1. Why the Auto Scaling feature is significant in cloud computing?

Autoscaling lets you automatically adjust the number or the lifecycle state of compute instances in an instance pool. This helps you provide consistent performance for your end users during periods of high demand, and helps you reduce your costs during periods of low demand.

2. Describe the following ?

1. Metric-based autoscaling

2. Schedule-based autoscaling

· **Metric-based autoscaling**: An autoscaling action is triggered when a performance metric meets or exceeds a threshold.
Metric-based autoscaling relies on performance metrics that are collected by the Monitoring service, such as CPU utilization. These performance metrics are aggregated into one-minute time periods and then averaged across all instances in the instance pool.

· Schedule-based autoscaling: Autoscaling events take place at the specific times that you schedule.Schedule-based autoscaling lets you improve the availability of your workloads by scheduling capacity ahead of anticipated load. If you run your workload on a managed instance group (MIG), you can schedule a required number of virtual machine (VM) instances for recurring load patterns as well as one-off events.

3. Demonstrate Metric based autoscaling or Schedule based auto scaling to cater your organizations business requirements. (Specify the requirements)

1. We will be doing load balancer with auto scaling , so first create load balancer , which we have already discussed in lab3
2. Next we will start Schedule Based auto scaling as metric for scaling , below screen shots demonstrates how to do

