# AWS Auto Scaling Groups – Basics

## Requirements

Zero EC2 instances running.

## Objectives

A. Create a scaling group for web servers with the following properties:

- Amazon Linux 2 AMI
- t2.micro as the instance type
- user data:

    - yum install -y httpd
    - systemctl start httpd
    - systemctl enable httpd

B. Were new instances created since you created the auto scaling group? How many? Why?

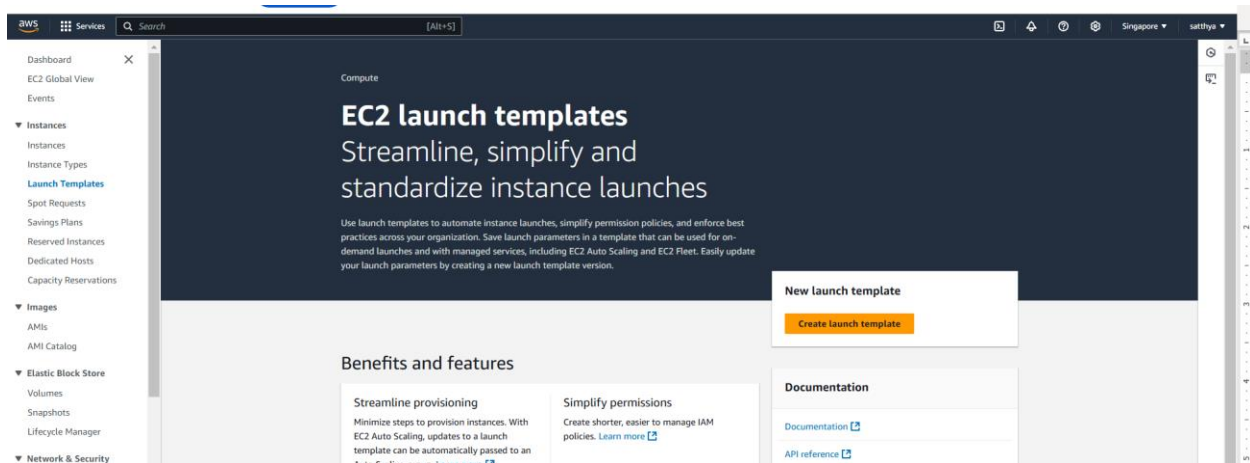C. Change desired capacity to 2. Did it launch more instances?

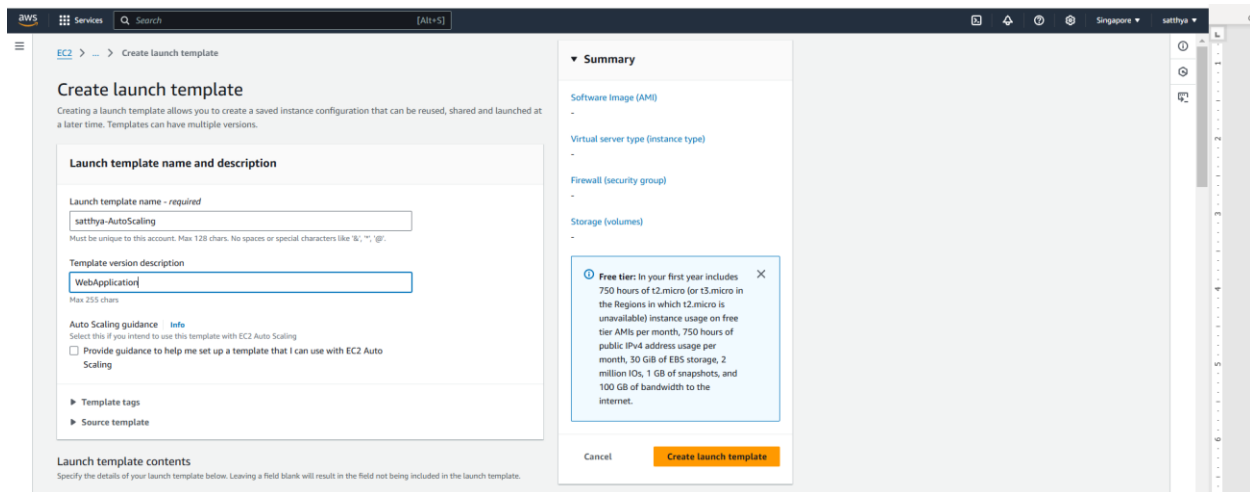D. Change back the desired capacity to 1. What is the result of this action?

