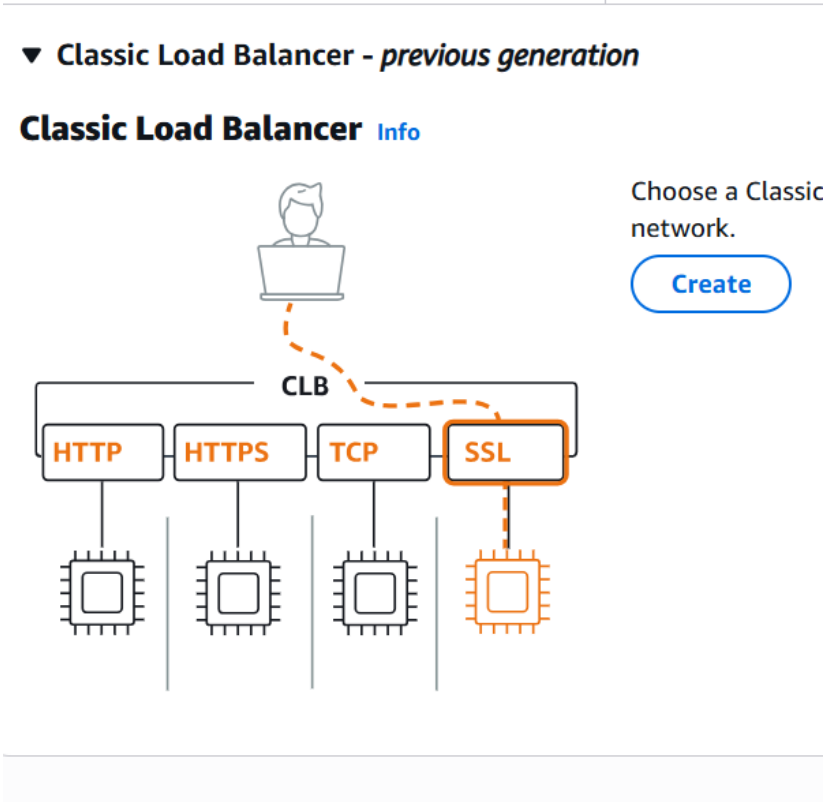
Load Balancers

1. Configure Classic Load balancer.

- Open aws console
- Navigate to ec2 > launch an instance
- Install httpd in ec2 instance
- Now go to load balancer
- create a classic load balancer,



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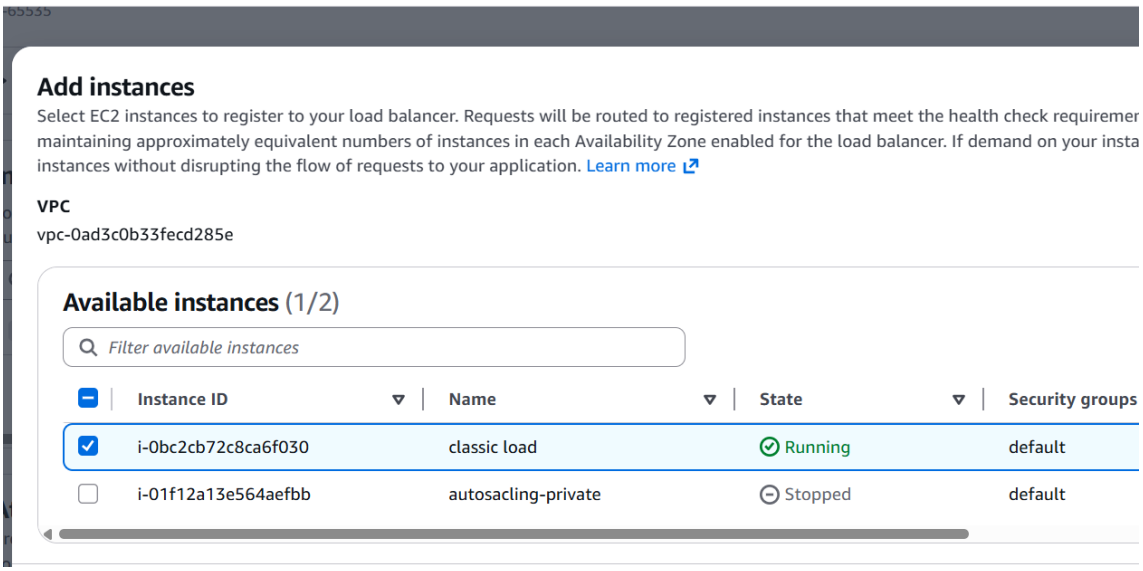
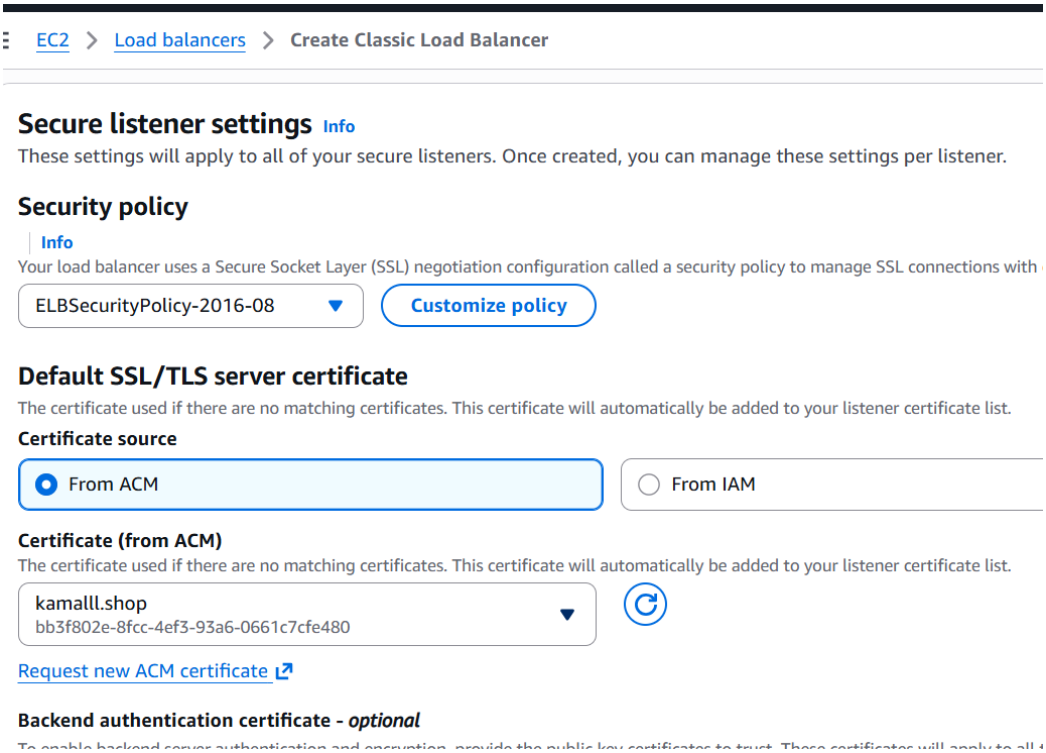
- Attach vpc and subnets from different availability zones
- Add one running instance