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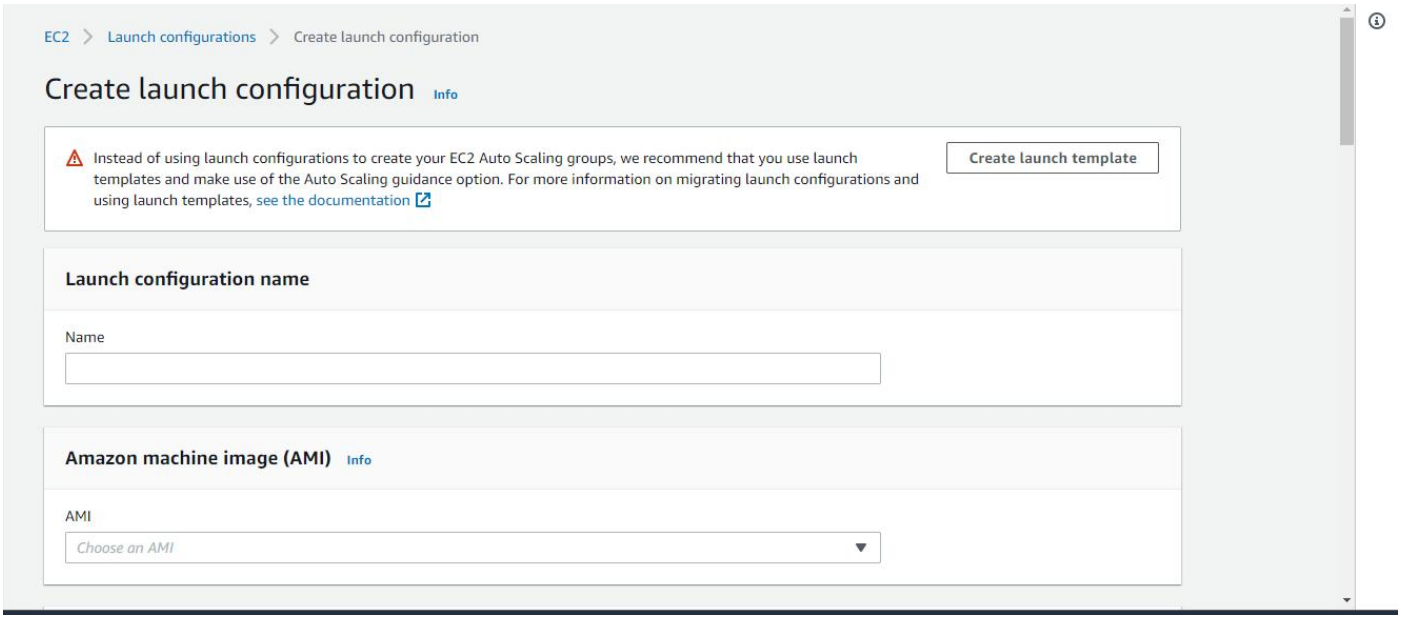
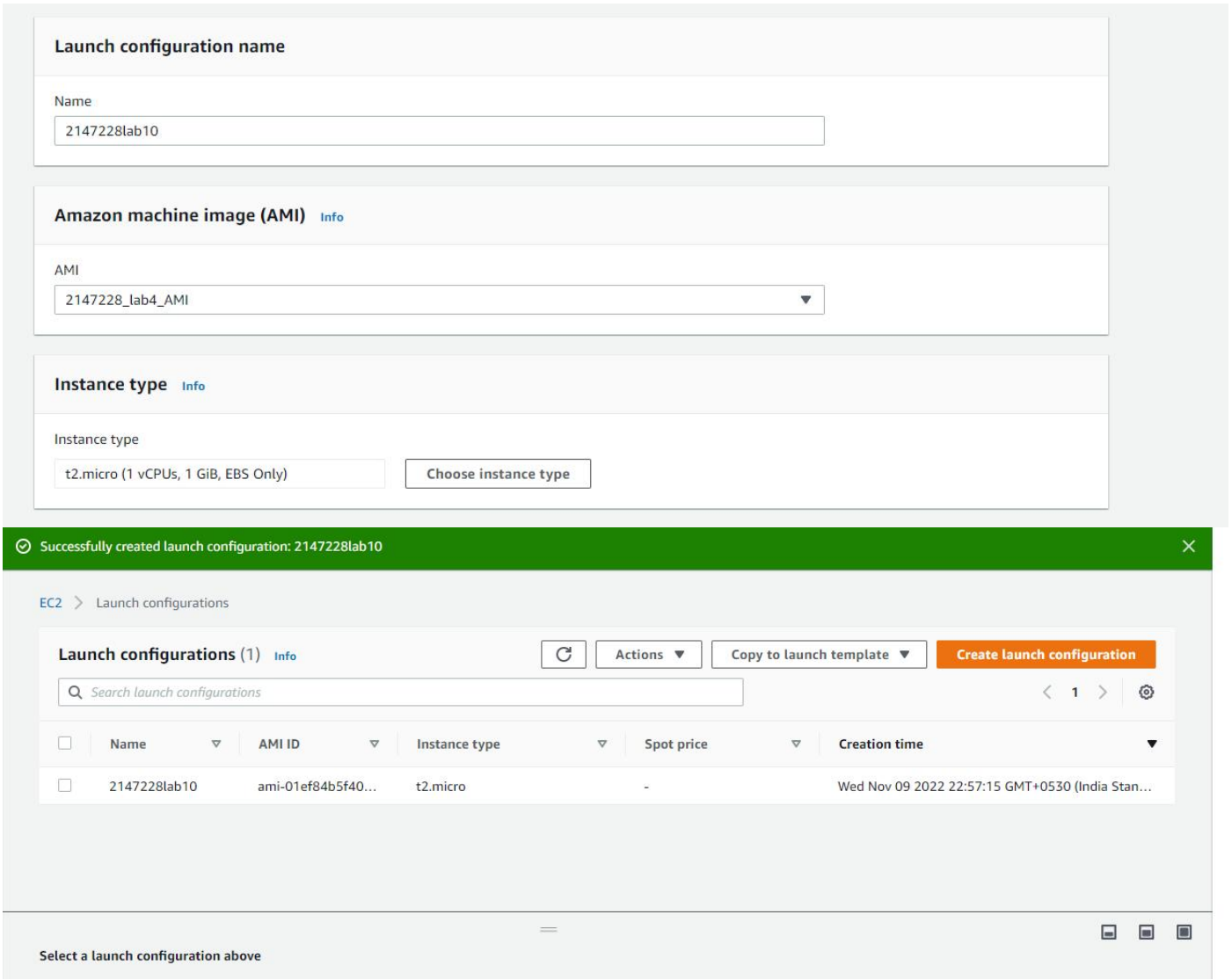
1. Open launch configuration from side panel and configure accordingly

