. Normalde EC2 bize public dns veriyordu. Bu dns i insanlara sunmak icin kolay ve anlasilir bir isim koymak gerekmektedir.

# 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)

TTL cashing hizmetidir. Belirledigimiz zamana gore DNS server lar belli bir sure sayfamizin adresini tutmaktadir.

Concepts of Amazon Route 53 Domain Name System(DNS)







172.23.45.9

A Domain Name is being sold and leased by organizations authorized by ICANN.

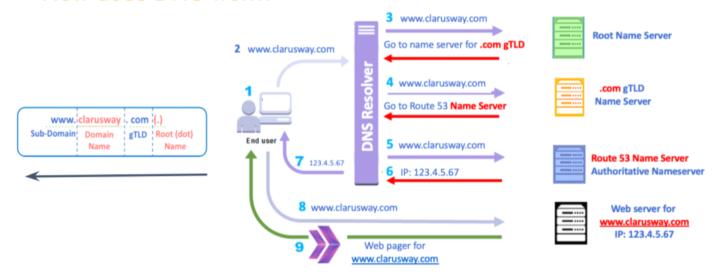
# Structure of Domain Name

www. clarusway . com (.)
Sub-Domain Domain gTLD Root (dot)
Name 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?





\*Amazon Route 53 works as an Authoritative Nameserver

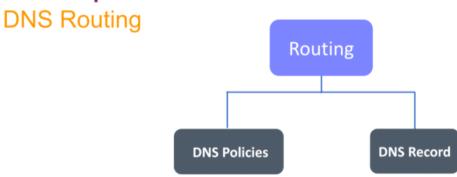
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**Domain Registration** 



- 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



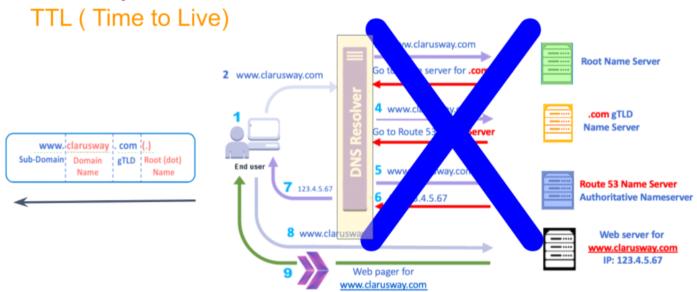
- Route 53 direct the internet traffic by providing a connection and mapping between your domain and web server
- Route 53 routes the web traffic of your domain with the help of the DNS Record Sets and DNS Policies.

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





\*Amazon Route 53 works as an Authoritative Nameserver

Site aktif bir site ise TTL suresinin kisa olmasi gerekmektedir.

# Route 53 Components & Solutions

X

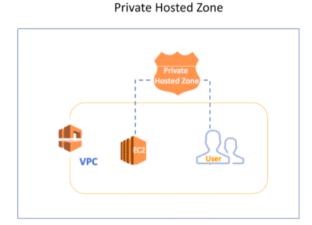
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# Route 53 Components & Solutions

- Hosted Zones
- DNS Record Sets
- Route 53 Components & Solutions
  - **Hosted Zones**

Public Hosted Zone

**Public 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)

# Route 53 Components & Solutions

## **DNS Record Sets**

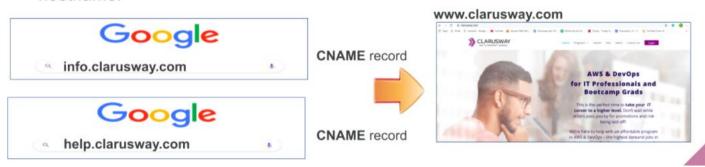
- SOA (Start Of Authority): contains administrative basic information about the associated domain.
- NS (Name Server): It contains a list of servers authorized to host Name Server.
- These two records are created automatically by Route 53 when you register a domain name.
- You are not recommended to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

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# 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.