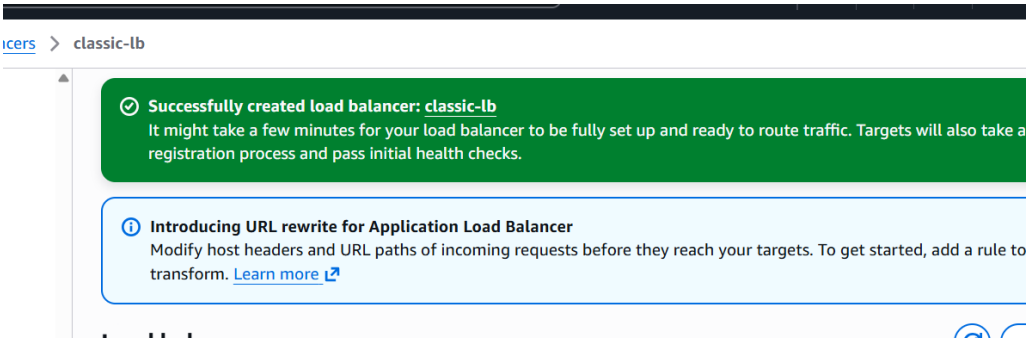
EC2 > Load balancers > Create Classic Load Balancer

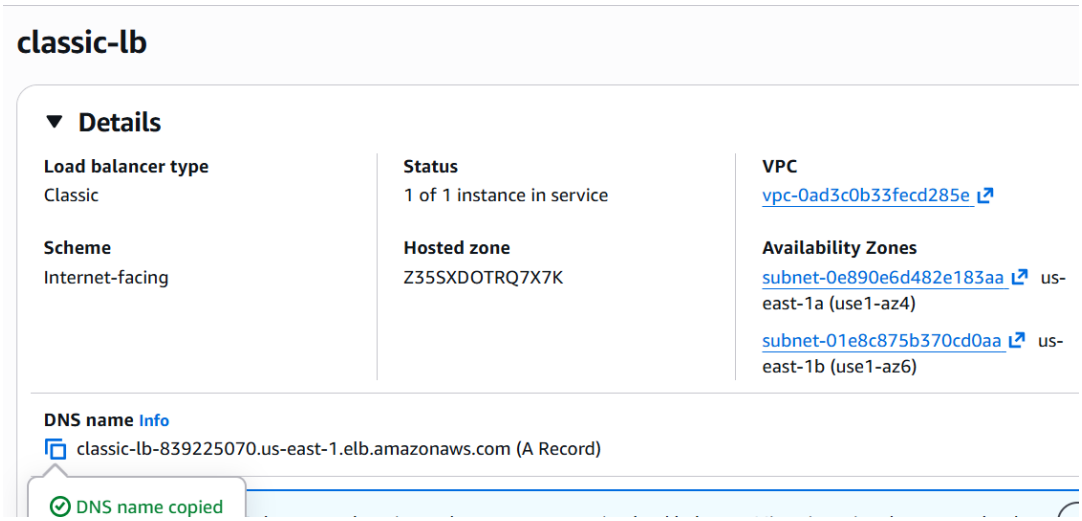
- 

- Add ssl certificate

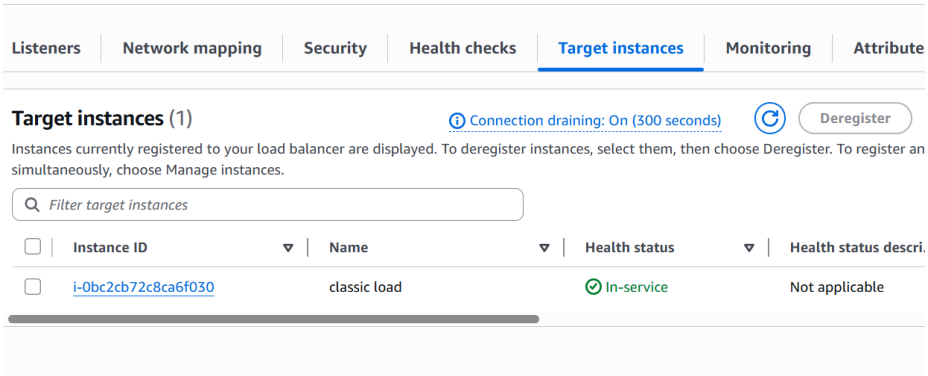


- Click create



- Make sure, httpd is running, and ?var/ww/html/ contain webpage , if you check , http://<instance public> it should open in webpage,
- Then, when you create a load balancer, and adding the same instance to load balancer after creating you get a dns name > copy that and paste it in browser, the same webpage will appear
- Now copy the dns name provided by load balancer, and past e it in browser
- 

- Web opage appears
- 

-
- To verify again , go to load balancer, in the below find target instance, see for health
- 

