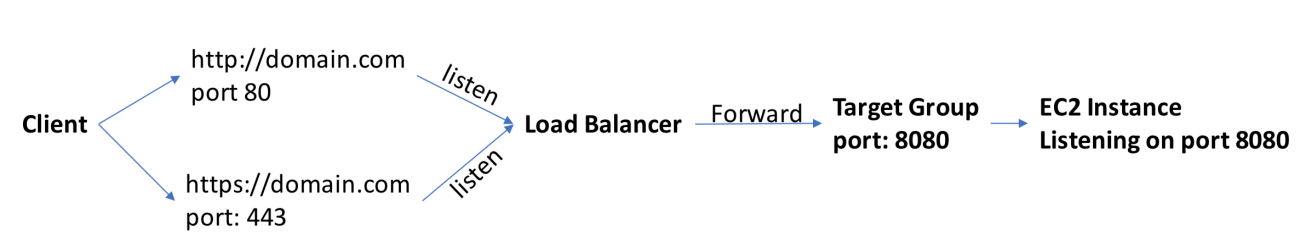
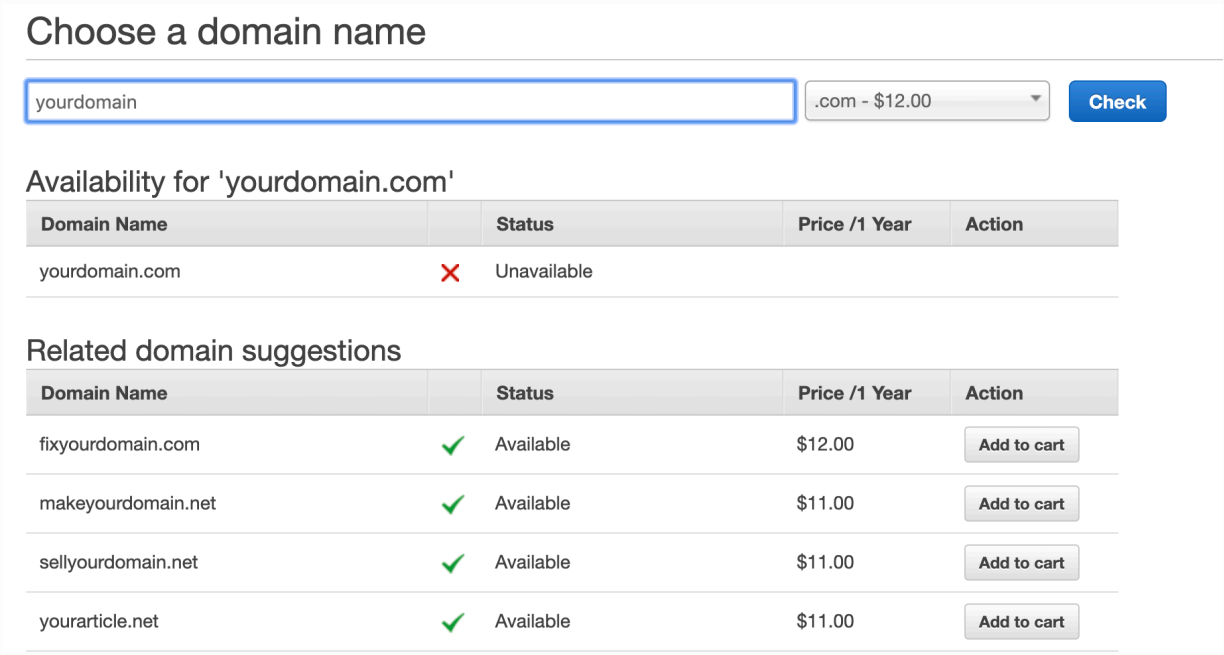
AWS DEPLOY WEB APP ON EC2 WITH SSL CERTIFICATE (HTTPS)

