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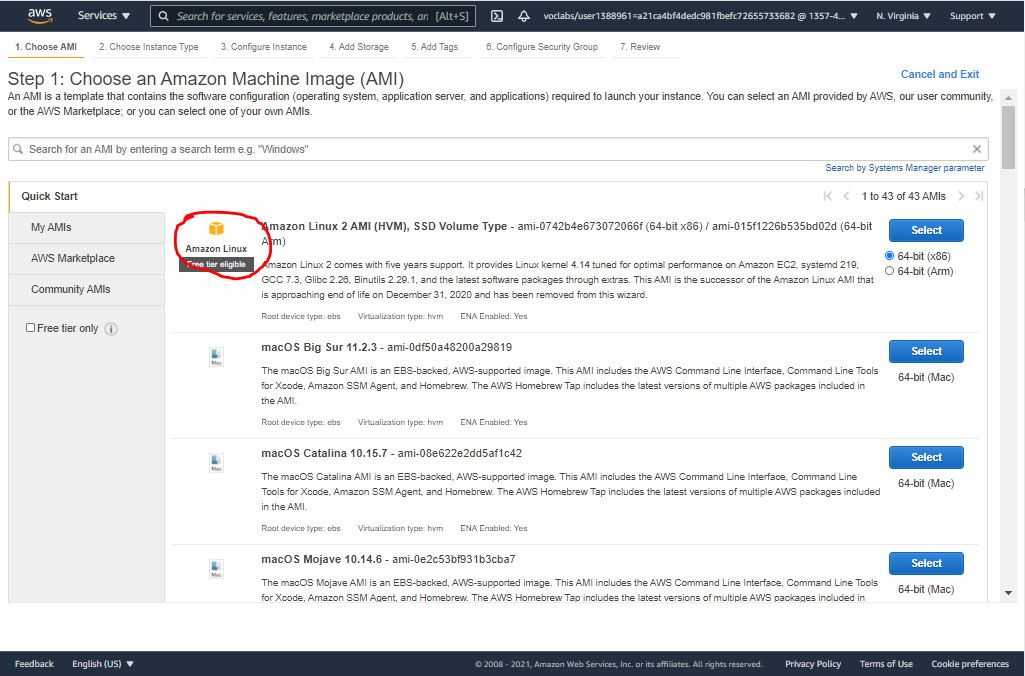
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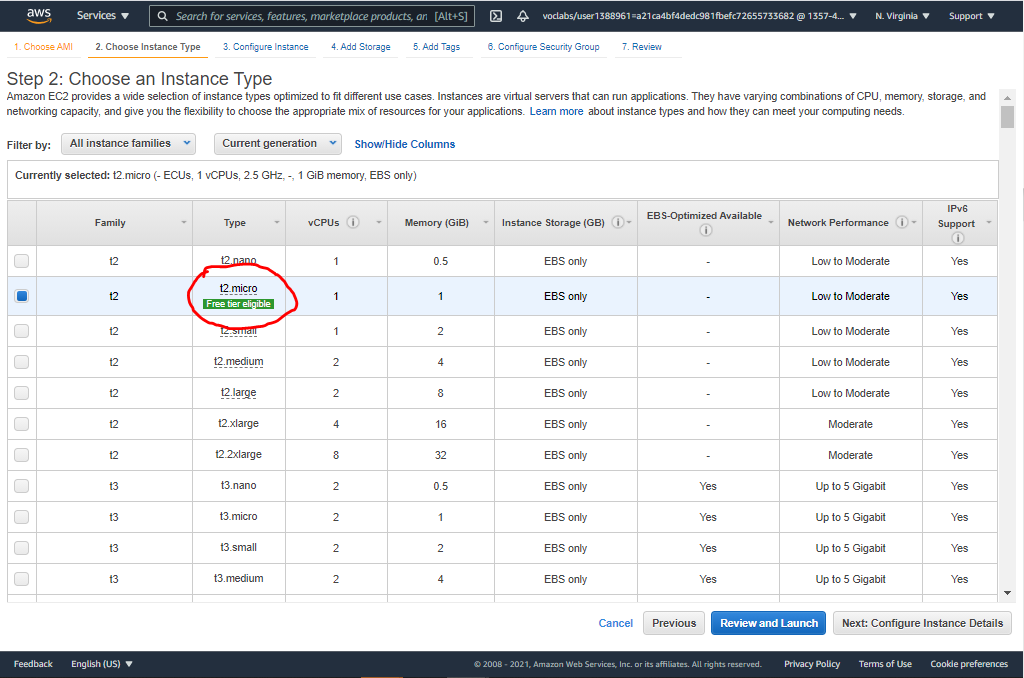
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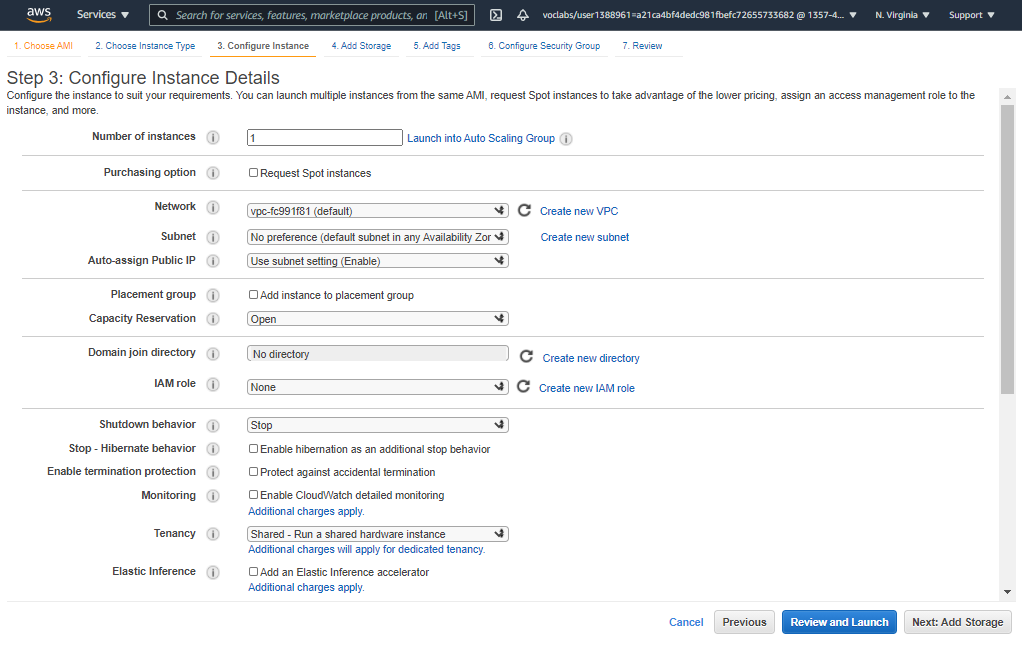
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# Create an EC2 instance

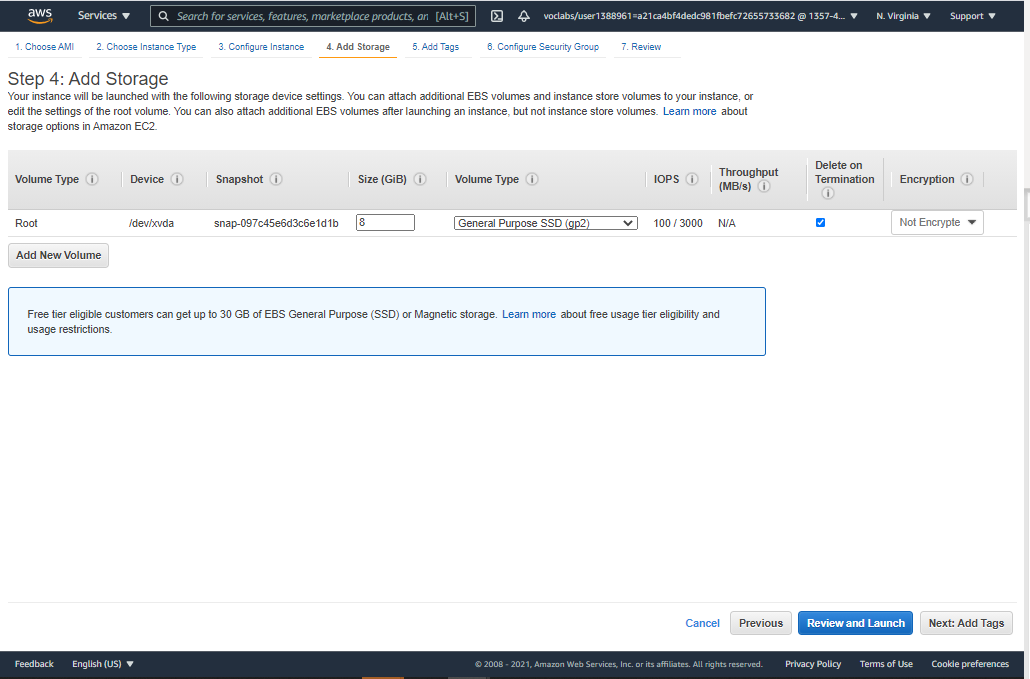
* 1. Add a tag with “Name : 8081 Node JS Server”
  2. Add create a Security Group with name “ssh-http-8081-9091-elb-sg” with configurations that allow SSH traffic and also Custom TCP Ports 8081 & 9091.
  3. We need to modify this Security Group again after creating ALB
  4. DO NOT FORGET TO SELECT (and optionally download) A KEY PAIR AT THE LAST STEP



