

Amazon EC2 Autoscaling using Management console and CLI

1. Using Console

Create a launch template

The screenshot shows the 'Create launch template' page in the AWS Management Console. The page is divided into two main sections: 'Launch template name and description' and 'Summary'.

Launch template name and description:

- Launch template name - required:** A text input field containing 'my-asg-template-01'. Below it, a note states: 'Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '!', '!', or '@'.'
- Template version description:** A text input field containing 'A prod webserver for MyApp'. Below it, a note states: 'Max 255 chars'.
- Auto Scaling guidance:** A section with a link to 'Info'. It contains a checkbox labeled 'Provide guidance to help me set up a template that I can use with EC2 Auto Scaling', which is currently checked.
- Template tags:** A section with a link to 'Info'.
- Source template:** A section with a link to 'Info'.

Summary:

- Software Image (AMI):** Amazon Linux 2023 AMI 2023.3.2...read more. Below it, the AMI ID 'ami-0e9107ed11be76fde' is displayed.
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** launch-wizard
- Storage (volumes):** 1 volume(s) - 8 GiB

At the bottom of the 'Summary' section, there are two buttons: 'Cancel' and 'Create launch template'.

This screenshot shows the 'Create launch template' page in the AWS Management Console, specifically the 'User data' section. The page is divided into two main sections: 'User data' and 'Summary'.

User data - optional:

- Metadata response hop limit:** A dropdown menu set to '2'. Below it, a link to 'Info' is visible.
- Allow tags in metadata:** A dropdown menu set to 'Don't include in launch template'. Below it, a link to 'Info' is visible.
- User data - optional:** A section with a link to 'Info'. It contains a text area for user data. Below it, a note states: 'Upload a file with your user data or enter it in the field.' and a 'Choose file' button.
- User data:** A text area containing the following script:

```
#!/bin/bash
#Use this for your user data (script from top to bottom)
#install httpd (Linux 2 version)
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo "ch1>Hello World from $(hostname -f)</h1>" >/var/www/html/index.html
```
- User data has already been base64 encoded:** A checkbox that is currently unchecked.

Summary:

- Software Image (AMI):** Amazon Linux 2023 AMI 2023.3.2...read more. Below it, the AMI ID 'ami-0e9107ed11be76fde' is displayed.
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** launch-wizard
- Storage (volumes):** 1 volume(s) - 8 GiB

At the bottom of the 'Summary' section, there are two buttons: 'Cancel' and 'Create launch template'.

Create ASG

Step 2

[Choose instance launch options](#)

Step 3 - optional

[Configure advanced options](#)

Step 4 - optional

[Configure group size and scaling](#)

Step 5 - optional

[Add notifications](#)

Step 6 - optional

[Add tags](#)

Step 7

Review

Step 1: Choose launch template

Group details

Auto Scaling group name

my-asg-01

Launch template

Launch template

my-asg-template-01

Version

Default

Description

lt-06768334ebff659f9

Step 2: Choose instance launch options

Network

Network

VPC

vpc-0c385c0b1841ace44

Availability Zone

Subnet

us-east-1a

subnet-0fad2474da3cf2e91

172.31.32.0/20

us-east-1b

subnet-0a00ed50d58ed6229

172.31.0.0/20

us-east-1c

subnet-0b9e073b0c7ec4ecb

172.31.80.0/20

us-east-1d

subnet-01f1641f653a0d197

172.31.16.0/20

us-east-1e

subnet-0479c9a620838327a

172.31.48.0/20

us-east-1f

subnet-0de50db3aa54d7851

172.31.64.0/20

Step 3: Configure advanced options

Load balancing

Load balancer 1

Name

my-alb-01

Type

Application/HTTP

Target group

tg-alb-01

VPC Lattice integration options

VPC Lattice target groups

-

Health checks

Health check type

EC2

Health check grace period

300 seconds

Additional settings

Monitoring

Disabled

Default instance warmup

Disabled

Step 4: Configure group size and scaling policies

Group size

Automatically increasing the instance to the desired capacity after termination of instance.

The screenshot shows the AWS Activity History page with a filter for 'Instance Types'. The table below represents the data visible in the 'Activity history (6)' section.