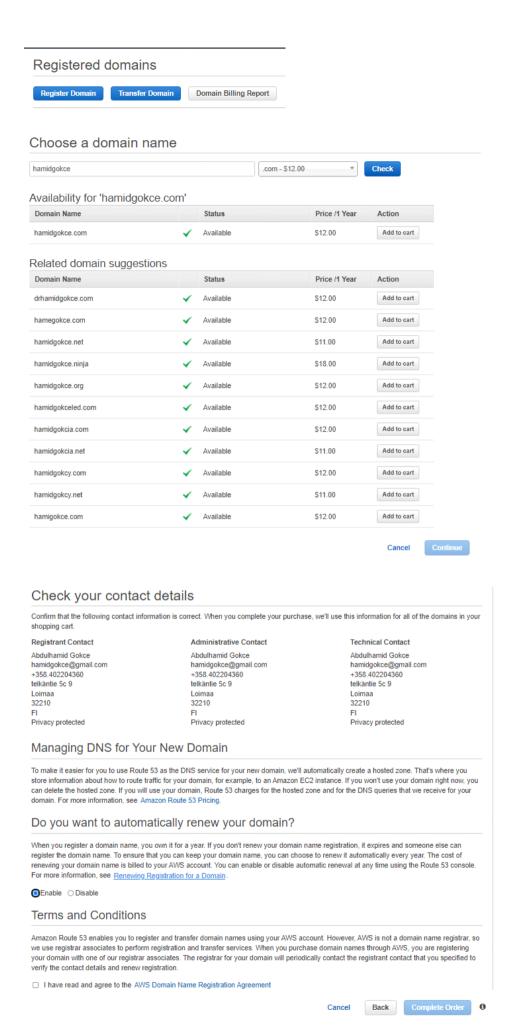




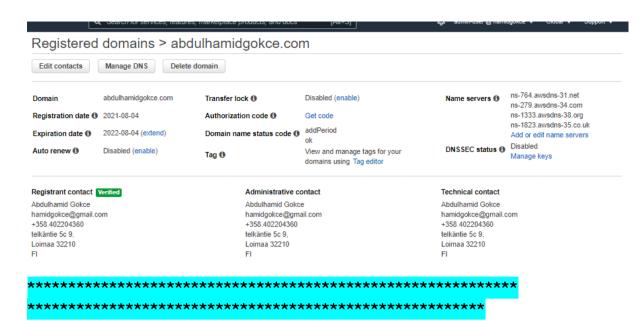
- "Alias Records" mapping to the AWS resources endpoint such as Amazon S3 Buckets.
- This is a DNS feature of Route 53 only.
- Alias records are not stand-alone record.

# Domain alim islemi:





#### Alinan domain ;





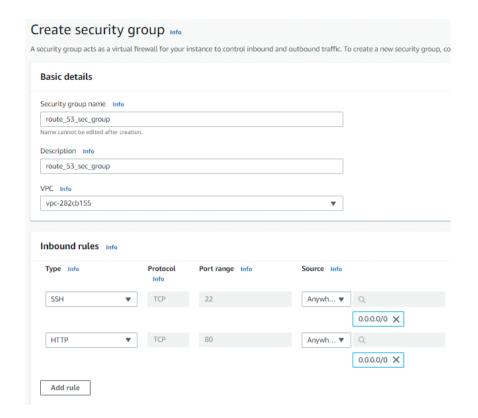
- Public IP: 52.87.192.40
- Public DNS:ec2-52-87-192-40.compute-1.amazonaws.com
- http://info.awsdevopsteam.net.s3-website-us-east-1.amazonaws.com



Not Human readable

Amazon Route 53

Sec group olusturacagiz



## Iki tane EC2 calistiracagiz

#### Userdata:

Add another tag

(Up to 50 tags maximum)

#!/bin/bash yum update -y yum install -y httpd yum install -y wget cd /var/www/html wget <a href="https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini">https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini</a> a 1/index.html wget <a href="https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini">https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini</a> a 1/N.virginia 1.jpg systemctl start httpd systemctl enable httpd Step 5: Add Tags A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources Key (128 characters maximum) Value (256 characters maximum) Name N.Virginia\_1

#### Step 6: Configure Security Group

Ascurity group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existi

Assign a security group: O Create a new security group

Select an existing security group

Security Group ID	Name	Description
sg-06865e23ccd268077	DatabaseSecGrb	DatabaseSecGrb_mysql_Aurora
sg-f114b1e8	default	default VPC security group
g-0e1b38d20dfe7d0b5	Private Sec.group	Private Sec.group
sg-04d3468cb969058ff	route_53_sec_group	route_53_sec_group
sg-02849ee5391fc7ced	SSH	SSH==22
sg-0e36f86f9c58f7243	windows_SG	windows_SG