GENERAL IDEA AND MY PERSONAL UNDERSTANDING



PROCEDURE

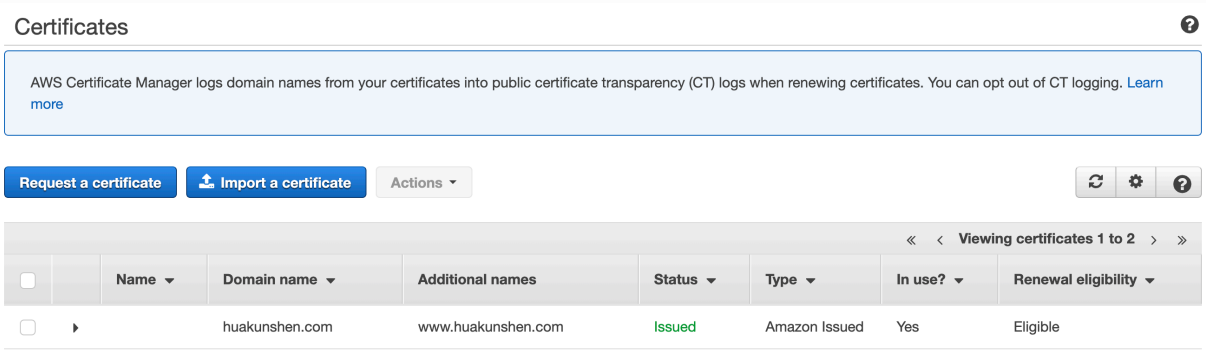
1. Buy a domain name from **route 53**



Find and select an available one.

2. Request a SSL certificate from ACM (Certificate Manager)

   such as **domain.com** or **www.domain.com**



3. Server
   - Go to EC2. Launch a new instance (server), select ubuntu for example.
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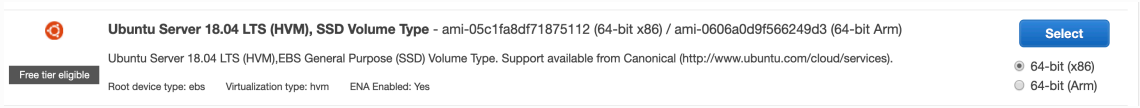
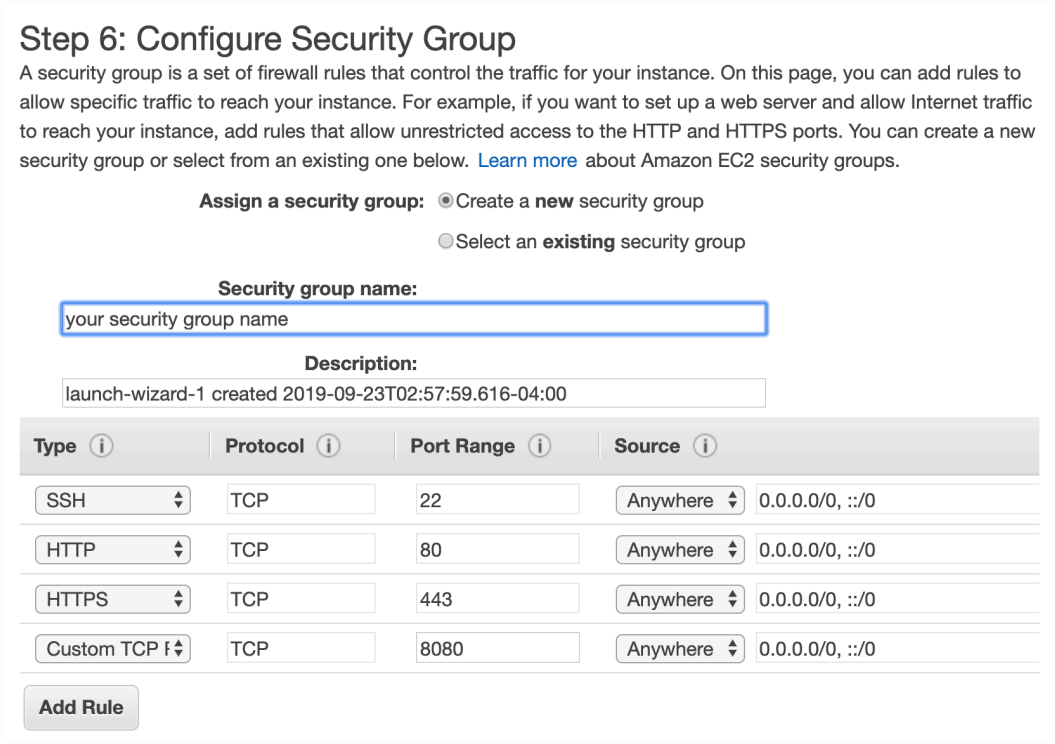


