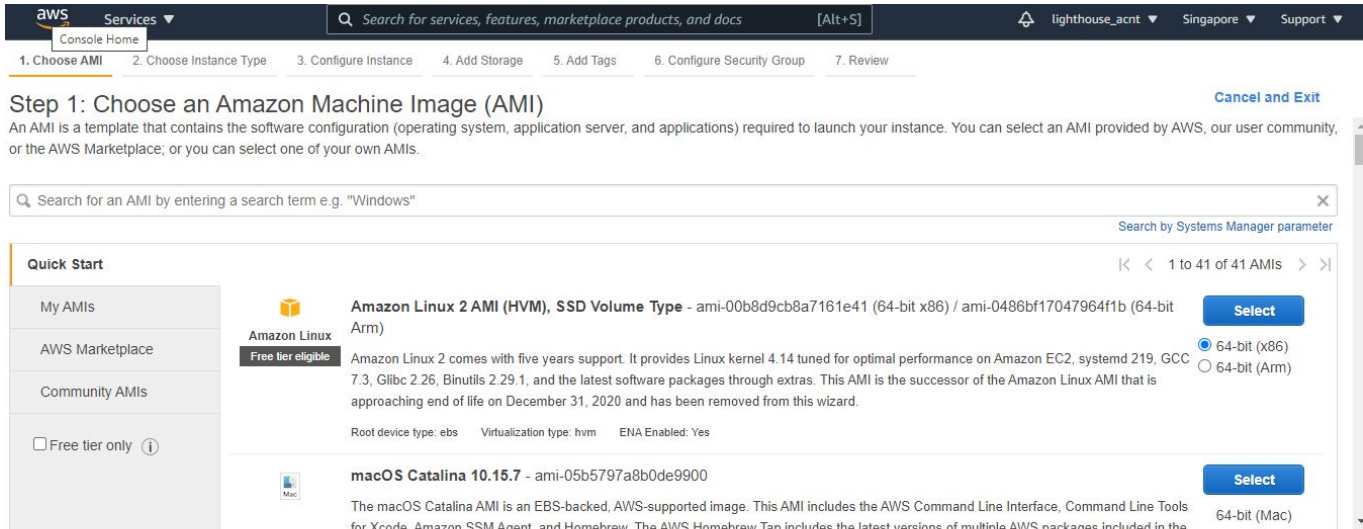


Week 2 Lab

Launch EC2 with the user data to configure httpd

Step 1: Go to the Launch page in the console after selecting the region. Select Amazon Linux 2 AMI



Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows"

Search by Systems Manager parameter

1 to 41 of 41 AMIs

Quick Start

- My AMIs
- AWS Marketplace
- Community AMIs
- ☐ Free tier only

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-00b8d9cb8a7161e41 (64-bit x86) / ami-0486bf17047964f1b (64-bit Arm)

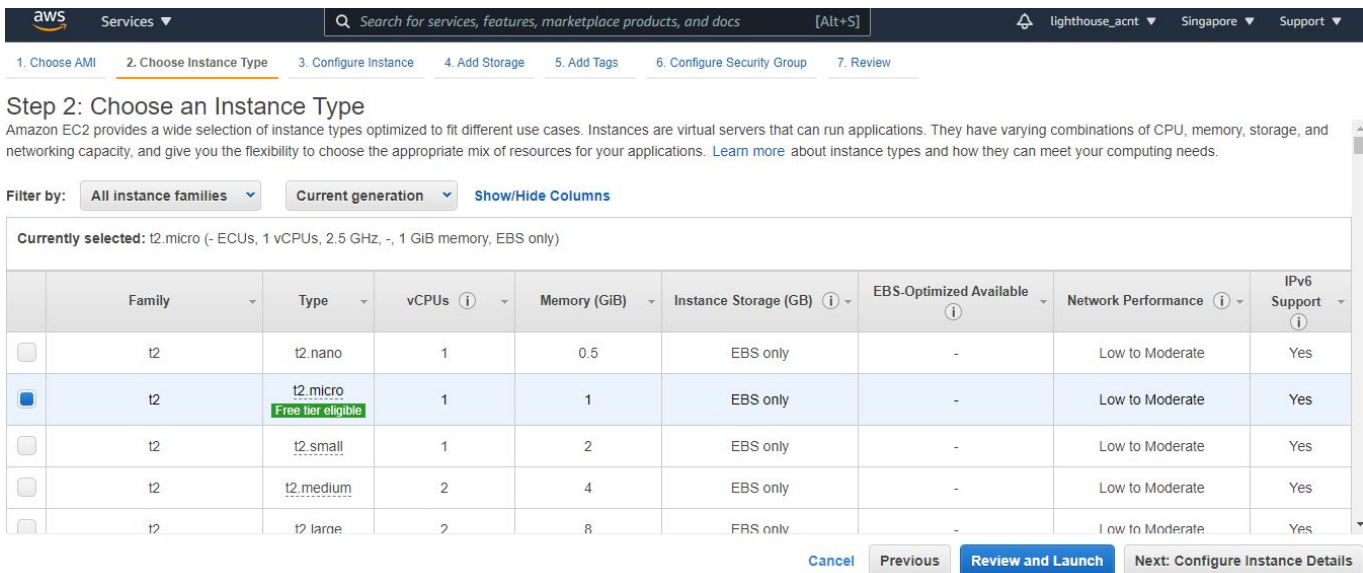
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

macOS Catalina 10.15.7 - ami-05b5797a8b0de9900

The macOS Catalina AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the

Step 2: Use the free tier instance type



Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance families Current generation Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

