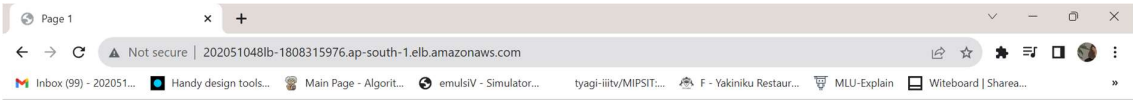
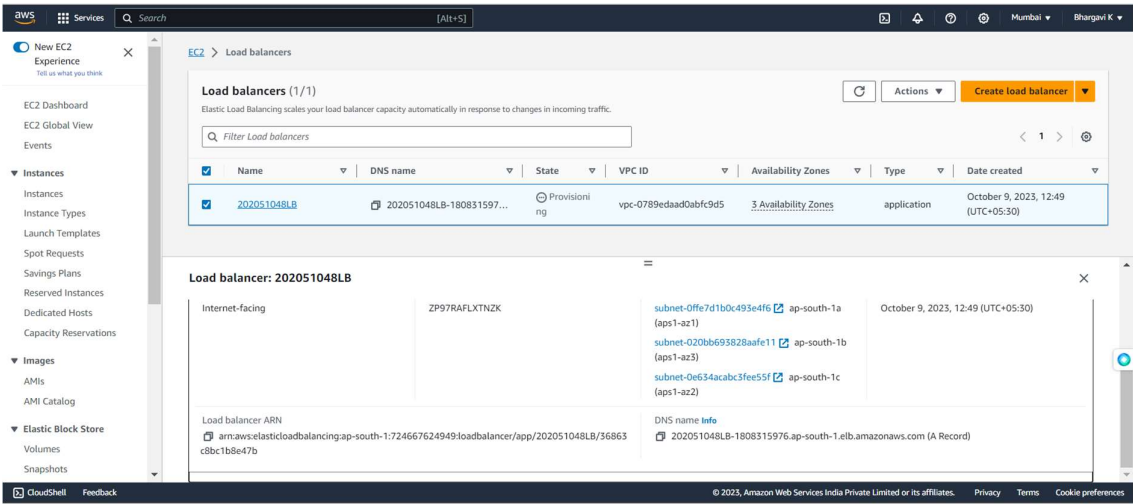


Name: Bhargavi Kamble

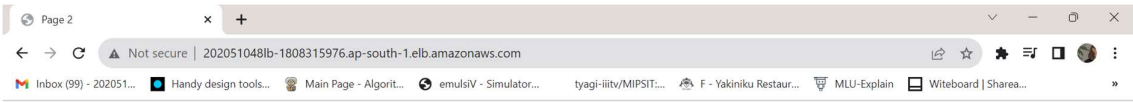
Student ID: 202051048

Assessment 5: Autoscaling and Elastic Load Balancing

First we'll create the load balancers:



