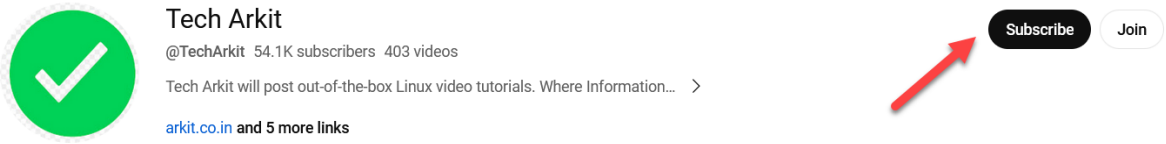


Module 4: Case Study- 1

Problem Statement:

You work for XYZ Corporation which uses on-premise solutions and a limited number of systems. With the increase in requests in their application, the load also increases. So, to handle the load the corporation must buy more systems almost on a regular basis. Realizing the need to cut down the expenses on systems, they decided to move their infrastructure to AWS.

Tasks To Be Performed:

1. Manage the scaling requirements of the company by:

    a. Deploying multiple compute resources on the cloud as soon as the load increases and the CPU utilization exceeds 80%

    b. Removing the resources when the CPU utilization goes under 60%

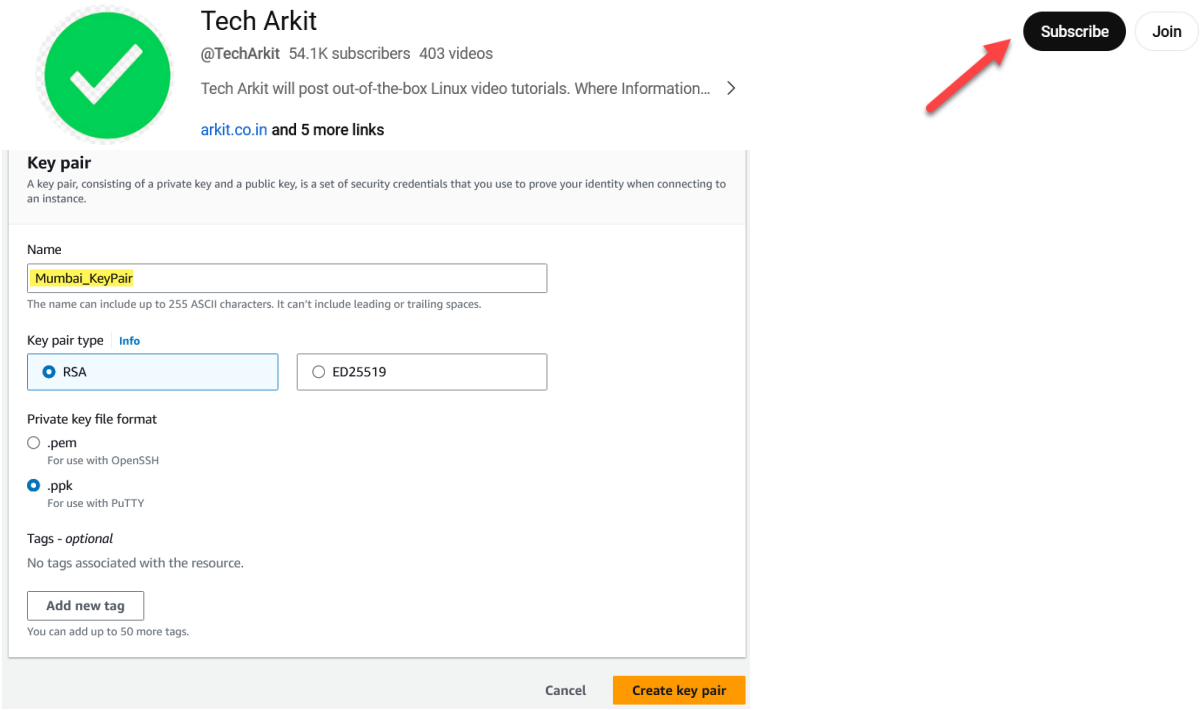
2. Create a load balancer to distribute the load between compute resources.

3. Route the traffic to the company's domain.

Answer:

Login to AWS Console and go to the EC2 dashboard.

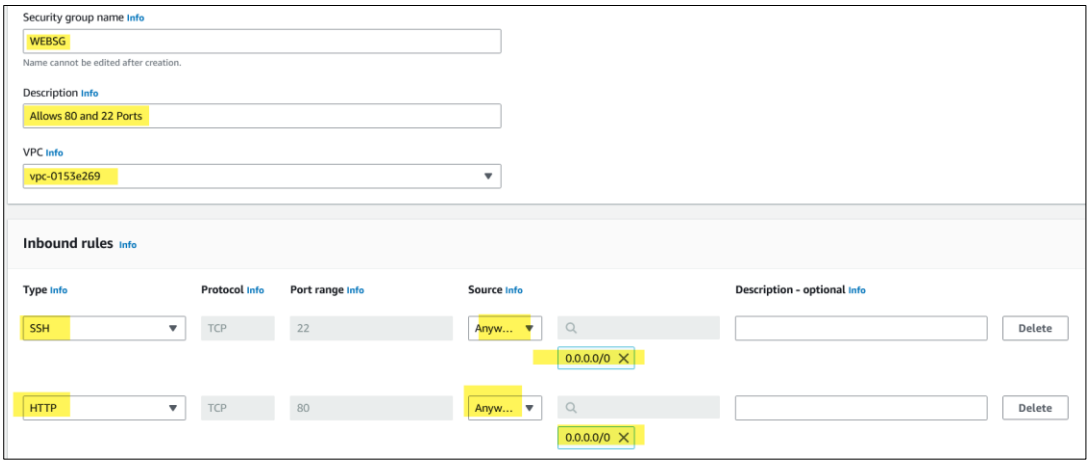
Create Key Pair



Create a Key Pair for accessing the EC2 instances.

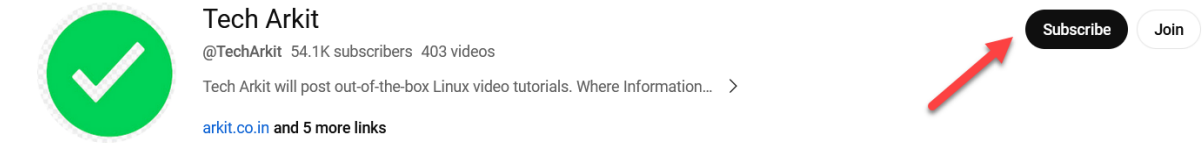
Create Security Groups

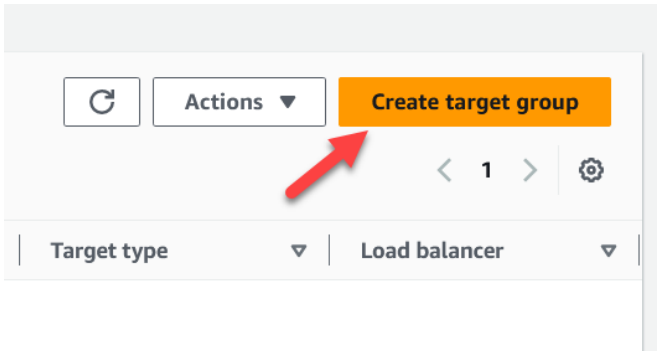
Go to the Security Groups → Create Security Group (WEBSG) and allow port 80 and 22.



