

# Autoscaling Groups

## [Practical 06]

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**Batch:** CCF1

### Problem Statement

Set up an Auto Scaling Group (ASG) in AWS that automatically adjusts the number of EC2 instances to maintain optimal performance based on CPU usage, ensuring high availability and cost efficiency.

### Step1 : Create a Launch Template

Template name: mytemplate-1

The screenshot displays the AWS Management Console interface for creating a new launch template. The main section, titled 'Create launch template', provides instructions and input fields. The 'Launch template name and description' section contains a text box for the name, which is 'mytemplate-1', and a note stating it must be unique to the account. Below this is a 'Template version description' field with the text 'A prod webserver for MyApp'. An 'Auto Scaling guidance' section offers an option to provide guidance for EC2 Auto Scaling, which is currently unchecked. On the right, a 'Summary' section lists the configuration details: Software Image (AMI), Virtual server type (instance type), Firewall (security group), and Storage (volumes). A 'Free tier' notification is also present, indicating that the first year of usage for certain instance types is free. At the bottom right, there are 'Cancel' and 'Create launch template' buttons.

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### Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

#### Launch template name and description

Launch template name - *required*

mytemplate-1

Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '/', '@'.

Template version description

A prod webserver for MyApp

Max 255 chars

Auto Scaling guidance [Info](#)

Select this if you intend to use this template with EC2 Auto Scaling

☐ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

► Template tags

► Source template

#### Summary

Software Image (AMI)

-

Virtual server type (instance type)

-

Firewall (security group)

-

Storage (volumes)

-

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB

Cancel Create launch template

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Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years or 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 2023.6.20241031.0 x86\_64 HVM kernel-6.1

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-063d43db0594b521b

Username

ec2-user

Verified provider

Instance type

Info

Get advice

Advanced

Instance type

t2.micro

Family: t2 - 1 vCPU - 1 GiB Memory - Current generation: true

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.0134 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand RHEL base pricing: 0.026 USD per Hour

On-Demand Linux base pricing: 0.0116 USD per Hour

Free tier eligible

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

Key pair (login)

Info

Summary

Software Image (AMI)

Amazon Linux 2023 AMI 2023.6.2...read more

ami-063d43db0594b521b

Virtual server type (instance type)

t2.micro

Firewall (security group)

-

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB

Cancel

Create launch template

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Allow tags in metadata

Info

Don't include in launch template

User data - optional

Info

Upload a file with your user data or enter it in the field.

Choose file

```
#!/bin/bash
apt-get update
apt-get install nginx -y
service nginx start
echo "this is ${hostname}"> /var/www/html/index.html
```

☐ User data has already been base64 encoded

Summary

Software Image (AMI)

Amazon Linux 2023 AMI 2023.6.2...read more

ami-063d43db0594b521b

Virtual server type (instance type)

t2.micro

Firewall (security group)