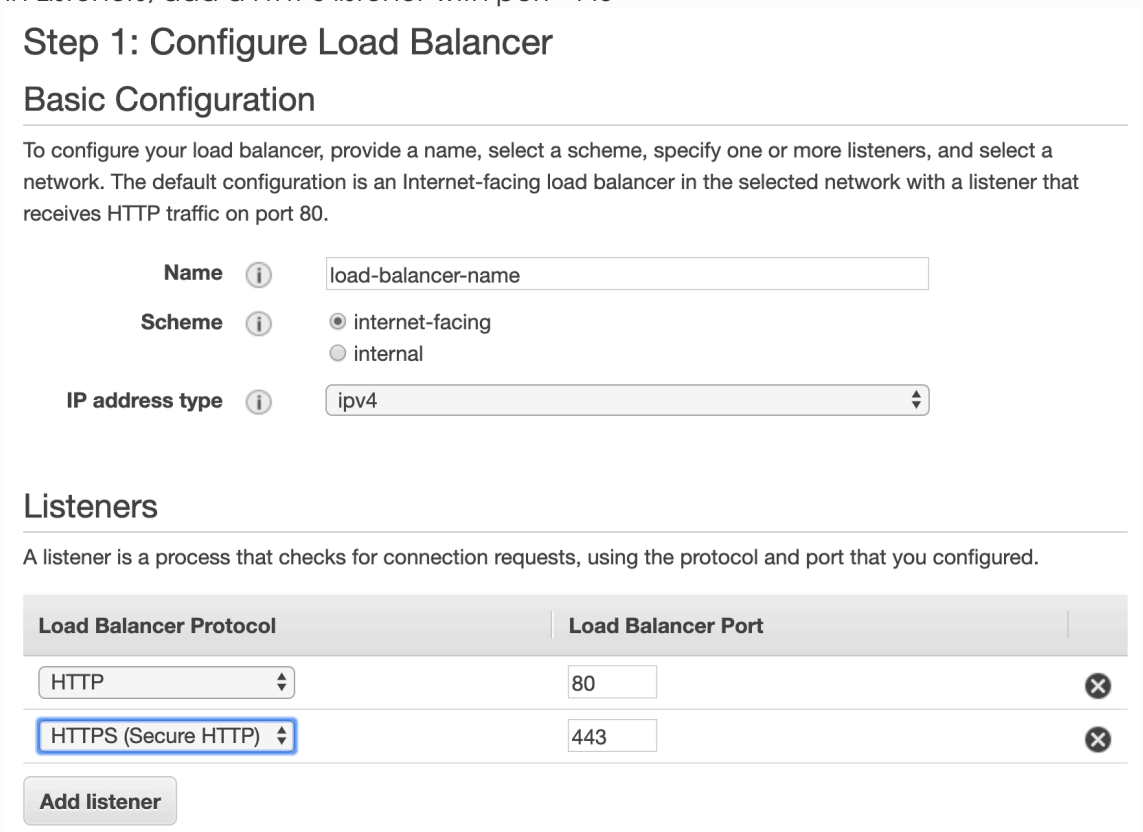
   - When configuring **Security Group**, add **SSH**, **HTTP**,**HTTPS**, and **Custom TCP Rule**(Optional).
   -
     - For the **Custom TCP Rule**, set Port Range to 8080 (or whatever your app will be listening on such as 3000)
     - Set **source** to **anywhere**, so that everyone from any ip address can access the port.
     - Download and keep the private key in a safe location, it will be used to connect to server remotely using ssh. It cannot be downloaded again, so keep it in a place you'll remember.
     - Remeber to set a name for your security group. In the future you could find it easily.