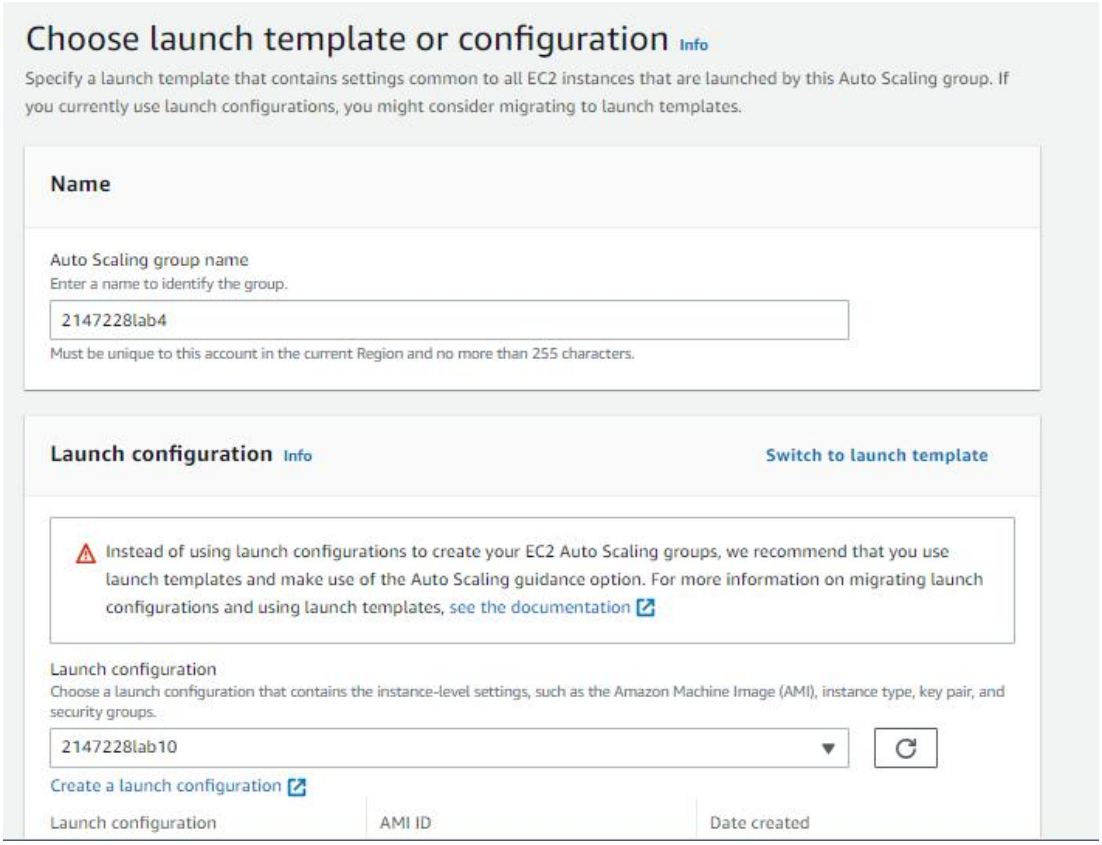
Before that create AMI of instance by opening actions on existing instance -> images and templates- > create Image-> configure->done



