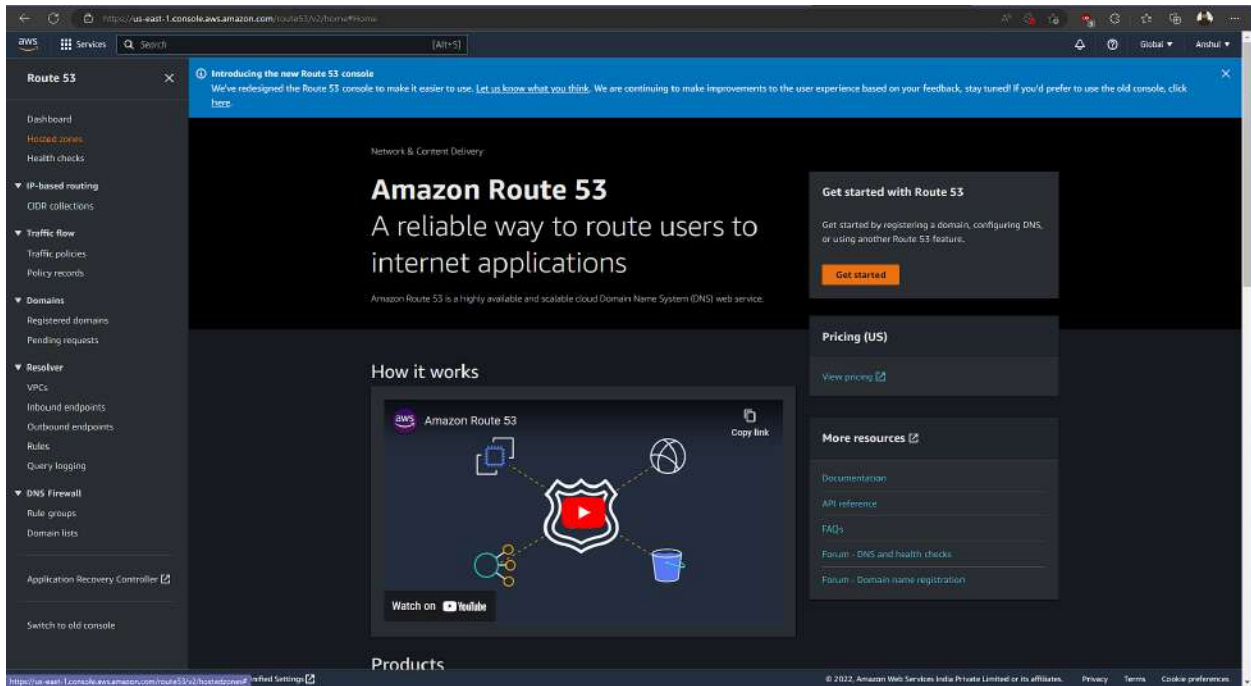


## Module-3: Route 53 Assignment - 3

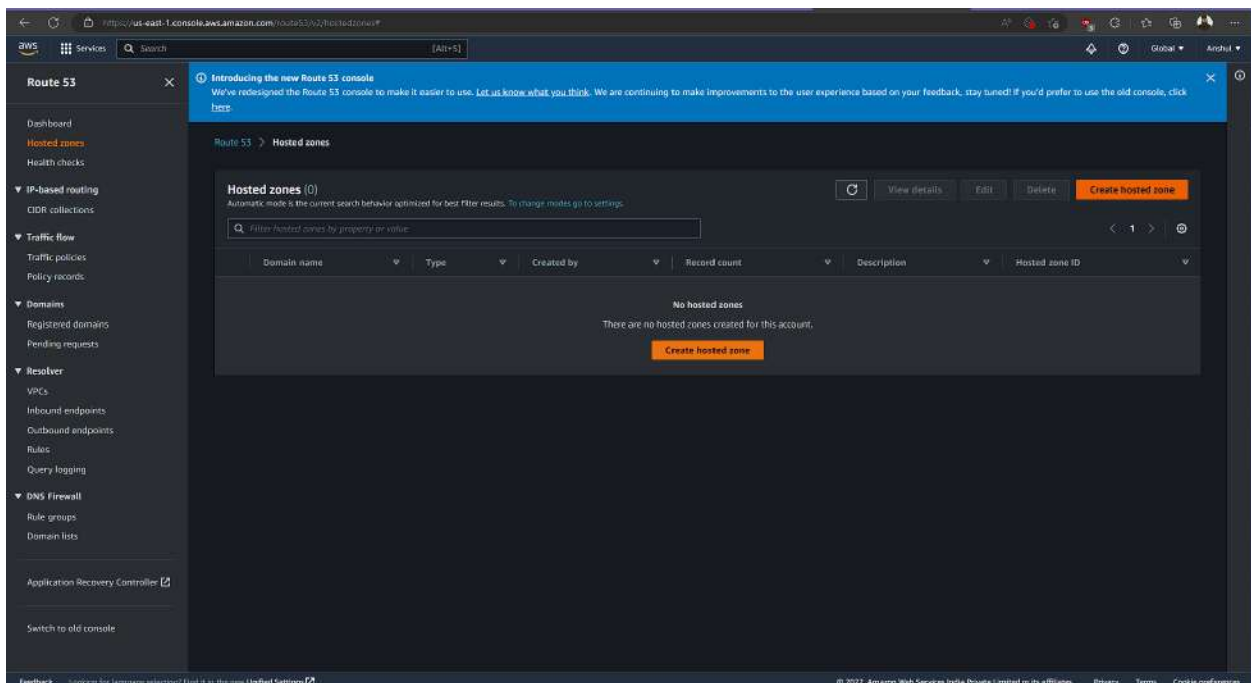
You have been asked to:

1. Use the Route 53 Hosted Zone created in the Assignment
2. Route the traffic to an EC2 instance with an Apache web server running in it using its IP address.

Let's create a 'Hosted Zone' first. Select 'Route 53' service.



Now Select 'Hosted zone' and 'create hosted zone'.



Enter the domain name that you got from your domain name registrar. Let the zone be a public hosted zone as our website will be public.

The screenshot shows the 'Create hosted zone' page in the AWS Route 53 console. The page is titled 'Create hosted zone' and includes a 'Hosted zone configuration' section. The 'Domain name' field is set to 'fo-assignment.tk'. The 'Type' section has 'Public hosted zone' selected. The 'Tags' section shows 'No tags associated with the resource'.

**Hosted zone configuration**

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

**Domain name** Info  
This is the name of the domain that you want to route traffic for.  
  
Valid characters: a-z, 0-9, '-', and '.', and a maximum of 255 characters (1-3 for the top-level domain).

**Description - optional** Info  
This value lets you distinguish hosted zones that have the same name.  
The hosted zone is used for:  
  
The description can have up to 256 characters (1/256).

**Type** Info  
The type indicates whether you want to route traffic on the Internet or in an Amazon VPC.

☒ **Public hosted zone**  
A public hosted zone determines how traffic is routed on the Internet.

☐ **Private hosted zone**  
A private hosted zone determines how traffic is routed within an Amazon VPC.

**Tags** Info  
Apply tags to hosted zones to help organize and identify them.

No tags associated with the resource.

You can add up to 50 more tags.

Update these in the Nameserver of your domain.

The screenshot shows the 'fo-assignment.tk' hosted zone details page in the AWS Route 53 console. A green banner at the top states 'fo-assignment.tk was successfully created.' The 'Hosted zone details' section shows the zone is public. The 'Records (2)' section displays a table with two records: 'fo-assignment.tk' with NS type and 'fo-assignment.tk' with SOA type.

**Route 53**   Looking for language selection? Find it in the new Unified Settings.

**fo-assignment.tk was successfully created.**  
Now you can create records in the hosted zone to specify how you want Route 53 to route traffic for your domain.

