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AWS CLOUD COMPUTING

CONFIGURATION OF AMAZON ROUTE 53

Configuration of Amazon Route 53

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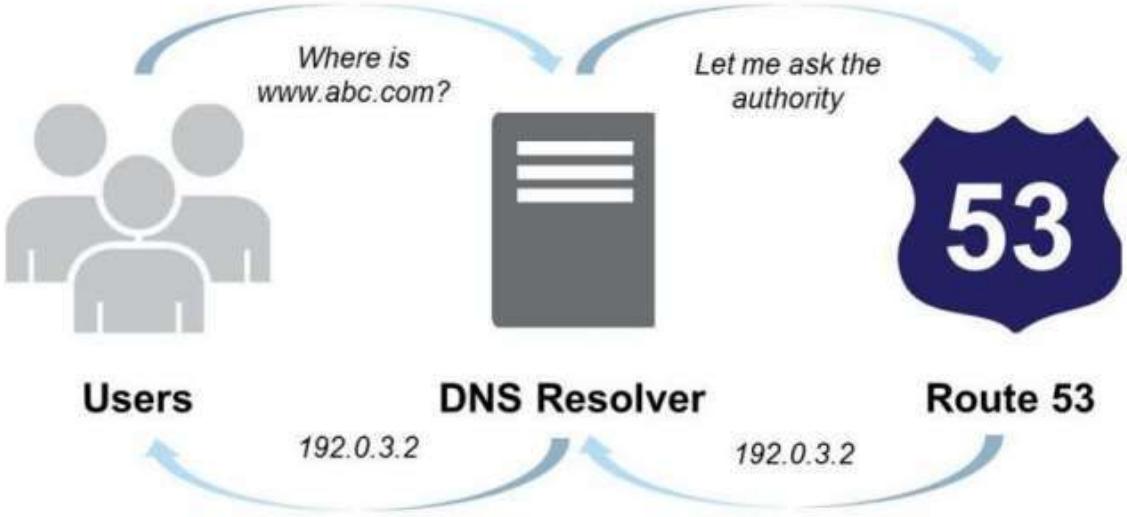
Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service. It is designed to give developers and businesses an extremely reliable and cost-effective way to route end users to Internet applications by translating names like www.example.com into the numeric IP addresses like 192.0.2.1 that computers use to connect to each other. Amazon Route 53 is fully compliant with IPv6 as well.

Amazon Route 53 effectively connects user requests to infrastructure running in AWS – such as Amazon EC2 instances, Elastic Load Balancing load balancers, or Amazon S3 buckets – and can also be used to route users to infrastructure outside of AWS. You can use Amazon Route 53 to configure DNS health checks to route traffic to healthy endpoints or to independently monitor the health of your application and its endpoints. Amazon Route 53 Traffic Flow makes it easy for you to manage traffic globally through a variety of routing types, including Latency Based Routing, Geo DNS, Geo Proximity, and Weighted Round Robin—all of which can be combined with DNS Failover in order to enable a variety of low-latency, fault-tolerant architectures. Using Amazon Route 53 Traffic Flow's simple visual editor, you can easily manage how your end-users are routed to your application's endpoints—whether in a single AWS region or distributed around the globe. Amazon Route 53 also offers Domain Name Registration – you can purchase and manage domain names such as example.com and Amazon Route 53 will automatically configure DNS settings for your domains.

Features:

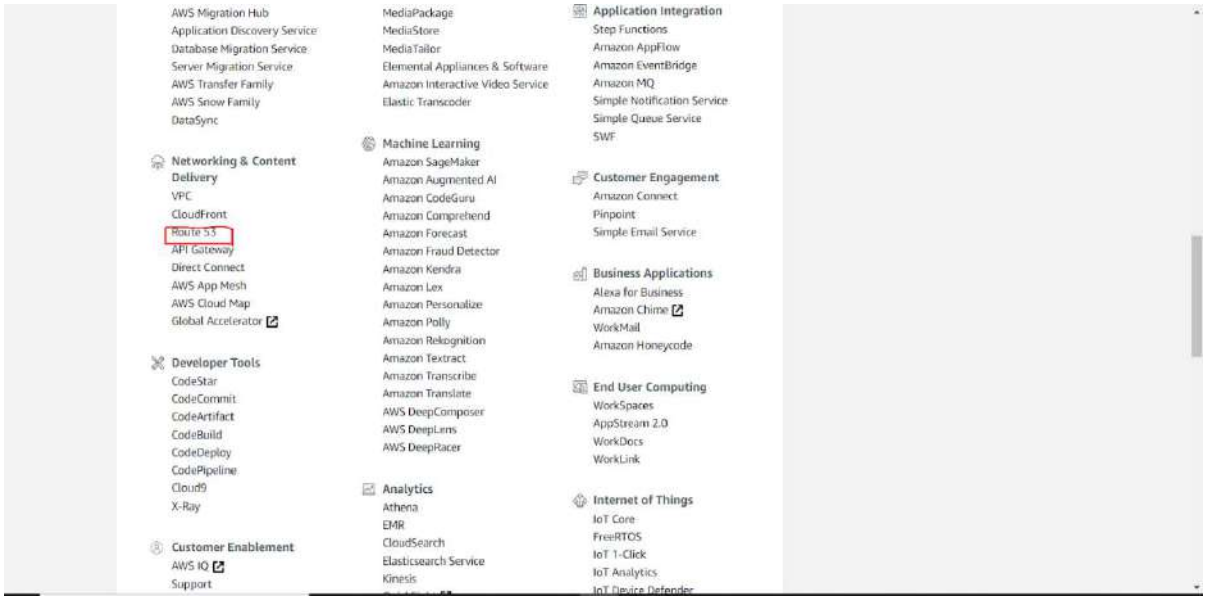
- **Easy to register your domain:** We can purchase all levels of domains like .com, .net, .org, etc. directly from Route 53.
- **Highly reliable**: Route 53 is built using AWS infrastructure. Its distributed nature towards DNS servers help to ensure a consistent ability to route applications of end users.
- **Scalable:** Route 53 is designed in such a way that it automatically handles large volume queries without the user's interaction.
- **Can be used with other AWS Services:** Route 53 also works with other AWS services. It can be used to map domain names to our Amazon EC2 instances, Amazon S3 buckets, Amazon and other AWS resources.
- **Easy to use**: It is easy to sign-up, easy to configure DNS settings, and provides quick response to DNS queries.
- **Health Check:** Route 53 monitors the health of the application. If an outage is detected, then it automatically redirects the users to a healthy resource.
- **Secure**: By integrating Route 53 with AWS (IAM), there is complete control over every user within the AWS account, such as deciding which user can access which part of Route 53.