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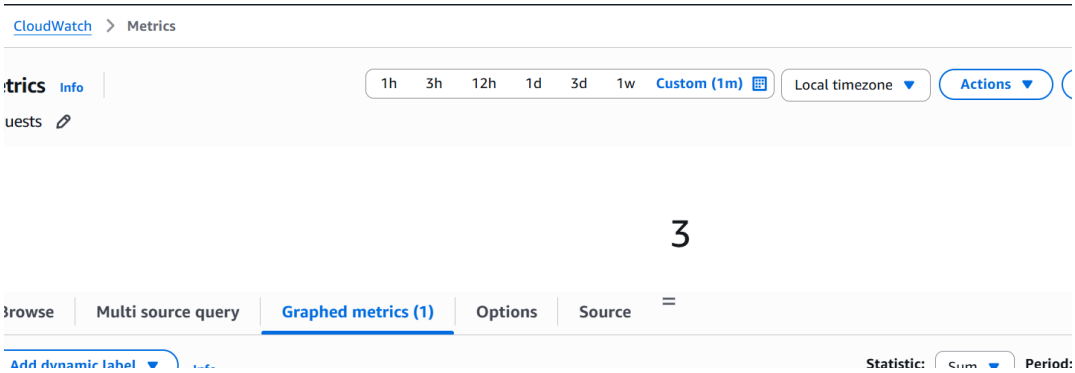
- Status should be IN SERVICE

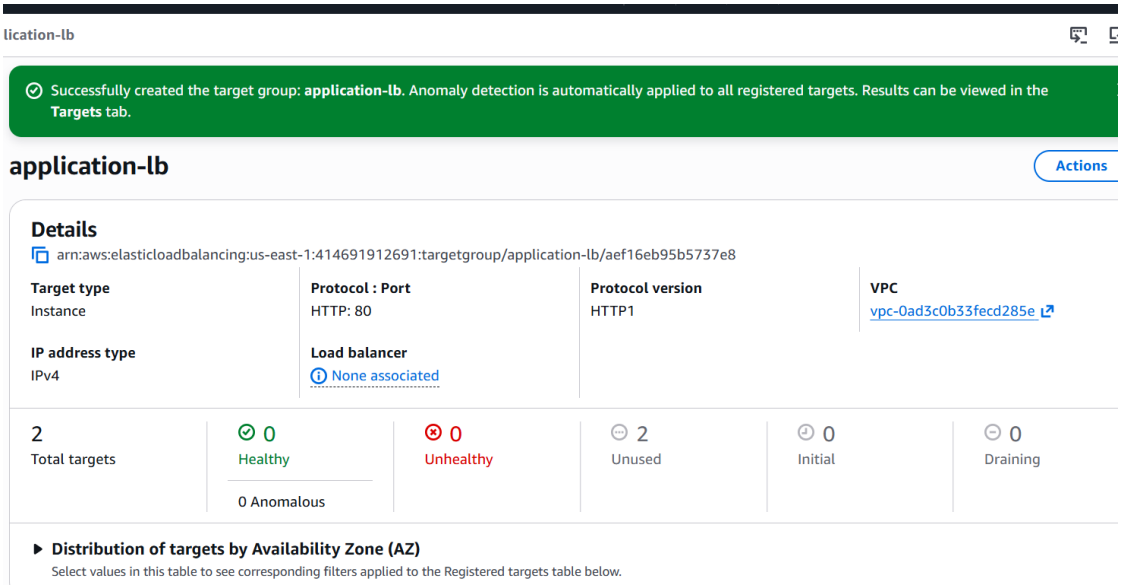
- Can monitor the requests from monitoring
- No of users are accessing our website.
- Only with dns name.



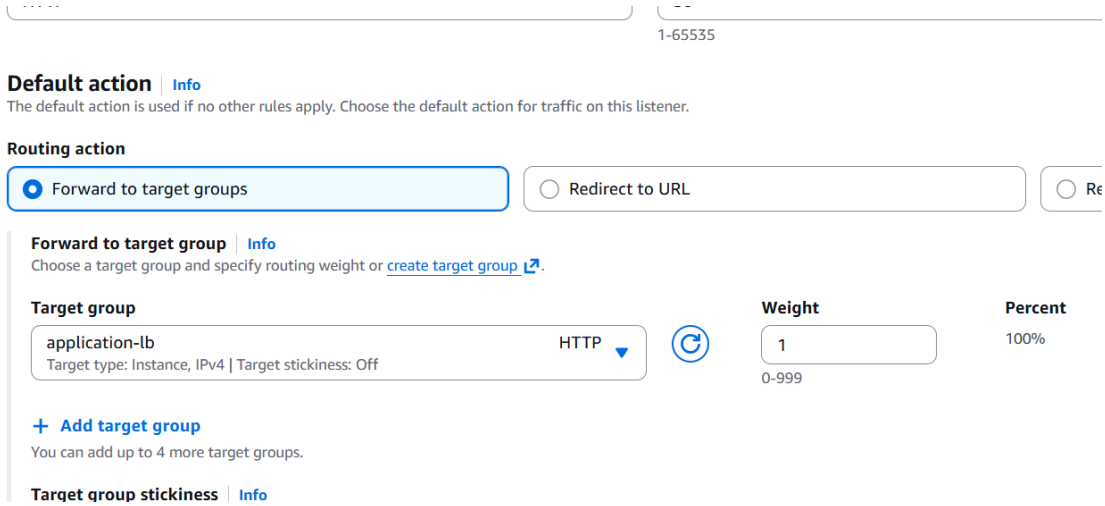
2.Configure Application Load balancer

WE NEED TO CREATE TARGET GROUPS FIRST FOR APPLICATION LOAD BALANCER.