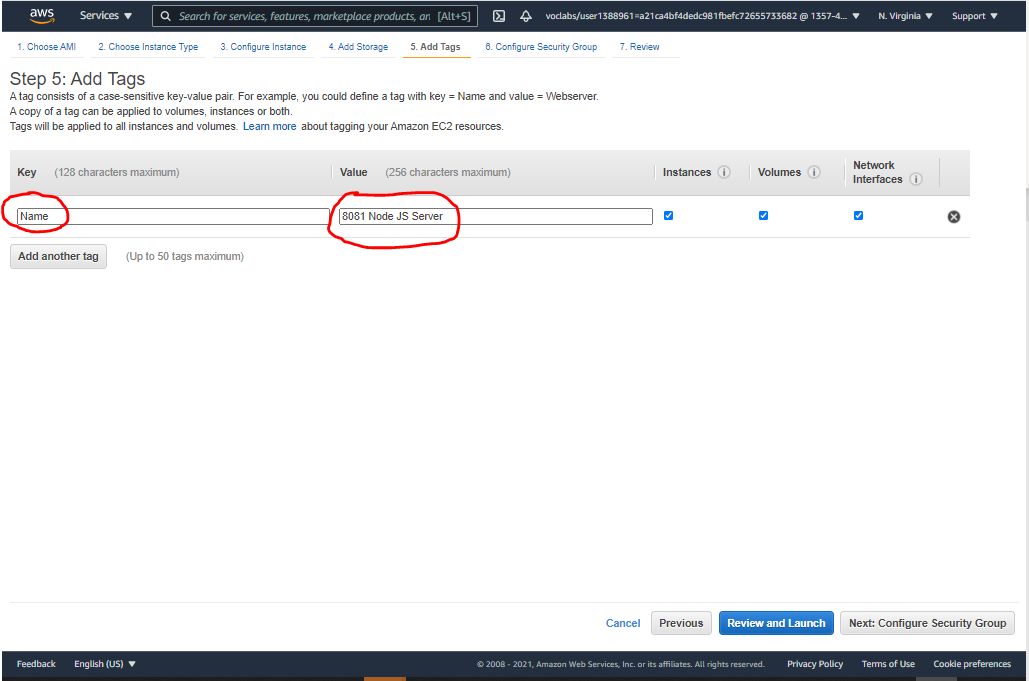


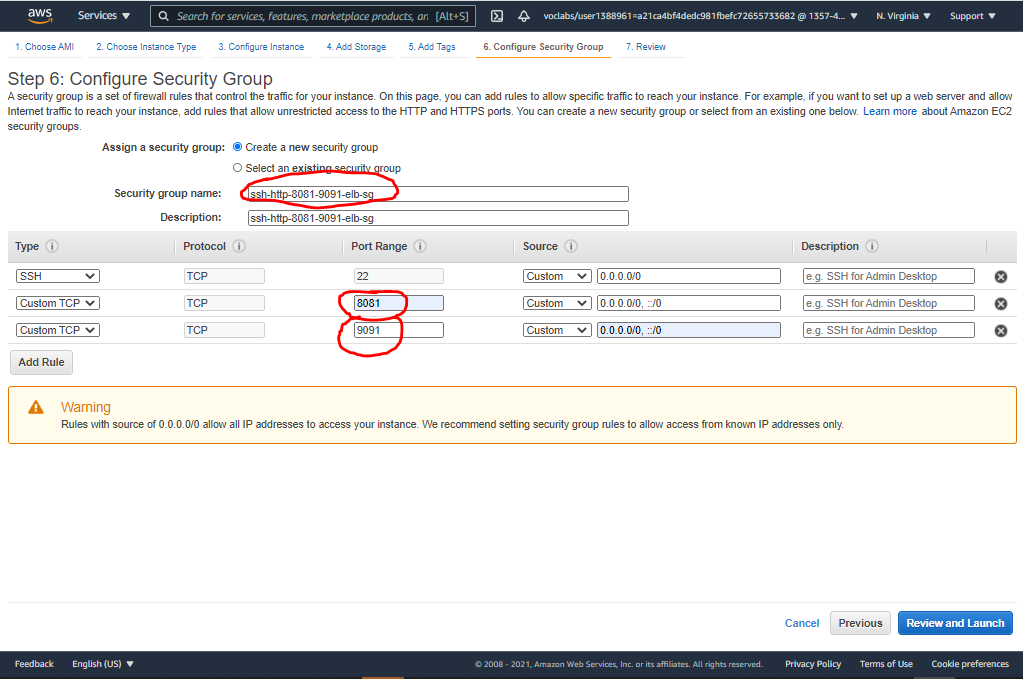


**KEEP DEFAULT**

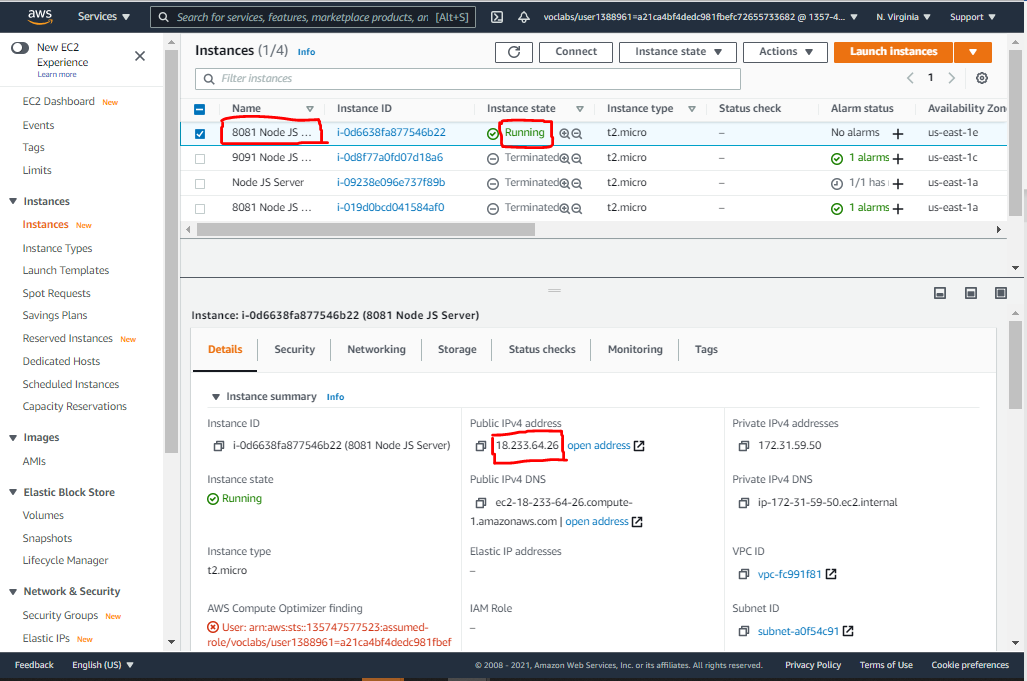


**KEEP DEFAULT**





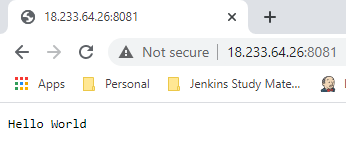
# Wait till the instance state is “Running” and then collect the “Public IP”



# Open a command prompt

* 1. Go to the path where the AWS EC2 key is downloaded
  2. Then do `chmod 0400 <keyName.pem>`
  3. Then do `ssh -i <keyName.pem> ec2-user@<public ip>`
  4. You should now be in the instance
  5. Now do `vi configure\_and\_run\_nodejs\_service.sh`
  6. Copy/paste the content of the shell script from github
  7. Then save and exit
  8. Then do: `chmod 777 configure\_and\_run\_nodejs\_service.sh`
  9. Then do: `./configure\_and\_run\_nodejs\_service.sh`
  10. This will configure the instance with a node js service running at port 8081

# Open a browser window and type http://<public ip>:8081 and you should see “Hello World”



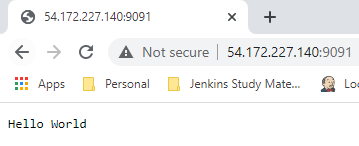
# Now, create another instance following the exact same steps, except for following changes

* 1. Add a tag with “Name : 9011 Node JS Server”
  2. Add the existing Security Group “ssh-http-8081-9091-elb-sg”

# Once the second EC2 instance is created, collect the Public IP of that instance & login to it using similar steps

* 1. Go to the path where the AWS EC2 key is downloaded
  2. Then do `chmod 0400 <keyName.pem>`
  3. Then do `ssh -i <keyName.pem> ec2-user@<public ip>`
  4. You should now be in the second instance
  5. Now do `vi configure\_and\_run\_nodejs\_service.sh`
  6. Copy/paste the content of the shell script from github
  7. Then change the line that says “port = 8081” 🡪 “port = 9091”
  8. Then save and exit
  9. Then do: `chmod 777 configure\_and\_run\_nodejs\_service.sh`
  10. Then do: `./configure\_and\_run\_nodejs\_service.sh`
  11. This will configure the instance with a node js service running at port 9091