TOPOLOGY

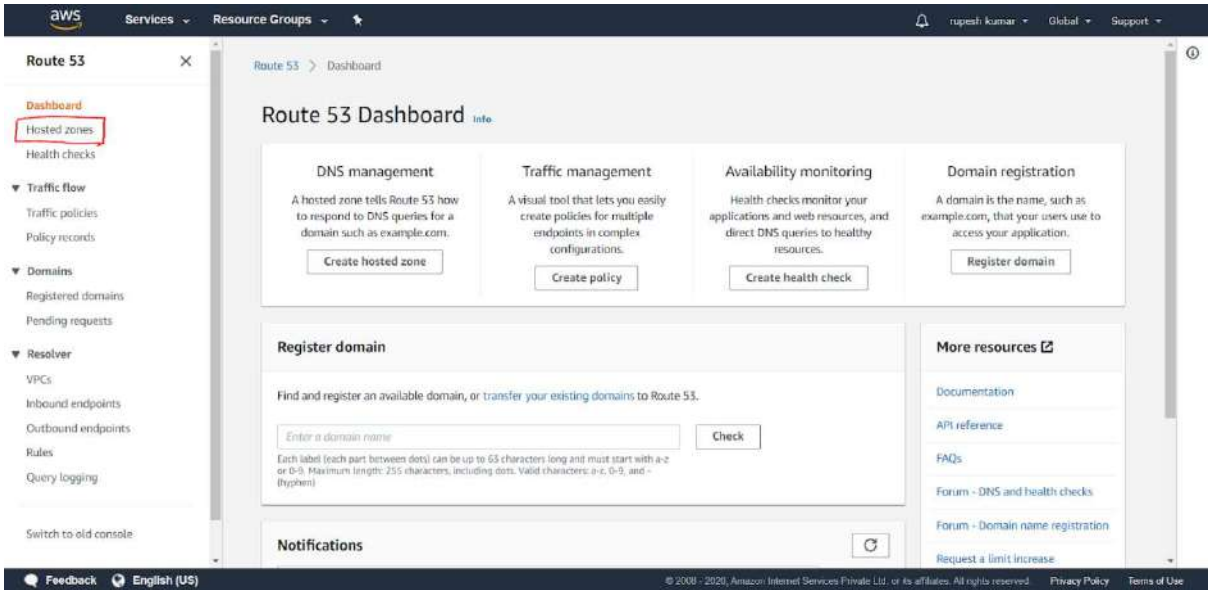


Practical Steps:

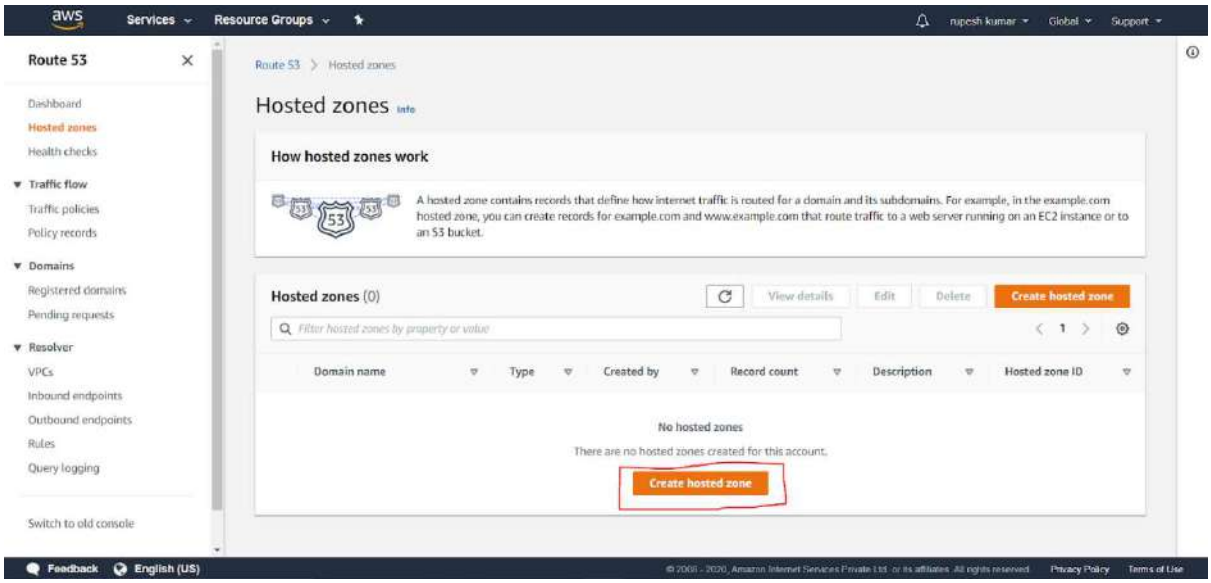
Open AWS console
Select "Networking & Content Delivery"
Click on Route 53 services



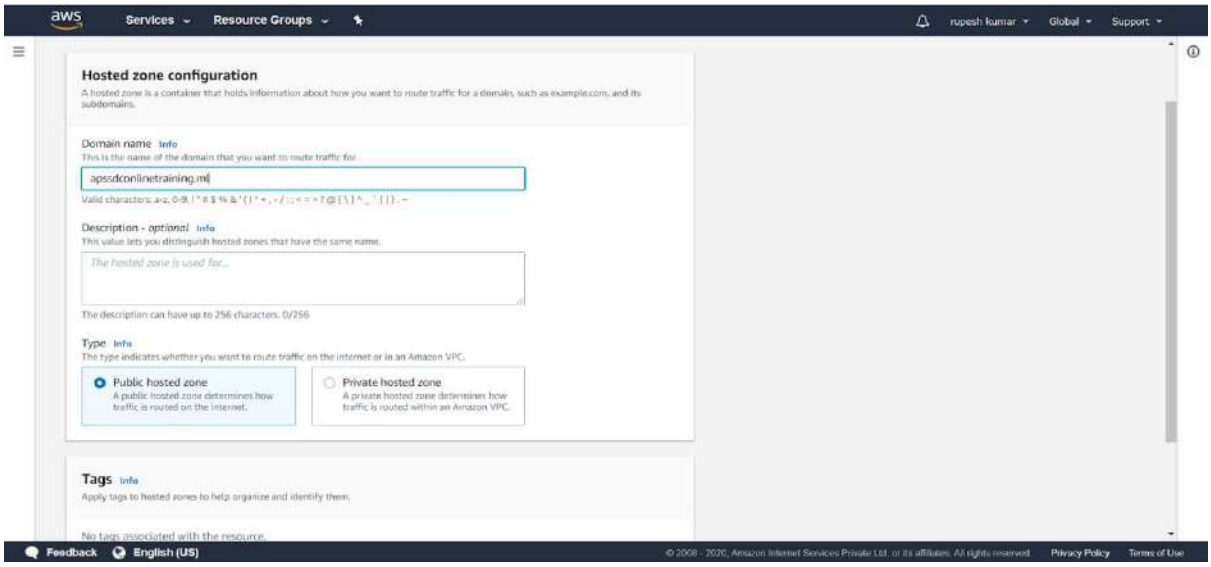
Route53 Dashboard wizard opens
Under DNS management
Click on **"Hosted zones"** button