Inbound rules for sg-04d3468cb969058ff (Selected security	groups: sg-04d3468cb969058ff)
---	-------------------------------

Type (i)	Protocol (i)	Port Range (i)	Source (i)
HTTP	TCP	80	0.0.0.0/0
SSH	TCP	22	0.0.0.0/0

### Ikinci EC2: Userdata:

#!/bin/bash

yum update -y yum install -y httpd

yum install -y wget

cd /var/www/html

wget <a href="https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini">https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini</a> a 2/index.html

wget <a href="https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini">https://raw.githubusercontent.com/awsdevopsteam/route-53/master/N.virgini</a> a 2/N.Virginiatwo.jpg

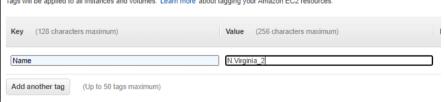
systemctl start httpd systemctl enable httpd

#### Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

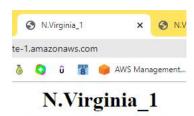
A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.

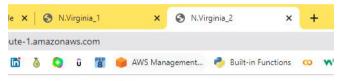


Inbound rules for sg-04d3468cb969058ff (Selected security groups: sg-04d3468cb969058ff) Port Range (i) Protocol (i) Source (1) Type (1) HTTP TCP 0.0.0.0/0 TCP 22 0.0.0.0/0 SSH

## DNS ler ile userdatanin calistigini gorduk







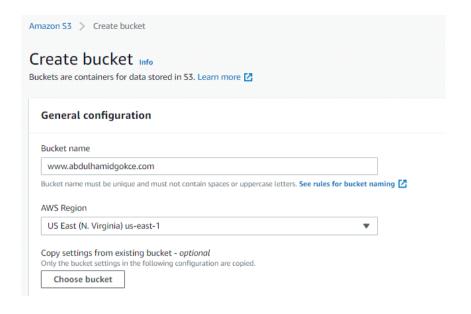
Good Dog

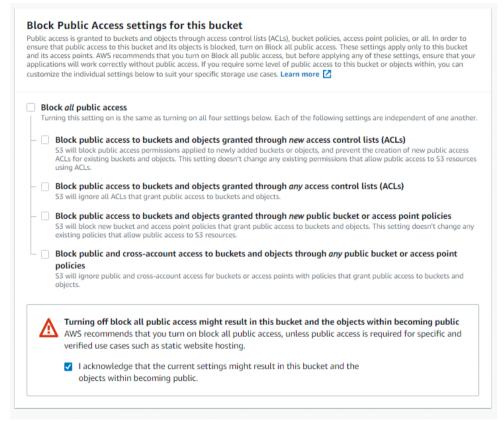


53 servisine gidelim

Domain name aldiysak ayni isimli bir bucket aliyoruz





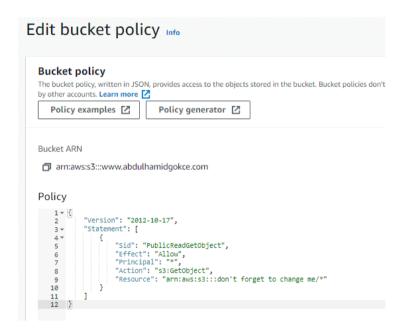


Create bucket

#### Website host edebilmek icin bucket policy olusturuyoruz



```
{
    "Sid": "PublicReadGetObject",
    "Effect": "Allow",
    "Principal": "*",
    "Action": "s3:GetObject",
    "Resource": "arn:aws:s3:::don't forget to change me/*"
    }
]
```