-

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB

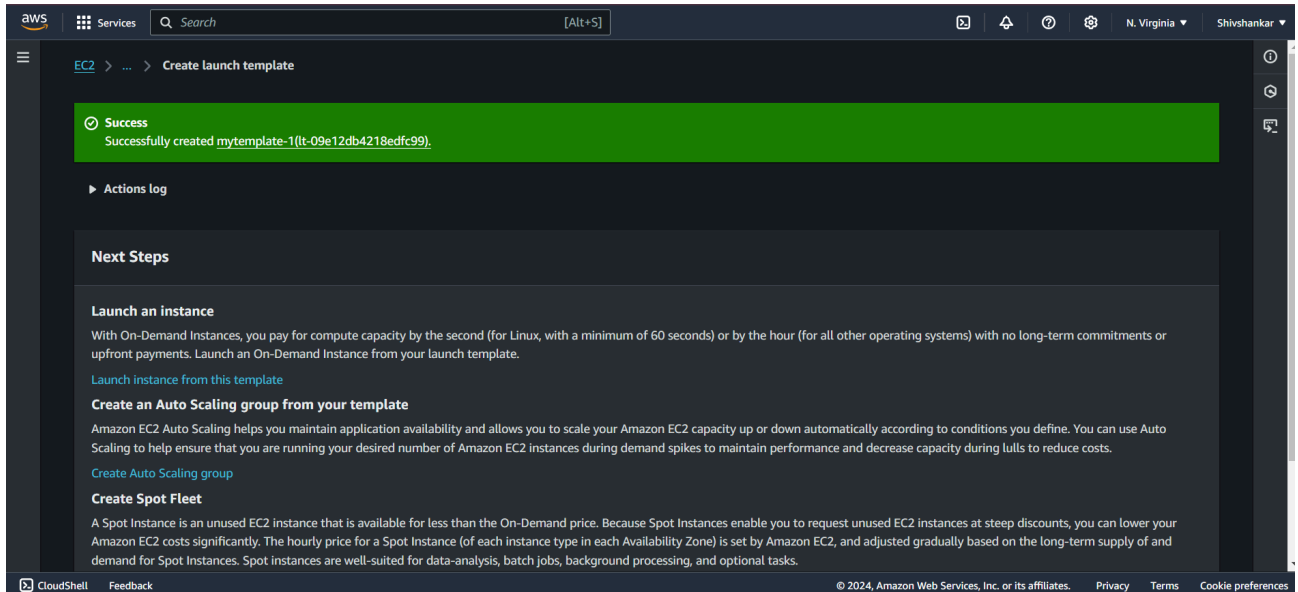
Cancel

Create launch template

CloudShell

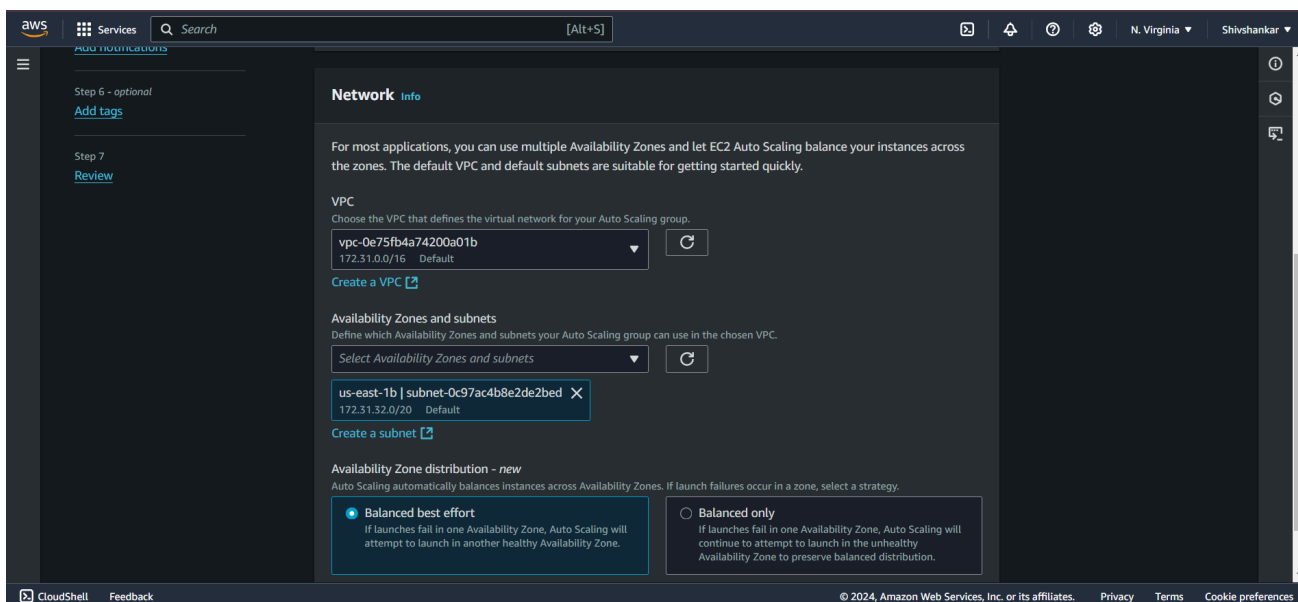
Feedback