Now Security Group is created successfully.

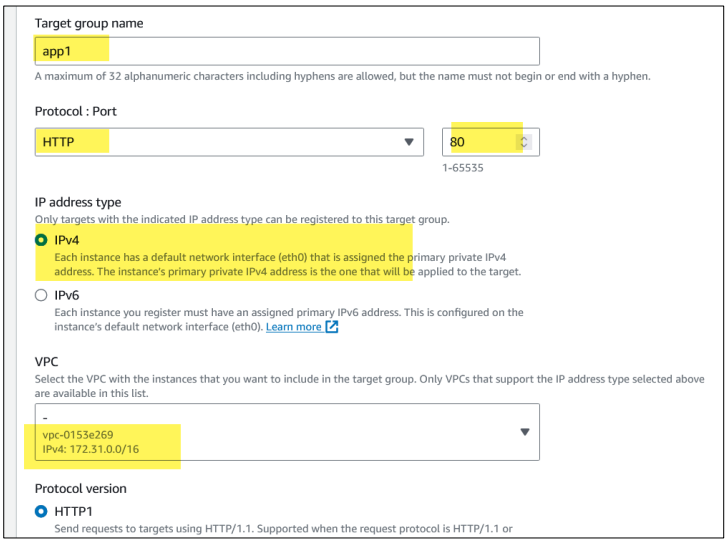
EC2 Dashboard → Load Balancing → Target Groups → Create Target Group