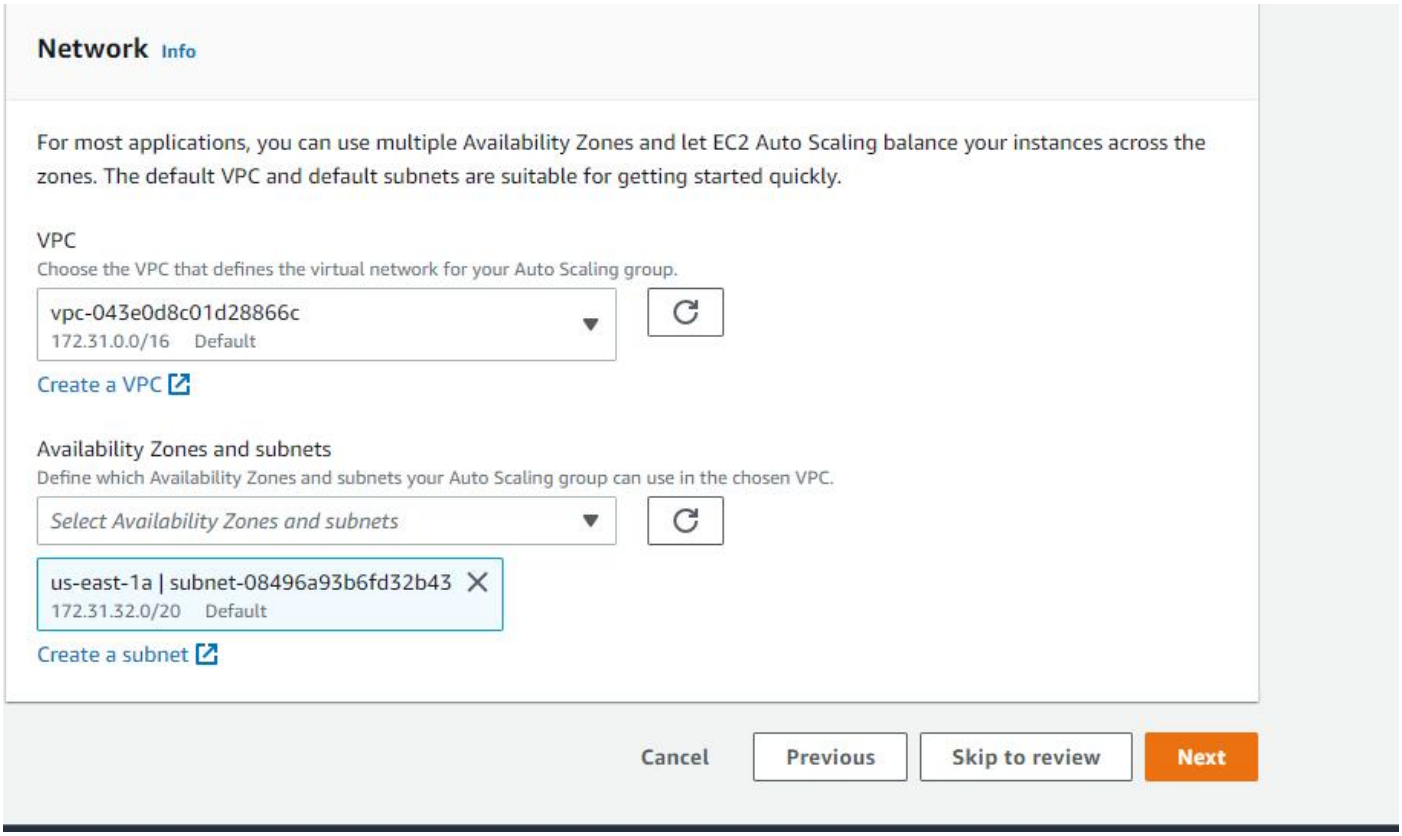
Configuration :



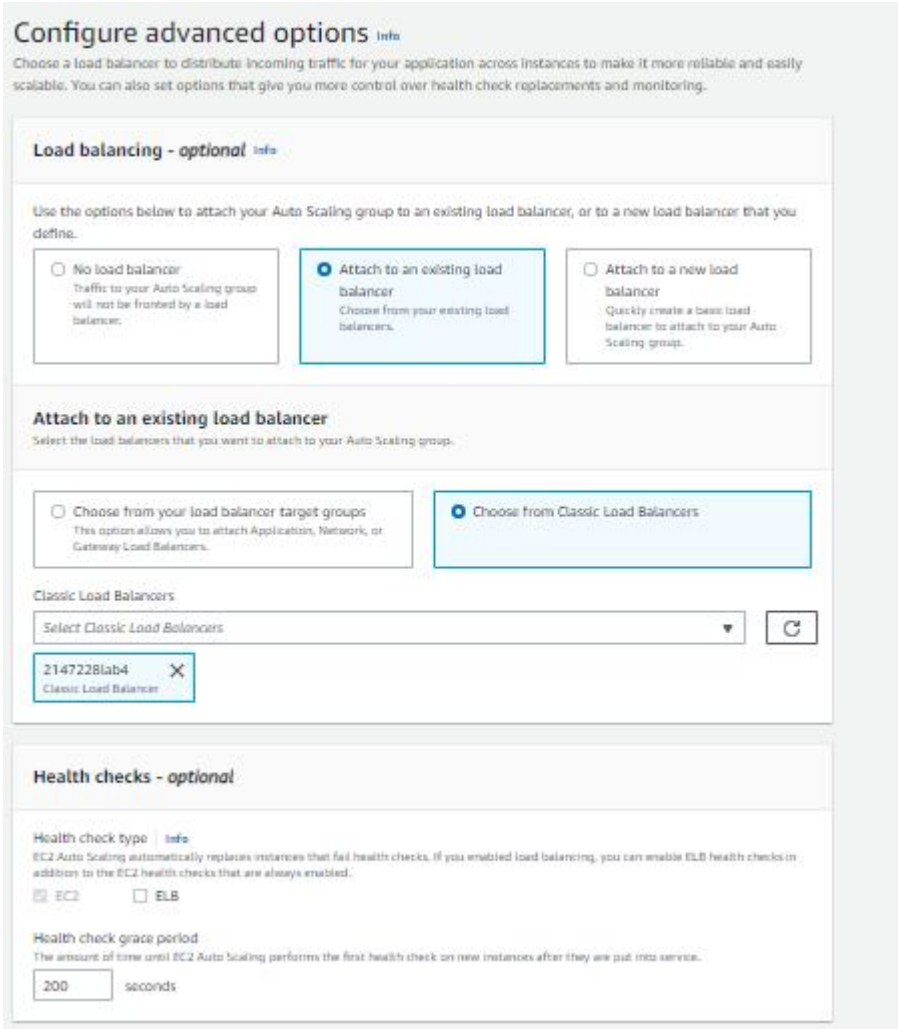
2. After creating above step , select name ->Actions-> choose launch template
Do necessary configuration