**Hosted zone details**

**fo-assignment.tk** Info

**Records (2)** Info

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

<input type="checkbox"/>	Record name	Type	Routing...	Differ...	Value/Route traffic to
<input type="checkbox"/>	fo-assignment.tk	NS	Simple	-	ns-786.awsdns-34.net ns-407.awsdns-50.com ns-1756.awsdns-27.co.uk ns-5330.awsdns-12.org
<input type="checkbox"/>	fo-assignment.tk	SOA	Simple	-	ns-786.awsdns-34.net. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400

**Domains**  
Registered domains  
Pending requests

**Resolver**  
VPCs  
Inbound endpoints  
Outbound endpoints  
Rules  
Query logging

**DNS Firewall**  
Rule groups  
Domain lists

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For Example: Here nameservers are being updated to our domain from the freenom domain registrar website.

The screenshot shows the Freenom domain registrar website. The URL in the browser is `my.freenom.com/clientarea.php?action=domaindetails&id=1096554677`. The page title is "Use Default Nameservers (Freenom Nameservers)". There is a note: "You can change where your domain points to here. Please be aware changes can take up to 24 hours to propagate." Below this, there is a radio button selected for "Use custom nameservers (enter below)". There are five input fields for Nameserver 1 through Nameserver 5. A dropdown menu is open for Nameserver 1, showing three options: `ns-372.awsdns-46.com`, `ns-344.awsdns-43.com`, and `ns-1239.awsdns-26.org`. A blue button labeled "Change Nameservers" is at the bottom.

Now, let us create an EC2 instance whose ip will be used to route with domain.

The screenshot shows the AWS Management Console "Launch an instance" wizard. The "Name and tags" section has a name "for-route53". The "Application and OS Images (Amazon Machine Image)" section shows a search bar and a "Quick Start" section with various AMIs. The "Summary" section on the right shows the configuration: 1 instance, Canonical Ubuntu 22.04 LTS AMI, t2.micro instance type, no security group, and 1 volume of 8 GiB. A "Free tier" notification is displayed, stating that the first year includes 750 hours of t2.micro usage. The "Launch Instance" button is highlighted in orange.

Connect to instance [EC2 Menu] x Start Course | Intergast x Module 3 - Autoscaling IIS-Rec x Module 3 - Task 3.pdf x limited document - Google Doc x Client Area - Freson x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceid=i-067870bfcd7f23f64

RWS Services Search [Alt+S]

EC2 > Instances > i-067870bfcd7f23f64 > Connect to instance

### Connect to instance [help](#)

Connect to your instance i-067870bfcd7f23f64 (for-route53) using any of these options.

- EC2 Instance Connect**
- Session Manager
- SSH client
- EC2 serial console

Instance ID  
 i-067870bfcd7f23f64 (for-route53)

Public IP address  
 18.207.219.96

User name  
 ubuntu

Connect using a custom user name, or use the default user name ubuntu for the AMI used to launch the instance.

**Note:** In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Cancel **Connect**

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1. Get root user rights with: `sudo su`
2. Update using: `apt-get update`
3. Install apache2 using: `apt-get install apache2 -y`

```
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-m-f Metadata [272 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-m-f Metadata [116 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [6740 B]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [9460 B]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-m-f Metadata [348 B]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-m-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [114 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-m-f Metadata [7388 B]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [460 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [70.5 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-m-f Metadata [532 B]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [622 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [82.9 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-m-f Metadata [11.0 kB]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [1578 B]
Get:41 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [127 B]
Get:42 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-m-f Metadata [228 B]
Fetched 25.1 kB in 4s (6252 kB/s)
Reading package lists... Done
root@ip-172-31-80-186:/home/ubuntu# apt-get install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package apache2 is not available, but is referred to by another package.
This may mean that the package is missing, has been uninstalled, or
is only available from another source.

E: Package 'apache2' has no installation candidates
root@ip-172-31-80-186:/home/ubuntu# apt-get install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils httpd libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser httpd2-doc
The following NEW packages will be installed:
  apache2-bin apache2-data apache2-utils httpd libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
0 upgraded, 13 newly installed, 0 to remove and 26 not upgraded.
Need to get 2136 kB of archive.
After this operation, 855 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libapr1 amd64 1.7.0-2build1 [107 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1 amd64 1.6.1-3ubuntu4 [92.4 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-3ubuntu4 [11.3 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-ldap amd64 1.6.1-3ubuntu4 [1512 B]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 liblua5.3-0 amd64 5.3.6-1build1 [140 kB]
i-06f870bfcf723f64 (for-route53)
PublicIP: 18.207.219.96 PrivateIP: 172.31.80.186
```

Now get back to the hosted zone you created.