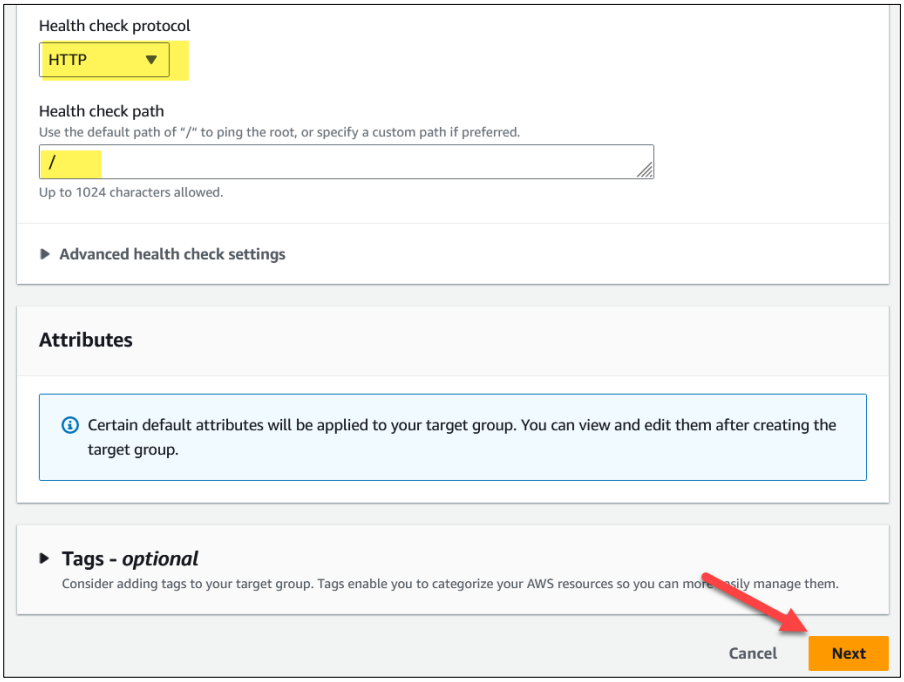


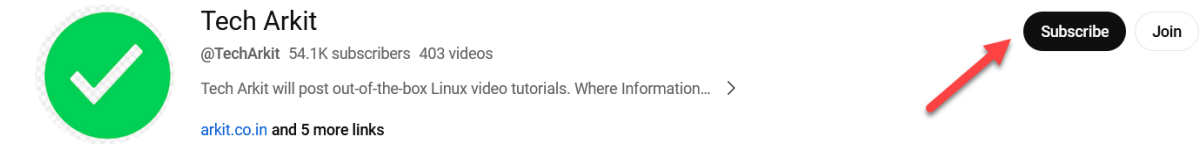


Choose target Type

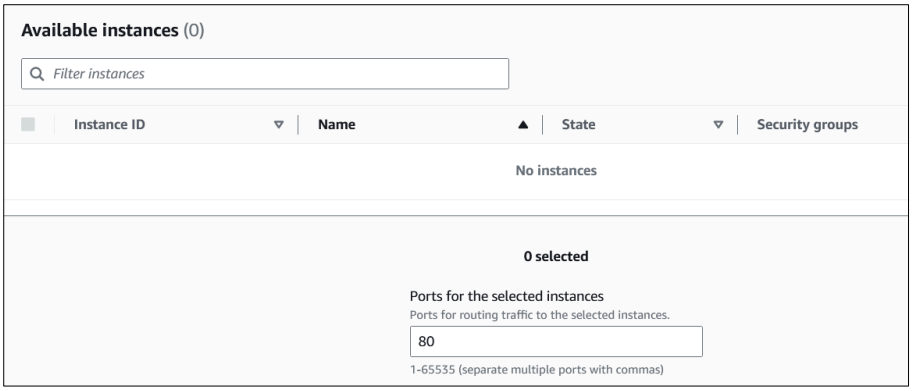
Instances

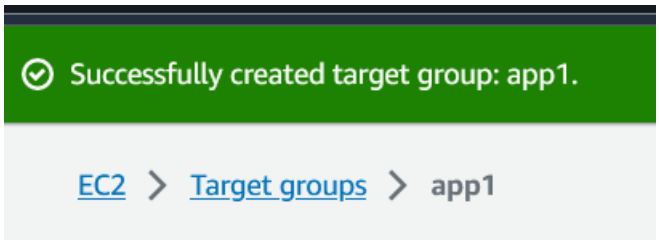






Click **Next**

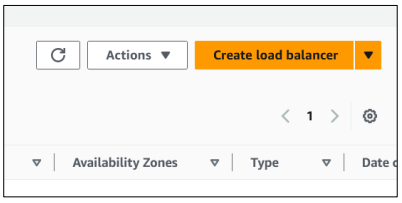


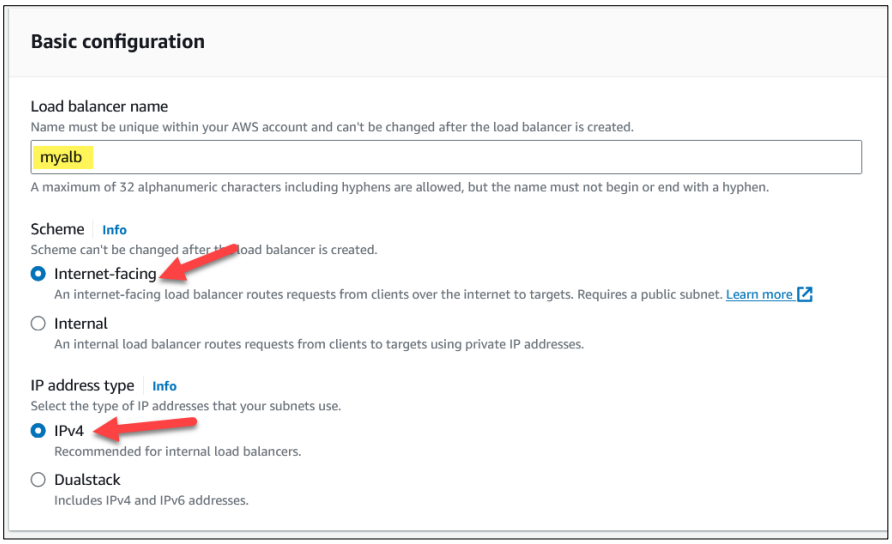


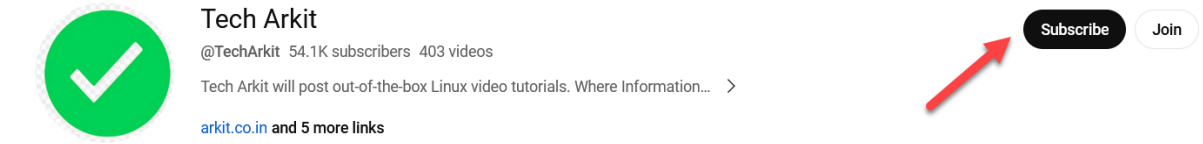
Now Target group has been created successfully.