4. Load Balancer

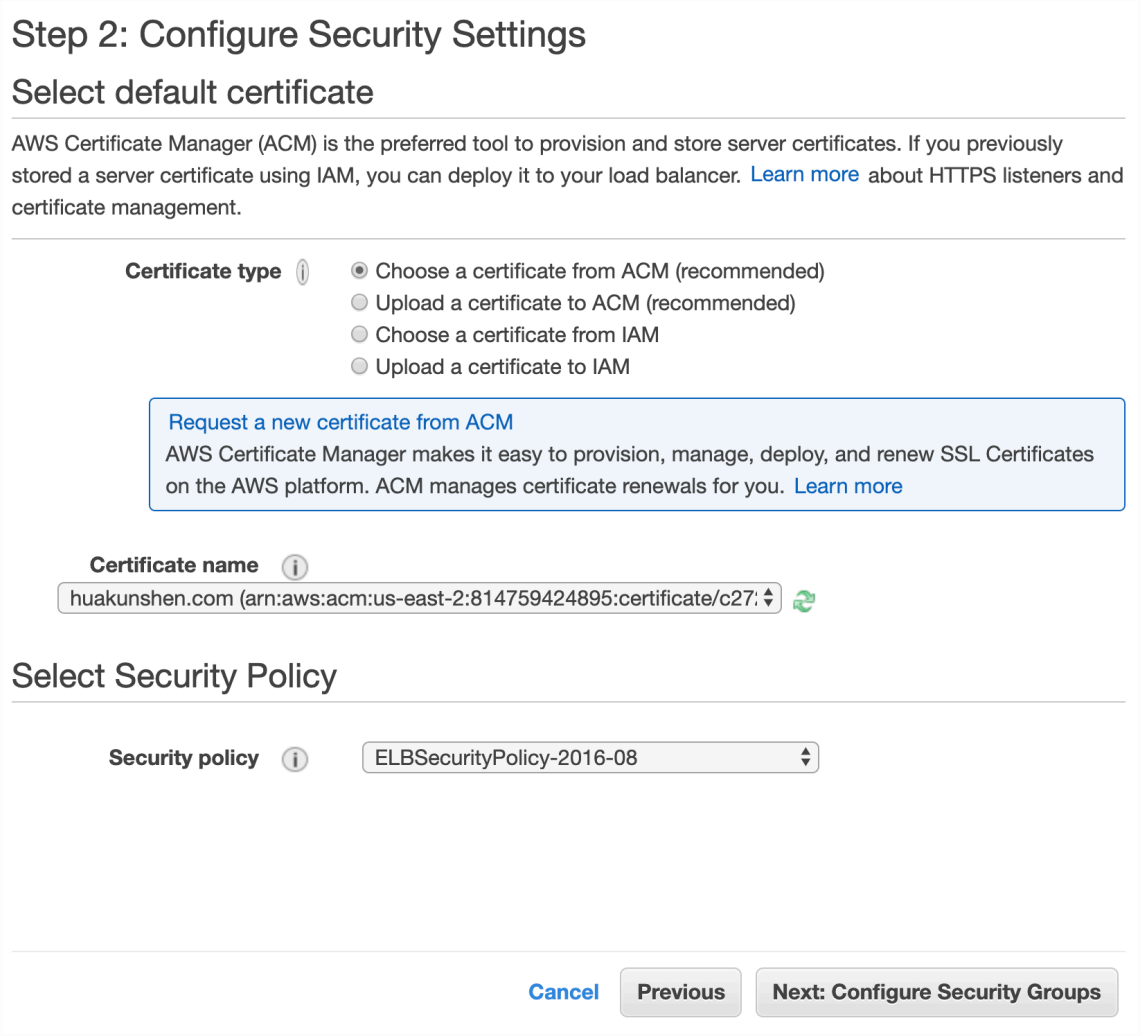
   Step 1: Configure Load Balancer

   - In EC2, go to **Load Balancer**-> Create Load Balancer -> Select Application Load Balancer (HTTP&HTTPS)
   - Give the load balancer a name
   - In Listeners, add a HTTPS listener with port=443



   - Select at least two availability zones.