The screenshot shows the AWS Route 53 console for the hosted zone 'fo-assignment.tk'. The left sidebar contains navigation links for Dashboard, Hosted zones, Health checks, IP-based routing, CIDR collections, Traffic flow, Traffic policies, Policy records, Domains, Registered domains, Pending requests, Resolver, VPCs, Inbound endpoints, Outbound endpoints, Rules, Query logging, DNS Firewall, Rule groups, Domain lists, and Application Recovery Controller. The main content area shows the 'Hosted zone details' for 'fo-assignment.tk'. Below this, there are tabs for 'Records (2)', 'DNSSEC signing', and 'Hosted zone tags (0)'. The 'Records (2)' tab is active, displaying a table of records. The table has columns for Record name, Type, Routing policy, and Value/Route traffic to. Two records are listed: 'fo-assignment.tk' with Type 'NS' and 'fo-assignment.tk' with Type 'SDA'. The 'Create record' button is visible in the top right corner.

Record name	Type	Routing policy	Value/Route traffic to
fo-assignment.tk	NS	Simple	ns-786.awsdns-34.net, ns-407.awsdns-50.com, ns-1758.awsdns-27.co.uk, ns-1120.awsdns-12.org.
fo-assignment.tk	SDA	Simple	ns-786.awsdns-34.net, awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400

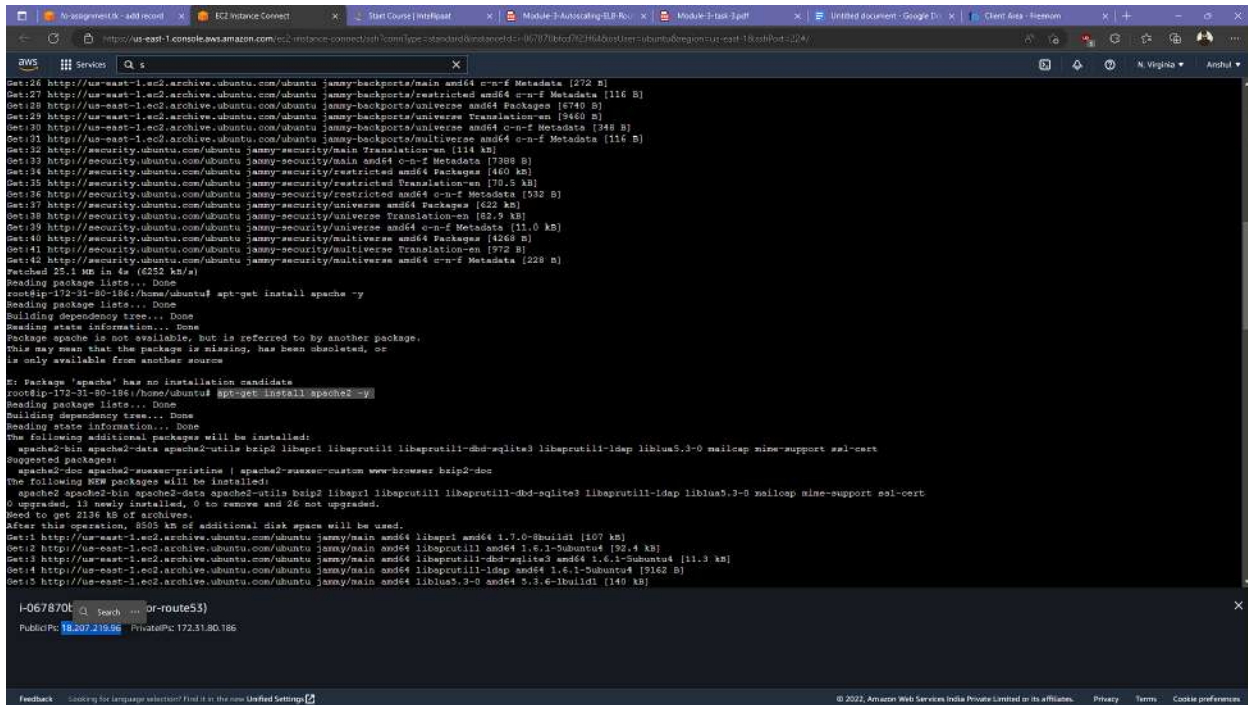
Create a record with entering your Domain name here.