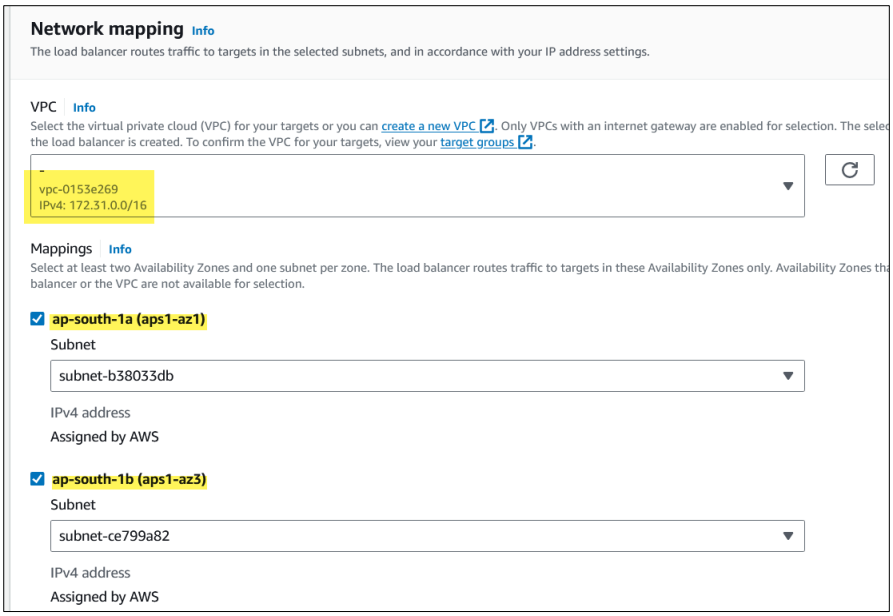
Create Load Balancer

EC2 Dashboard → Load Balancing → Load Balancer → Create Load Balancer

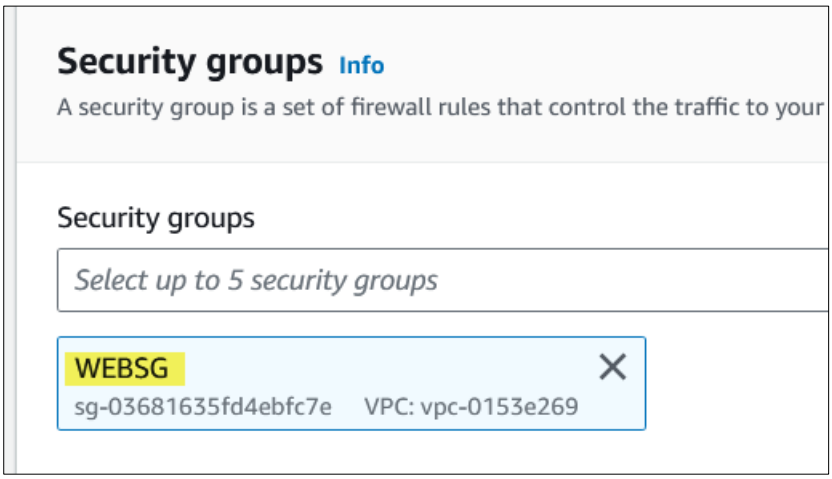




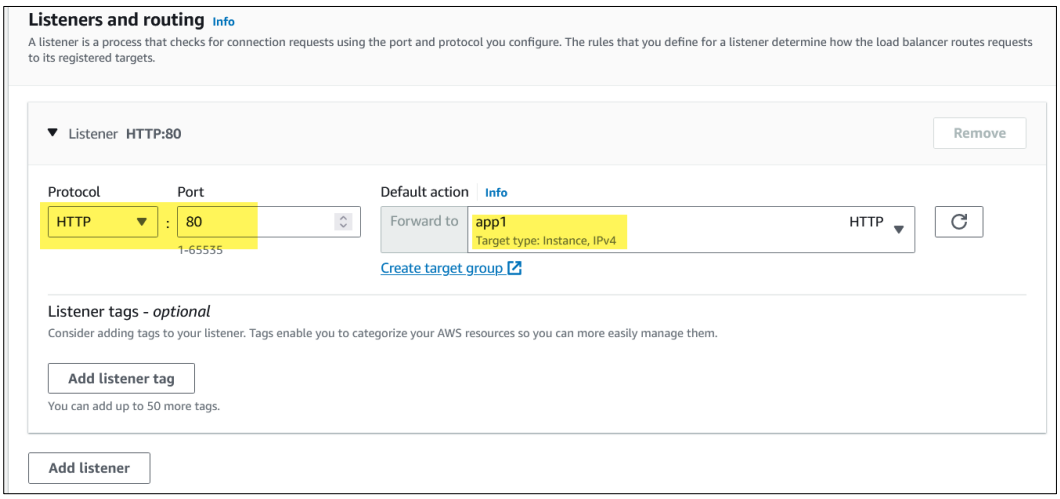




Select the appropriate VPC settings. Select a minimum two subnets for redundancy



Select the Security Group which we have created at the first step



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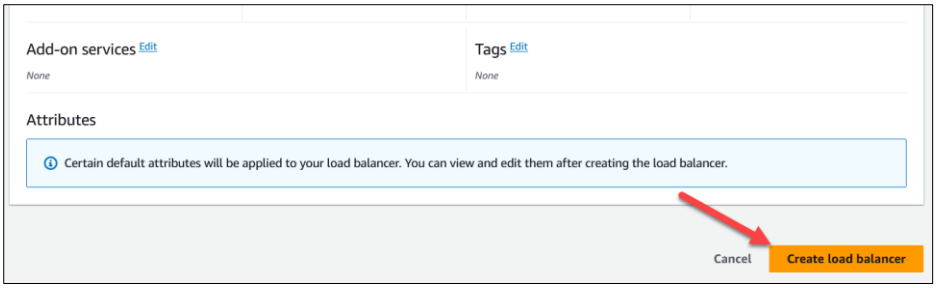
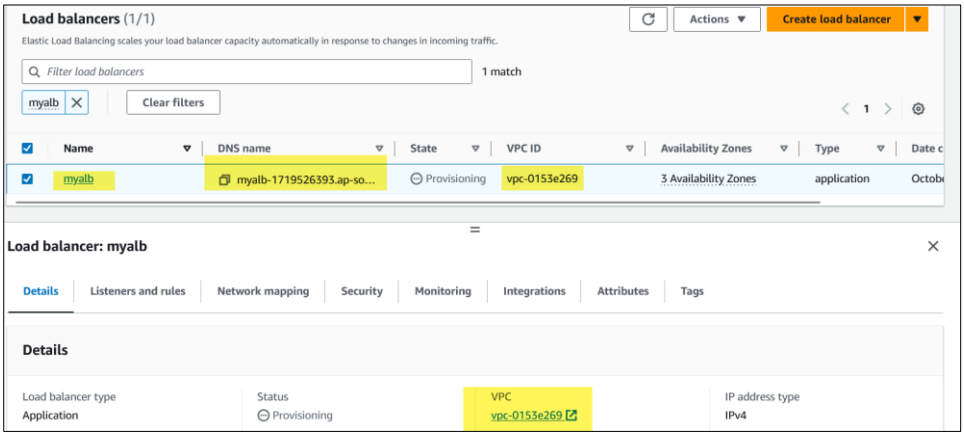
Select the Target group which we have created



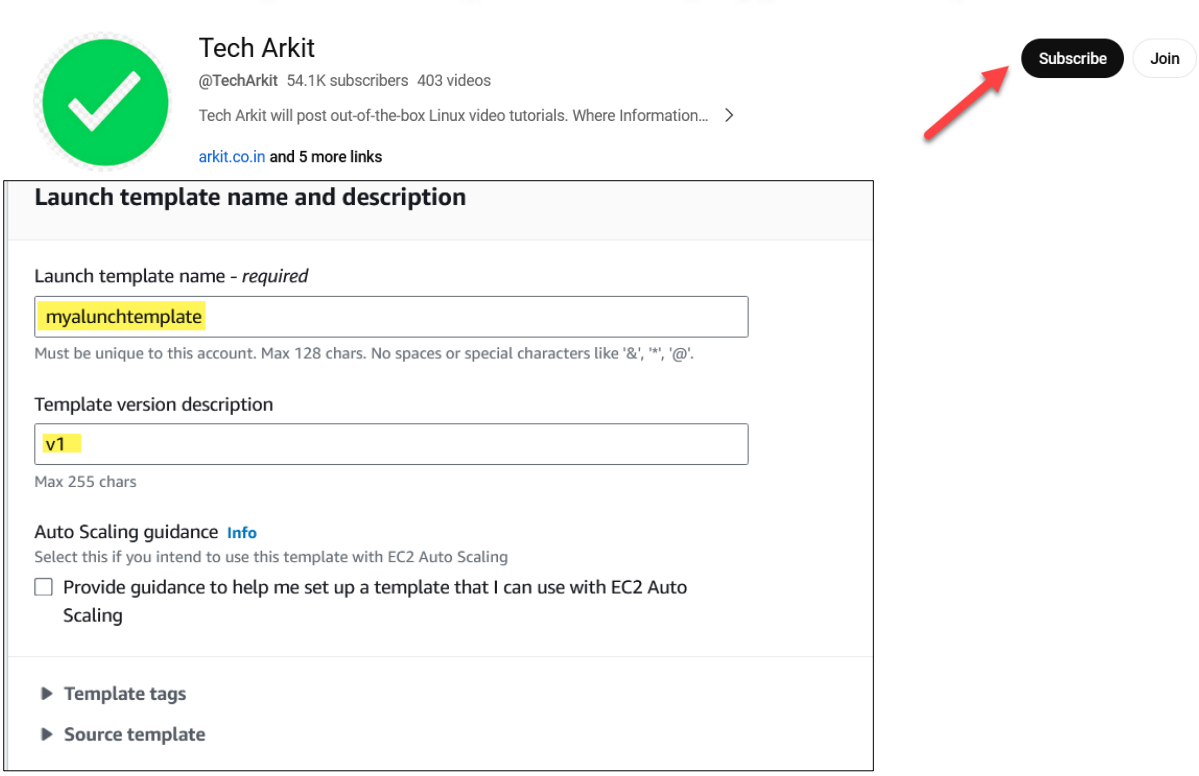
Create Load Balancer



ALB creation will take a few minutes.