- Ec2 > navigate to target groups
- Give name,
- Add vpc, and subnet,
- Select target instance and select pending as below



- Now navigate load balancer
- Create an application load balancer
- Add vpc And subnets of different availability zone



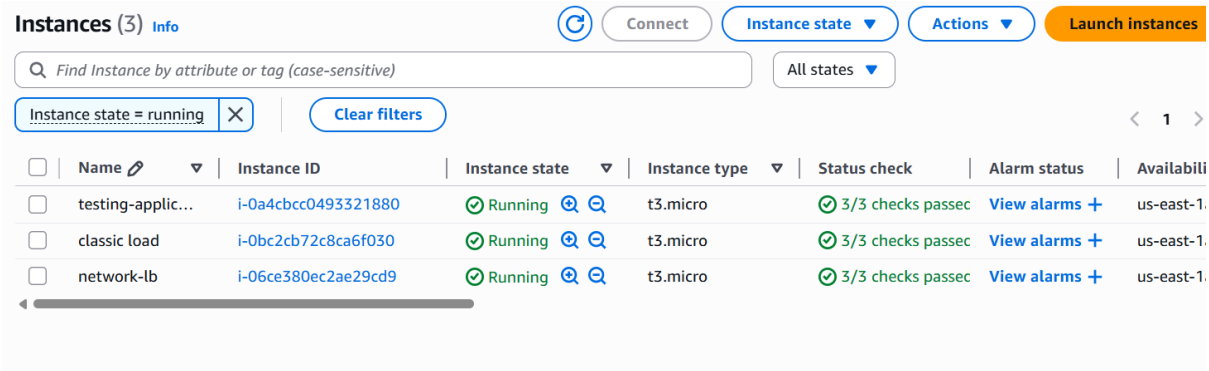
- Select the target group.
- Add acm certificate
- Create application load balancer,
- Copy dns name and paste it in browser and verify

Welcome to my website via Load Balancer

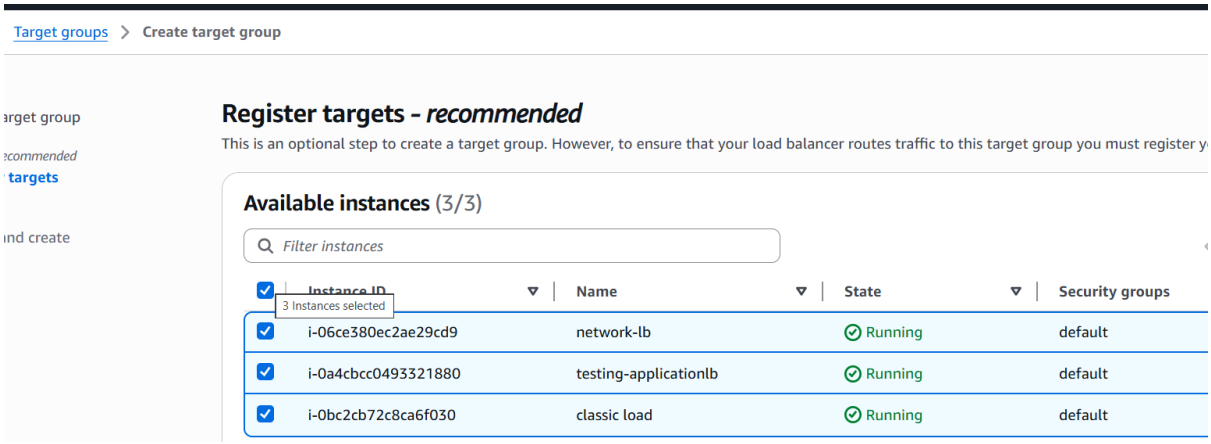
- Try this dns name in different devices, instance s will ber shuffling.

3 . Configure Network Load balancer.

- Ec2 > make sure 3 instances are running
- Installed with httpd in it and in running state

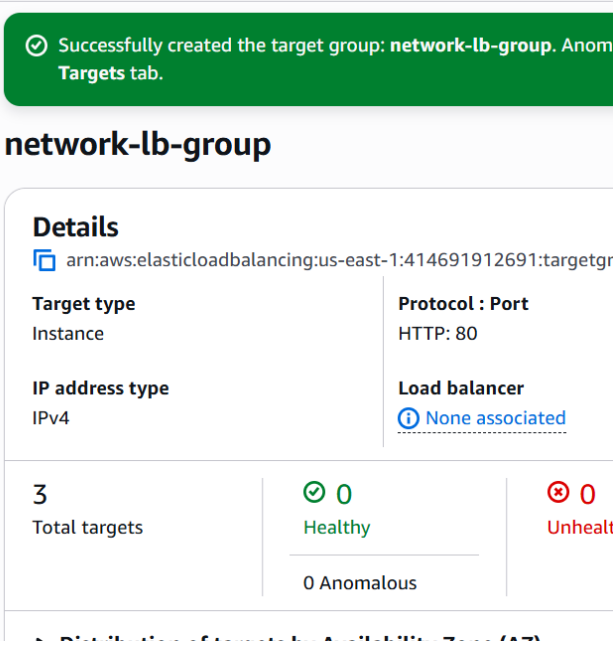


- Create target groups add 3 instances .