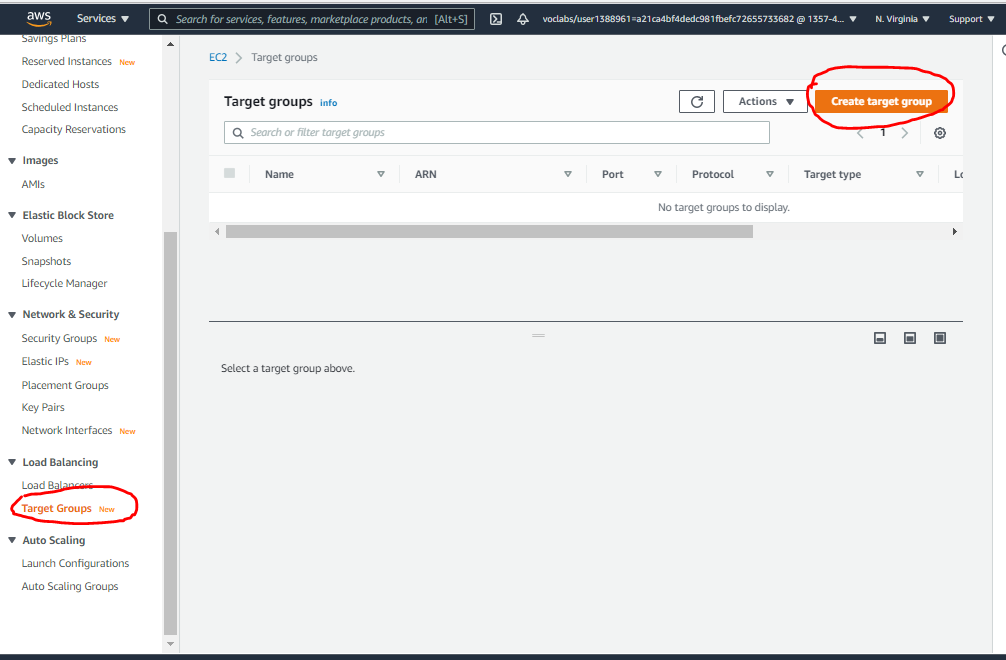
# Now if you open a browser window and type http://<public ip>:9091, it should also give “Hello World” from the second instance

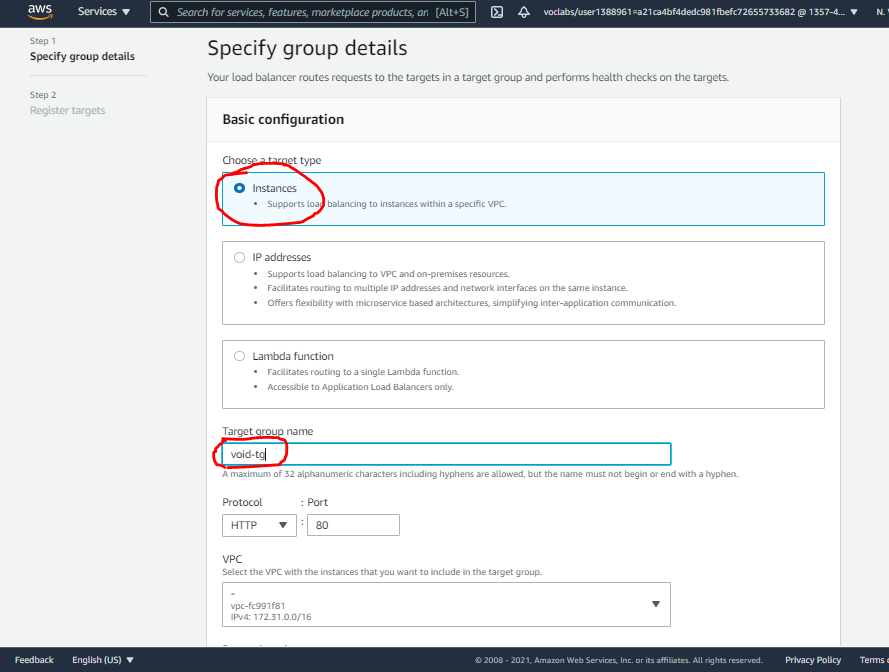


# Now that the instances are set, we will create a couple of “Target Groups” for Application Load Balancer. Target groups determine for which incoming traffic what would be sent to which instance groups. We will create three target groups

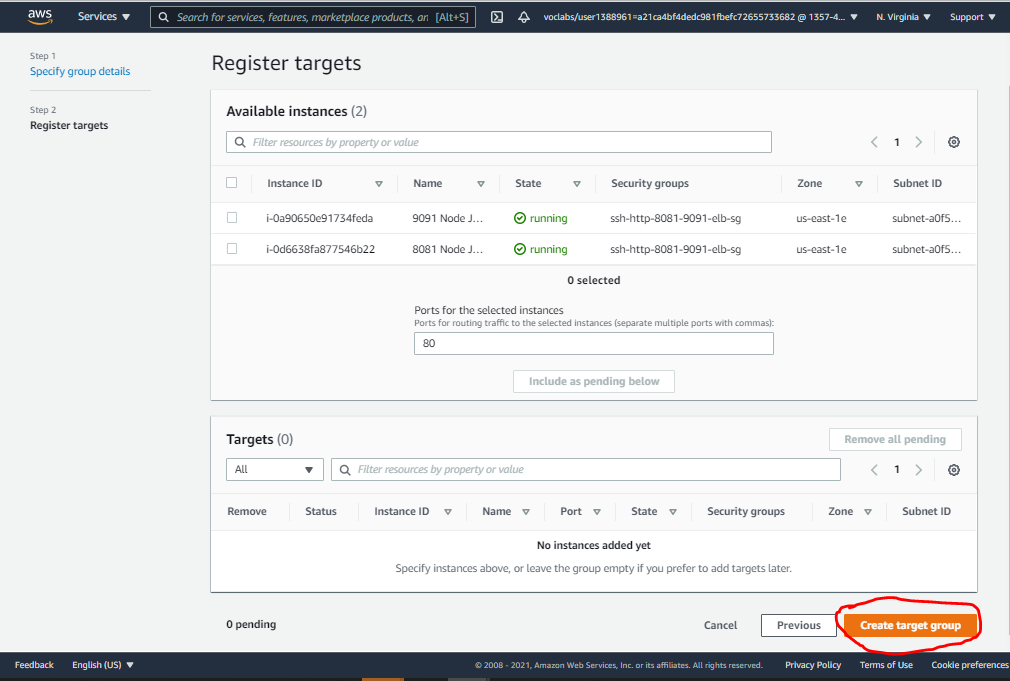
* 1. void-tg: This will contain no instances. We would assign this group to the default ALB listener, so that by default it does not route traffic to any instance
  2. 8081-tg: This will contain “8081 Node JS Server” instance and all the traffic that is coming to the ALB at port 8081 will be routed here
  3. 9091-tg: Similar thing for “9091 Node JS Server”