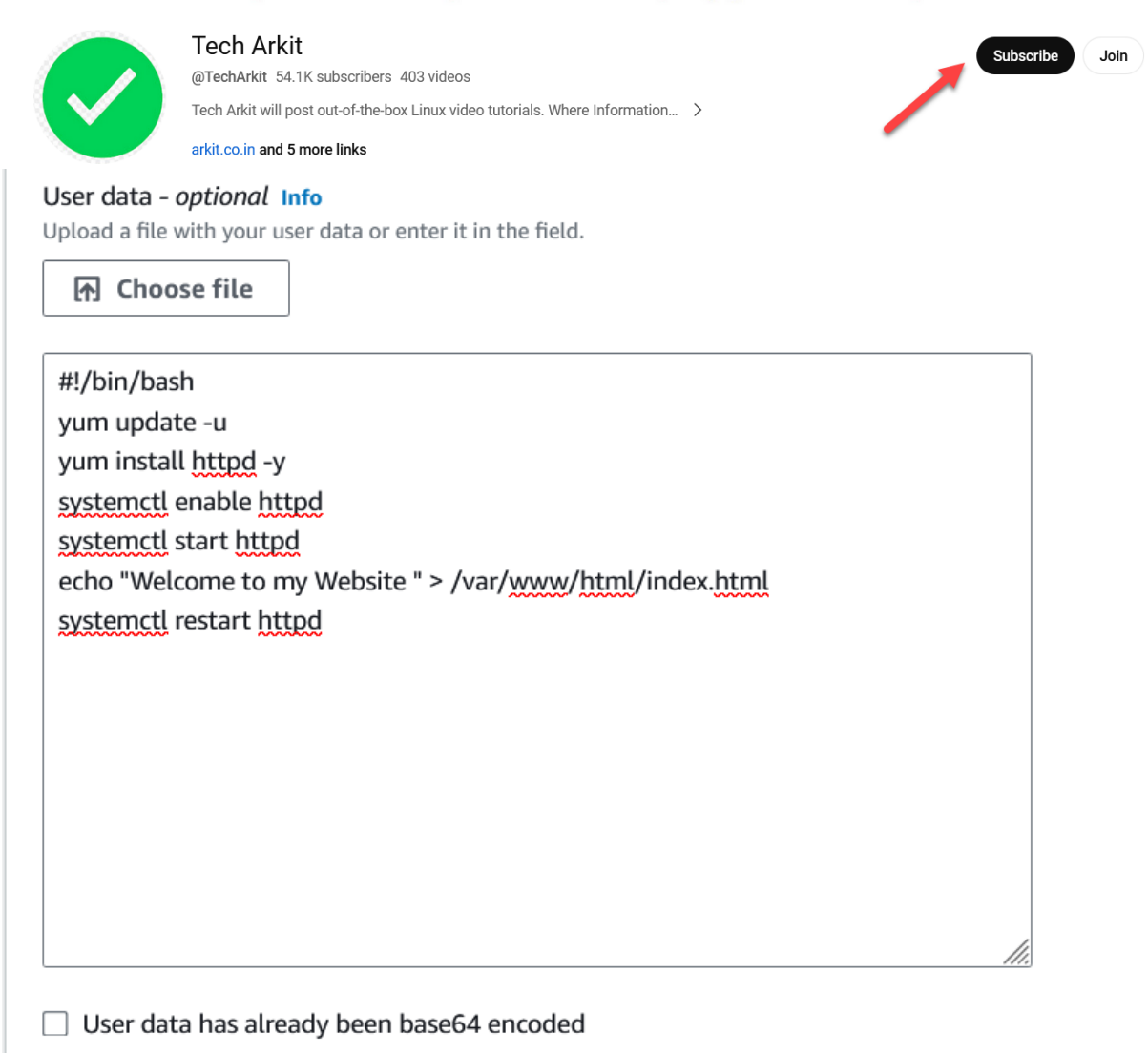
Create Launch Template

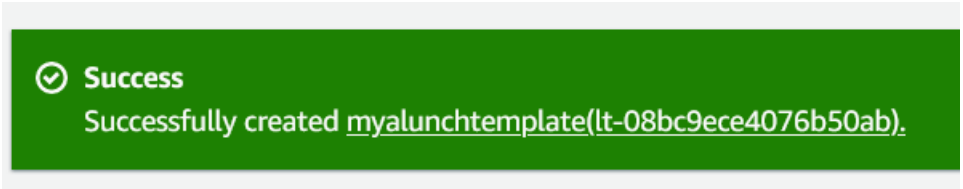
EC2 Dashboard → Instances → Launch Templates



- Select OS as Amazon Linux
- Instance Type is t2.micro (Free Tier Eligible)
- Select the Key Pair
- Select the Security Group as WEBSG

In Advanced options provide the user data script to make your website ready

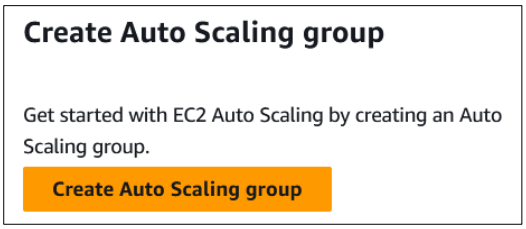




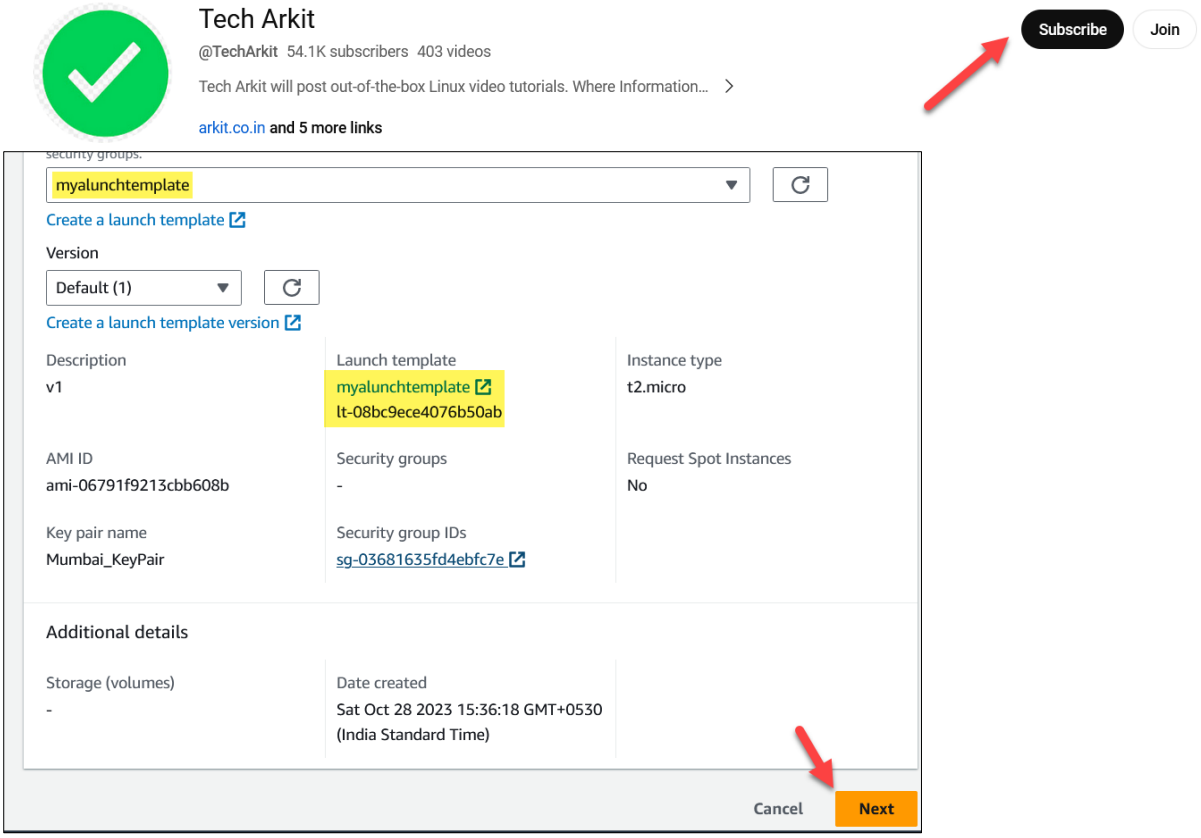
Launch Template has been created successfully.

Create Auto Scaling Groups

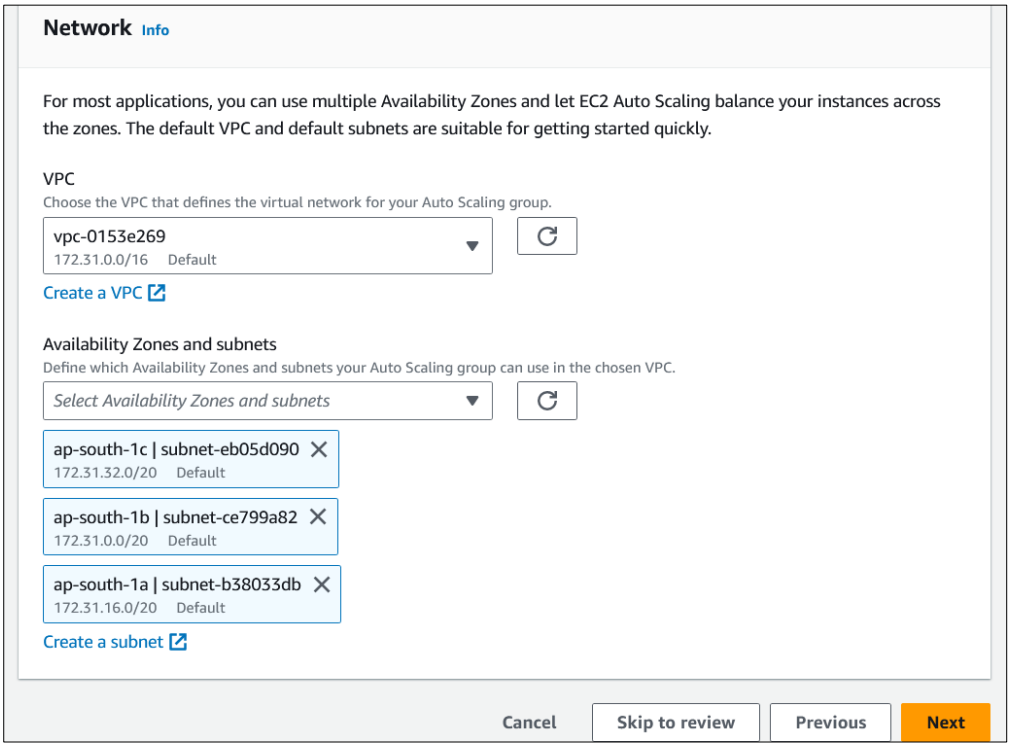
EC2 Dashboard → Auto Scaling → Create Auto Scaling Groups