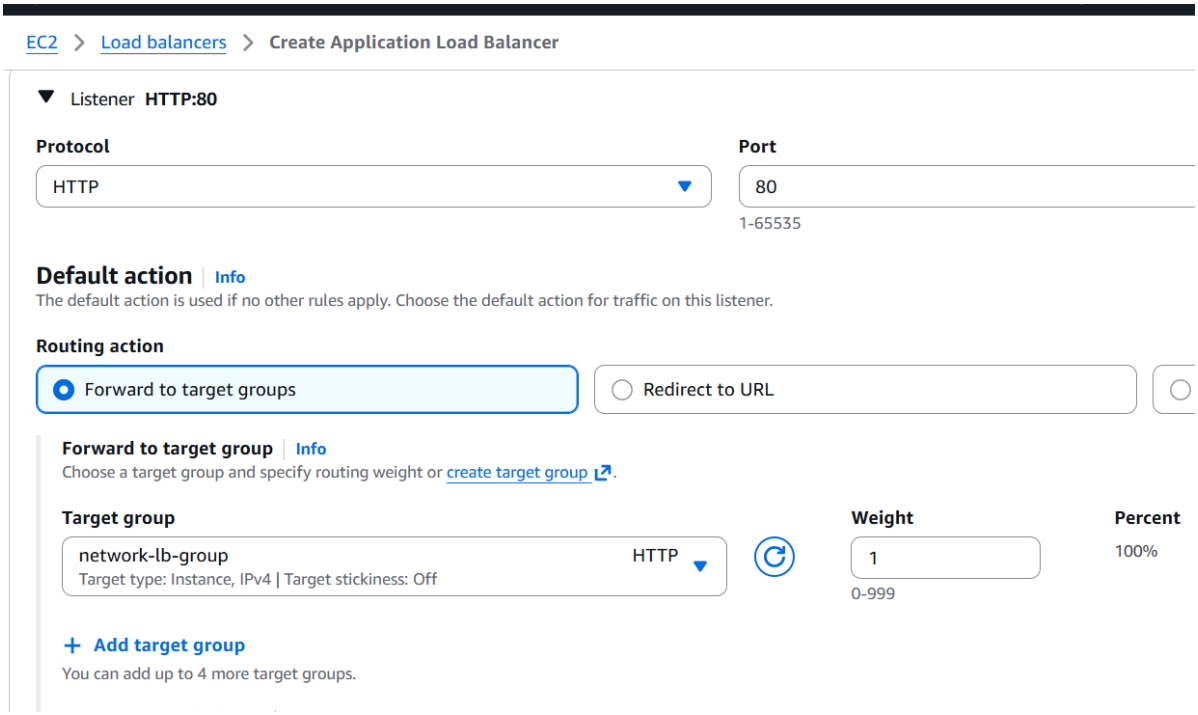


- Group created

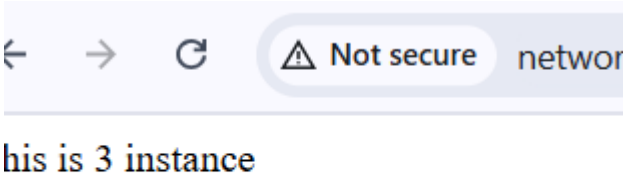
etwork-lb-group

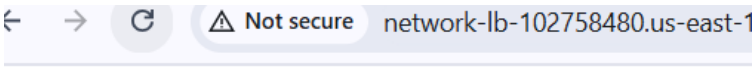


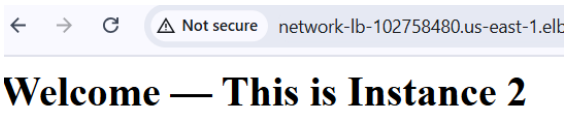
-
- Now navigate toLOAD BALANCER >> NETWORK LOAD BALANCER
- Add VPC and subnet of different availability zone.(because we need to add differently availability zone subnets only its mandatory).
- Add target group



- Click create
- Now copy dns name in network load balancer and paste it in browser, yoju can see the web page shuffling from 1 > 2 > 3 when I try to refresh many times