The screenshot shows the 'Create record' wizard in the AWS Route 53 console. The 'Quick create record' section is active, showing a form to create a new record. The 'Record name' field is set to 'subdomain' and the 'Record type' is set to 'A - Routes traffic to an IPv4 address and some AWS resources'. The 'Value' field is set to '192.0.2.255'. The 'TTL (seconds)' is set to '300' and the 'Routing policy' is set to 'Simple routing'. The 'Add another record' button is visible at the bottom. The 'Create records' button is also visible at the bottom right.

Record name: subdomain  
Record type: A - Routes traffic to an IPv4 address and some AWS resources  
Value: 192.0.2.255  
TTL (seconds): 300  
Routing policy: Simple routing



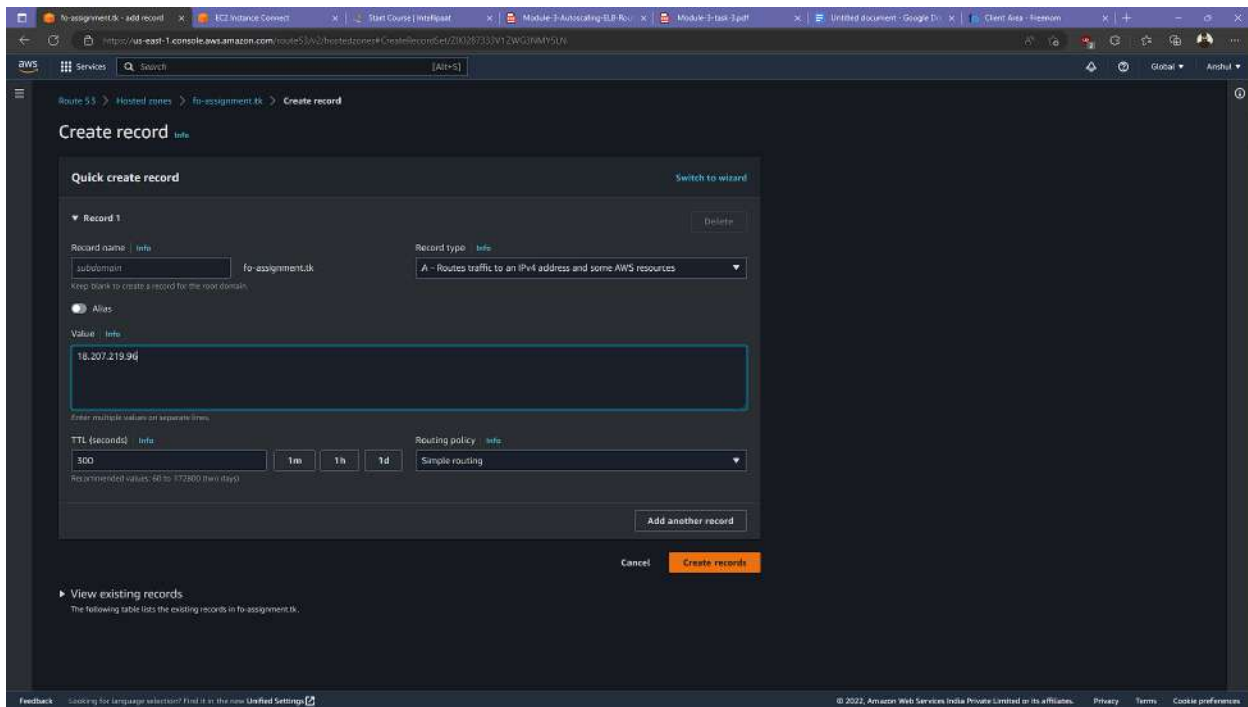
Copy the public ip of the instance created.



```
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [272 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [5740 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [9460 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [348 B]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [114 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [7388 B]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [460 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [70.5 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [532 B]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [422 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [15.5 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [11.0 kB]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [4268 B]
Get:41 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [972 B]
Get:42 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [228 B]
Fetched 25.1 MB in 4s (6252 kB/s)
Reading package lists... Done
root@ip-172-31-80-186:/home/ubuntu# apt-get install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Building state information... Done
Package apache2 is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source.

E: Package 'apache2' has no installation candidate
root@ip-172-31-80-186:/home/ubuntu# apt-get install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Building state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
Suggested packages:
  apache2-doc apache2-ssl-modules libapache2-mod-php libapache2-mod-python libapache2-mod-perl2
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
0 upgraded, 13 newly installed, 0 to remove and 26 not upgraded.
Need to get 2136 kB of archives.
After this operation, 8505 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libapr1 amd64 1.7.0-2build1 [107 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1 amd64 1.6.1-2ubuntu4 [92.4 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-2ubuntu4 [11.3 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libaprutil1-ldap amd64 1.6.1-2ubuntu4 [9142 B]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 liblua5.3-0 amd64 5.3.6-1build1 [140 kB]
PublicIP: 18.207.219.96 PrivateIP: 172.31.80.186
```

