Auto Scaling
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Auto Scaling helps you ensure that you have the correct number of
EC2 instances available
to handle the load for your application.
You create collections of EC2 instances, called Auto Scaling groups.

You can specify the minimum number of instances and the maximum
number of instances in Auto Scaling group, and Amazon EC2 Auto
Scaling ensures that your group never goes above this size.

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Step 1: Create Launch Template
Step 2: Create Topic in SNS (Simple Notification Service)
Step 3: Create Auto scaling group.
Step 4: Create Alarm in CloudWatch
Step 5: Add Policy in Auto Scaling

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Step 1:
Creating launch templates

EC2 left side menu
Select Launch Templates ---> Create launch templates

Name: Demo-LC

Select " My AMI "

Step 2: t2 micro

In advanced Details   User data


```
#!/bin/bash
sudo su
yum update -y
yum install httpd -y
cd /var/www/html
echo "Welcome to the AWS " > index.html
systemctl start httpd
systemctl enable httpd
```

Next --> Select existing security group : web-sg

Create new key pair -- Key Pair name - new-singapore -- download key pair --> create launch configuration.

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Step 3: Create Topic in SNS

Services -- Application Integration -- Simple Notification Service

Create Topic

Type - Standard

Name - MyTopic1
Display Name - MyTopic1

Create topic.

Add subscriptions to the topic

Create Subscription
Protocol - Email

Endpoint - abc@gmail.com

Create Subscription.

Confirm the subscription (open email and confirm email)

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Step 4: Create Auto Scaling Group

Select the Launch template ---> Next --- In Network option kindly select all AZs (bcoz of HA)
 --- Load balancing (No load balancer or attach load balancer -----next ---- Group size (desired-1, Min-1, Max-4) ---- No scaling policies ---- Next ---- SNS notification optional ----next ---- tags optional --- next ---- review ---- create ASG

As the desired capacity is 1, Minimum -1 & Max 4 , By this time Four EC2 Machine could have been created.

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Step 5: Create Alarm in CloudWatch

Services ---- Management & Governance --- CloudWatch

Alarm ——— Create Alarm

Select Metric ———> EC2 ——— By Auto Scaling Group ———— Select Auto
Scaling Group Name , Metric Name — CPUUtilization
—— Select Metric ———Conditions ——— Static —— Greater than equals
60 —— Next ———Select existing SNS topic (demo) —— Next ———
Alarm Name — Alarm-out —— Next —— Create Alarm.

Similarly Create another Alarm for CPU Utilization <30
Name — Alarm-in

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Step 6: Add Policy in Auto Scaling

Select AutoScaling groups —— Automatic Scaling Tab ——— Add Policy

Policy Type — Simple Scaling
Scaling policy name —— Increase_Policy
CloudWatch Alarm — Alarm-out

Take the Action — Add — 1 Unit (EC2 Machine)

Create

Similary, we need to create another Decrease Policy

Scaling policy name —— Decrease_Policy
CloudWatch Alarm — Alarm-in

Take the Action — Remove — 1 Unit (EC2 Machine)

Create

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Create one python file and copy-paste code which is available in
google classroom.
After creation run the file and monitor CPU utilisation, once its
reach to mentioned criteria ASG will add server and removing
servers.

Deleting process
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1) Delete Autoscaling
2) Delele launch templates (Instances will be terminated
automatically)
3) Delete Load balancer
4) Delete SNS Topic
5) Delete CloudWatch Alarm
6) Delete AMI (from My AMI option)
7) Snapshot also delete