# Solution

# Question(A)

## ✓ Create template.

- Go to EC2 service.
- Click on Launch Templates



- Create Launch Templates and fill up the templates.

## ▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

🔍 *Search our full catalog including 1000s of application and OS images*

**Recents** | **Quick Start**

| Don't include in launch template | Amazon Linux aws | macOS Mac | Ubuntu ubuntu® | Windows ■ Microsoft | Red H Red | 🔍 **Browse more AMIs** Including AMIs from AWS, Marketplace and the Community |

**Amazon Machine Image (AMI)**

| Amazon Linux 2023 AMI | Free tier eligible |
| ami-07c9c7aaab42cba5a (64-bit (x86), uefi-preferred) / ami-06aa85a9a4db826fe (64-bit (Arm), uefi) | ▼ |
| Virtualization: hvm    ENA enabled: true    Root device type: ebs | |

**Description**

Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Amazon Linux 2023 AMI 2023.6.20241111.0 x86_64 HVM kernel-6.1

| Architecture | Boot mode | AMI ID | Username ⓘ | |
|---|---|---|---|---|
| 64-bit (x86) ▼ | uefi-preferred | ami-07c9c7aaab42cba5a | ec2-user | Verified provider |

## ▼ Instance type  Info | Get advice                                      Advanced

**Instance type**

| t2.micro | Free tier eligible |
|---|---|
| Family: t2    1 vCPU    1 GiB Memory    Current generation: true | |
| On-Demand Ubuntu Pro base pricing: 0.0164 USD per Hour | |
| On-Demand Linux base pricing: 0.0146 USD per Hour | |
| On-Demand Windows base pricing: 0.0192 USD per Hour | |
| On-Demand RHEL base pricing: 0.029 USD per Hour | |
| On-Demand SUSE base pricing: 0.0146 USD per Hour | ▼ |

⬤ All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

## ▼ Key pair (login)  Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

**Key pair name**

| Demo | ▼ |
|---|---|

↻ Create new key pair

## ▼ Network settings  Info

**Subnet** | Info

| subnet-0509b9524002b4fad | |
|---|---|
| VPC: vpc-014ccf5a14583eefe    Owner: 396913698392 | |
| Availability Zone: ap-southeast-1b    Zone type: Availability Zone | |
| IP addresses available: 4086    CIDR: 172.31.16.0/20 | ▼ |

↻ Create new subnet 🔗

When you specify a subnet, a network interface is automatically added to your template.

**Firewall (security groups)** | Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

| ⦿ Select existing security group | ◯ Create security group |
|---|---|

**Common security groups** | Info

| Select security groups | ▼ |
|---|---|

| default   sg-09eccaa2f47883fe5   ✕ |
|---|
| VPC: vpc-014ccf5a14583eefe |

↻ Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▶ Advanced network configuration

**▼ Storage (volumes)** Info

**EBS Volumes**                                           Hide details

▶ Volume 1 (AMI Root) (8 GiB, EBS, General purpose SSD (gp3))
  AMI Volumes are not included in the template unless modified

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage   ✕

**Add new volume**

- Advance details key in user data
- Create the template.

**User data - *optional*** | Info
Upload a file with your user data or enter it in the field.

⤒ **Choose file**

```
yum install -y httpd
systemctl start httpd
systemctl enable httpd
```