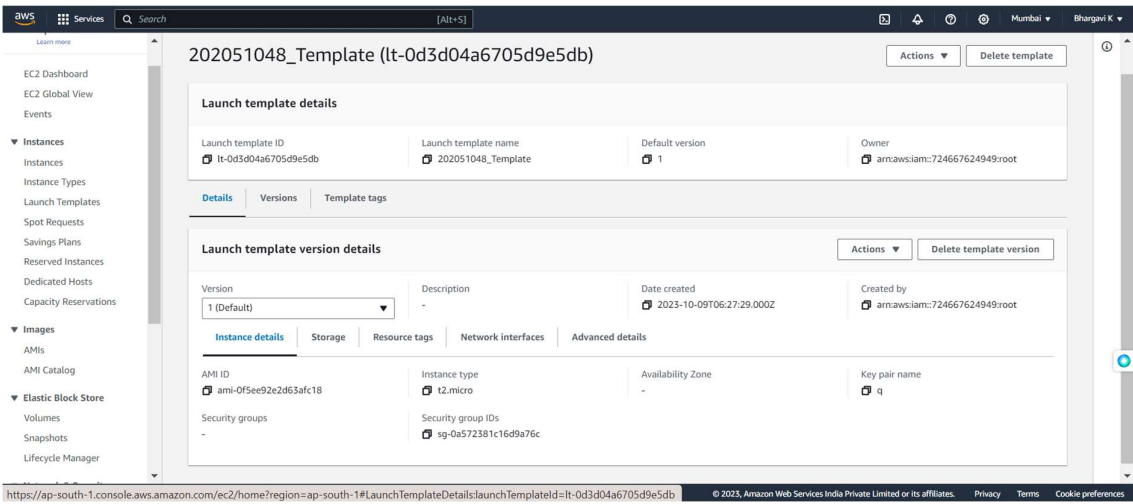
Hi this is Bhargavi 202051048. Page1



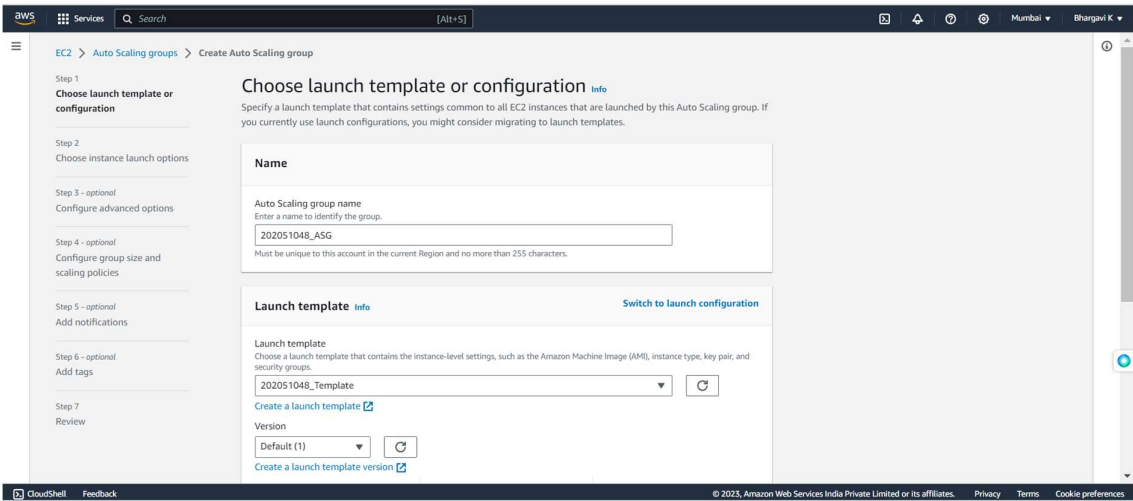
This is page 2

The created load balancer is working fine.

We then create a template which we can use:



We'll then create the auto scaling group:



Target Tracking Policy



Target tracking scaling

Enabled

As required to maintain Average CPU utilization at 2

Add or remove capacity units as required

300 seconds to warm up before including in metric

Enabled

Auto Scaling groups (1/1) info

Search your Auto Scaling groups

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
202051048_ASG	202051048_Template   Version Default	0	Updating capacity...	1	1	5	ap-south-1b, ap-south-1a

Auto Scaling group: 202051048\_ASG

Details | Activity | Automatic scaling | Instance management | Monitoring | Instance refresh

Group details

Auto Scaling group name 202051048_ASG	Desired capacity 1	Status Updating capacity	Amazon Resource Name (ARN) arn:aws:autoscaling:ap-south-1:724667624949:autoScalingGroup:b978934e-86cd-43a0-a6a6-e86559fa26cfa:autoScalingGroupName/202051048_ASG
Date created Mon Oct 09 2023 18:35:52 GMT+0530 (India Standard Time)	Minimum capacity 1		
	Maximum capacity 5		

Auto Scaling groups (1/1) info

Search your Auto Scaling groups

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	A...
202051048_ASG	202051048_Template   Version Default	2	-	2	1	5	ap-...