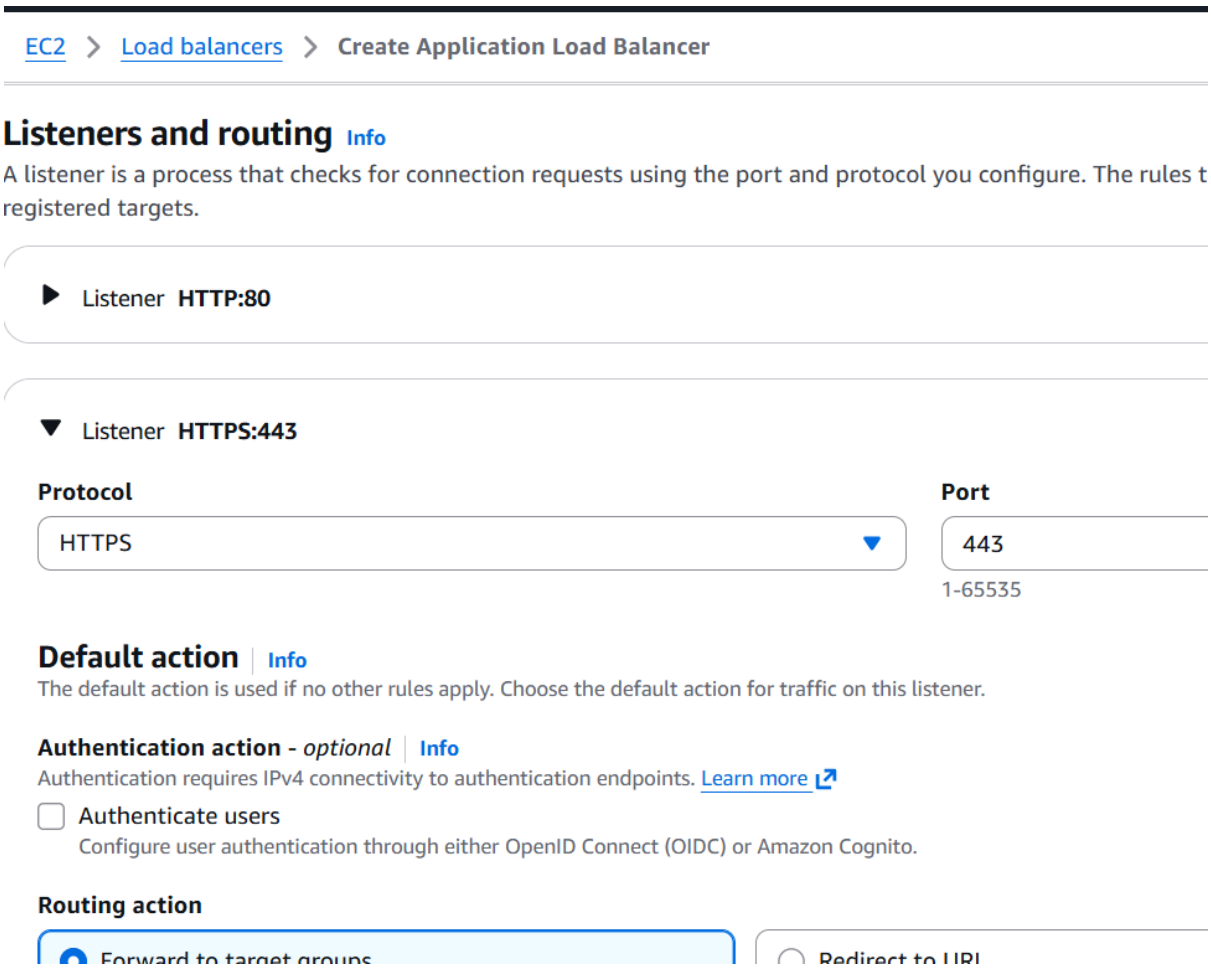




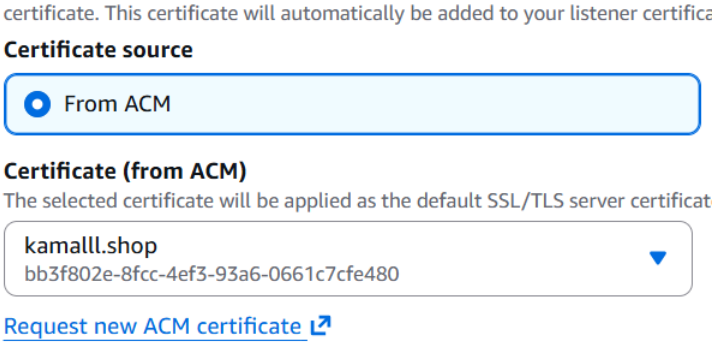


4 . Attach SSL for application load balancer.

- Create target group add 2 running instances
- Now go to application load balancer,
- Add name vpc and subnet
- Add one more listener
- Add https:443
- So it asks for acm certificate then we can add certificate.



- Add certificate.



- Also add target group for second listener .

Configure user authentication through either OpenID Connect (OIDC) or Amazon Cognito.

Routing action

Forward to target groups | Redirect to URL

Forward to target group | Info

Choose a target group and specify routing weight or create target group.

Target group

application-lb-2-ssl — HTTP

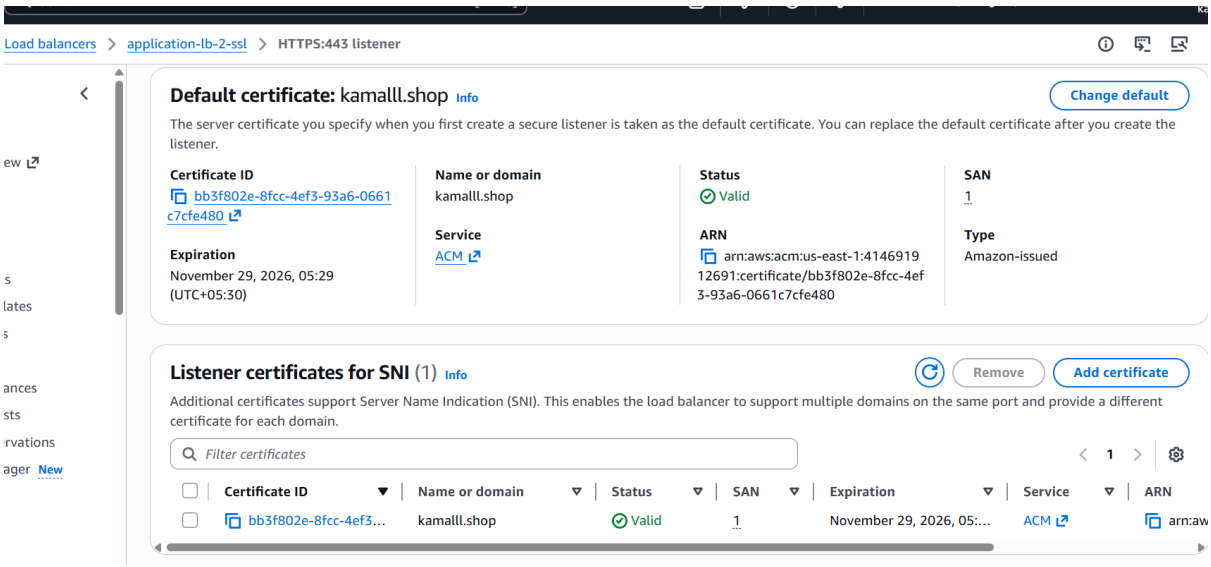
Target type: Instance, IPv4 | Target stickiness: Off