Step 2: Configure Security Settings

- Choose the certificate that you just requested from Certificate manager, make sure the certificate has been issued (check Route 53, it takes some time)
- 

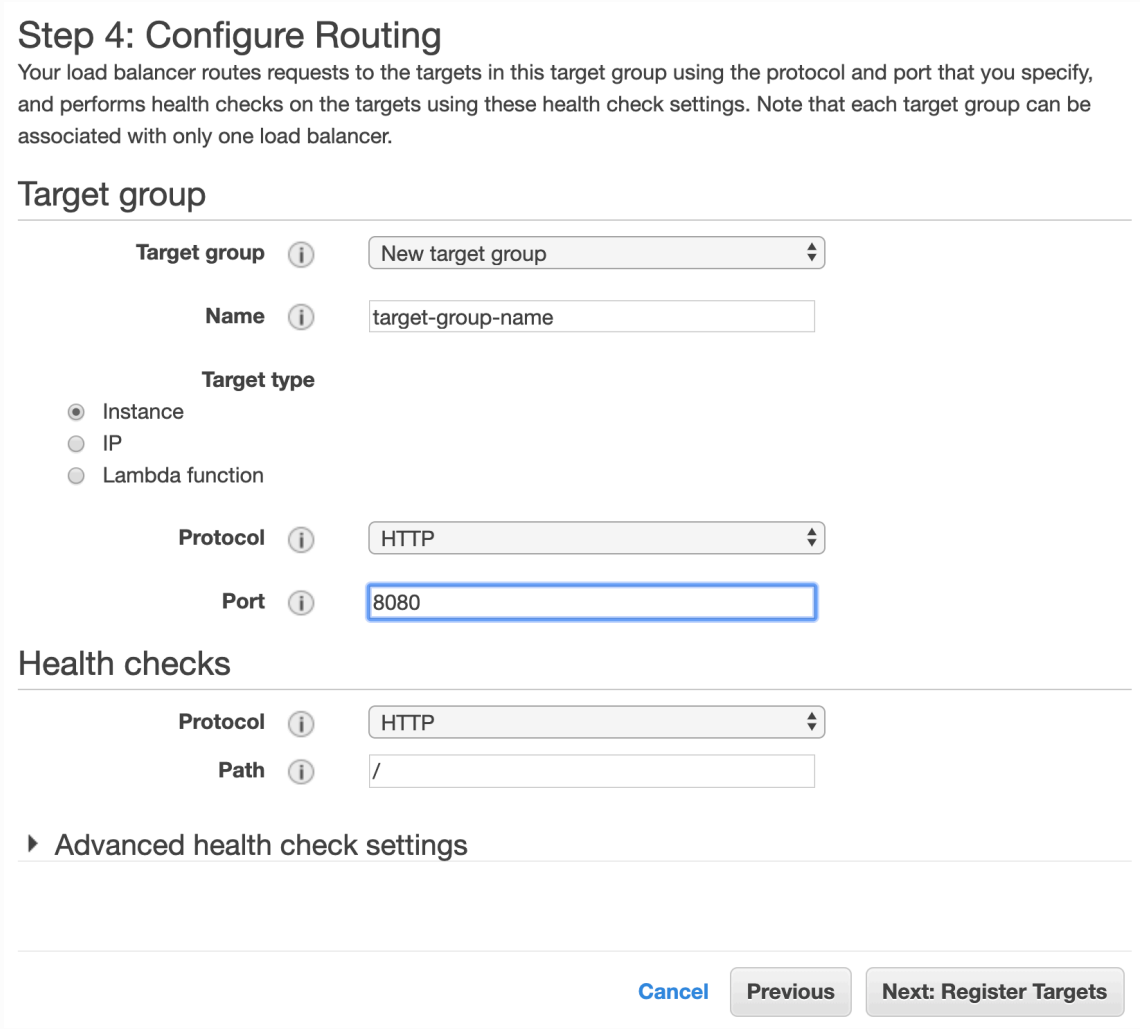
Step 3: Configure Security Groups

- Select an existing security group:

  select the one you just created while launching EC2 instance (find it by the name you set)