Status	Description	Cause	Start time	End time
Successful	Launching a new EC2 instance: i-036199ab07ded8d78	At 2024-01-22T13:42:48Z an instance was launched in response to an unhealthy instance needing to be replaced.	2024 January 22, 07:12:50 PM +05:30	2024 January 22, 07:13:22 PM +05:30
Connection draining in progress	Terminating EC2 instance: i-09c9511f900d9d042 - Waiting For ELB Connection Draining.	At 2024-01-22T13:42:48Z an instance was taken out of service in response to an EC2 health check indicating it has been terminated or stopped.	2024 January 22, 07:12:48 PM +05:30	
Successful	Launching a new EC2 instance: i-0a29c145d75324d14	At 2024-01-22T13:38:45Z an instance was launched in response to an unhealthy instance needing to be replaced.	2024 January 22, 07:08:47 PM +05:30	2024 January 22, 07:09:19 PM +05:30
Connection draining in progress	Terminating EC2 instance: i-0ba00100fe887e7e5 - Waiting For ELB Connection Draining.	At 2024-01-22T13:38:45Z an instance was taken out of service in response to an EC2 health check indicating it has been terminated or stopped.	2024 January 22, 07:08:45 PM +05:30	
Successful	Launching a new EC2 instance: i-09c9511f900d9d042	At 2024-01-22T13:30:33Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 2. At 2024-01-22T13:30:45Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 2.	2024 January 22, 07:00:47 PM +05:30	2024 January 22, 07:01:19 PM +05:30
Successful	Launching a new EC2 instance: i-0ba00100fe887e7e5	At 2024-01-22T13:30:33Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 2. At 2024-01-22T13:30:45Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 2.	2024 January 22, 07:00:47 PM +05:30	2024 January 22, 07:01:19 PM +05:30

2. Using CLI

Launched an ASG using launch template with min. size 1, max. size 5 and desired capacity 2 in VPC which contains 6 different subnets.

```
C:\Users\rohan>aws autoscaling create-auto-scaling-group --auto-scaling-group-name my-asg-01 --launch-template LaunchTemplateId=lt-06768334ebff659f9 --min-size 1 --max-size 5 --desired-capacity 2 --vpc-zone-identifier "subnet-0479c9a620838327a,subnet-01f1641f653a0d197,subnet-0fad2474da3cf2e91,subnet-0de50db3aa54d7851,subnet-0b9e073b0c7ec4ecb,subnet-0a00ed50d58ed6229"
```

The screenshot shows the 'Auto Scaling groups' page in the AWS console. Below the table of groups, the details for 'my-asg-01' are displayed.

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
my-asg-01	my-asg-template-01 Version Default	2	-	2	1	5	us-east-1a, us-east-1b, us-east-1c, u...

Auto Scaling group: my-asg-01			
Auto Scaling group name my-asg-01	Desired capacity 2	Desired capacity type Units (number of instances)	Amazon Resource Name (ARN) arn:aws:autoscaling:us-east-1:139017485331:autoScalingGroup:88f79b5-5935-4ea0-b535-7937a29639e6:autoScalingGroupName/my-asg-01
Date created Tue Jan 23 2024 14:17:50 GMT+05:30 (India Standard Time)	Minimum capacity 1	Status -	
	Maximum capacity 5		

Launch template			
Launch template lt-06768334ebff659f9 my-asg-template-01	AMI ID ami-0e9107ed11be76fde	Instance type t2.micro	Owner arn:aws:iam:139017485331:root

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Services

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Activity history (4)

Filter activity history

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Status	Description	Cause	Start time	End time
Successful	Launching a new EC2 instance: i-0b83634609c7b12e2	At 2024-01-23T08:56:02Z an instance was launched in response to an unhealthy instance needing to be replaced.	2024 January 23, 02:26:03 PM +05:30	2024 January 23, 02:26:35 PM +05:30
Successful	Terminating EC2 instance: i-015850e6b3c838b5d	At 2024-01-23T08:56:01Z an instance was taken out of service in response to an EC2 health check indicating it has been terminated or stopped.	2024 January 23, 02:26:01 PM +05:30	2024 January 23, 02:26:03 PM +05:30
Successful	Launching a new EC2 instance: i-015850e6b3c838b5d	At 2024-01-23T08:47:50Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 2. At 2024-01-23T08:47:55Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 2.	2024 January 23, 02:17:57 PM +05:30	2024 January 23, 02:18:28 PM +05:30
Successful	Launching a new EC2 instance: i-06c1e8f143d555254	At 2024-01-23T08:47:50Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 2. At 2024-01-23T08:47:55Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 2.	2024 January 23, 02:17:57 PM +05:30	2024 January 23, 02:18:58 PM +05:30