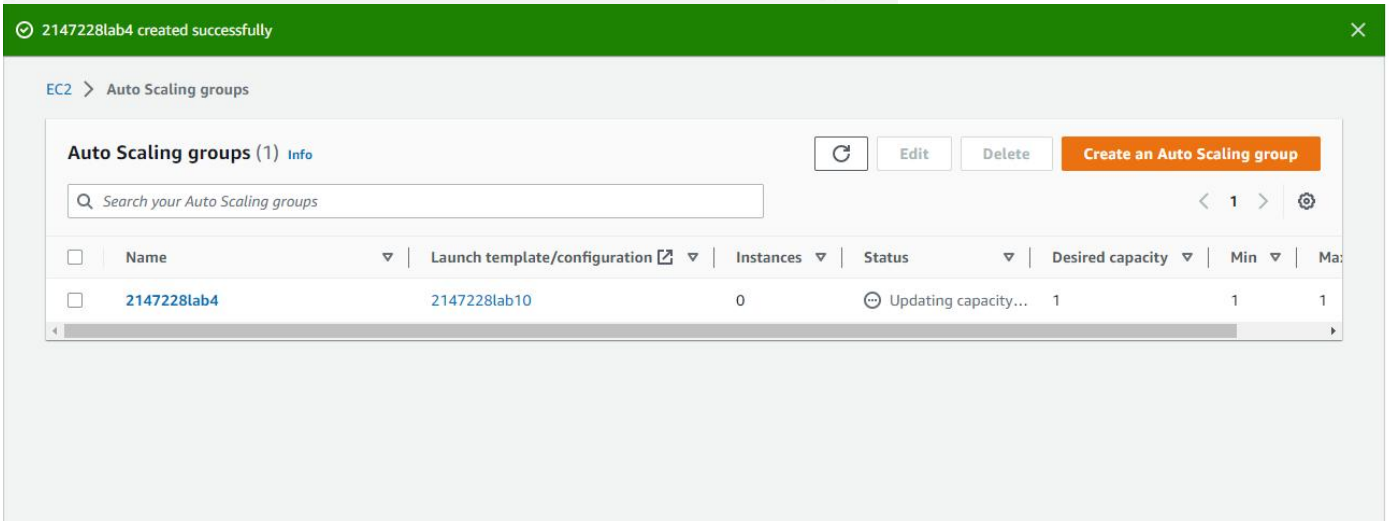


Choosing zones vpc (we can create vpc also)