Paste it in 'value' section.



Route 53 > Hosted zones > In-assignment.kk > Create record

### Create record

Quick create record Switch to wizard

Record 1 Delete

Record name:  Record type:

Keep back to create a record for the root domain.

☒ Alias

Value:

Enter multiple values on separate lines.

TTL (seconds):  1m 1h 1d Routing policy:

Recommended values: 60 to 873000 (two days)

Add another record

Cancel Create records

View existing records

The following table lists the existing records in In-assignment.kk.

## Now Create a record.

**Create record** Info

**Quick create record** Switch to wizard

**Record 1** Delete

**Record name** Info: subdomain **Record type** Info: A - Routes traffic to an IPv4 address and some AWS resources

Keep blank to create a record for the root domain.

**Value** Info: 18.207.219.96

Enter multiple values on separate lines.

**TTL (seconds)** Info: 300 1m 1h 1d **Routing policy** Info: Simple routing

Recommended values: 60 to 172800 (two days)

Add another record

Cancel Create records

**View existing records**  
The following table lists the existing records in fo-assignment.tk.

## This is if you EC2 instance ip is routed to the domain name you created.

**Record for fo-assignment.tk was successfully created.**  
Route 53 propagates your changes to all of the Route 53 authoritative DNS servers within 60 seconds. Use "View status" button to check propagation status.

**fo-assignment.tk** Info Delete zone Test record Configure query logging

**Hosted zone details** Edit hosted zone

**Records (5)** Info Refresh Delete record Import zone file Create record

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Filter records by property or value Type Routing policy Alias

<input type="checkbox"/>	Record name	Type	Routing...	Differ...	Value/Route traffic to
<input type="checkbox"/>	fo-assignment.tk	A	Simple	↓	18.207.219.96
<input type="checkbox"/>	fo-assignment.tk	SOA	Simple	-	ns-786.awsdns-54.net. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400
<input type="checkbox"/>	fo-assignment.tk	NS	Simple	-	ns-786.awsdns-54.net. ns-407.awsdns-50.com. ns-1758.awsdns-27.co.uk. ns-1120.awsdns-12.org.

**Result:** Since you ec2 instance public ip is routed with domain name. Whoever who uses the domain name will be redirected to this ec2 instance ip in the backend.