# Steps for “void-tg”:



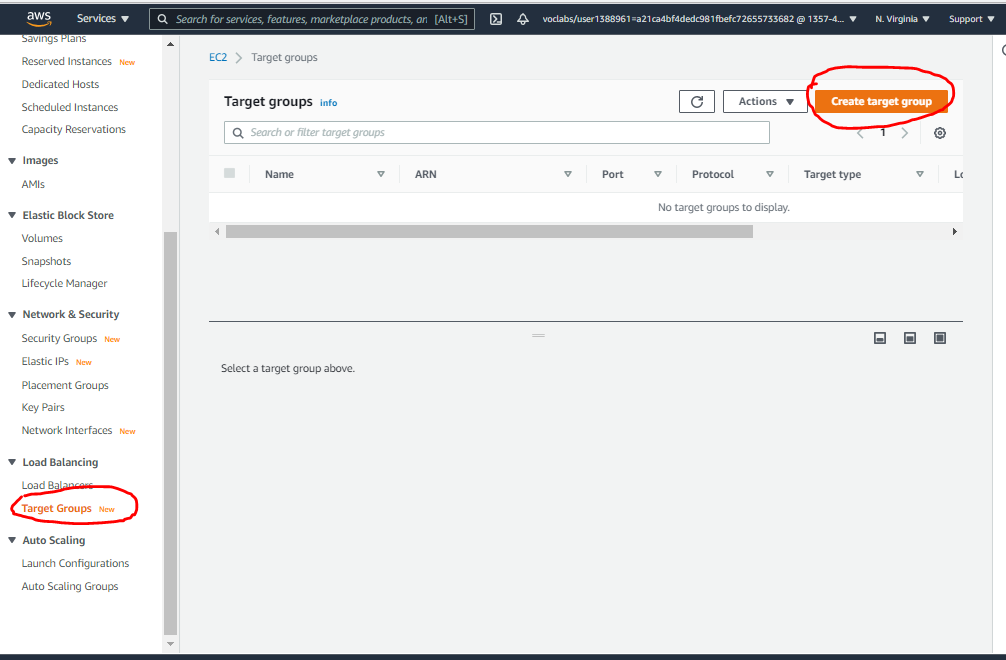


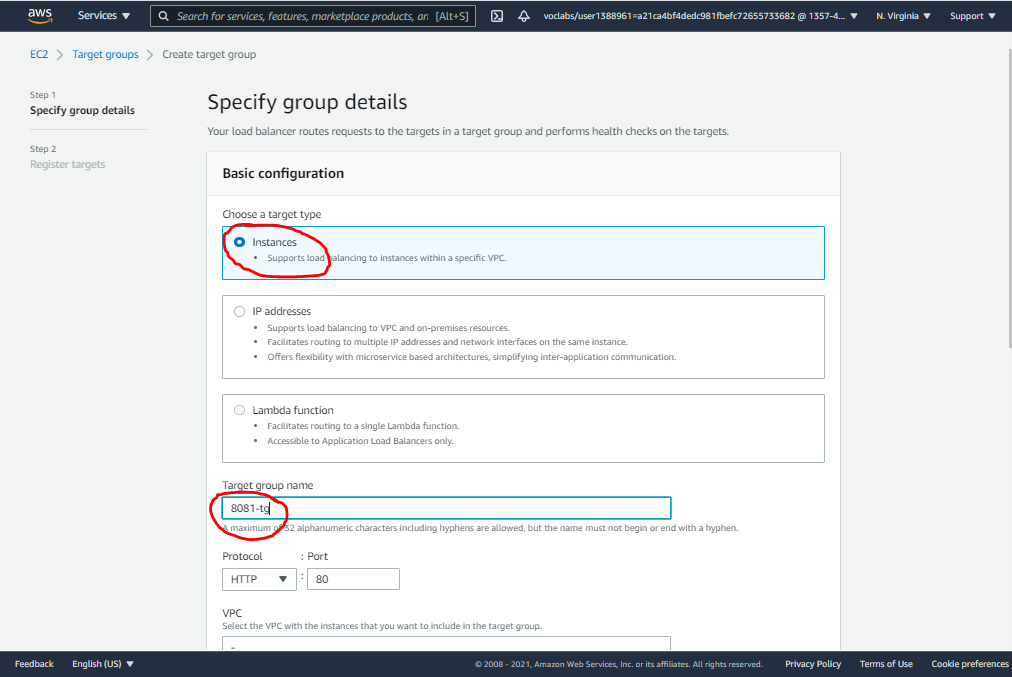
**KEEP OTHER DETAILS AS-IS**

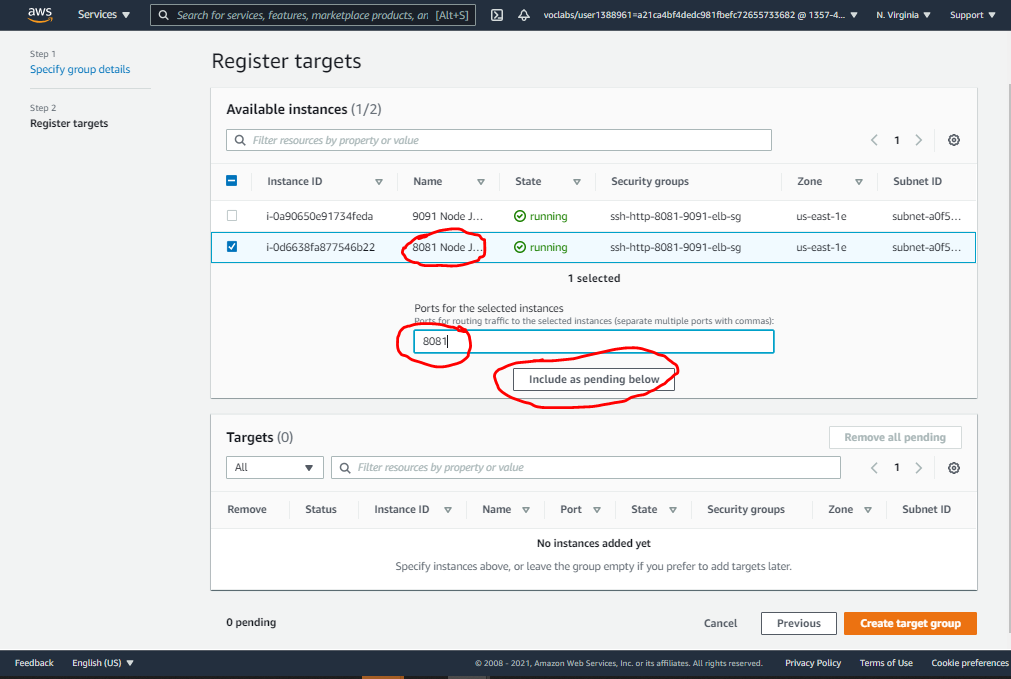


**KEEP THINGS AS-IS, DO NOT MAKE ANY CHANGES**

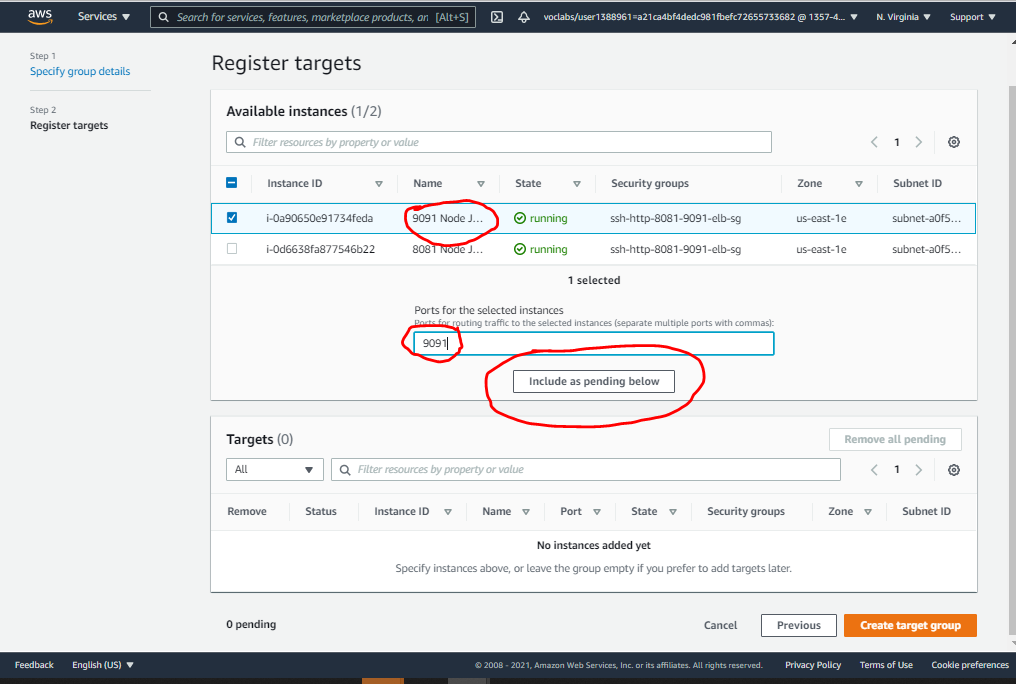
# Steps for “8081-tg”