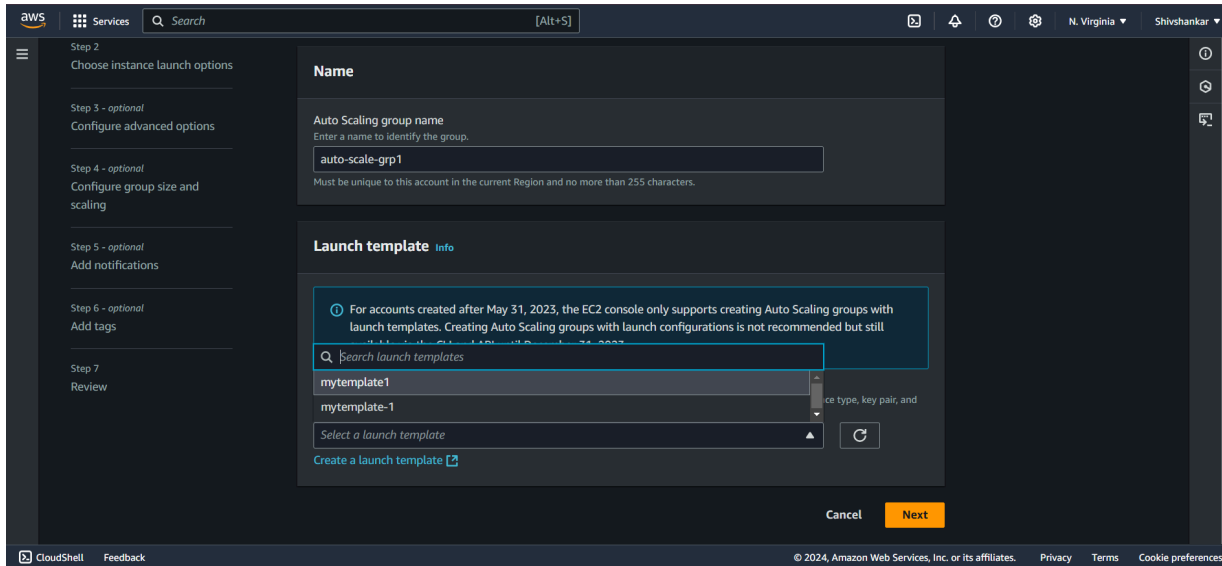
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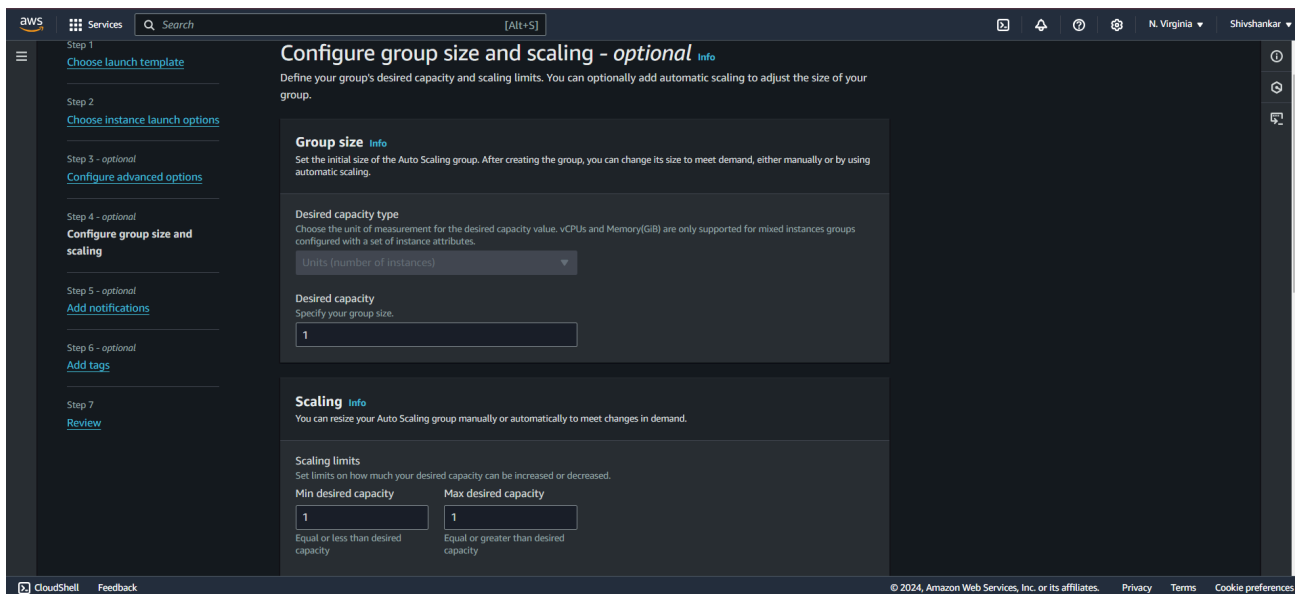
## Step2 : Create a auto scaling group with a required settings