☐ User data has already been base64 encoded

## ✓ Create Auto Scaling

- Create Auto Scaling
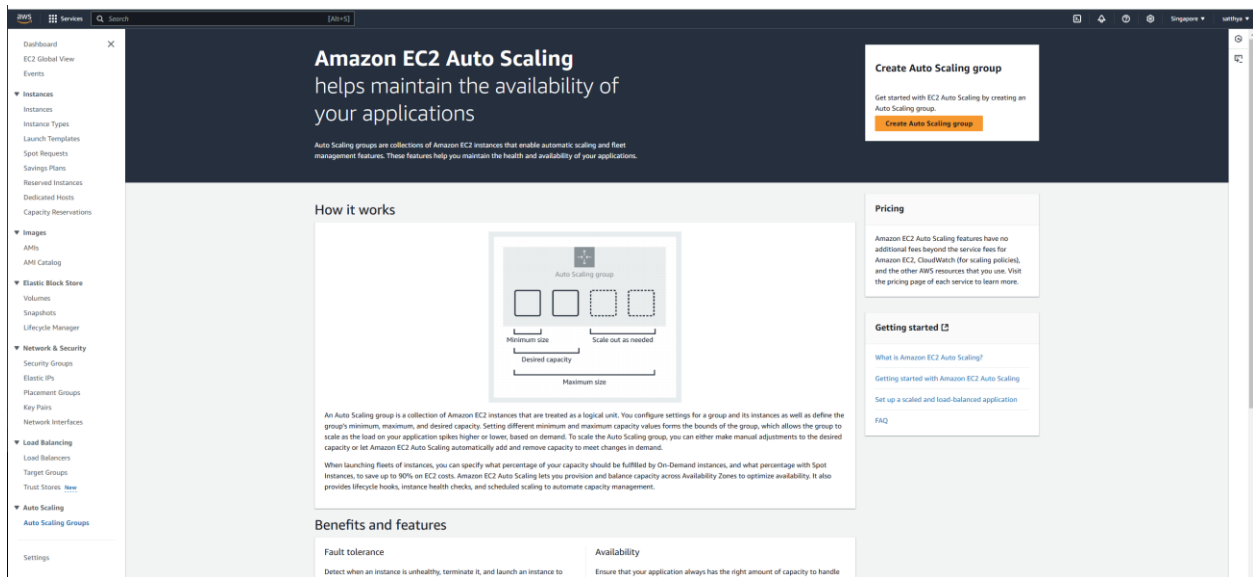


- Select the template and click next.
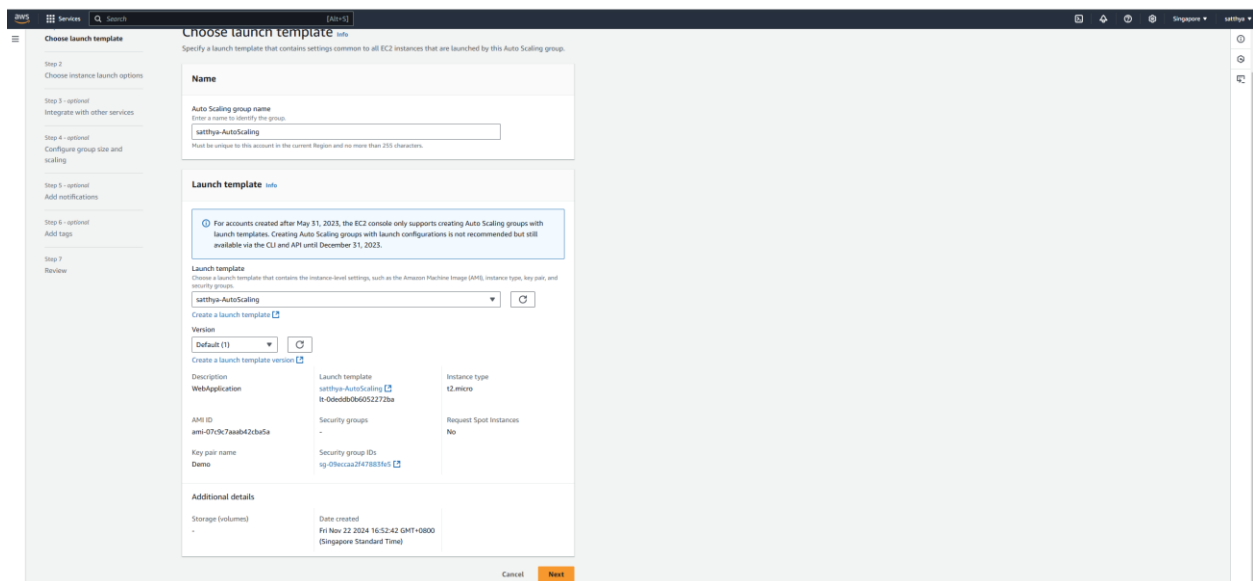
- Choose in which AZs to launch and click on "Next"



- Attached it with load balance

- Set group size and scaling



- Final step : review and create



# Question(B)



Were new instances created since you created the auto scaling group? How many? Why?