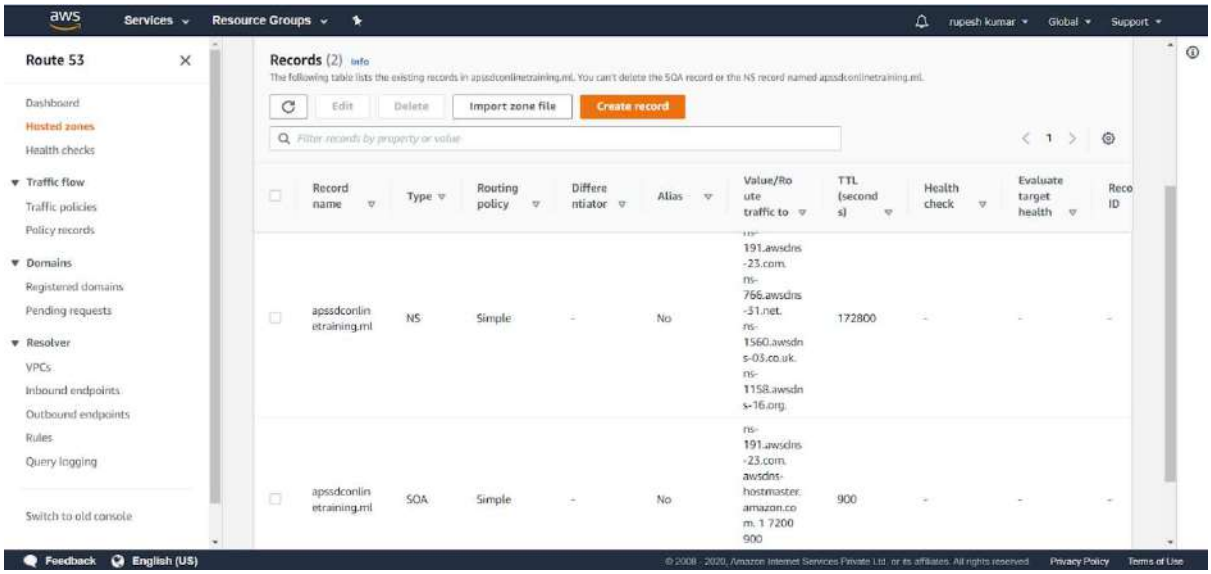
Click on **"Created Hosted Zone"** button



Under **"Created Hosted Zone",** wizard
For Domain Name: → cloudskillsindia.com
For Comment → optional
For Type → public Hosted Zone
Click on **Create** button



Now the list of AWS NS records will appear
Now add all AWS NS record to your local DNS NS record (Freenom.com)



Nameservers are part of a large database called the Domain Name System (DNS), which acts as a directory for devices and the IP addresses attached to them. However, it usually refers to a server owned by a web host, which is used to manage customer domain names.

Copy all the name servers

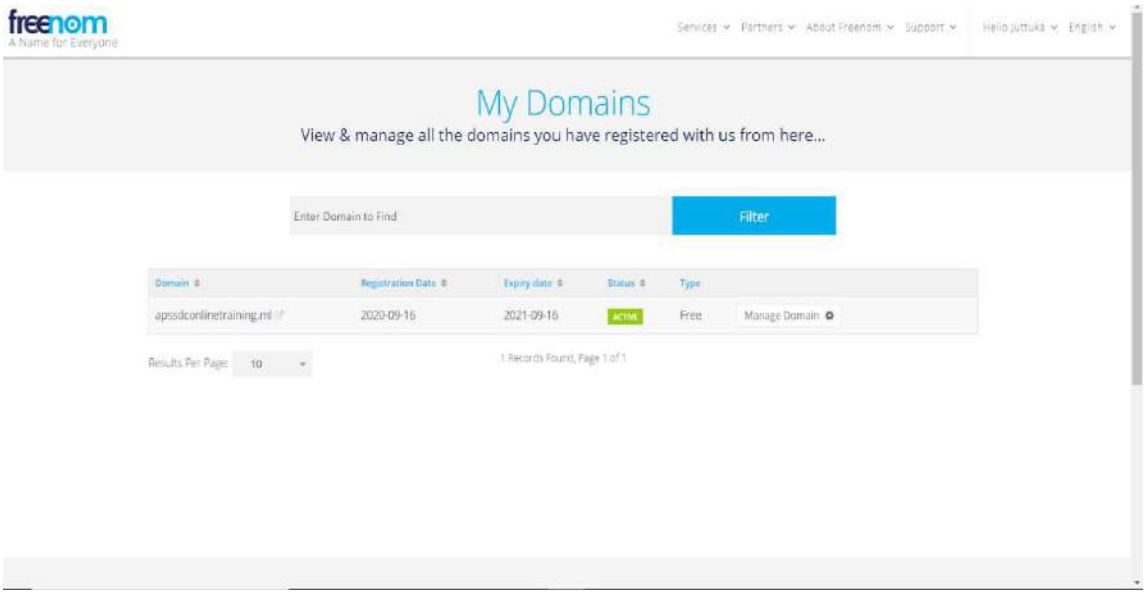
ns-191.awsdns-23.com.

ns-766.awsdns-31.net.

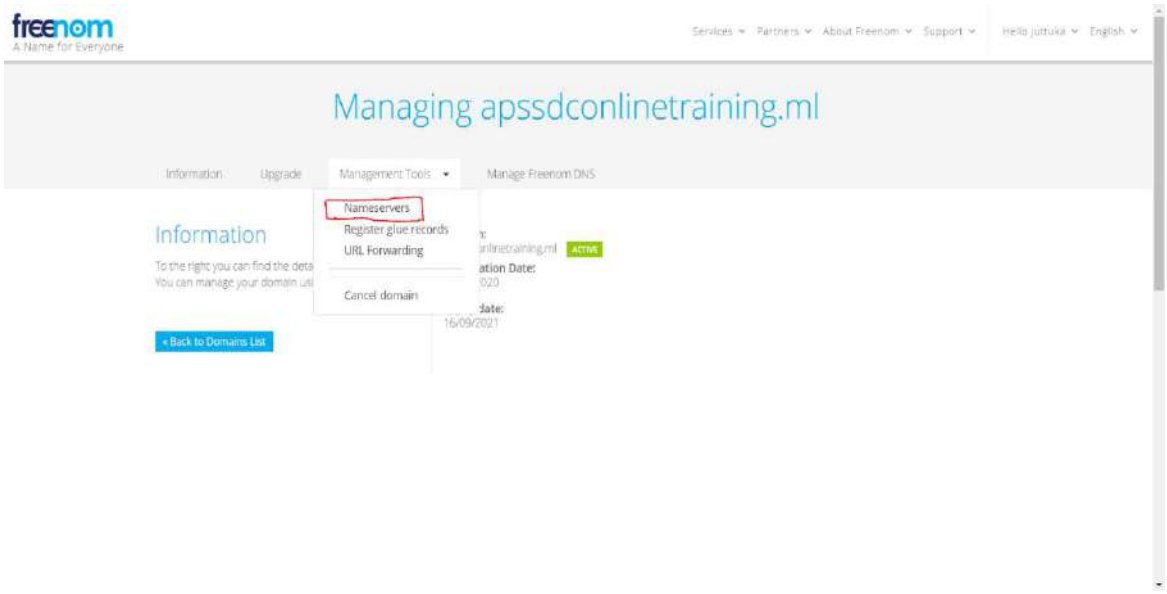
ns-1560.awsdns-03.co.uk.