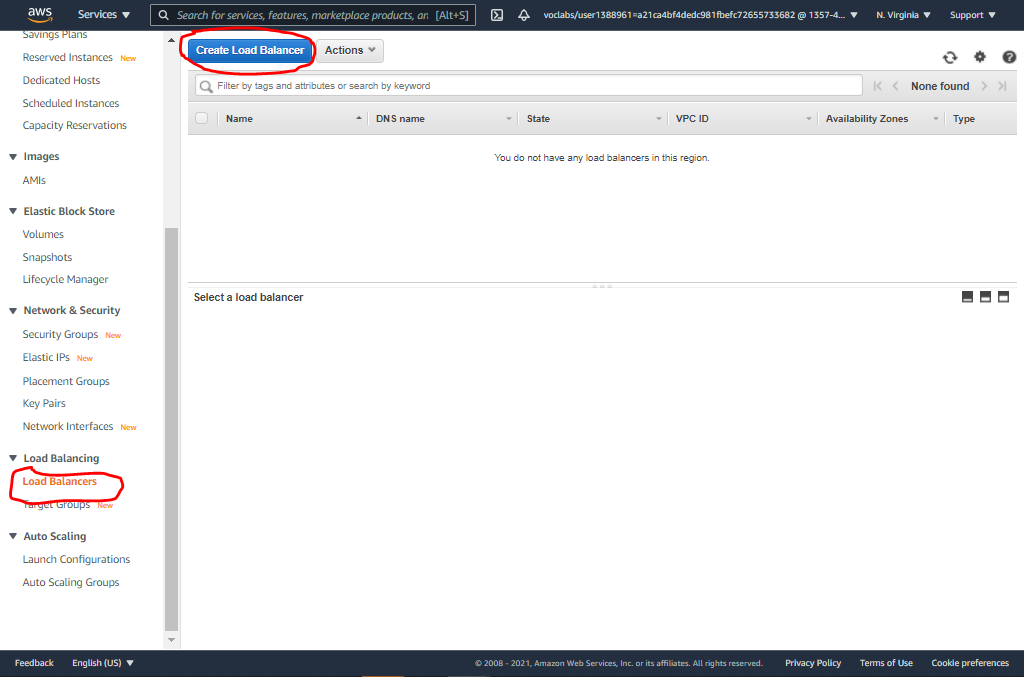


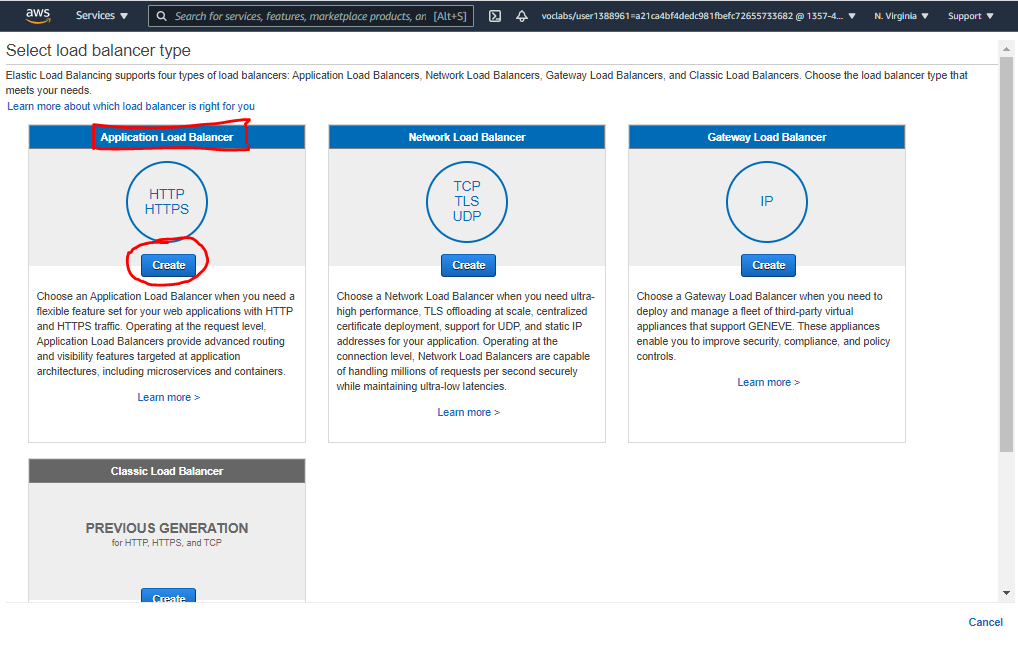


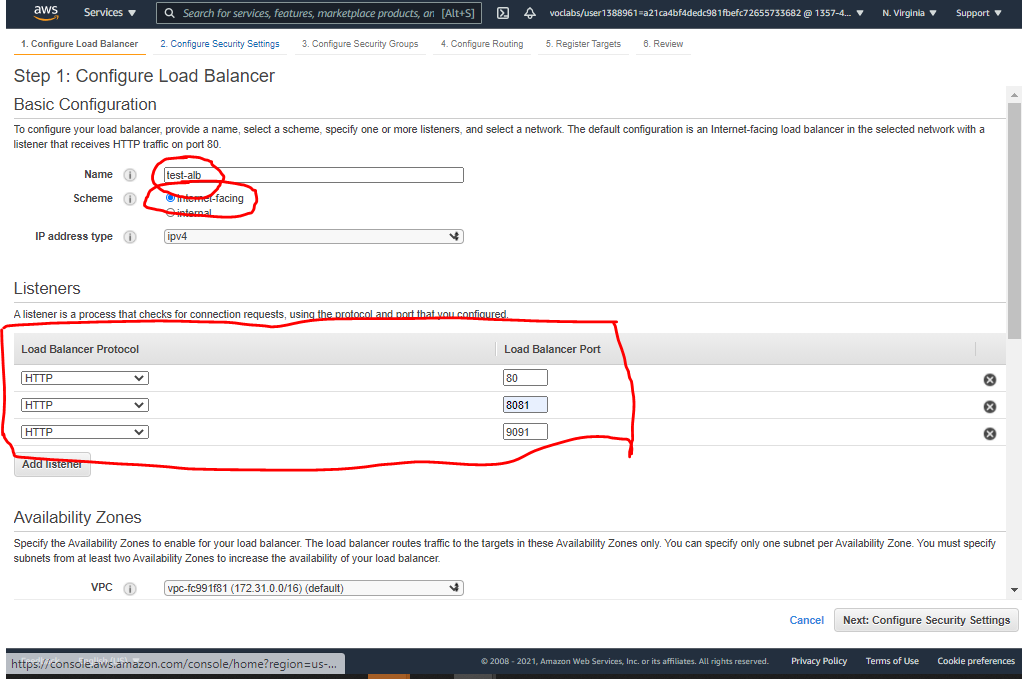
# Steps for “9091-tg” is exactly same as “8081-tg”, except for the fact that assign “9091 Node JS Server” instance instead

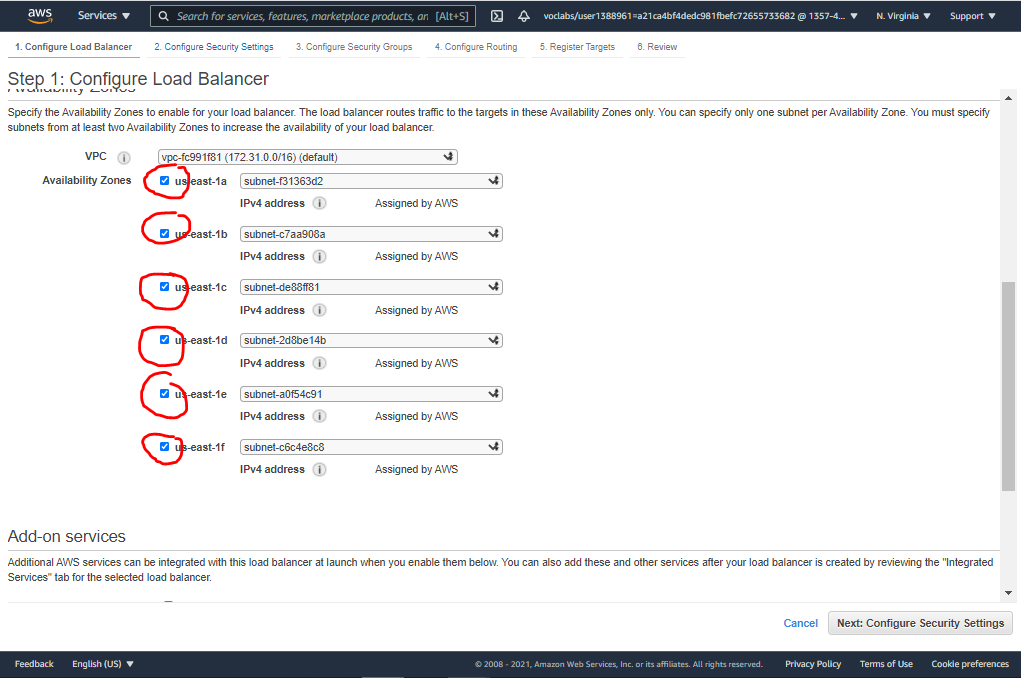


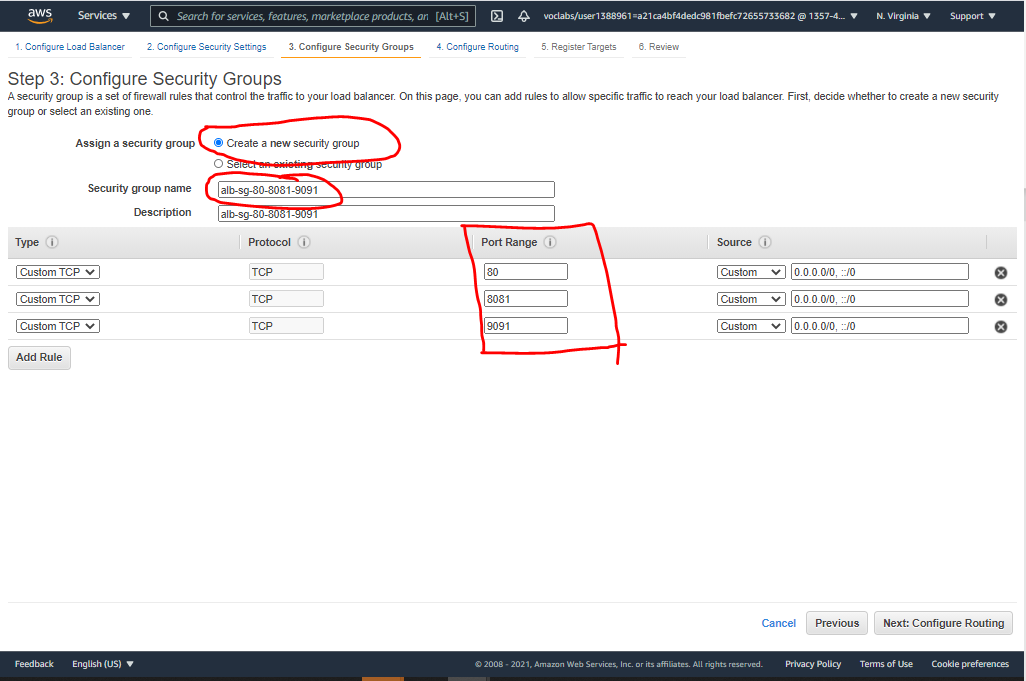
# Now, its time to create an Application Load Balancer