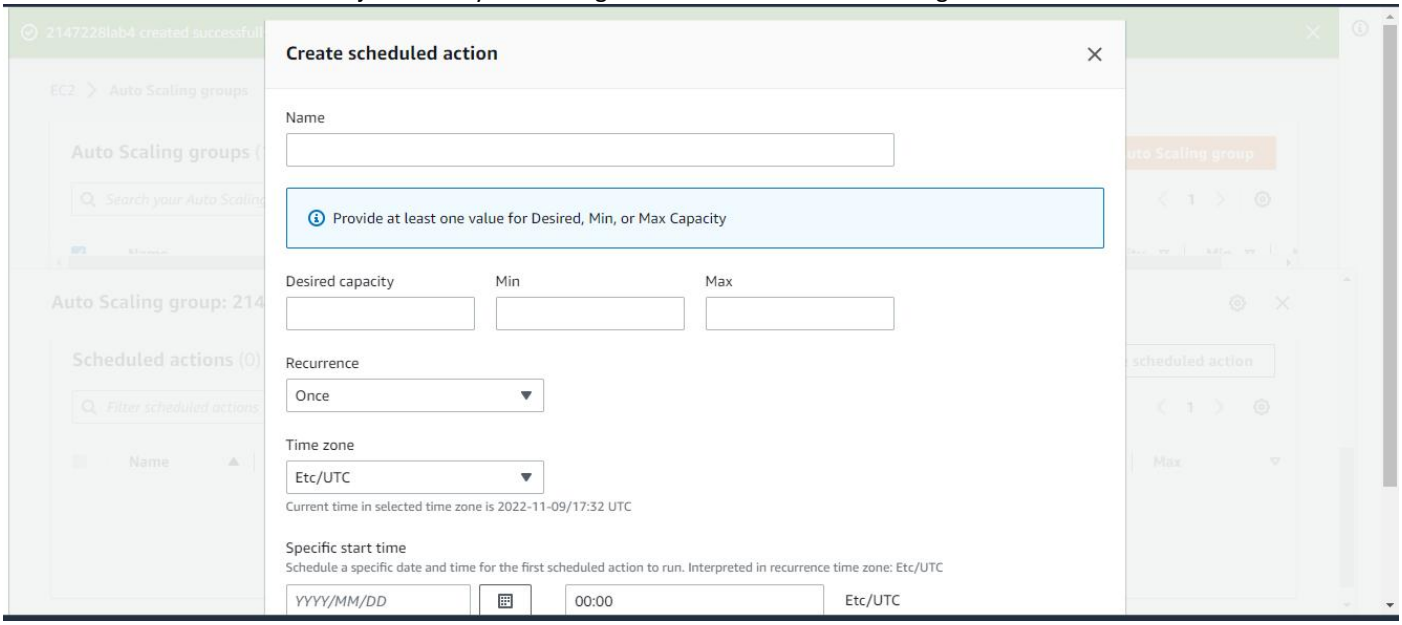


3.**Now choose our created load balancer -> attach to existing-> choose classic load balancer ->don’t forget to check ELB which I forgot to mention**