+ Add target group

You can add up to 4 more target groups

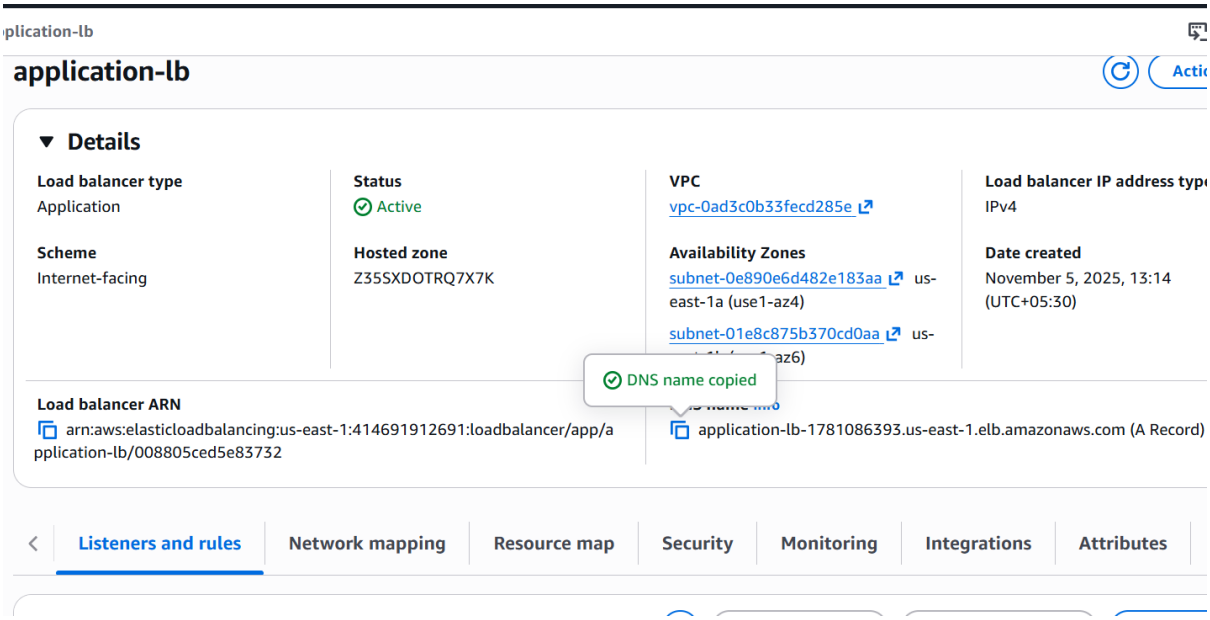
-

SSL added successfully

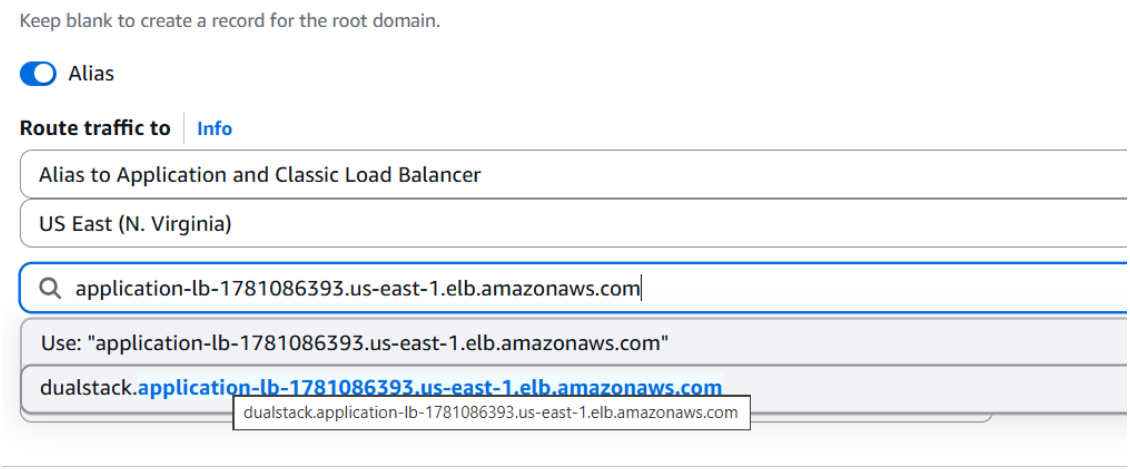


5 . Map Application load balancer to R53.

- Open exiasting application load bakancer,
- Copy dns name from application load balancer dash board



- Now navigate to R53 .
- We have already have hosted our domain from r53
- So open hosted zone and add records
- Click records
- Add type A
- Name : www
- Turn ALIAS
- Choose end point as ALIAS TO CLASSIC AND APPLICATION LOAD BALANCER.
- CHOOSE REGION – WHERE OUR APPLICATION LOAD BALANCER IS HOSTED, SELECT THAT REGION .
- Paste the copied dns name from load balancer here