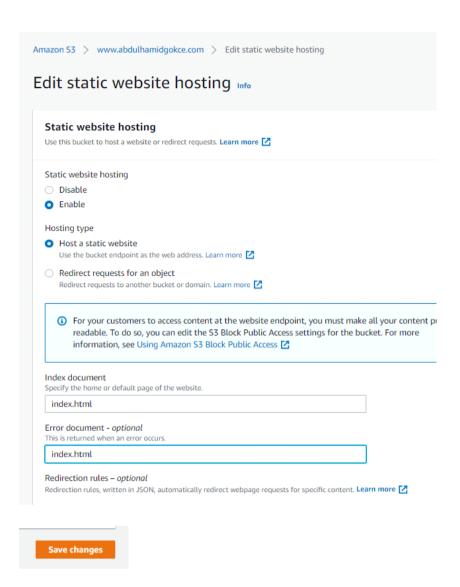
## Degisiklik yaptik json dosyasinda

Biz bu islemi s3 bucket dan bir website host etmek icin yapiyoruz



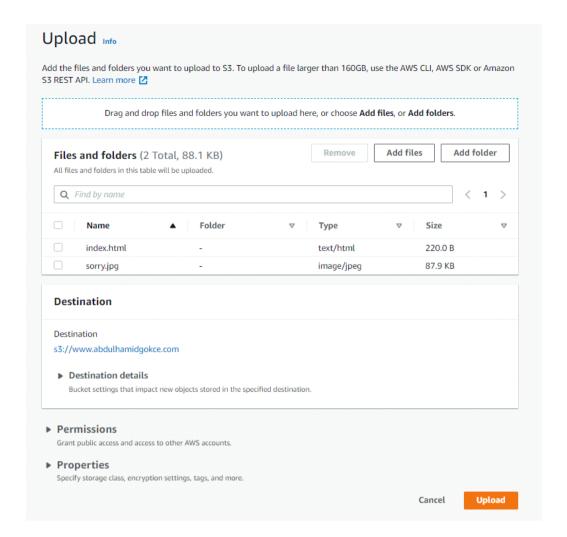
## Asagidakini enable edecegiz





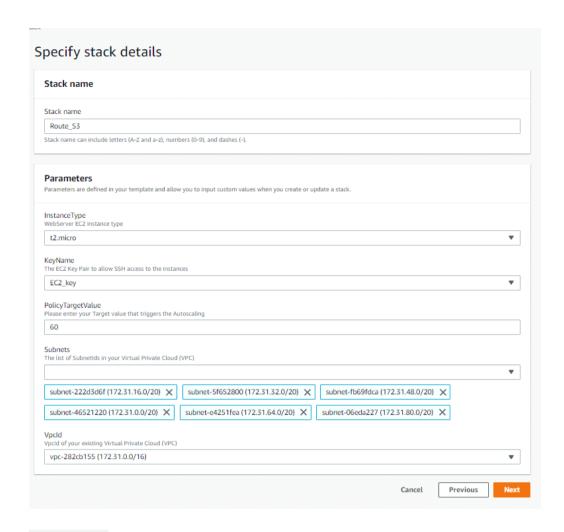
## Bucket a iki dosyayi upload ediyoruz





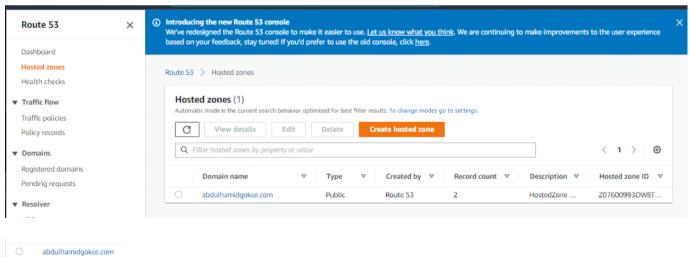
## Stack olusturacagiz

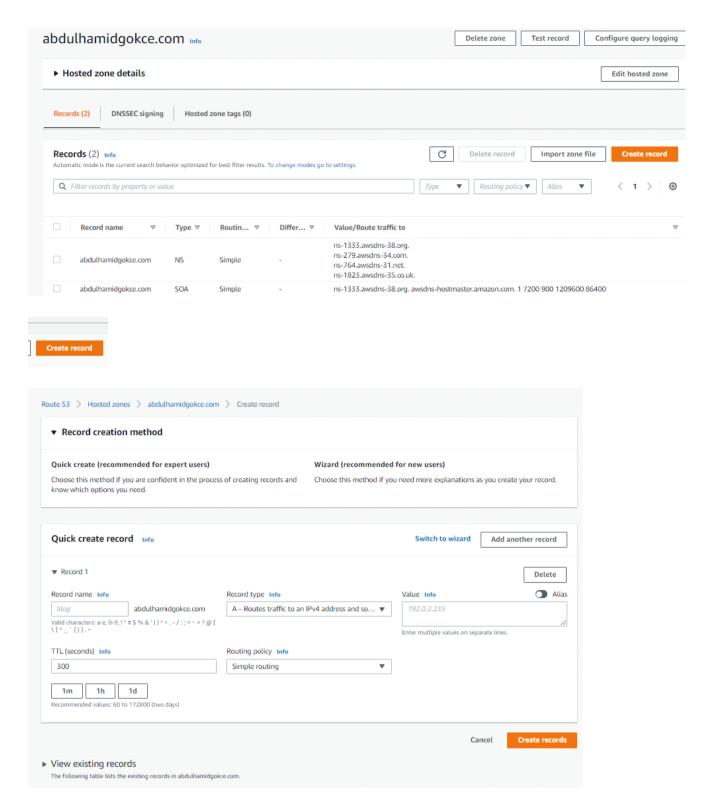
Default subnet ve vpc leri sececegiz



Create stack

#### \*\*\*\*\*\*\*

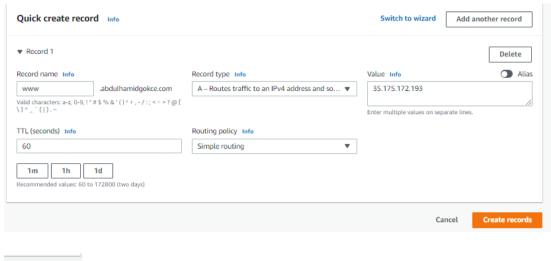