Auto Scaling group: 202051048\_ASG

Activity history (2)

Filter activity history

Status	Description	Cause	Start time	End time
Successful	Launching a new EC2 instance: i-08e8a3b530294cc67	At 2023-10-09T13:11:41Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-d213-4b1e-b824-78671aa3dbf6 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 1 to 2. At 2023-10-09T13:11:46Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 1 to 2.	2023 October 09, 06:41:47 PM +05:30	2023 October 09, 06:47:19 PM +05:30
Successful	Launching a new EC2 instance: i-0975789e1e821f25c	At 2023-10-09T13:05:52Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 1. At 2023-10-09T13:05:56Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 1.	2023 October 09, 06:35:58 PM +05:30	2023 October 09, 06:36:29 PM +05:30

We observed that when the utilization increased, a new instance was added, which is an example of scaling out.

Instances (9) info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
-	i-05c94e0506191903b	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
-	i-08e8a3b530294cc67	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1b	ec2-35-154-167-16.ap-...	35.154.167.16
-	i-09853439bb65fe8a4	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
-	i-0ec8e245ccb7292c6	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
202051048_E...	i-08f77d3f6678024be	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-15-206-171-55.ap-...	15.206.171.55
202051048_E...	i-061ac06b518bdfca9	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-233-75-95.ap-s...	13.233.75.95
-	i-04cc7fc09e127a2a7	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
-	i-0a1d43f049bb7881f	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
-	i-0975789e1e821f25c	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-3-109-4-155.ap-so...	3.109.4.155

Select an instance

Two new instances.

**Instances (12) Info**

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
-	i-05c94e0506191903b	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
-	i-08e8a3b530294cc67	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1b	ec2-35-154-167-16.ap-...	35.154.167.16
-	i-0255059d418630b11	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1b	ec2-13-233-192-60.ap-...	13.233.192.60
-	i-09853439bb65fe8a4	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
-	i-0ec8e245ccb7292c6	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
202051048_E...	i-08f77d3f6678024be	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-15-206-171-55.ap-...	15.206.171.55
202051048_E...	i-061ac06b518bdf6e9	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-233-75-95.ap-...	13.233.75.95
-	i-04ce7fc09e127a2a7	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
-	i-0a1d43f049bb7881f	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
-	i-08d1115bbfab58f37	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-235-134-42.ap-...	13.235.134.42
-	i-09280c6b4d1a00d61	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-126-24-164.ap-...	13.126.24.164
-	i-0975789e1e821f25c	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-3-109-4-155.ap-so...	3.109.4.155

Select an instance

Here we can observe that once the instances has reached the max capacity of 5.

Filter activity history

Status	Description	Cause
Successful	Launching a new EC2 instance: i-09280c6b4d1a00d61	At 2023-10-09T13:21:42Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-d213-4b1e-b824-78671aa3dbf6 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 2 to 5. At 2023-10-09T13:21:46Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 2 to 5.
Successful	Launching a new EC2 instance: i-08d1115bbfab58f37	At 2023-10-09T13:21:42Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-d213-4b1e-b824-78671aa3dbf6 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 2 to 5. At 2023-10-09T13:21:46Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 2 to 5.
Successful	Launching a new EC2 instance: i-0255059d418630b11	At 2023-10-09T13:21:42Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-d213-4b1e-b824-78671aa3dbf6 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 2 to 5. At 2023-10-09T13:21:46Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 2 to 5.
Successful	Launching a new EC2 instance: i-08e8a3b530294cc67	At 2023-10-09T13:11:41Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-d213-4b1e-b824-78671aa3dbf6 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 1 to 2. At 2023-10-09T13:11:46Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 1 to 2.
Successful	Launching a new EC2 instance: i-0975789e1e821f25c	At 2023-10-09T13:05:52Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 1. At 2023-10-09T13:05:56Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 1.