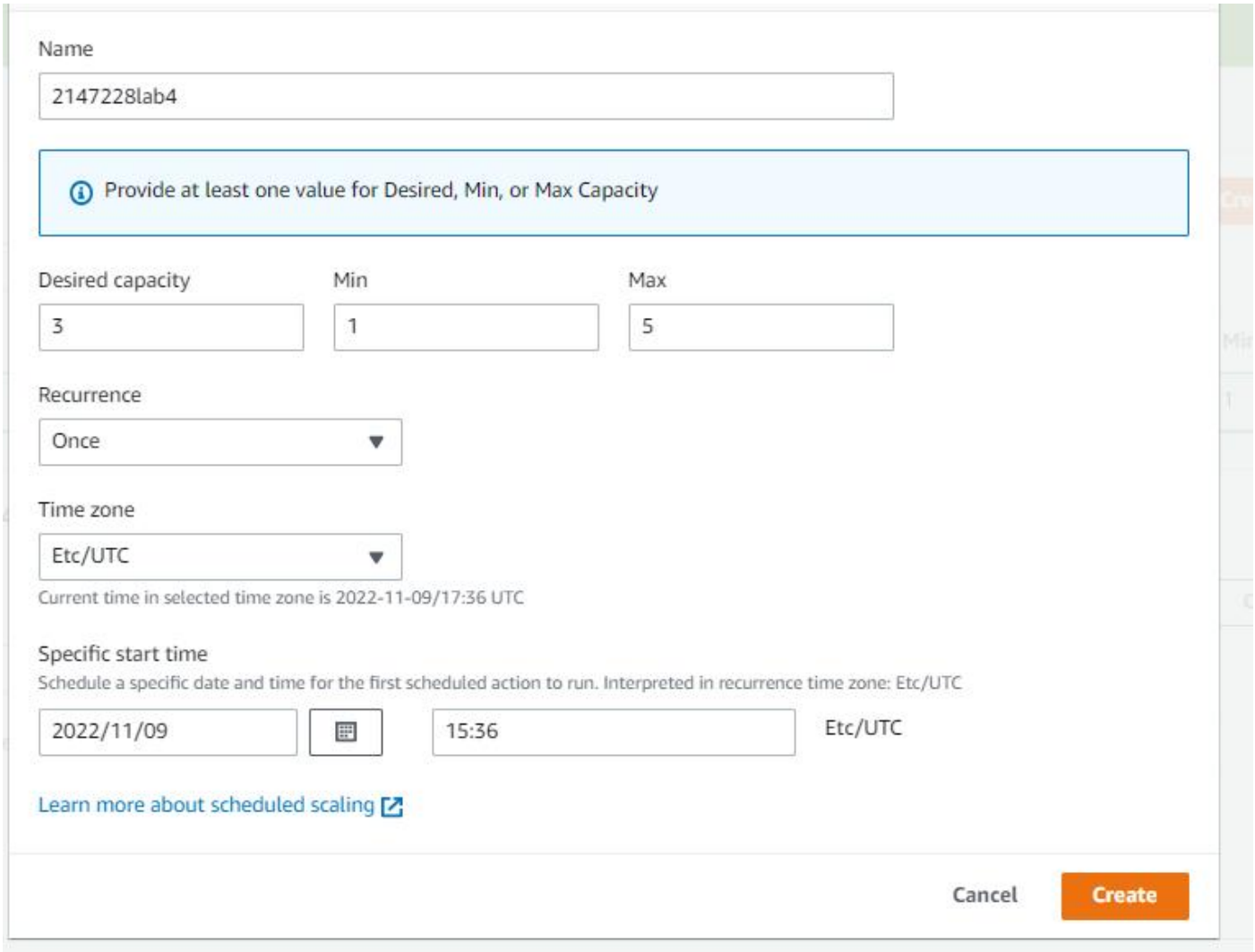




3. after creating , scroll down to scheduling -> click create schedule action -> add new
Do necessary configuration
Do note that time is in UTC so adjust time by converting local time to utc for scheduling