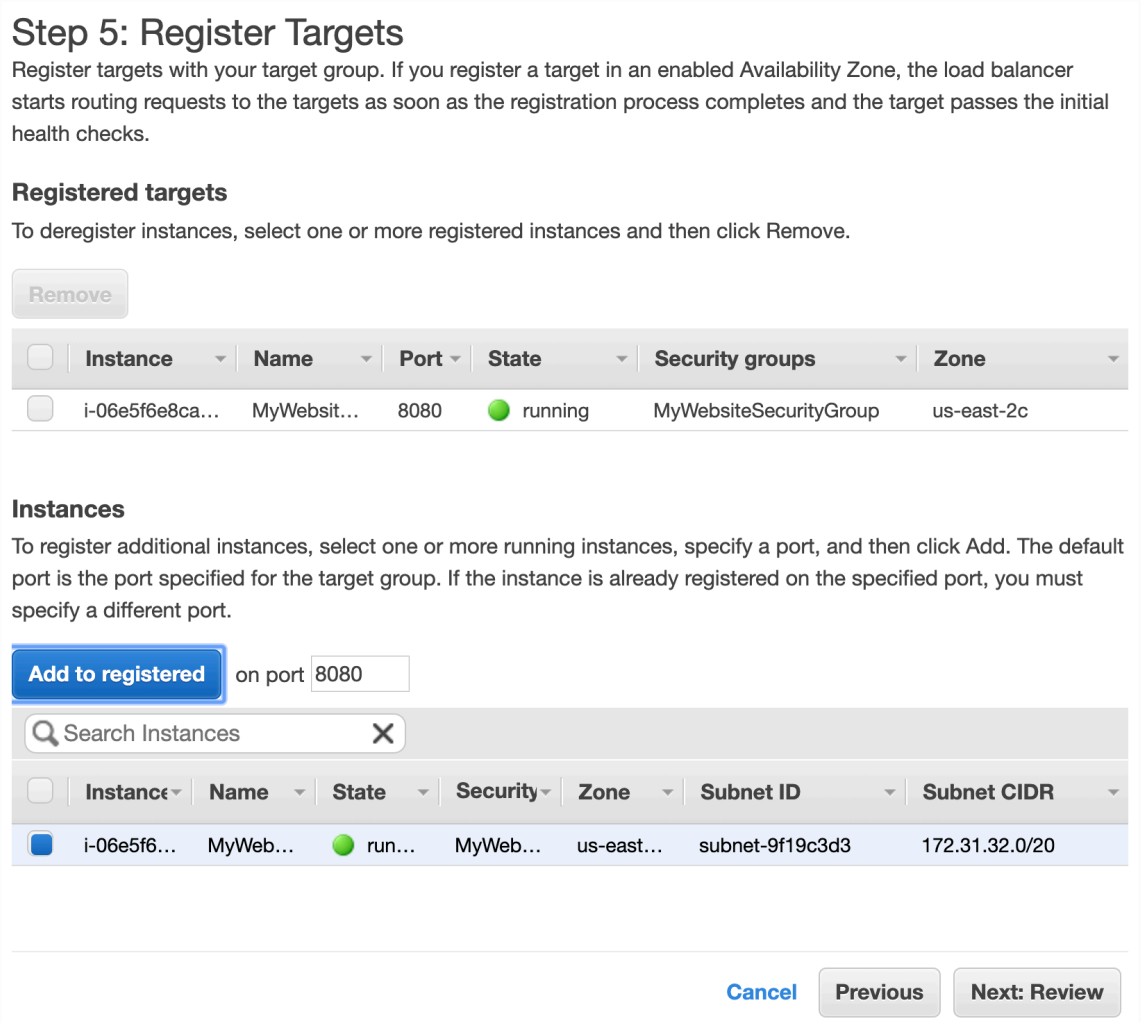
Step 4: Configure Routing

- Create a new target group, keep everything as default but the port
- Change the port to the port your app will