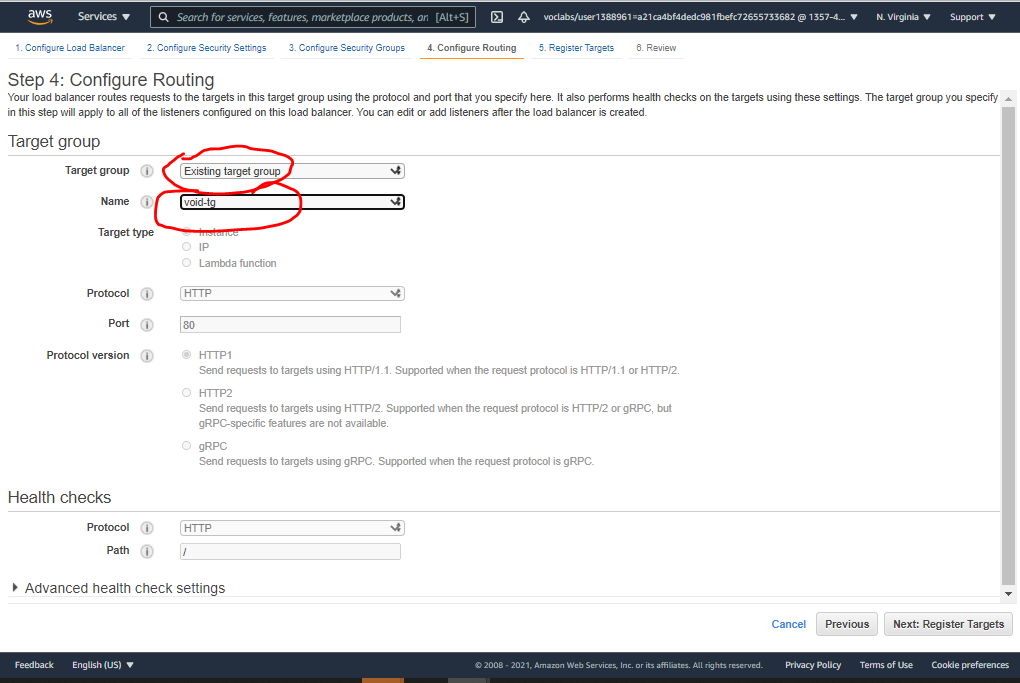


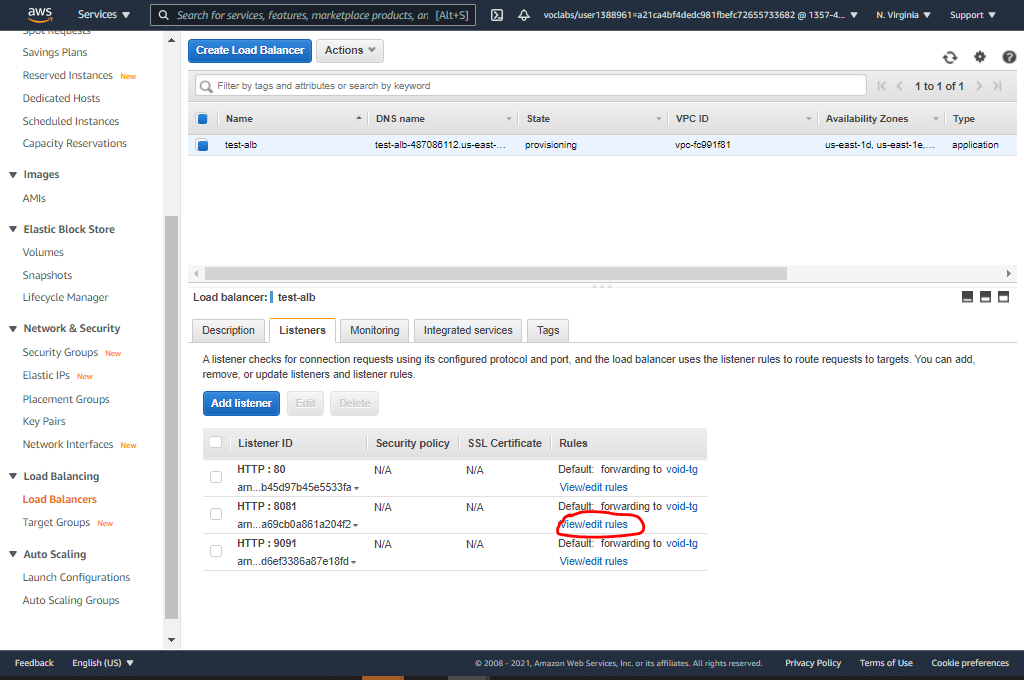


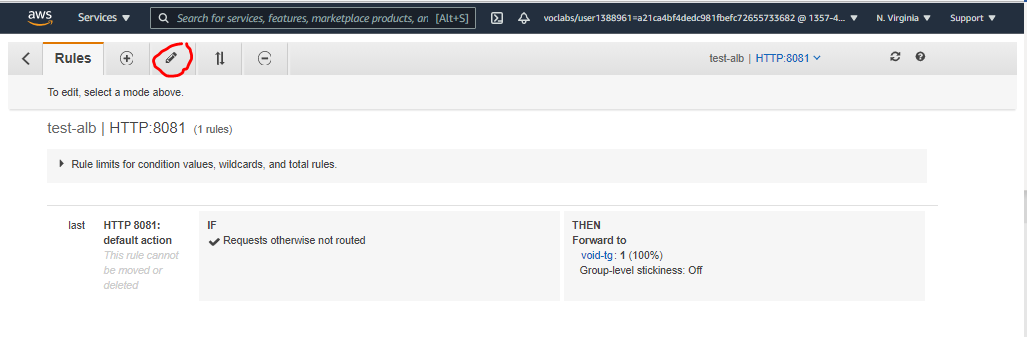


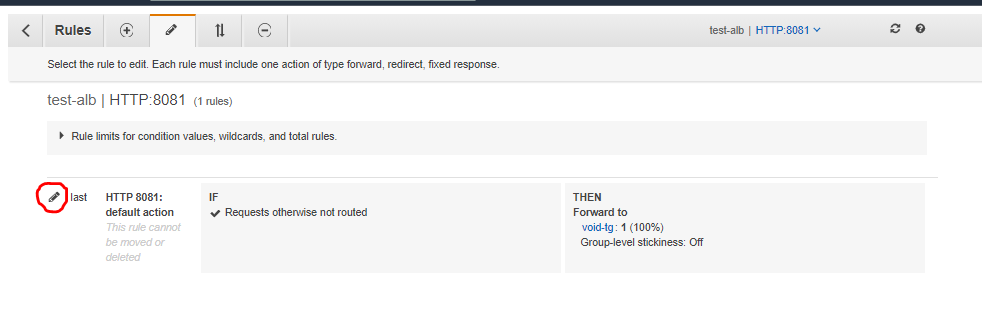


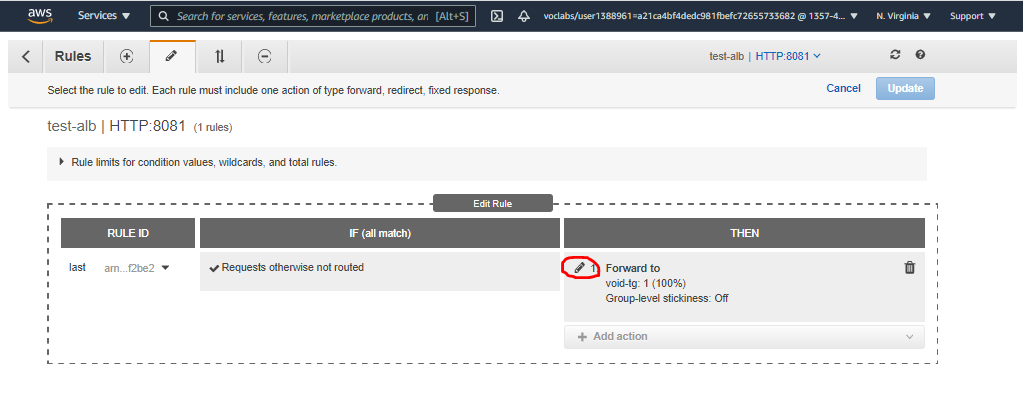


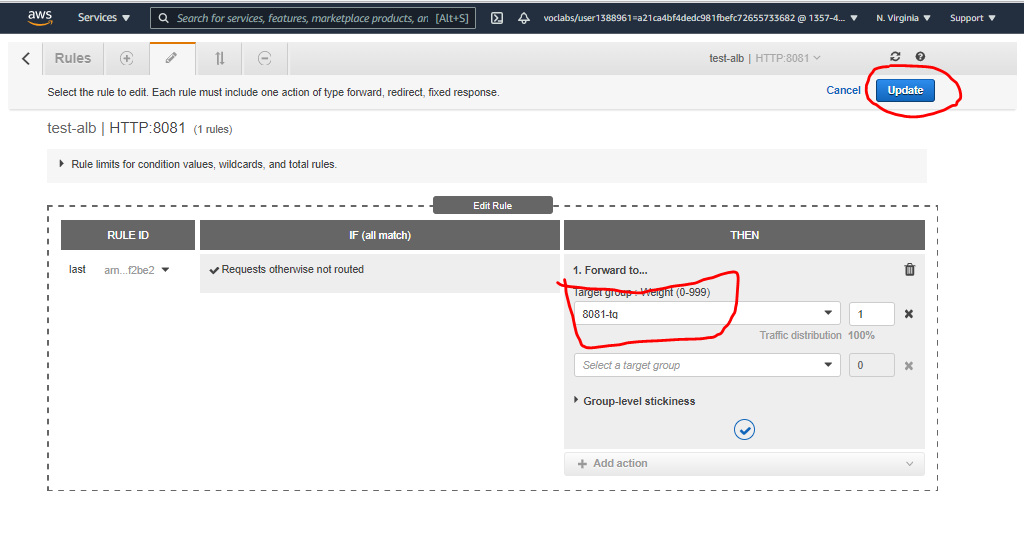




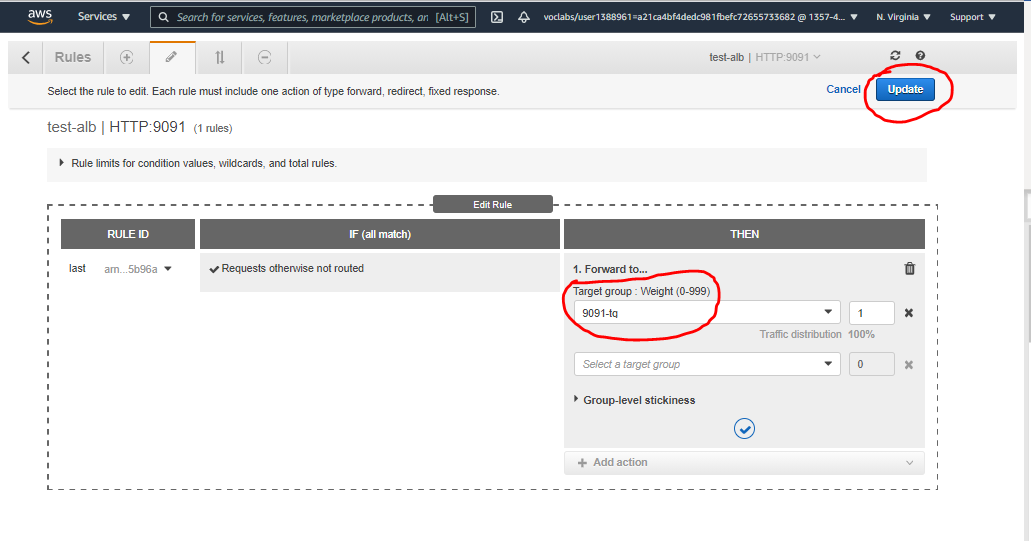


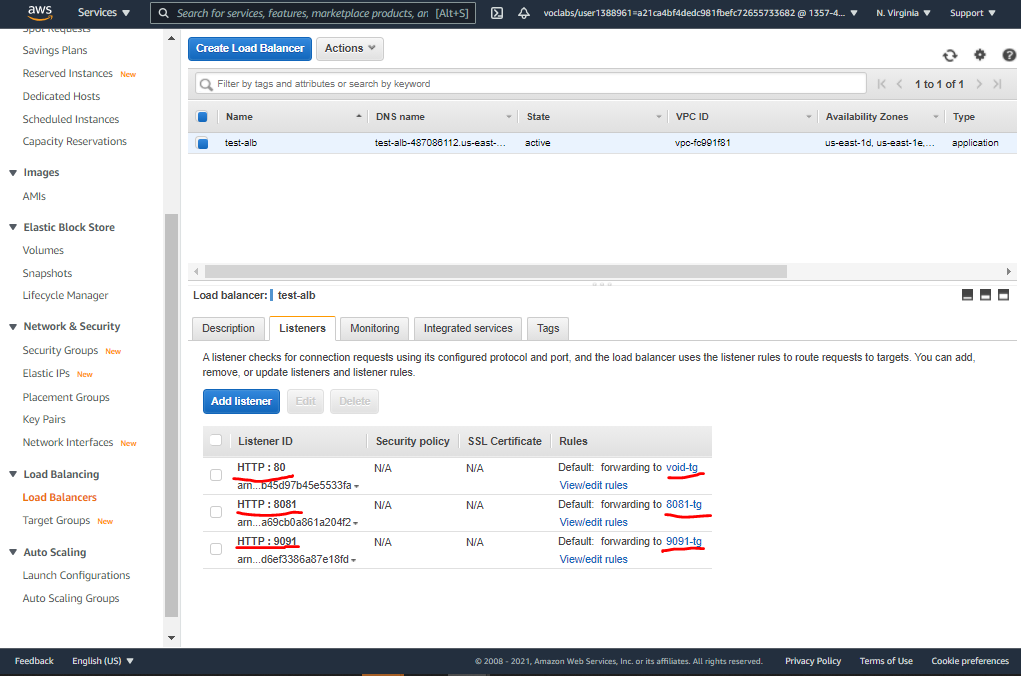




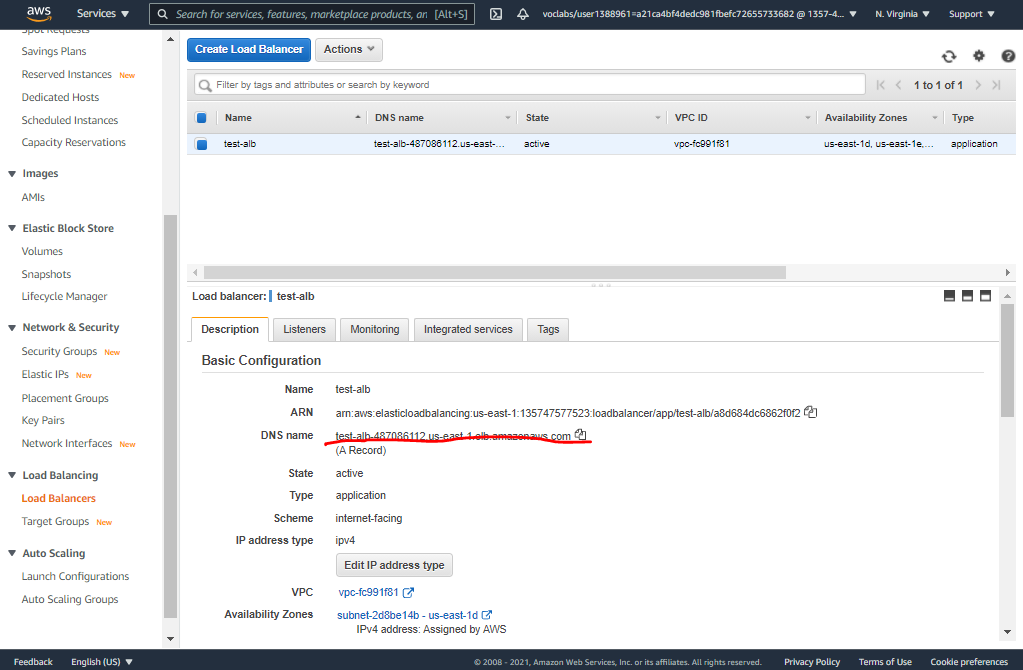