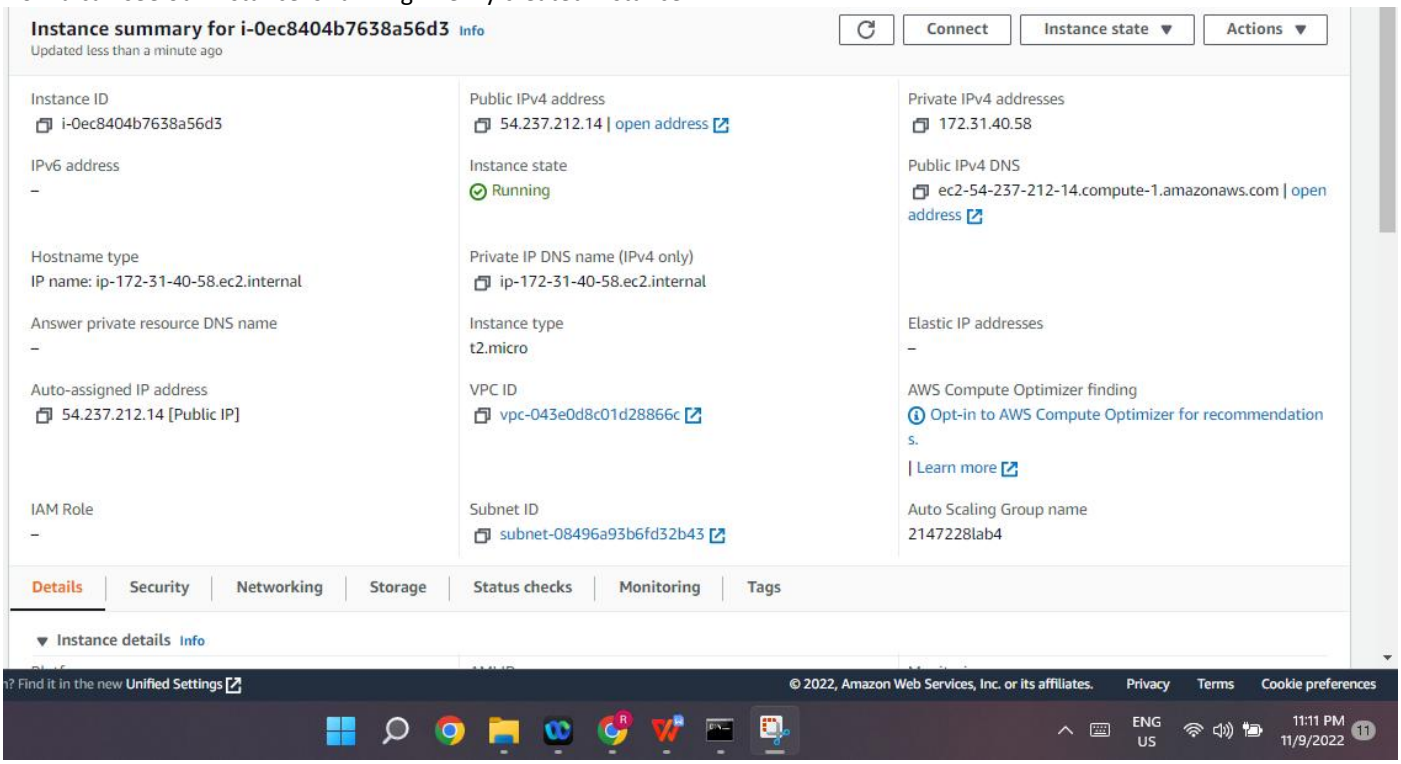


I choose 3 instance to be created (desired capacity) max :5 min:1

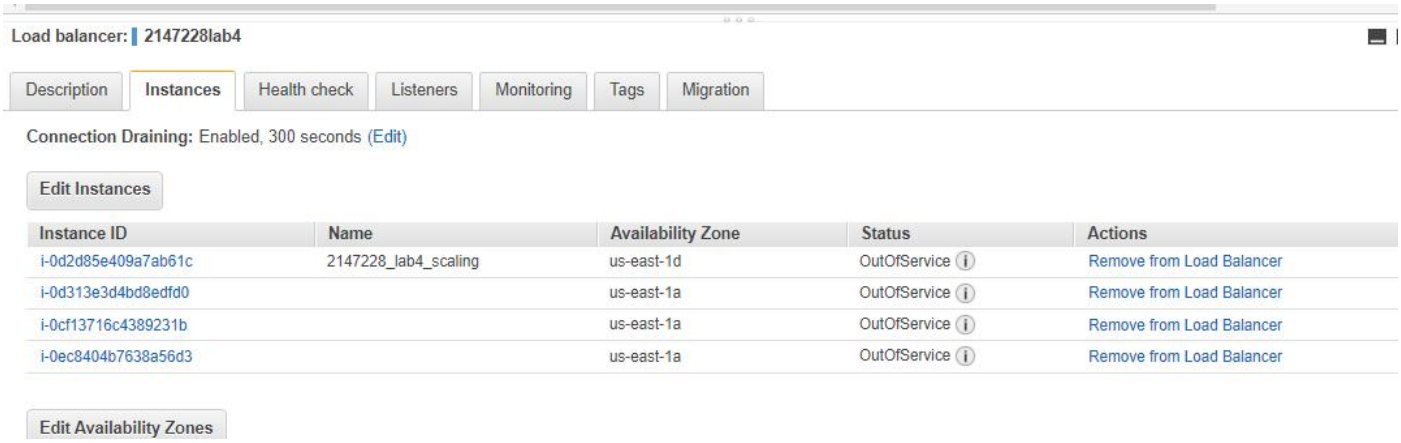


I have set my ec3 to launch 3 minutes after 15:33 so we can see out 3 instance will be created at 15:36 UTC

Now u can see our instance is running : newly created instance



We can see in below images that 3 new intance is added to our load balancer



Our 3 new instance created automatically at 15:36 UTC apart from one instance already created

The following instances are attached to an Auto Scaling group:

- i-0ec8404b7638a56d3 (2147228lab4)
- i-0d313e3d4bd8edfd0 (2147228lab4)
- i-0cf13716c4389231b (2147228lab4)