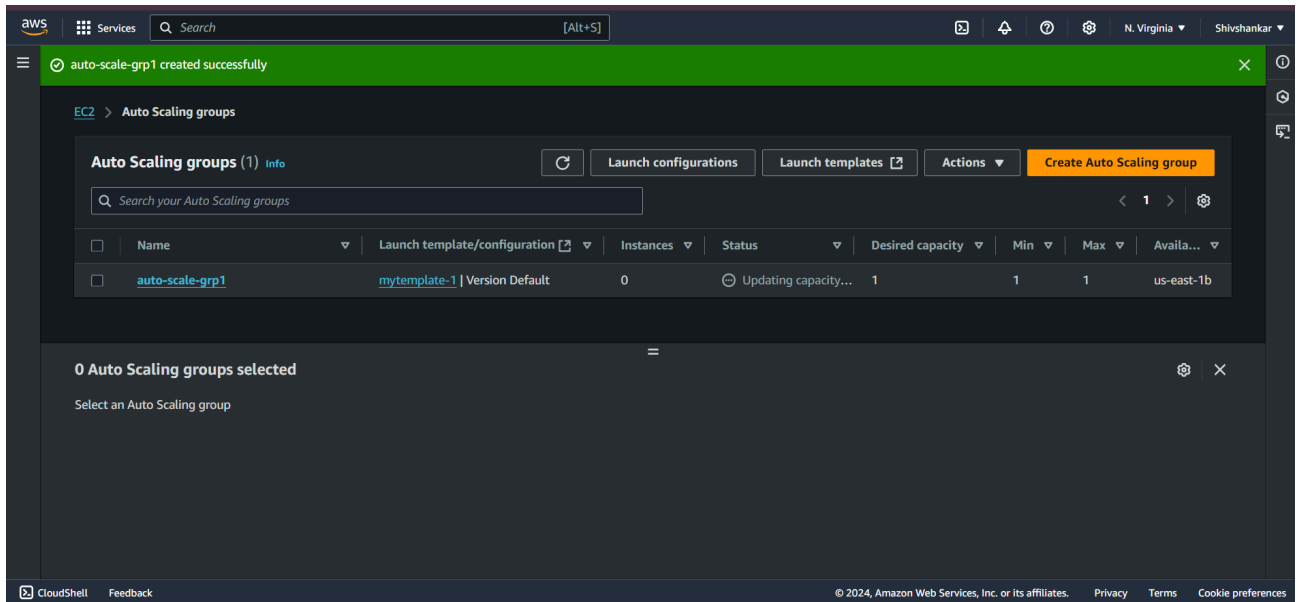
- Group name: auto-scale-grp1
- Choose template : mytemplate-1
- VPC
- Availability zone & Subnet





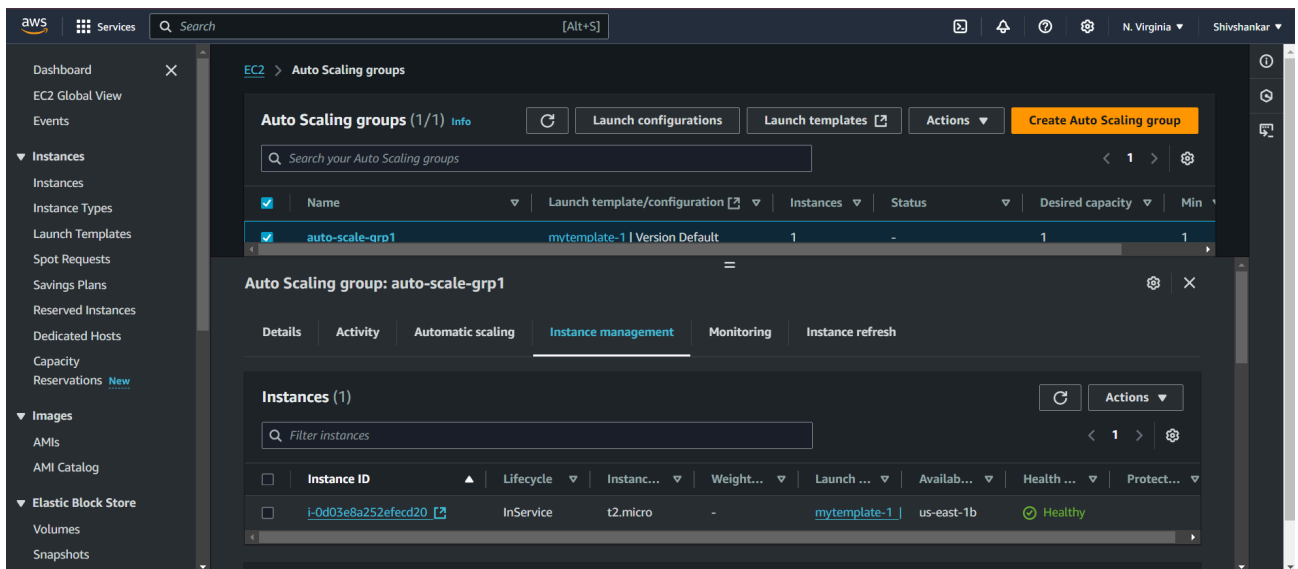
→ At starting we will keep desired capacity as 1