🔹 Answer : No instances created. Because we set the desire Capacity to 0
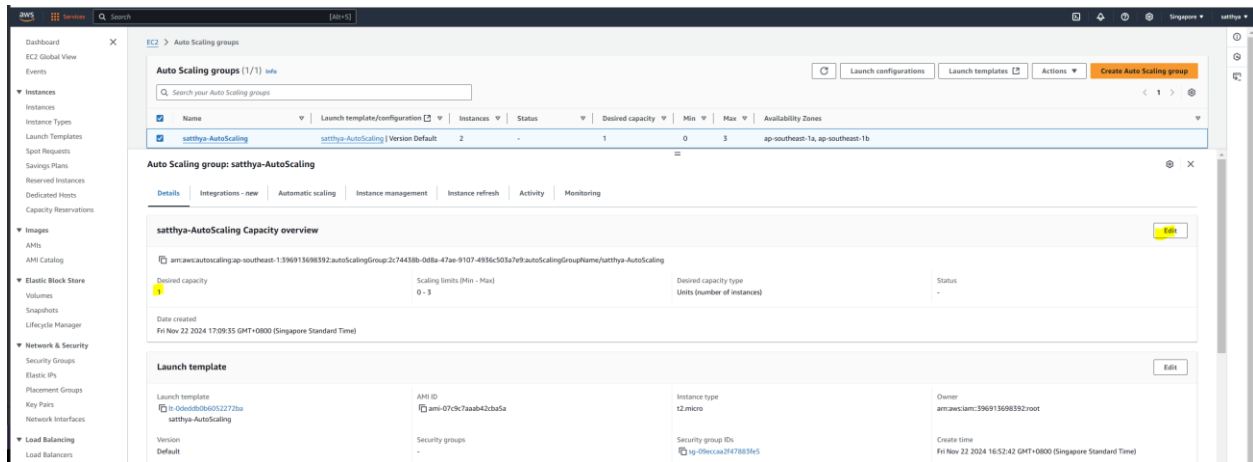
# Question(C)

Change desired capacity to 2. Did it launch more instances?
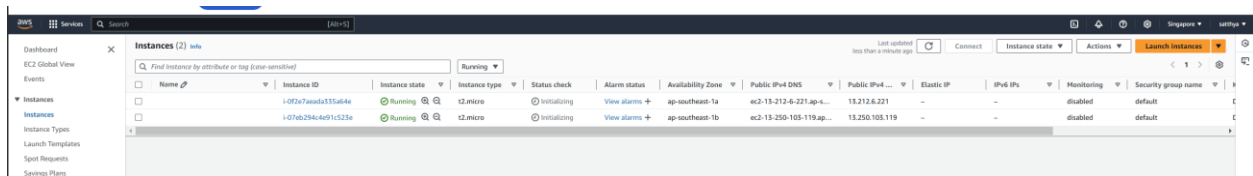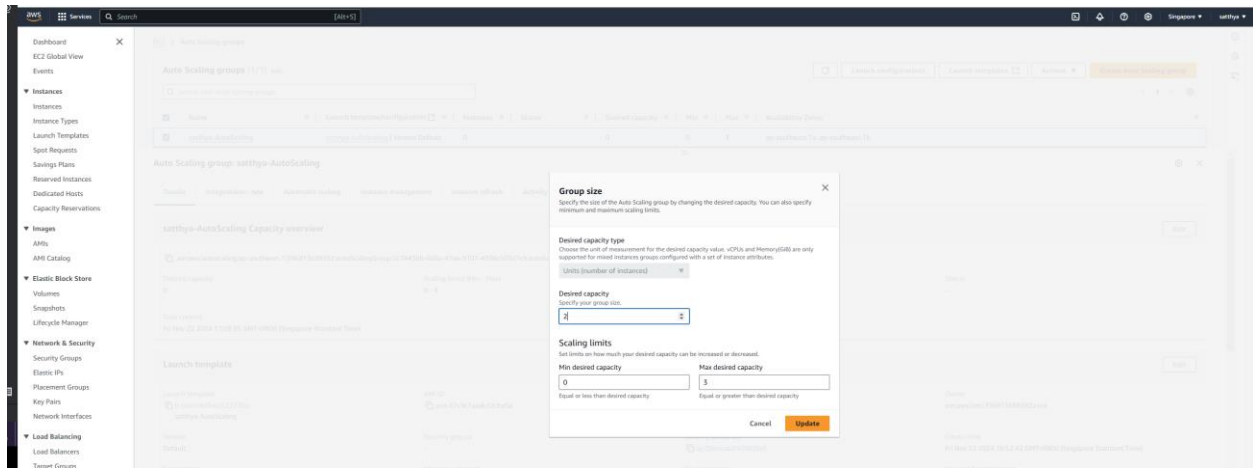




Answer :- It launch 2 instances. Because desired capacity was increase to 2

# Question(D)

Change back the desired capacity to 1. What is the result of this action?





🔆 Answer :-It will terminate and run only one instances. Because desired capacity was change to 1.
   o note:- if instance not terminate immediately, please check the cool down period