be listening on, 8080 in my case

- 

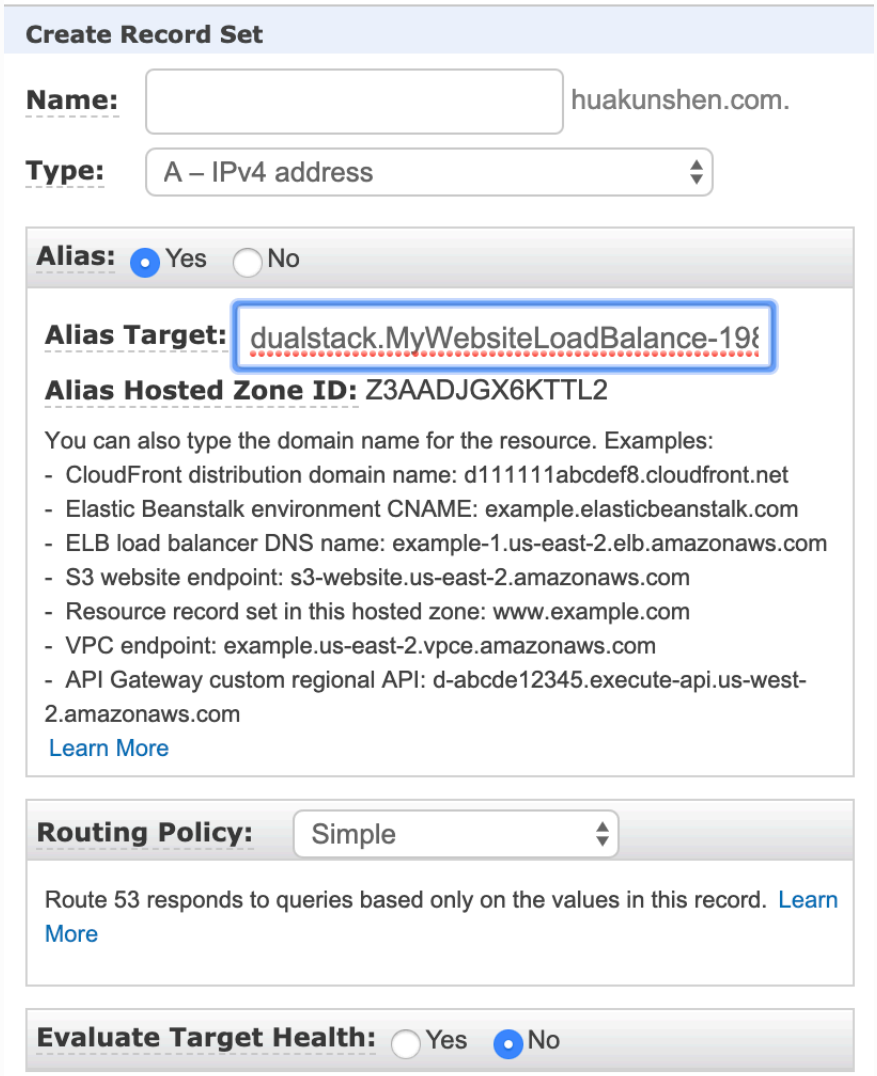
Step 5: Register Target

- Select the target group you just created, click **Add to registered**.