**NEXT, UPDATE the HTTP:9091 LISTENER AND ASSIGN 9091-tg AS TARGET GROUP IN SIMILAR WAY**

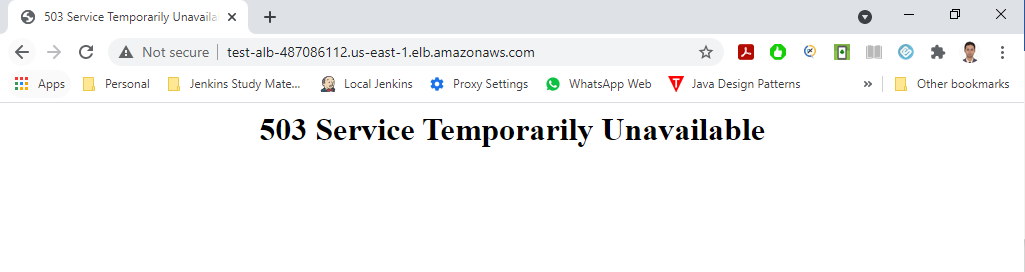




# Now, ideally, if we open the Application Load Balancer Public DNS & open a browser & enter following address, corresponding things should happen

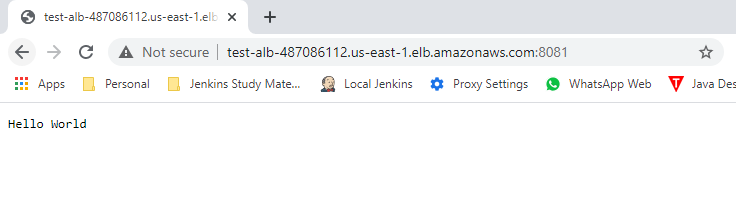


* 1. http://<alb dns>:80



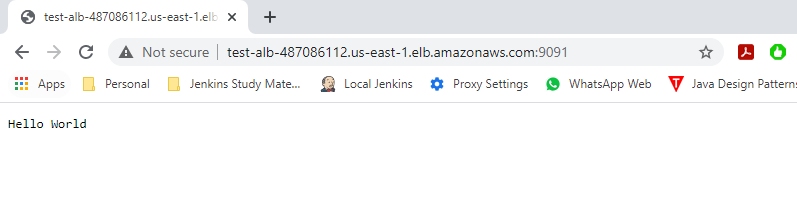
**Since there are no instances/target groups backing it**

