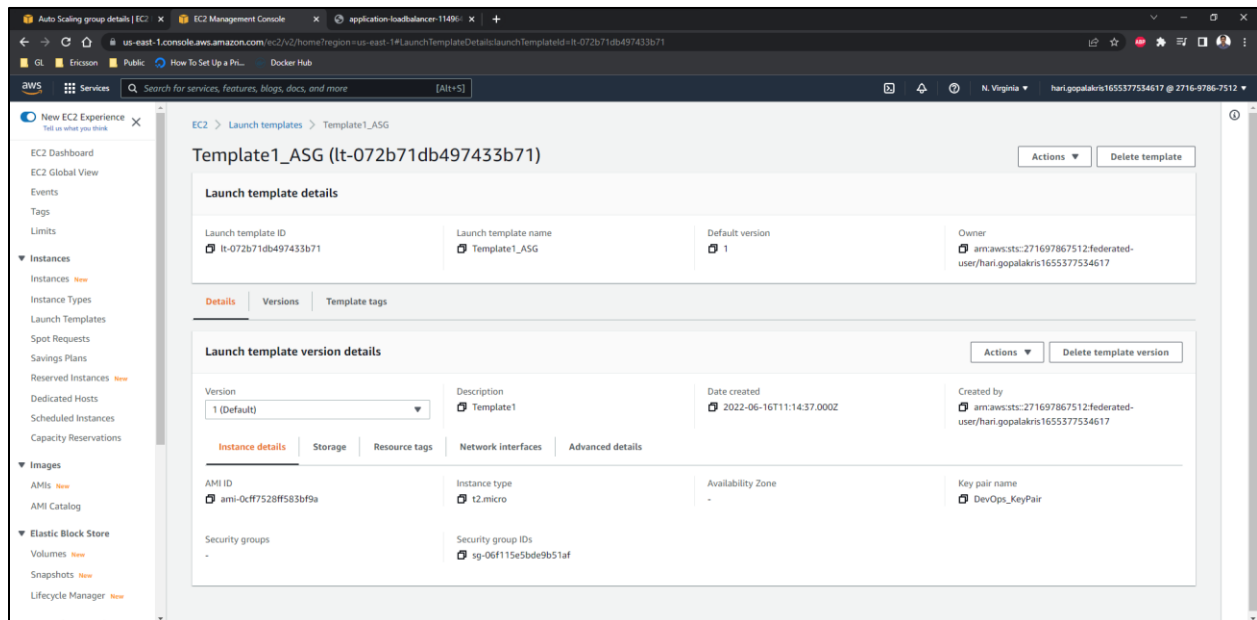


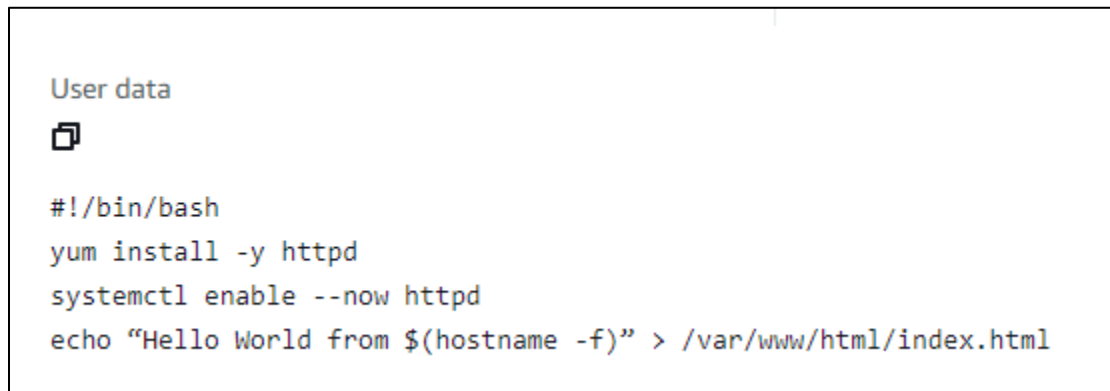
## Assignment 4 :: Configure Autoscaling with 60% threshold CPU utilization metrics

### Step 1 :: Create a template to launch instances automatically



Note: I have added a bash script to create an instance with pre-installed http and print its fqdn. (Need to add in “Advance Details” Tab)

```
#!/bin/bash
yum install -y httpd
systemctl enable --now httpd
echo "Hello World from $(hostname -f)" > /var/www/html/index.html
```



### Step 2 :: Select the VPC and Subnets required



Step 3 :: Attach the existing Load Balancer or create a new Load Balancer and attach the same here. I have attached the existing one.

Load balancing		Edit
Load balancer target groups <a href="#">Target-group-1</a>	Classic Load Balancers -	

Step 4 :: Set the desired Group Size. I have set

Desired Capacity – 1

Minimum Capacity – 1

Maximum Capacity – 5

Group details		Edit
Desired capacity 1	Auto Scaling group name Assignment-4-ASG	
Minimum capacity 1	Date created Thu Jun 16 2022 16:52:30 GMT+0530 (India Standard Time)	
Maximum capacity 5	Amazon Resource Name (ARN) arn:aws:autoscaling:us-east-1:271697867512:autoScalingGroup:26eaa777-7787-4fcc-b9a3-eea05aba81e8:autoScalingGroupName/Assignment-4-ASG	

Step 5 :: Skip the remaining and submit. We will get the ASG as below

The screenshot shows the AWS Management Console interface. The left sidebar contains navigation links for various AWS services. The main content area displays the 'Auto Scaling groups' page. A table lists the 'Assignment-4-ASG' group with its details. Below the table, the 'Group details' section provides more information about the group, including its capacity settings and ARN. The 'Launch template' section is also visible at the bottom.