ns-1158.awsdns-16.org.Open the browser

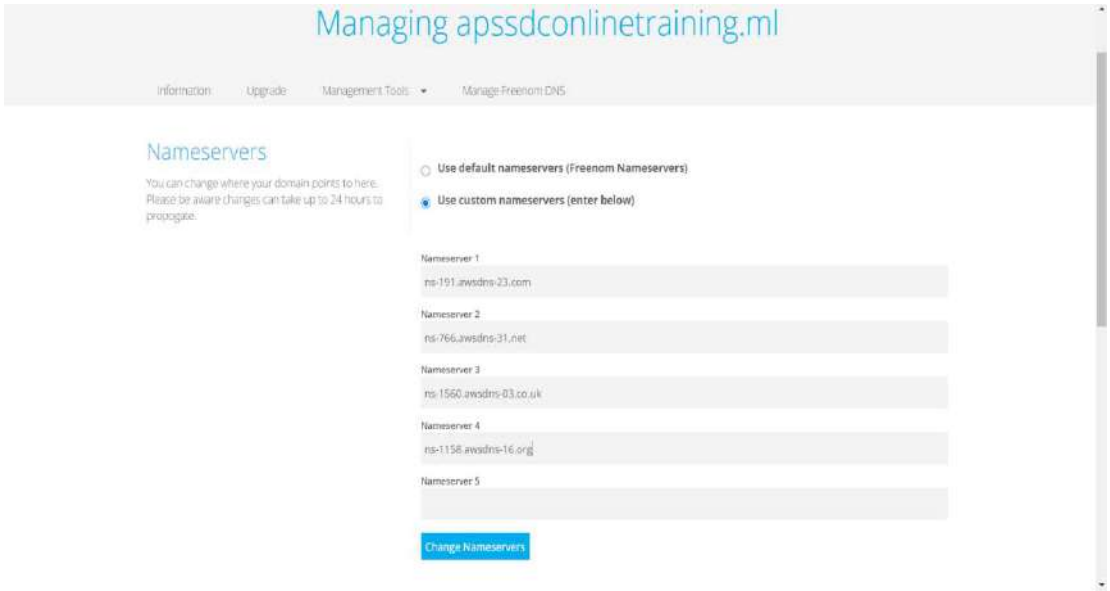
Go to Freenom.com site
Login and select your domain name
Click on **Services → My Domains → Manage Domain**



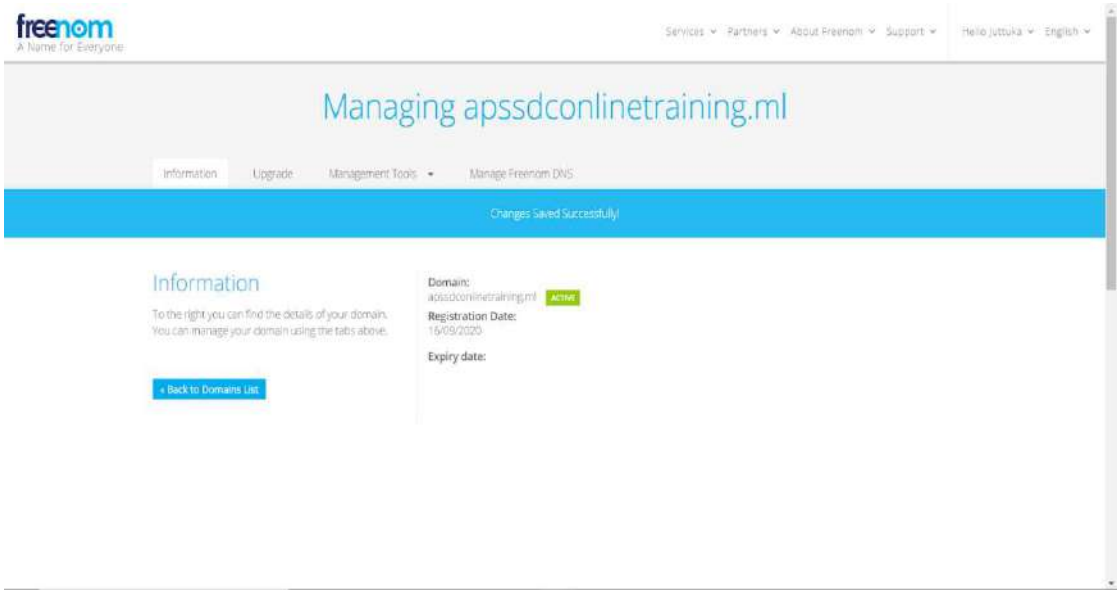
Click on Management Tools and select the name servers