* 1. http://<alb dns>:8081



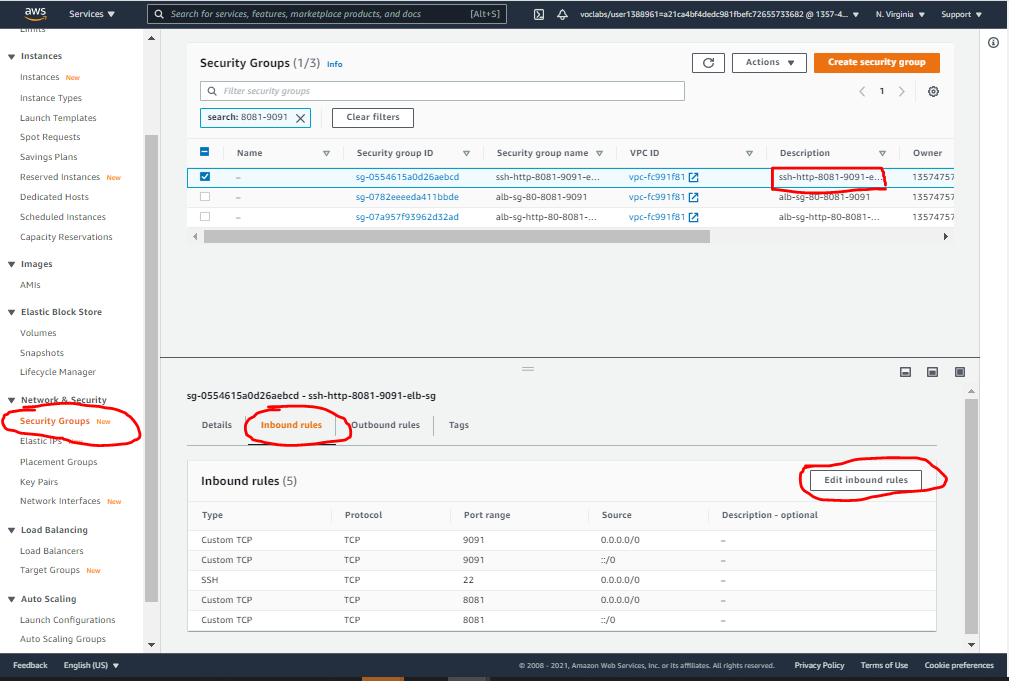
**From 8081-tg**

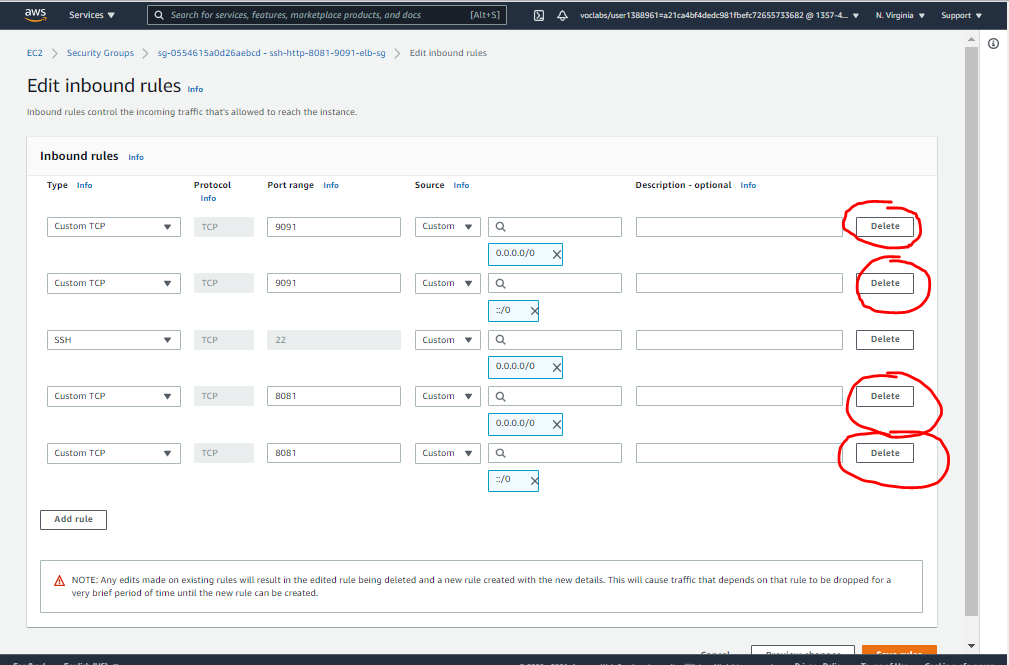
* 1. http://<alb dns>:9091

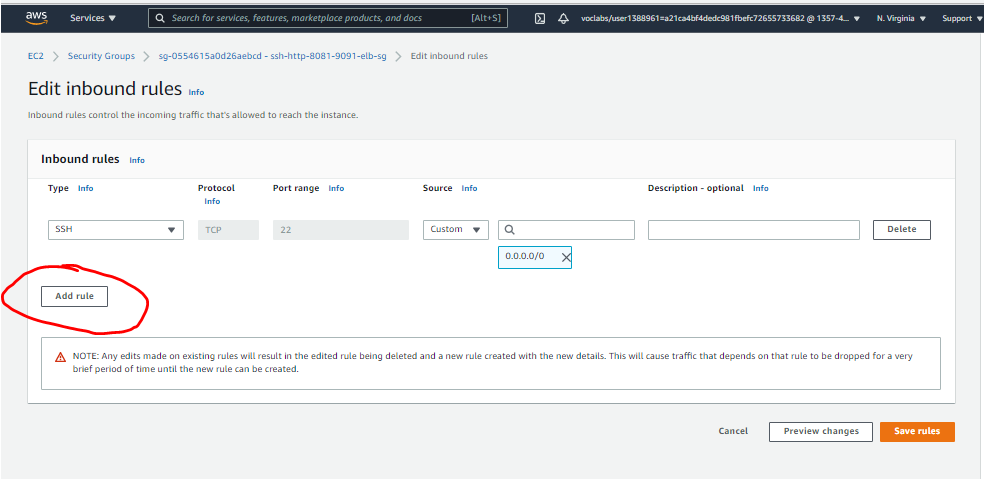


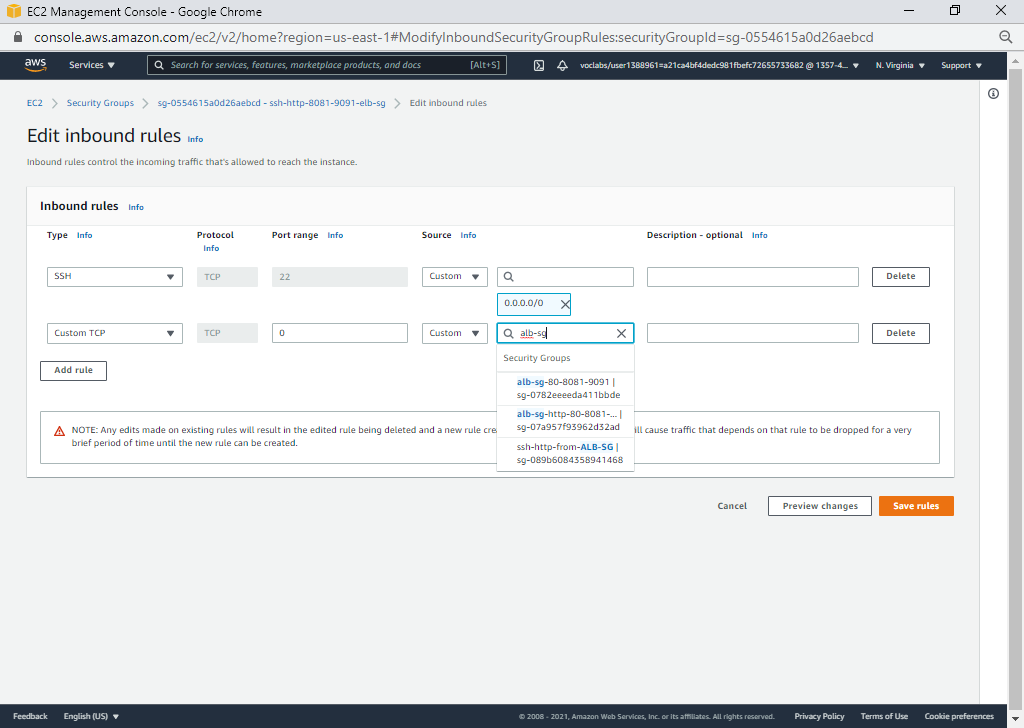
**From 9091-tg**

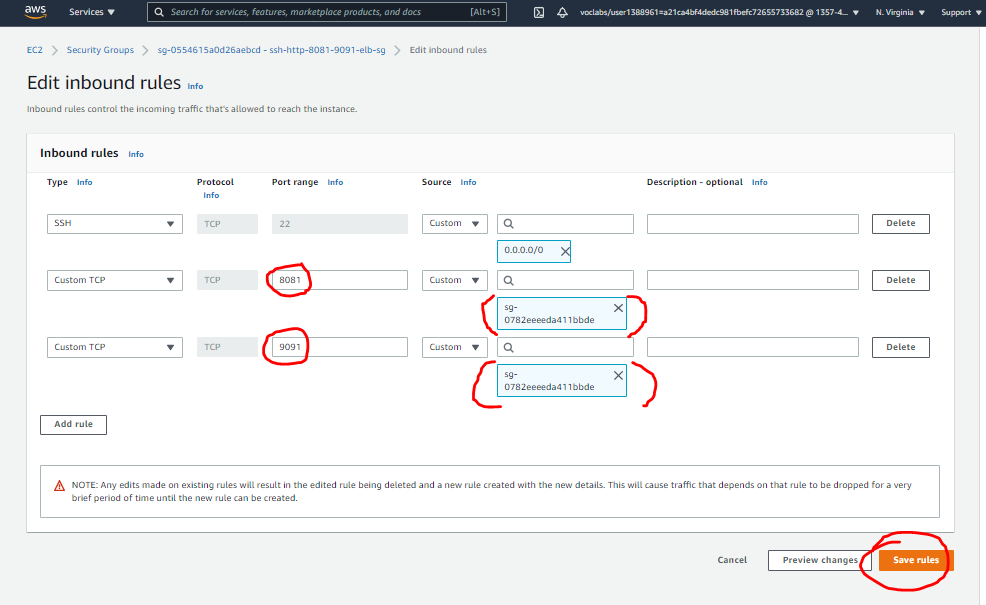
# Now, the last thing pending is to remove the rules for port 8081 & 9091 from the EC2 instance Security Groups and ONLY allow traffic from Application Load Balancer Security Group

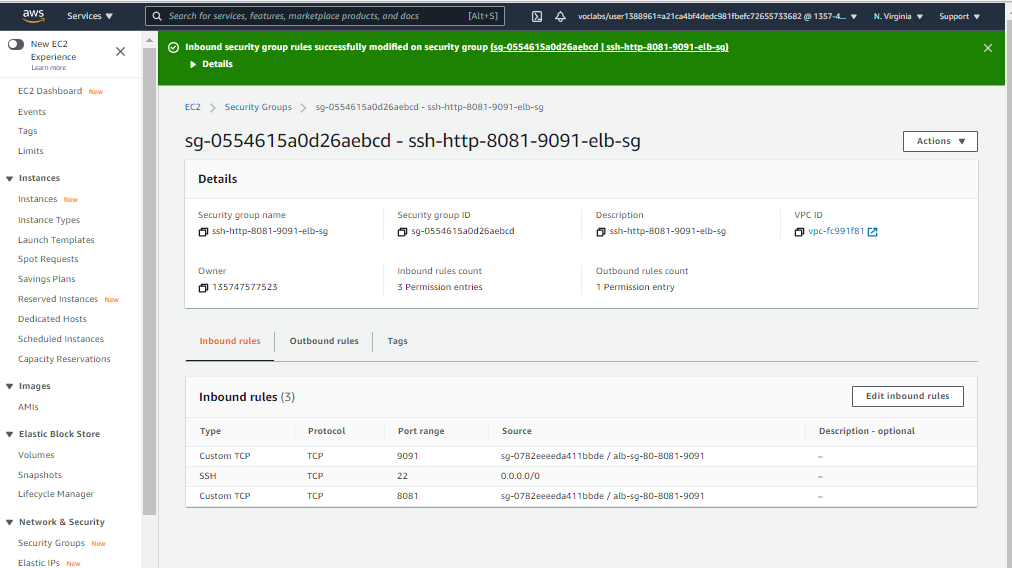




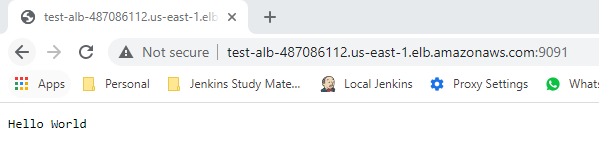








# Now still the access through ALB works



# But the direct access via the EC2 public IP & port does not

