**SOP - AWS Network load balancer creation and routing with Route 53 (route connection based on layer 4 IP protocol)**

1. Create VPC and subnets (I created one VPC in Ohio with subnets in us-east-2a, 2b and 2c). I used CIDR block 10.10.0.0/24 by selecting VPC and more for more options.
   1. This step would create the VPC and all its components (IGW to the VPC, route table, associate S3 endpoint with private subnet route tables)
2. Create webservers in public subnets make sure access ports are open 8080 (tomcat port), port 80 and 22 for SSH if needed
   1. Do not forget to Enable auto assign public IP.
   2. You can check on command line if apps are running with curl localhost:8080
3. Create Target groups
   1. Choose target type (Instances, IP addresses, Lambda function, Application load balancer)
   2. Choose target group name
   3. Choose protocol (**TCP:80** since this target group would be put behind a network load balancer)
   4. Healthy threshold (number of requests to be made through traffic port for it to confirm target is alive)
   5. Tags (optional)
   6. Next, select your targets and targets for ports. In use case 8080 (tomcat app servers)
   7. Include as pending and click on create target group.
4. Create Network load balancer
   1. Choose the type of load-balancer you need (ALB, NLB or gateway load balancer)
   2. Enter name and select Scheme (Internet facing or internal)
   3. In network mapping, select VPC for your targets including mappings to different availability zones.
   4. In mapping make sure they are mapped to public subnets so that the targets can be reached via the internet.
   5. Choose listener port for load balancer **(e.g., TCP:80**). Forward to Select default action (TG TCP that you have created)
   6. Use NLB DNS to access health targets
   7. Optional - under Route 53, you can create hosted zone e.g., 29demo.click and create record to route traffic from DNS to NLB (A – route traffic), alias name.