Status	Description	Cause
Successful	Terminating EC2 instance: i-0255059d418630b11	At 2023-10-09T13:36:06Z a monitor alarm TargetTracking-202051048_ASG-AlarmLow-d6f3c8c5-4253-431a-987e-0b69a9862fcd in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 2 to 1. At 2023-10-09T13:36:10Z an instance was taken out of service in response to a difference between desired and actual capacity, shrinking the capacity from 2 to 1. At 2023-10-09T13:36:10Z instance i-0255059d418630b11 was selected for termination.
Successful	Terminating EC2 instance: i-08d1115bbfab58f37	At 2023-10-09T13:35:06Z a monitor alarm TargetTracking-202051048_ASG-AlarmLow-d6f3c8c5-4253-431a-987e-0b69a9862fcd in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 3 to 2. At 2023-10-09T13:35:15Z an instance was taken out of service in response to a difference between desired and actual capacity, shrinking the capacity from 3 to 2. At 2023-10-09T13:35:15Z instance i-08d1115bbfab58f37 was selected for termination.
Successful	Terminating EC2 instance: i-08e8a3b530294cc67	At 2023-10-09T13:33:47Z a monitor alarm TargetTracking-202051048_ASG-AlarmLow-616516ae-59c5-4eff-8f84-5114acbd24c7 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 4 to 3. At 2023-10-09T13:33:58Z an instance was taken out of service in response to a difference between desired and actual capacity, shrinking the capacity from 4 to 3. At 2023-10-09T13:33:58Z instance i-08e8a3b530294cc67 was selected for termination.
Successful	Terminating EC2 instance: i-0975789e1e821f25c	At 2023-10-09T13:31:55Z a monitor alarm TargetTracking-202051048_ASG-AlarmLow-6fc2eea4-0ef4bef-89fe-d7caedc2694 in state ALARM triggered policy Target Tracking Policy changing the desired capacity from 5 to 4. At 2023-10-09T13:32:08Z an instance was taken out of service in response to a difference between desired and actual capacity, shrinking the capacity from 5 to 4. At 2023-10-09T13:32:08Z instance i-0975789e1e821f25c was selected for termination.
-	Launching a new EC2	At 2023-10-09T13:21:42Z a monitor alarm TargetTracking-202051048_ASG-AlarmHigh-dca2d7e1-

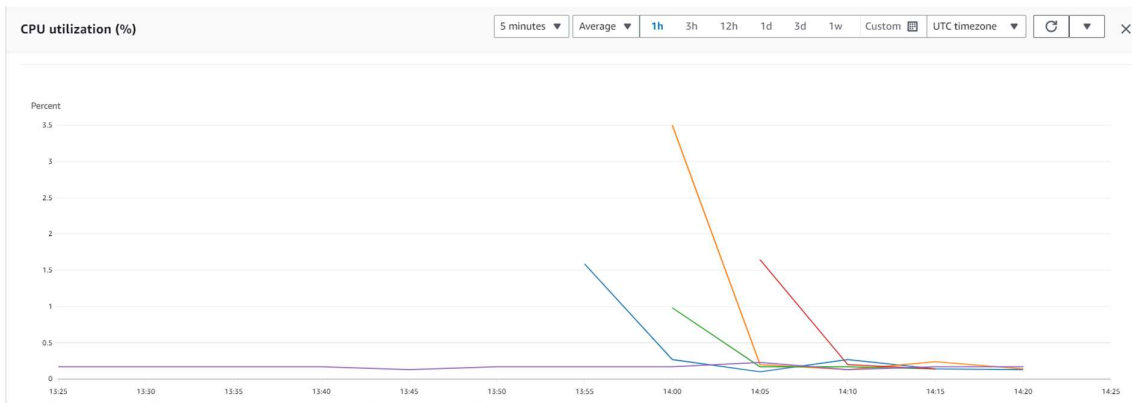
  

The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, and Lifecycle Manager. The main content area displays the 'Instances (7)' page with a search bar and a table of instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, and Public IPv4 address. The instances listed are:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 address
-	i-08e8a3b530294cc67	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
-	i-0255059d418630b11	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
202051048_E...	i-08f77d3f6678024be	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-15-206-171-55.ap-...	15.206.171.55
202051048_E...	i-061ac06b518bdfca9	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-233-75-95.ap-...	13.233.75.95
-	i-08d1115bbfab58f37	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
-	i-09280c6b4d1a00d61	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a	ec2-13-126-24-164.ap-...	13.126.24.164
-	i-0975789e1e821f25c	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-

A 'Select an instance' dialog box is open at the bottom of the console, with a search bar and a close button.

Once the load was reduced, the instances were terminated automatically. This is an example of scaling in.



For demonstration purposes the target scaling utilization was kept 0.5% so that the results can be seen.