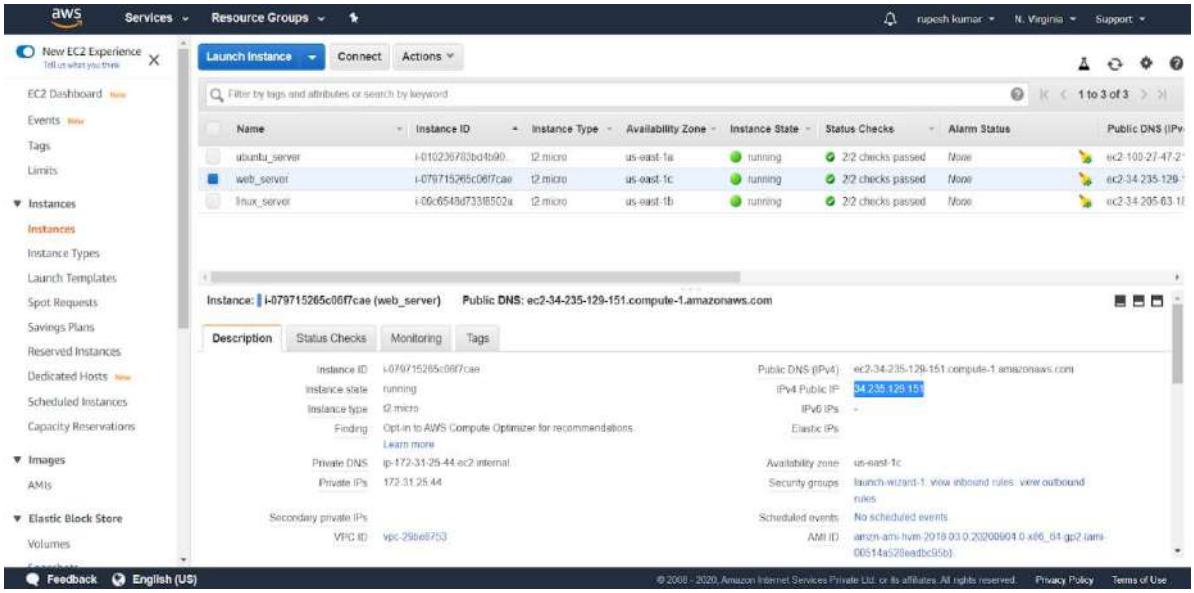
Select the 'custom name servers' and enter all the name servers from the route 53 console. Click on **Change Nameservers** button



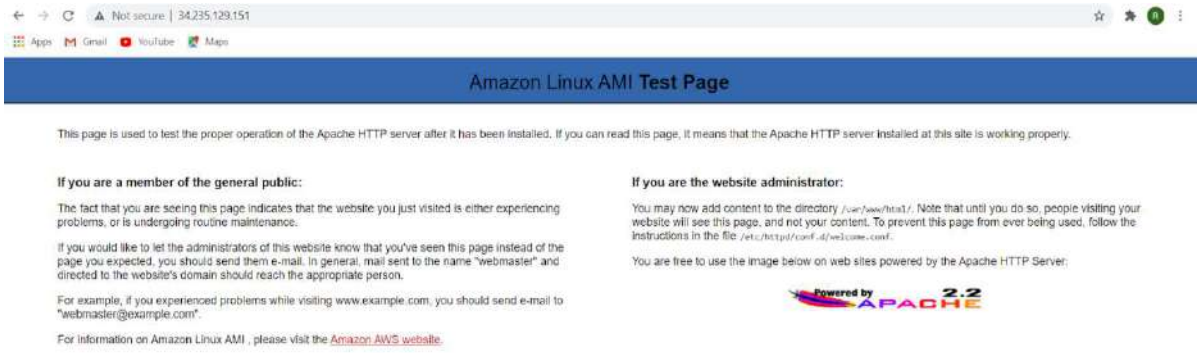
Now the changes were made successfully.



Now open your ec2 console, click on services, click on running instances, copy the ip address and search for the output.

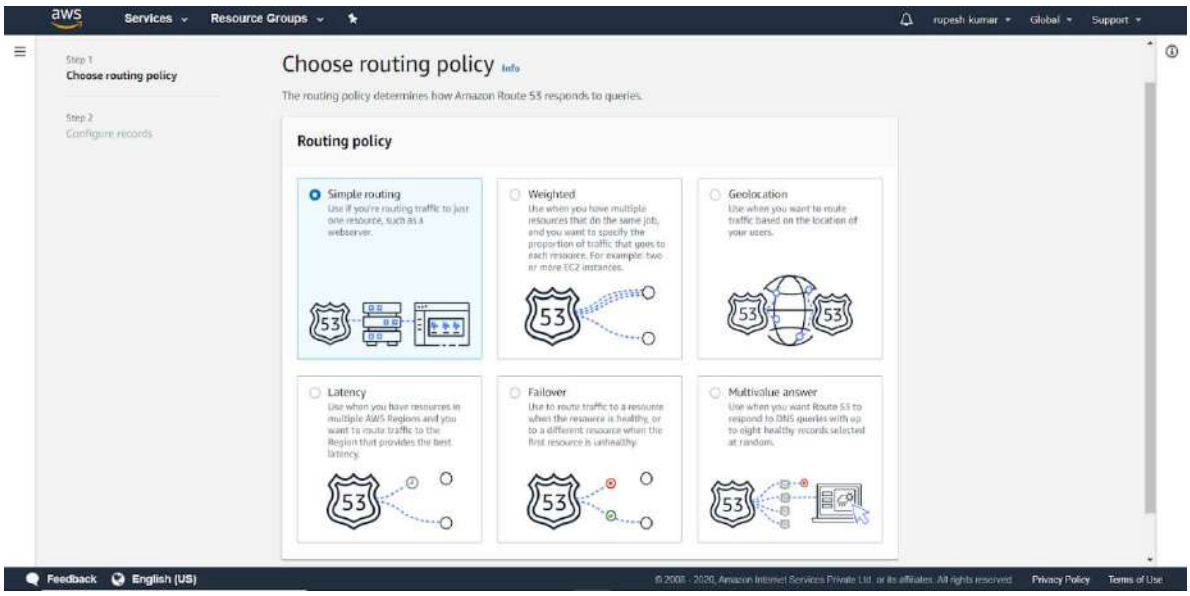


Now check for the output

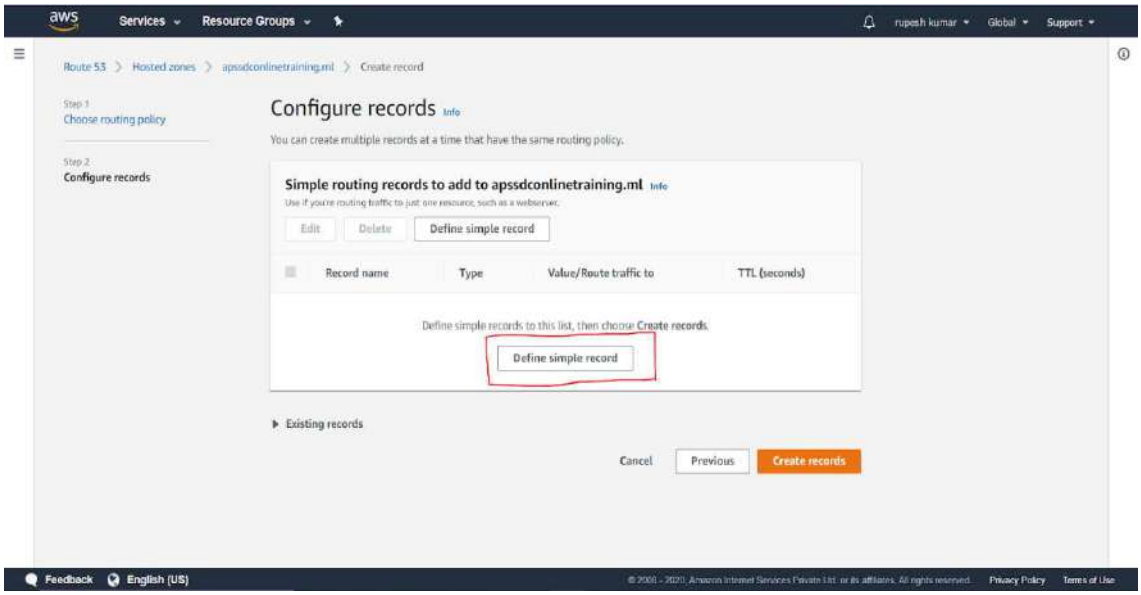


Now the same output will have to assign for our domain name

Get back to route 53 console, click on “create record” button.
Choose recording policy as “**Simple Routing**” and click on Next