Provide the Auto Scaling Group name Ex: asg1

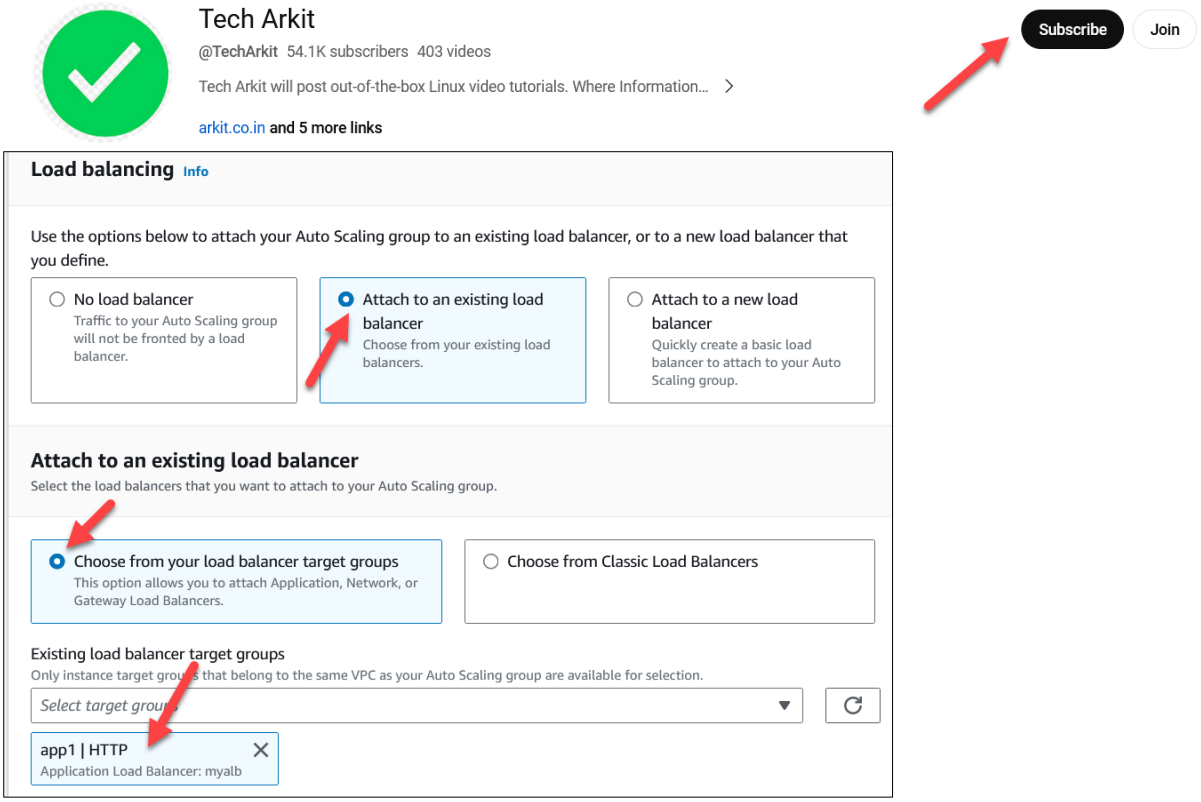


Click **Next**



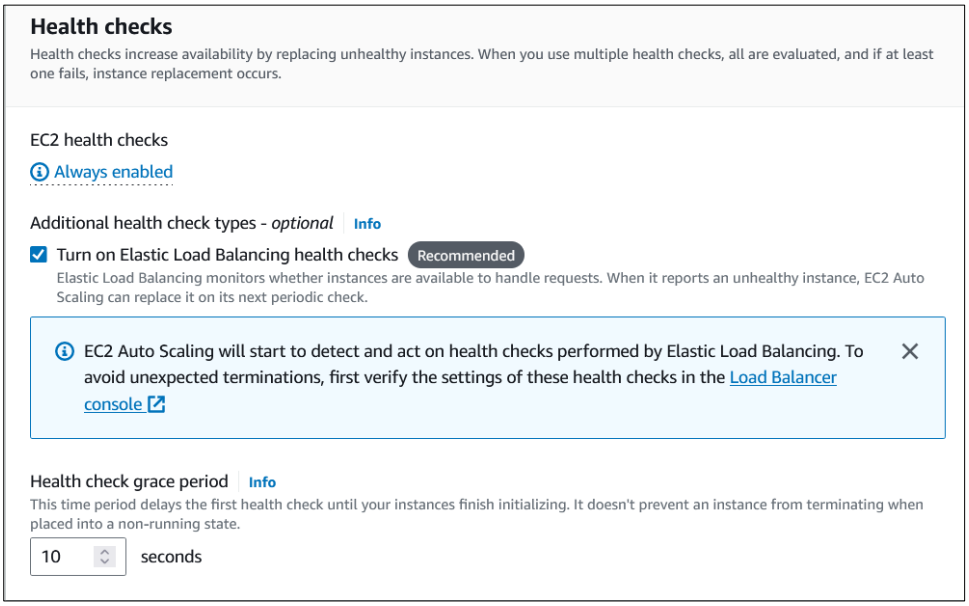
Select the VPC Settings and Subnets

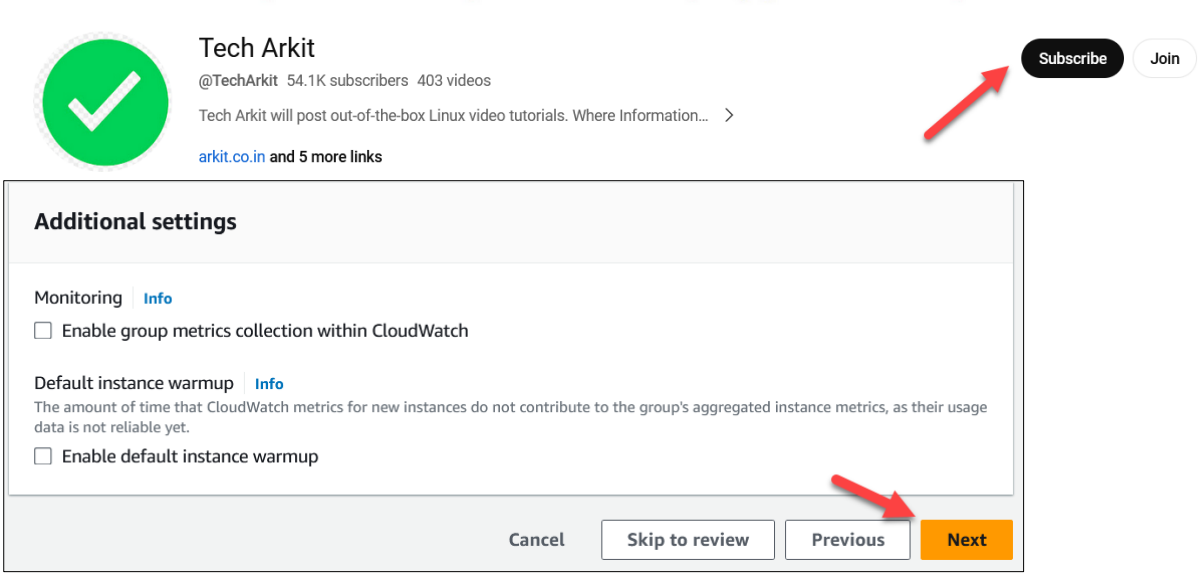