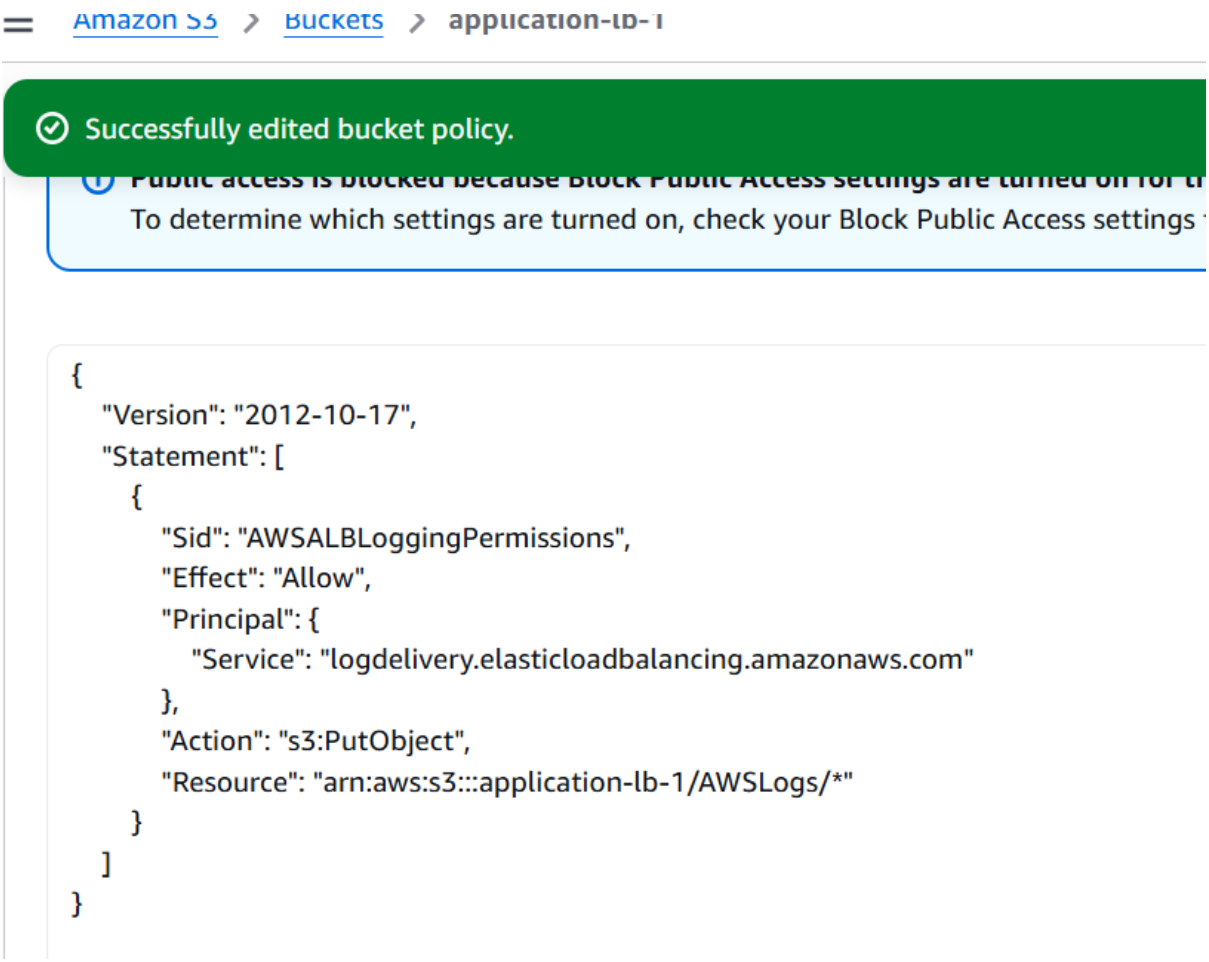


- Evluate target health - ON.
- Now open browser and verify with www
- www.kamalll.shop

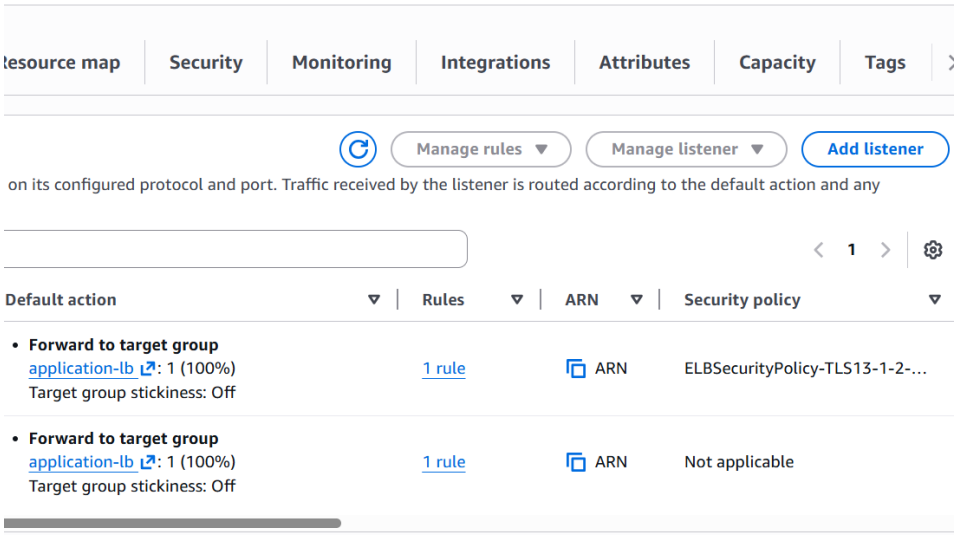
6. Push the application load balancer logs to S3.

- Create a s3 bucket ,
- Write a policy script
- Open bucket go to permissions,
- For application logs to s3
- {
- "Version": "2012-10-17",
- "Statement": [
- {
- "Sid": "AWSALBLoggingPermissions",
- "Effect": "Allow",
- "Principal": {

- "Service": "logdelivery.elasticloadbalancing.amazonaws.com"
- },
- "Action": "s3:PutObject",
- "Resource": "arn:aws:s3:::application-lb-1/AWSLogs/*"
- }
-]
- }



- Navigate to application load balancer
- Below find ATTRIBUTES



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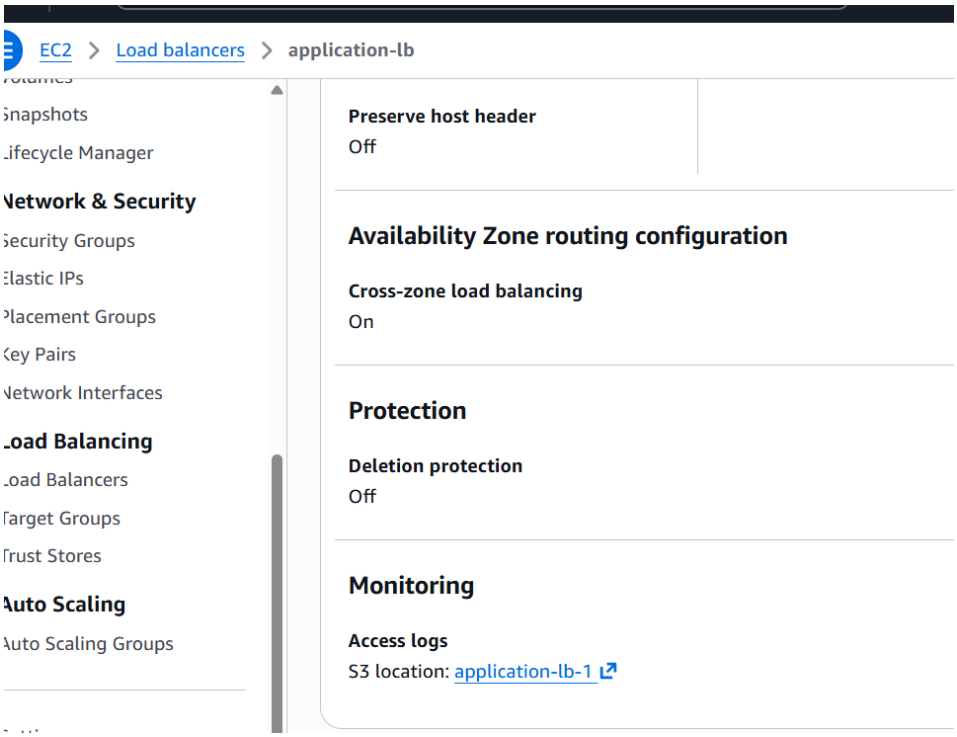
- OPEN ATTRIBUTES
- Edit attributes
- Monitoring add acces logs and attach s3 bucket



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- Logs will appear in S3 BUCKET.