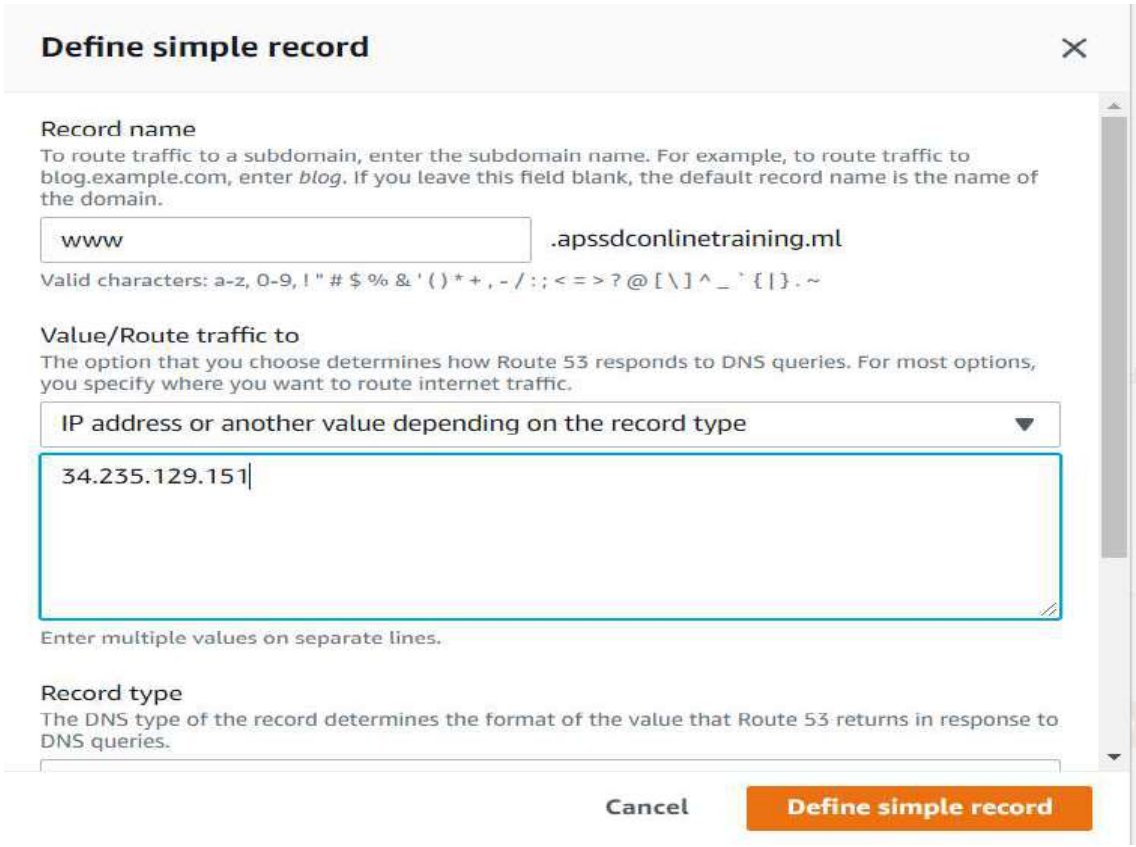


Click on "**Define simple record**" button

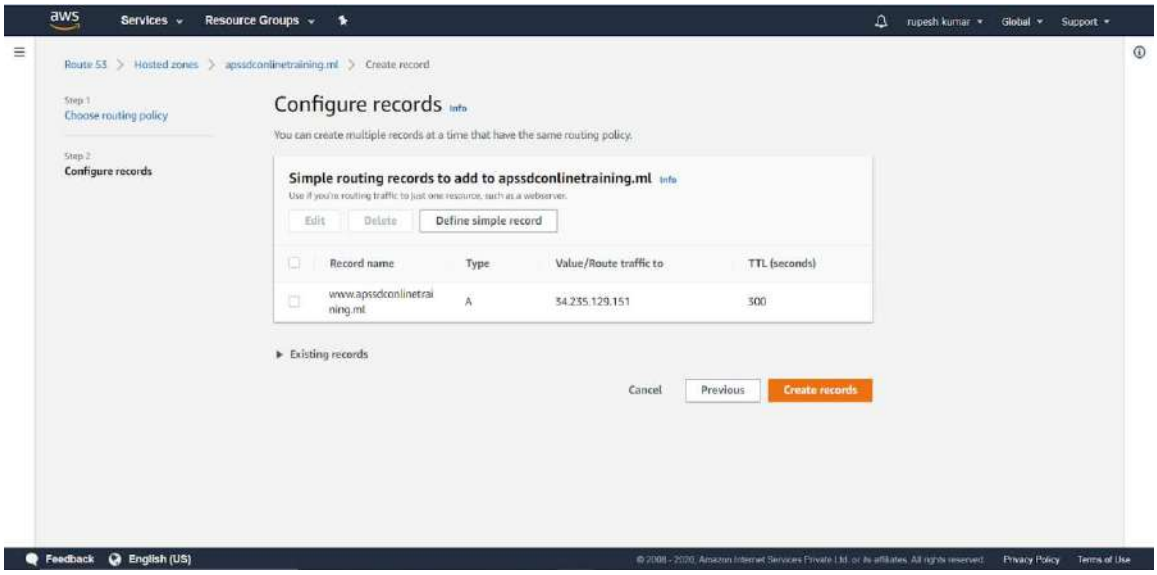


Give the details as

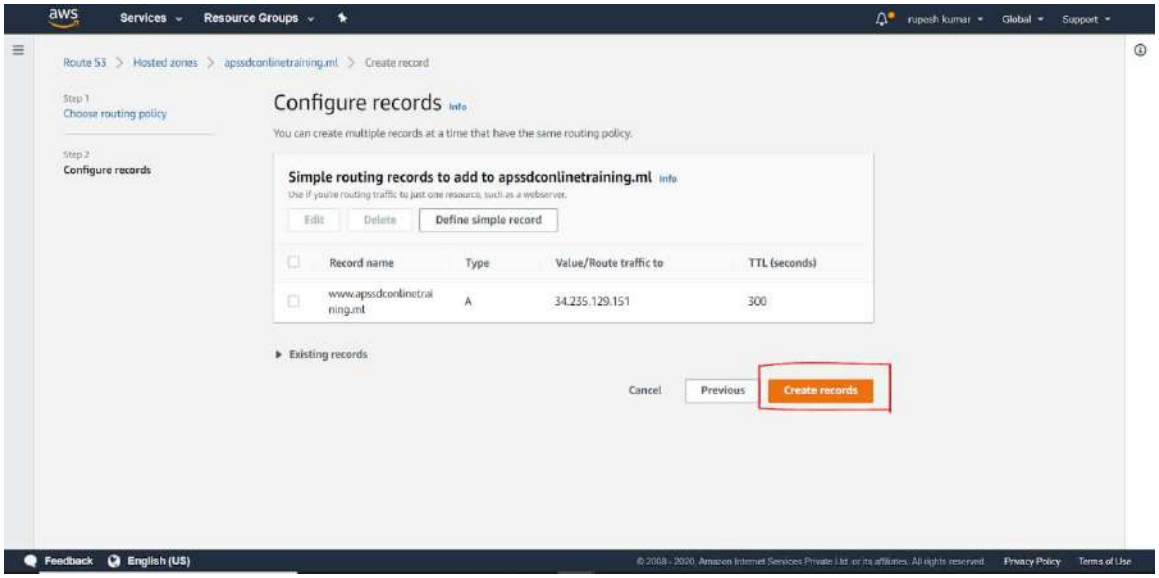
- Give the Record NAME as → www.apssdconlinetraining.ml
- Select the "Value/Route traffic" as "IP address or another value depending on the record type" from the dropdown list.
- Paste the instance ip address in the box. Scroll down a little bit
- Select the Record Type as → "A- route traffic to an IPv4 address and some aws resources
- Click on the **"Define simple Record" button**