## Her record type gore farkli bir value alabiliyor

#### Asagidaki ec2 nun public ip sini alalim value kismina girelim





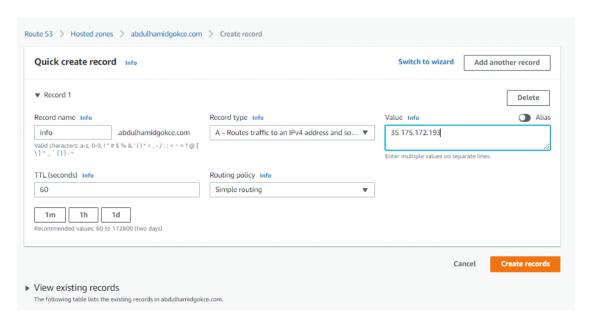
Create records

## Asagidaki adrese dikkat





# Asagidaki sayfaya tekrar gelelim





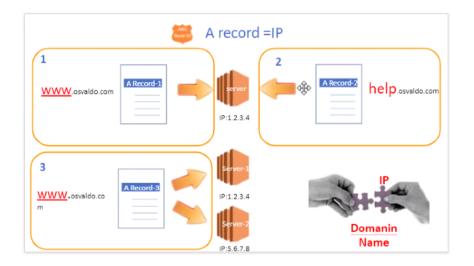
N.Virginia 1



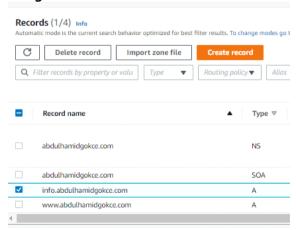
Yani farkli recordlarla ayni gorseli alabilecegimizi ayni ip ye gonderdigini gorebiliriz

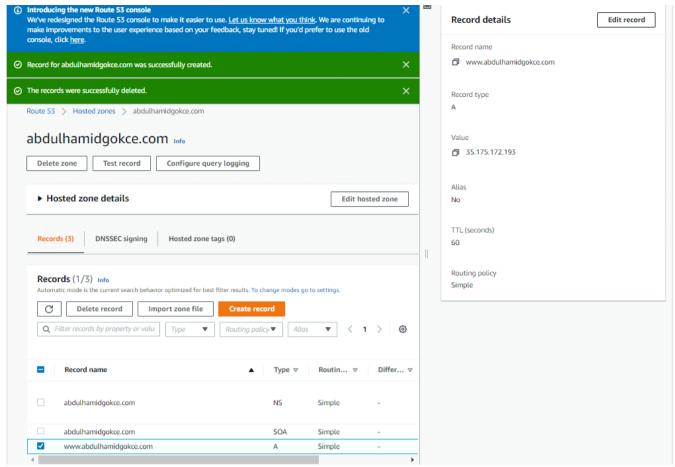
Ip adresini insanin okuyabilecegi sekle getirmis olduk