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
Assignment-4-ASG	Template1_ASG   Version Default	5	Updating capacity	1	1	5	us-east-1a, us-east-1b, us-east-1c, us-east...

**Group details**

Desired capacity 1	Auto Scaling group name Assignment-4-ASG
Minimum capacity 1	Date created Thu Jun 16 2022 16:52:30 GMT+0530 (India Standard Time)
Maximum capacity 5	Amazon Resource Name (ARN) arn:aws:autoscaling:us-east-1:271697867512:autoScalingGroup:26eaa777-7787-4fcc-b9a3-eea05aba81e8:autoScalingGroupName/Assignment-4-ASG

**Launch template**

Step 6 :: Click on the Automatic Scaling tab and create policies as below

### Dynamic scaling policies (1) [Info](#)

#### Target Tracking Policy

Policy type:  
Target tracking scaling

Enabled or disabled?  
Enabled

Execute policy when:  
As required to maintain Average CPU utilization at 60

Take the action:  
Add or remove capacity units as required

Instances need:  
60 seconds to warm up before including in metric

Scale in:  
Enabled

### Predictive scaling policies (1) [Info](#)

CPU

Scaling

☒ Scale based on forecast

Capacity metric

-

Metric pair

CPU utilization

Load metric

-

Scaling metric

-

Target utilization

60

Pre-launch instances

1 minute

Override maximum capacity

No

2d

1w

2w

4w

6w

8w

No data to show

Forecasts are run once every 24 hours.

No data to show

Forecasts are run once every 24 hours.

Result :

EC2 > Target groups

Target groups (1/1) Info

Search or filter target groups

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input checked="" type="checkbox"/>	Target-group-1	arn:aws:elasticloadbalancing:us-east-1:271697867512:targetgroup/Target-group-1/c05b8b8b1409e524	80	HTTP	Instance	Application-LoadBalancer	vpc-6fc80712

Target group: Target-group-1

Details

arn:aws:elasticloadbalancing:us-east-1:271697867512:targetgroup/Target-group-1/c05b8b8b1409e524

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-6fc80712
IP address type IPv4	Load balancer Application-LoadBalancer		

Total targets	Healthy	Unhealthy	Unused	Initial	Draining
1	1	0	0	0	0

Instances (1/1) Info

Search

Instance state: **running** Clear filters

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic
<input checked="" type="checkbox"/>	-	i-032d1fee8939de691	Running	t2.micro	2/2 checks passed	No alarms	us-east-1e	ec2-35-153-50-55.com...	35.153.50.55	-

Instance: i-032d1fee8939de691

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

▼ Instance summary Info

Instance ID i-032d1fee8939de691	Public IPv4 address 35.153.50.55   open address	Private IPv4 addresses 172.31.61.130
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-35-153-50-55.compute-1.amazonaws.com   open address
Hostname type IP name: ip-172-31-61-130.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-61-130.ec2.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations.   Learn more
Auto-assigned IP address 35.153.50.55 [Public IP]	VPC ID vpc-6fc80712	

## Increasing the CPU Utilization

# yes > /dev/null & → Run in terminal to increase the CPU utilization

It automatically created a new instance and added to Target Group as well

Instances (2) [Info](#)

Search

Instance state: **running** Clear filters

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elast
<input type="checkbox"/>	-	i-032d1fee8939de691	Running	t2.micro	2/2 checks passed	No alarms +	us-east-1e	ec2-35-153-50-55.com...	35.153.50.55	-
<input type="checkbox"/>	-	i-0941941527cc97929	Running	t2.micro	Initializing	No alarms +	us-east-1f	ec2-34-204-171-149.co...	34.204.171.149	-

EC2 > Target groups

Target groups (1/1) [Info](#)

Search or filter target groups

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input checked="" type="checkbox"/>	Target-group-1	arn:aws:elasticloadbalancing...	80	HTTP	Instance	Application-LoadBalancer	vpc-6fc80712

Target group: Target-group-1

Details **Targets** Monitoring Health checks Attributes Tags

Registered targets (2)

Filter resources by property or value

<input type="checkbox"/>	Instance ID	Name	Port	Zone	Health status	Health status details
<input type="checkbox"/>	i-032d1fee8939de691		80	us-east-1e	healthy	
<input type="checkbox"/>	i-0941941527cc97929		80	us-east-1f	initial	Target registration is in progress

Auto Scaling groups | EC2 Manag... x | Instances | EC2 Management Co... x | EC2 Management Console x | application-loadbalancer-114964 x +

Not secure | application-loadbalancer-1149646694.us-east-1.elb.amazonaws.com

GL Ericsson Public How To Set Up a Pri... Docker Hub

"Hello World from ip-172-31-13-4.ec2.internal"

application-loadbalancer-114964 x +

Not secure | application-loadbalancer-1149646694.us-east-1.elb.amazonaws.com

GL Ericsson Public How To Set Up a Pri... Docker Hub

"Hello World from ip-172-31-71-239.ec2.internal"