Now check the record successfully created

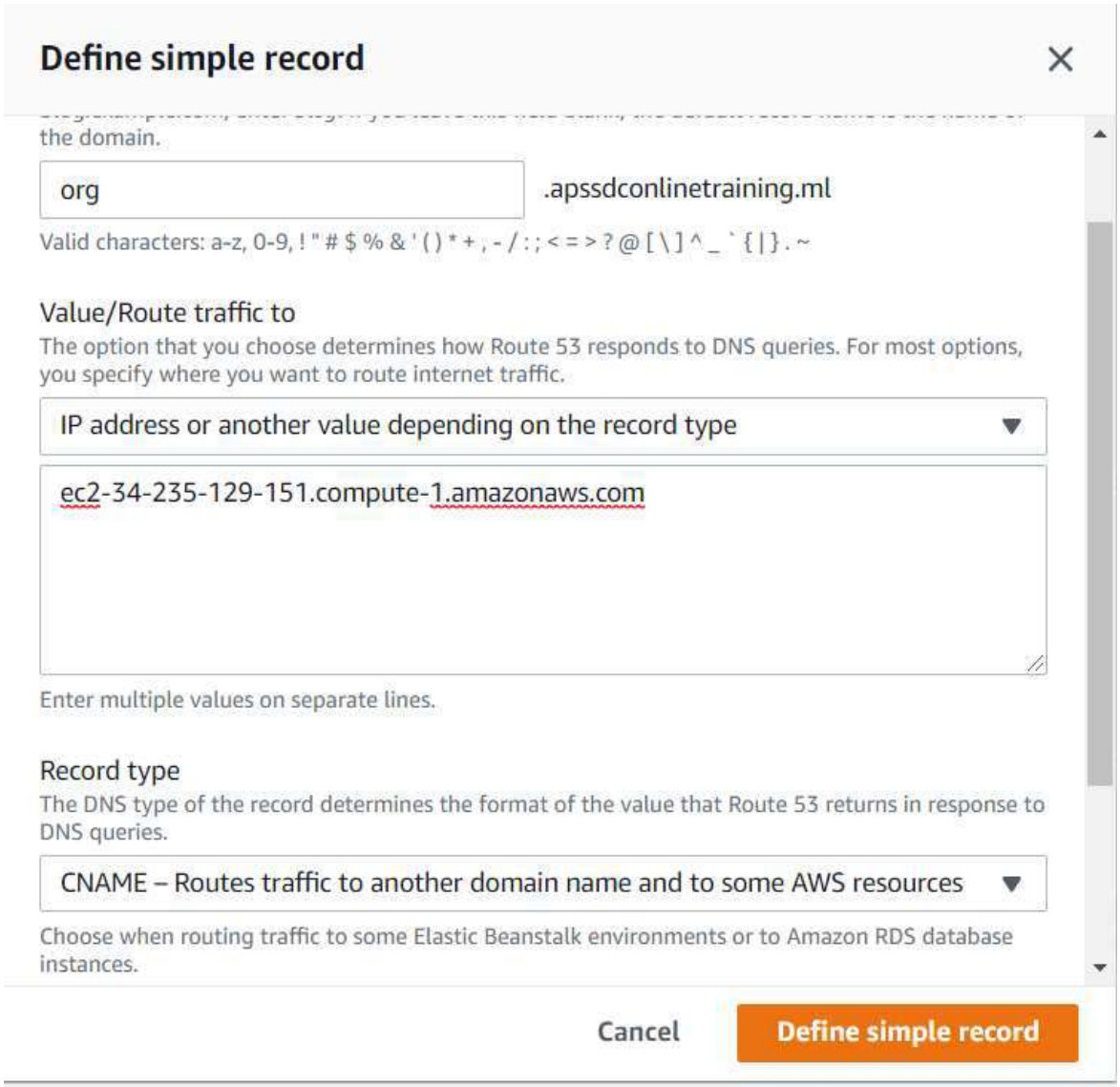


Now create the A record for the domain.
Click on simple record

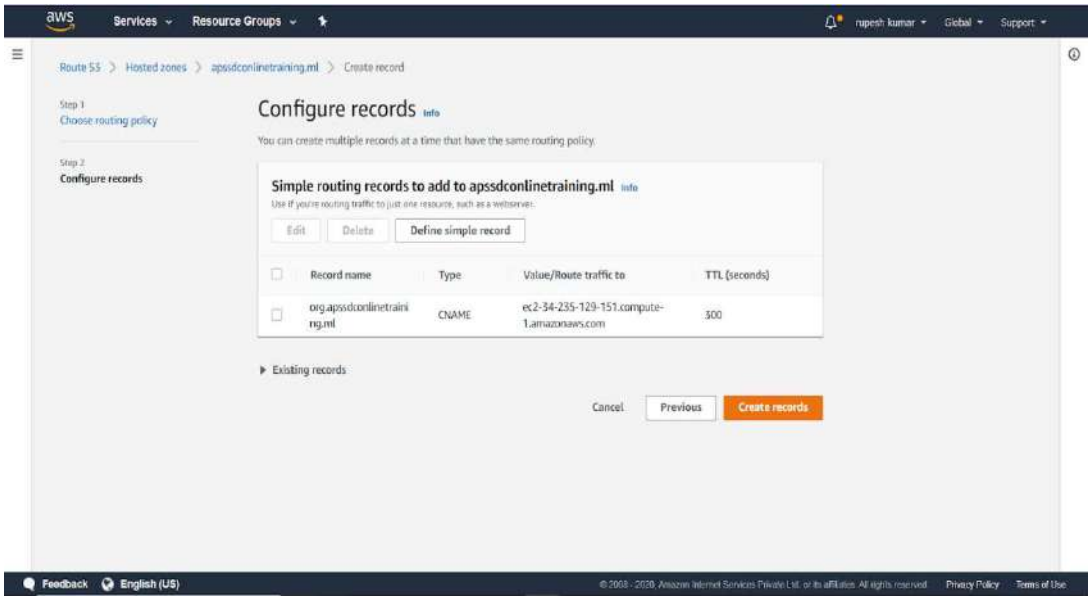


Give the details as

- Give the Record NAME as → org.apssdconlinetraining.ml
- Select the "Value/Route traffic to" as IP address or another value depending on the record type.
- Copy the public dns of the instance in ec2 console and paste it in the value box here.
- Select the Record Type as, CNAME.
- Click on the **"Define simple Record" button.**


Define simple record
the domain.
org
.apssdconlinetraining.ml
Valid characters: a-z, 0-9, ! " # $ % & ' ( ) * + , - / : ; < = > ? @ [\ ] ^ _ ` { | } . ~
Value/Route traffic to
The option that you choose determines how Route 53 responds to DNS queries. For most options, you specify where you want to route internet traffic.
IP address or another value depending on the record type