2 ayri record ile bir ip adresine gittik Simdi de bir record ile iki ayri ip ye gidelim



## Asagidaki recordu silelim





Edit diyelim

### Diger instance nin public adresini ekledik



## Tekrar dns i calistirdigimizda kopek veya kediyi verecektir

```
//-C:\Users\hamid>nslookup www.abdulhamidgokce.com
Server: dna.mokkula

EAddress: fe80::7622:bbff:fea0:8796

Non-authoritative answer:
Name: www.abdulhamidgokce.com

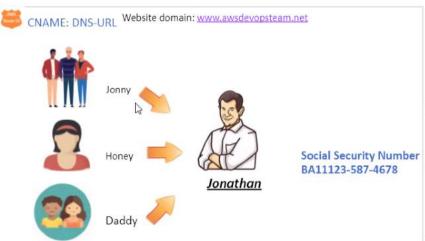
/Addresses: 3.81.150.84

35.175.172.193
```

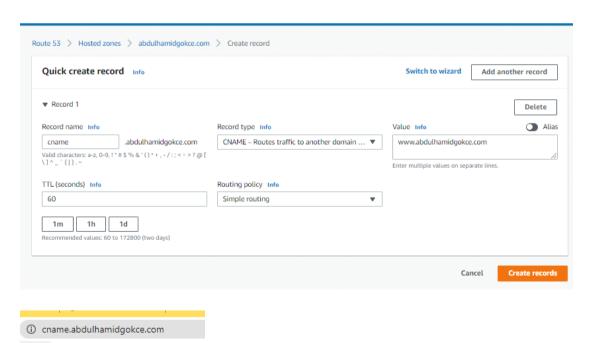
Iki ip yi de gormus olduk

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*





#### Cname record olusturalim



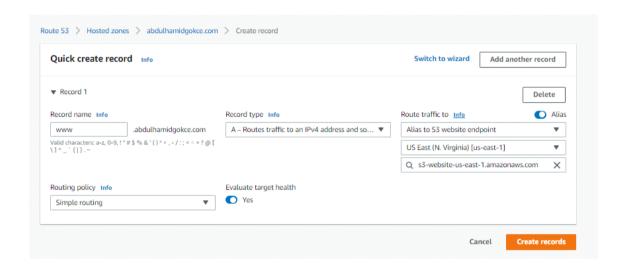
Bu adresi girdigimizde kedi veya kopek almamiz gerekiyor

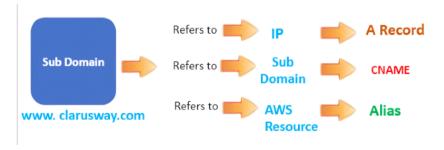
Gorseldekiler haricinde silelim





Asagida gorsel de record name icin www haricinde bir sey yazarsak bucket i goremeyecegiz

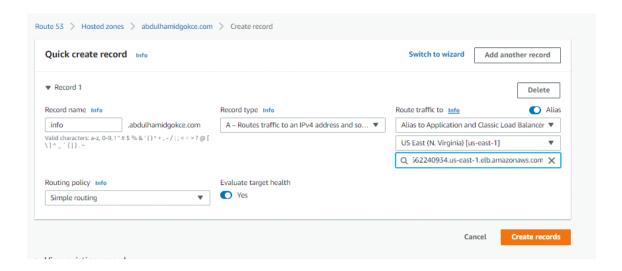




53 u kendi domain imize baglamis olduk

Son olusturdugumuz recordu da silelim

Create record diyelim tekrar



## http://info.abdulhamidgokce.com/

## Welcome to Osvaldo's Chocolate Sea

This instance is created at Thu Aug 5 19:09:25 UTC 2021

Private IP address of this instance is 172.31.68.18

Public IP address of this instance is 34.236.216.245



Cloudformation
Instance
Bucket ici
Recordlari (type A olan) silelim