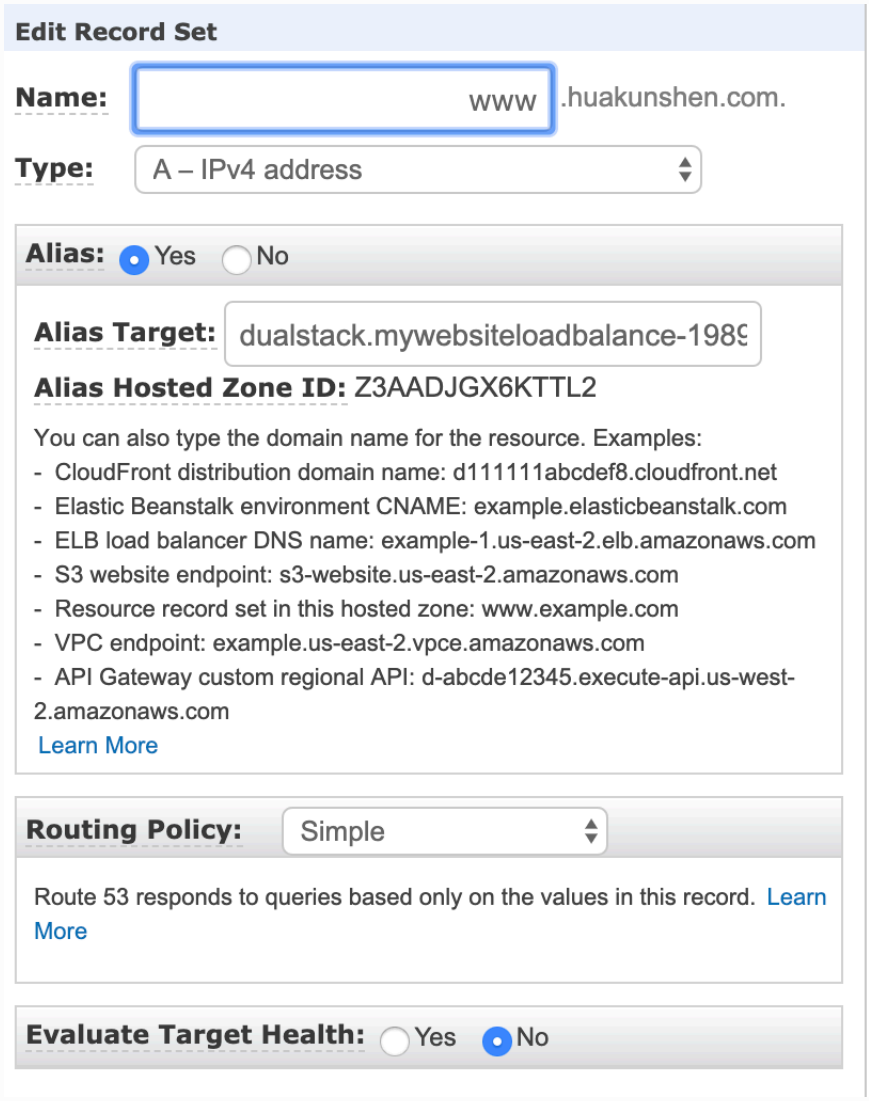


Finally, review and create load balancer.

5. Go to **Route 53**, click on **Hosted zones,** find the domain you purchased, click on it.
    - Click **Create Record Set**
    - Name = nothing if you are not working on a subdomain, subdomain name otherwise
    - Type = A
    - Alias = Yes
    - Alias Target = the load balancer you just created

- 

- Optionally, create a ***www.*** Record Set that also goes to the same load balancer



    - Of cource you can use any subdomain name.
6. ssh to connect to your server with the private key you downloaded while launching EC2 instance.

   Start an app whose server listens on port 8080 (or your application's port number).

7. Go to browser, go to http://huakunshen.com or https://huakunshen.comfor example.

   With https, you will see that the browser no longer identifies you as not secure, and has a little lock on the address bar.