ec2-34-235-129-151.compute-1.amazonaws.com
Enter multiple values on separate lines.
Record type
The DNS type of the record determines the format of the value that Route 53 returns in response to DNS queries.
CNAME – Routes traffic to another domain name and to some AWS resources
Choose when routing traffic to some Elastic Beanstalk environments or to Amazon RDS database instances.
Cancel
Define simple record

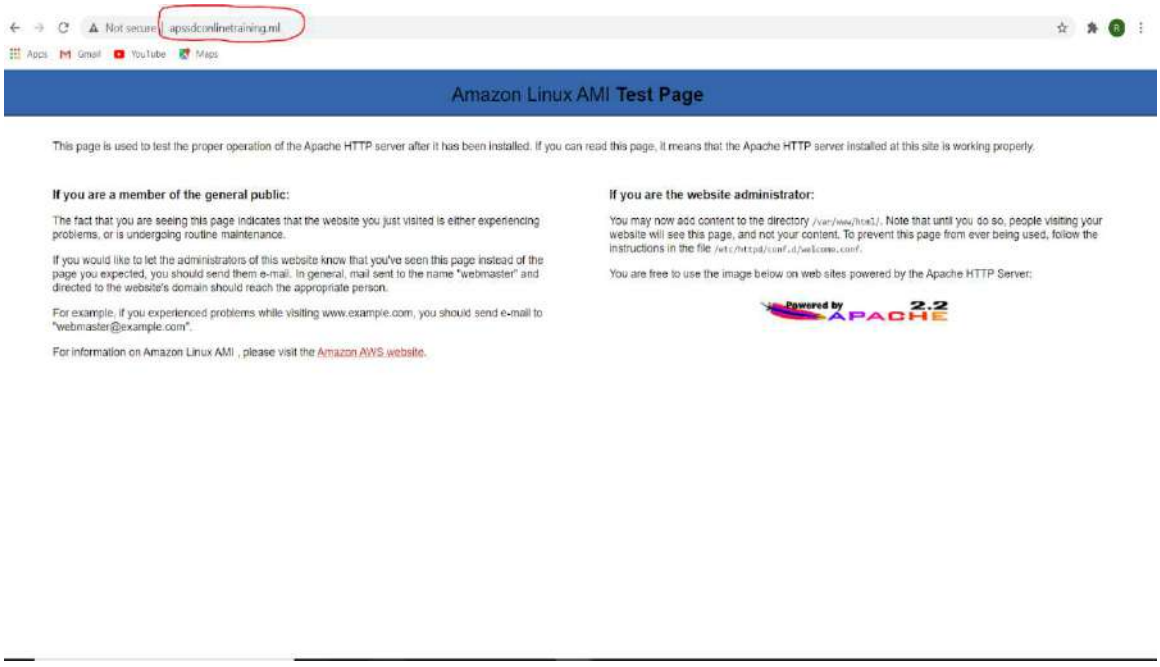
Verify that the CNAME record got created



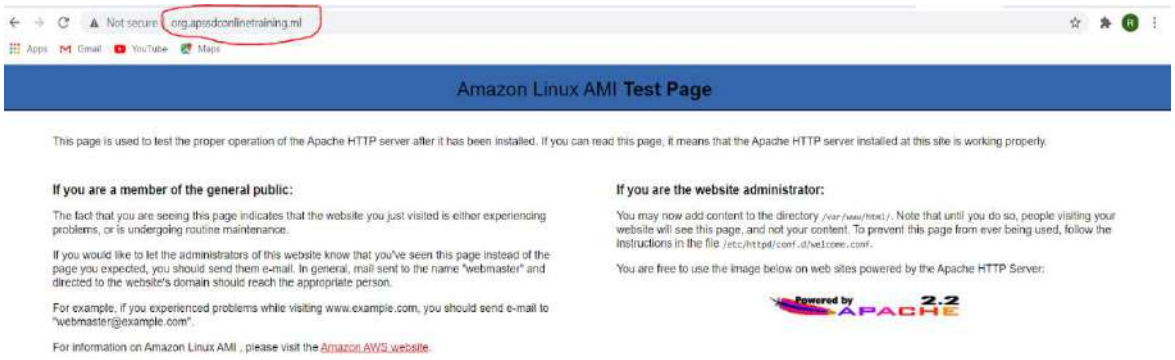
Click on the “create records” button.

Now access the website with “A record set” and “CNAME record sets”.

Take a new tab and enter the “A record set” as www.apssdconlinetraining.ml, and search for it. It takes a few minutes to reflect the output.



Now take another tab and enter the “CNAME record set” as org.apssdconlinetraining.ml and search for it.



You will get the same output for both A record set and CNAME record set.