Click **Next**



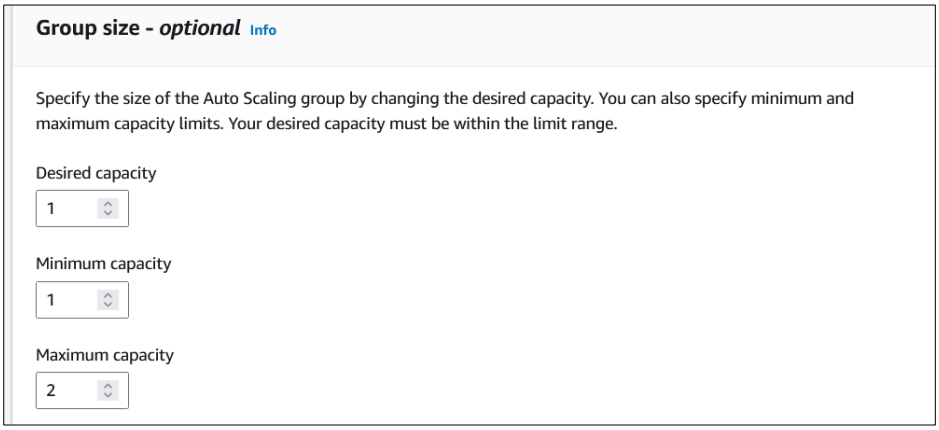
Load Balancing options Attach to an existing load balancer.

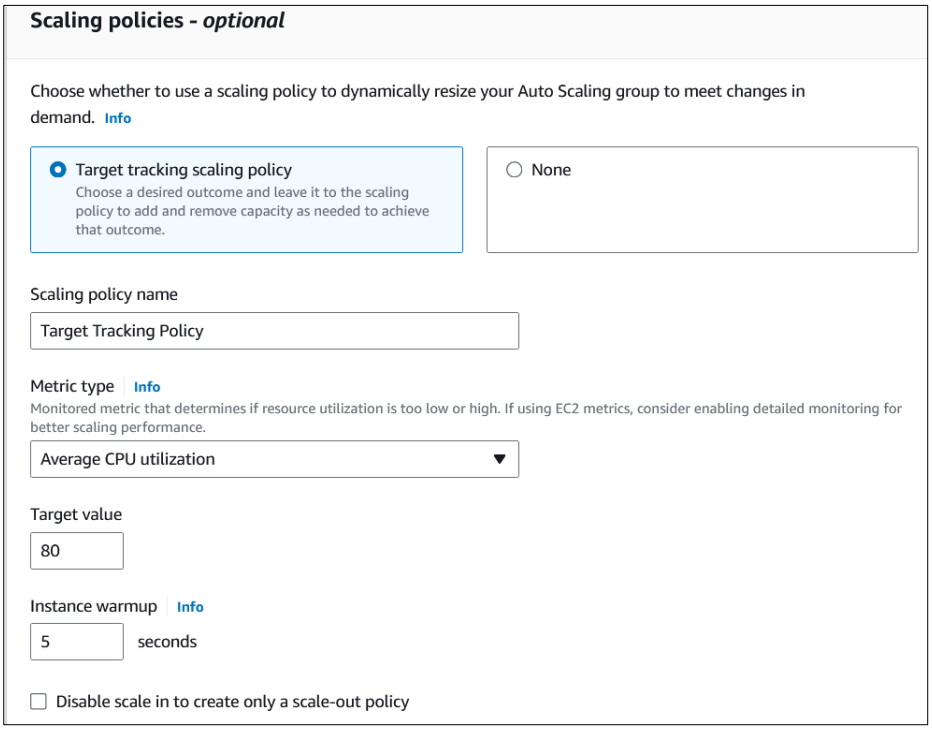
Choose from your load balancer target groups (Since we already created one)