### Step 3: Test the Auto Scaling Group

- This is the instance running having autoscaling grp with max desired capacity 1.
- Running instance is healthy



→ If we terminate instance then automatically new instance will be created.

The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation links for Dashboard, EC2 Global View, Events, and various instance-related services. The main content area displays a table of instances. The instance 'i-0fd96303db39b17f5' is selected, and the 'Actions' dropdown menu is open, showing options like 'Stop instance', 'Start instance', 'Reboot instance', 'Hibernate instance', and 'Terminate (delete) instance'. The 'Launch instances' button is visible in the top right corner.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
	i-04c2690dc2ca4cf7c	Terminated	t1.micro	-	View alarms +	us-east-1a	-
	i-0dddae09755681005	Terminated	t1.micro	-	View alarms +	us-east-1a	-
	i-07b03011690a6ff56	Terminated	t1.micro	-	View alarms +	us-east-1a	-
	i-0d03e8a252efecd20	Terminated	t2.micro	-	View alarms +	us-east-1b	-
<input checked="" type="checkbox"/>	i-0fd96303db39b17f5	Running	t2.micro	Initializing	View alarms +	us-east-1b	ec2-98-...

The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation links for Dashboard, EC2 Global View, Events, and various instance-related services. The main content area displays a table of instances. The instance 'i-051d3a6b4e83f2f7c' is selected, and the 'Monitoring' tab is active, showing CPU utilization, network in/out, and network packets in/out. The 'Alarm recommendations' section is visible at the bottom.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
	i-04c2690dc2ca4cf7c	Terminated	t1.micro	-	View alarms +	us-east-1a	-
	i-0dddae09755681005	Terminated	t1.micro	-	View alarms +	us-east-1a	-
	i-07b03011690a6ff56	Terminated	t1.micro	-	View alarms +	us-east-1a	-
<input checked="" type="checkbox"/>	i-051d3a6b4e83f2f7c	Running	t2.micro	Initializing	View alarms +	us-east-1b	ec2-3-8...
	i-0d03e8a252efecd20	Terminated	t2.micro	-	View alarms +	us-east-1b	-
<input checked="" type="checkbox"/>	i-0fd96303db39b17f5	Terminated	t2.micro	-	View alarms +	us-east-1b	-

→ If we change the desired capacity then instance number will be increased.

The screenshot shows the AWS Management Console interface for editing an Auto Scaling group named 'auto-scale-grp1'. The 'Group size' section is active, allowing users to specify the size of the Auto Scaling group. The 'Desired capacity type' is set to 'Units (number of instances)'. The 'Desired capacity' is currently set to 2. The 'Scaling limits' section shows a 'Min desired capacity' of 1 and a 'Max desired capacity' of 3. The interface includes a sidebar with navigation options like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, and Reservations. The top bar shows the AWS logo, search bar, and user information.

The screenshot shows the AWS Management Console interface for viewing instances. The 'Instances (3/3)' page is displayed, showing a table of three running instances. The table columns include Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IP. The instances are all in a 'Running' state and have a 't1.micro' instance type. Below the table, the 'Monitoring' section is visible, showing '3 instances selected' and a 'Configure CloudWatch agent' button. The interface includes a sidebar with navigation options like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, and Reservations. The top bar shows the AWS logo, search bar, and user information.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
i-04c2690dc2ca4cf7c	i-04c2690dc2ca4cf7c	Running	t1.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-
i-0dddae09755681005	i-0dddae09755681005	Running	t1.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-34-
i-07b03011690a6ff56	i-07b03011690a6ff56	Running	t1.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-34-