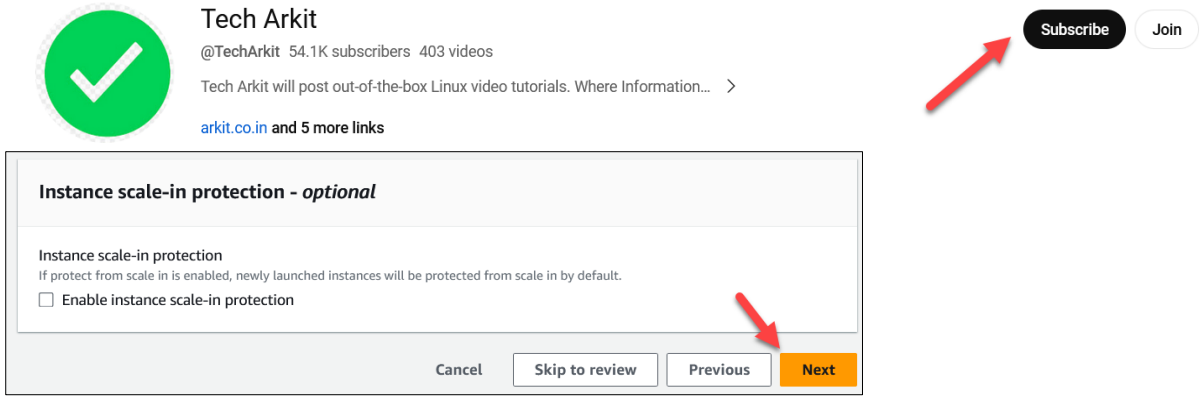


Click **Next**

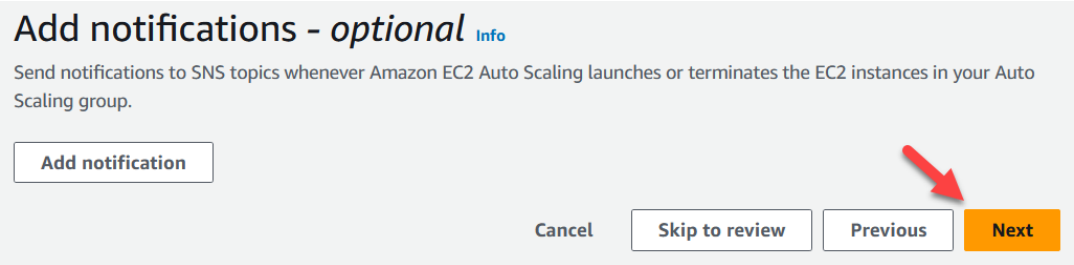




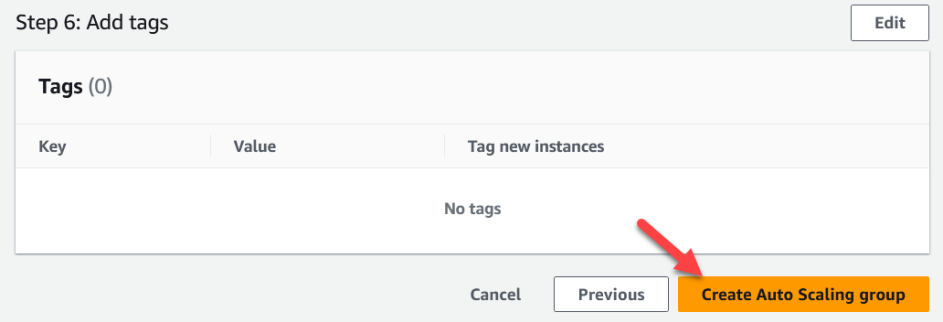
Configure Scaling Policies as described in questions, when CPU 80% utilized it should create another EC2 instance



Click **Next**

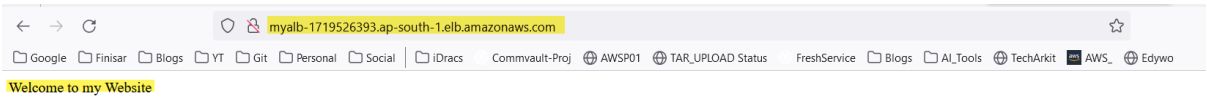


Click **Next**

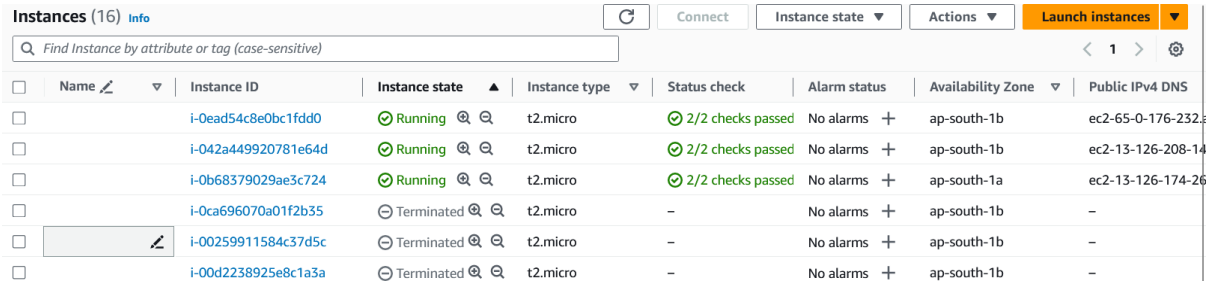


Create ASG

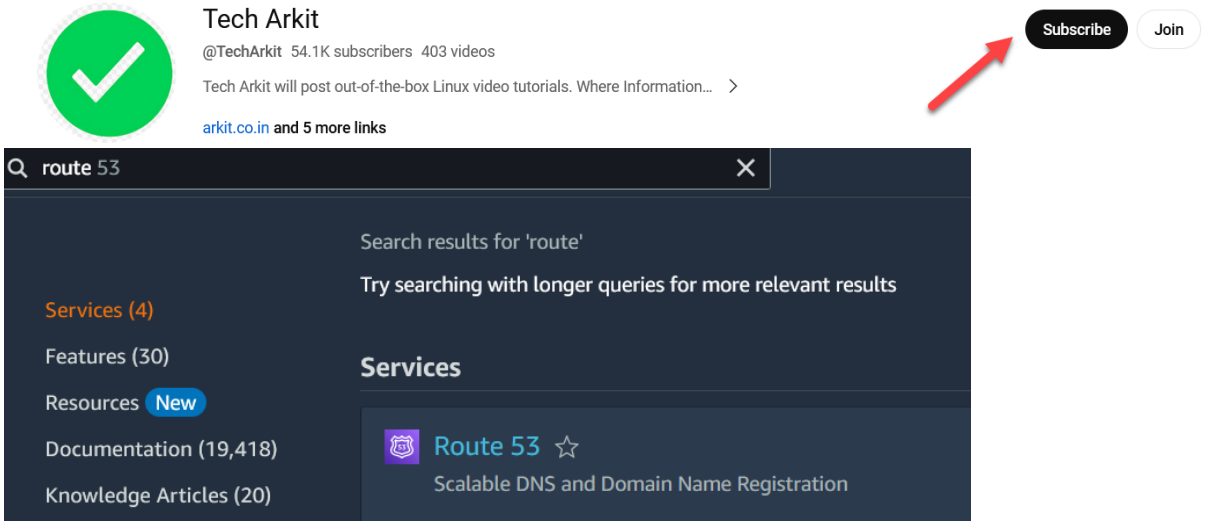
Access the Website using ALB URL.



The ASG is working fine as expected

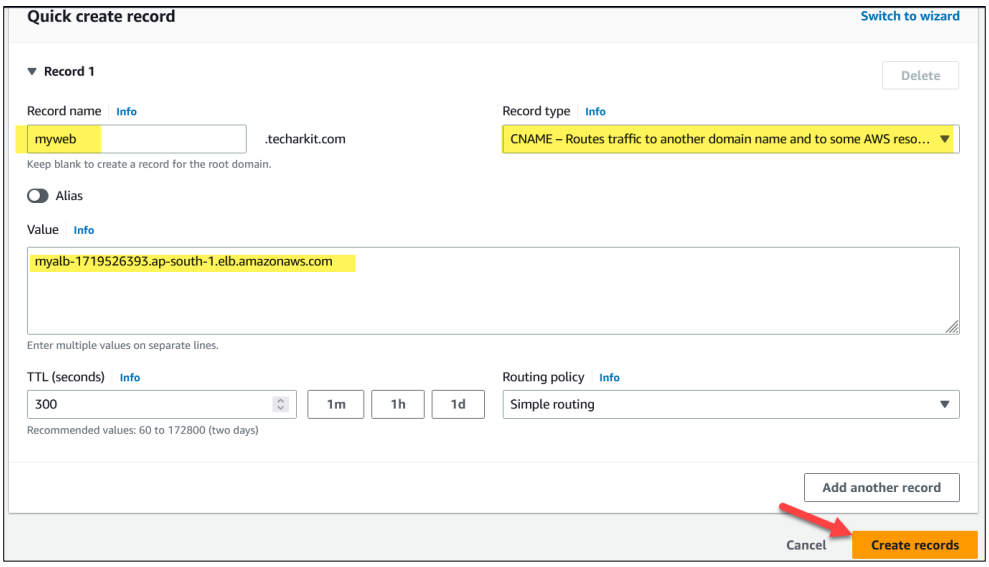


Map the Company Domain



Go to Route 53

Create a hosted zone ex: (Techarkit.com)



That’s it, if the domain is already registered then you can browse the website using myweb.techarkit.com