PG Program in Cloud Computing

Step 3: Use the default VPC and change the subnet to **1a**. Add the user data. Remaining can be left as default.

Copy the user data line by line(avoid unwanted spaces in between)

```
#!/bin/bash
```

```
yum update -y
```

```
yum install httpd -y
```

```
service httpd start
```

```
chkconfig httpd on
```

```
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
```

```
echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html
```

```
echo "ok" > /var/www/html/health.html
```

Step 3: Configure Instance Details

Purchasing option *i* ☐ Request Spot Instances

Network *i* vpc-8bb953ed (default) [Create new VPC](#)

Subnet *i* subnet-fa17c89c | Default in ap-southeast-1a [Create new subnet](#)
4091 IP Addresses available

Auto-assign Public IP *i* Use subnet setting (Enable)

Placement group *i* ☐ Add instance to placement group

Capacity Reservation *i* Open

Domain join directory *i* No directory [Create new directory](#)

IAM role *i* None [Create new IAM role](#)

CPU options *i* ☐ Specify CPU options

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Step 3: Configure Instance Details

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs
eth0	New network interface	subnet-b2dc4bec	Auto-assign	Add IP	Add IP

[Add Device](#)

▼ Advanced Details

Enclave *i* ☐ Enable

Metadata accessible *i* Enabled

Metadata version *i* V1 and V2 (token optional)

Metadata token response hop limit *i* 1

User data *i* ☒ As text ☐ As file ☐ Input is already base64 encoded

```

yum update -y
yum install httpd -y
service httpd start
chkconfig httpd on
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html
echo "ok" > /var/www/html/health.html
  
```

[Add IP](#)

Step 4: Default EBS volume of 8GiB is sufficient.

aws

Services ▾

Search for services, features, marketplace products, and docs [Alt+S]

lighthouse_acnt ▾

Singapore ▾

Support ▾

1. Choose AMI

2. Choose Instance Type

3. Configure Instance

4. Add Storage

5. Add Tags

6. Configure Security Group

7. Review

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encryption ⓘ
Root	/dev/sda1	snap-0e99f1c66c03daf7c	8	General Purpose SSD (gp2) ▾	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt ▾

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Cancel

Previous

Review and Launch

Next: Add Tags

Step 5: Add the name tag for server identification

1. Choose AMI

2. Choose Instance Type

3. Configure Instance

4. Add Storage

5. Add Tags

6. Configure Security Group

7. Review

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances ⓘ	Volumes ⓘ
Name	Manual with userdata	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Step 6: By default a security group is created with port 22 open to the public. Add HTTP port 80 to the public.

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group

☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

Add Rule

Step 7: Review the configuration - Click Launch->Proceed without a key pair, since the need to ssh is not required

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to any step.

Improve your instances' security. Your security group may be accessible from any IP address. You can also open additional ports in your security group.

Free Tier usage information You've used all of your free Linux instance hours for this Region. Use the [AWS Support List of EC2 Resources and Limits](#) to learn more.

AMI Details
Amazon Linux 2 AMI (HVM), SSD Volume Type
Free tier eligible
Amazon Linux 2 comes with five years support. It provides the latest software packages through extras. This AMI is the latest version of Amazon Linux 2.

Instance Type
Instance Type: t3.micro
CPU: 2 vCPUs
Memory: 1 GB
Instance Storage: 31 GB
EBS Optimized: Available
Network Performance: 10 Gbps

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

☒ I acknowledge that I will not be able to connect to this instance unless I already know the password built into this AMI.

Cancel Launch Instances

Cancel Previous Launch

Instances (1/1) Info

Filter instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Manual with userdata	i-0471f5e27222cfd99	Running	t2.micro	2/2 checks ...	1 alarm...	us-east-1a

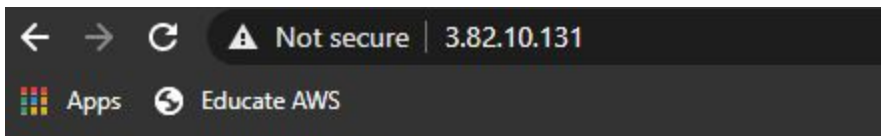
Instance: i-0471f5e27222cfd99 (Manual with userdata)

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

Instance summary Info

Instance ID i-0471f5e27222cfd99 (Manual with userdata)	Public IPv4 address 3.82.10.131 open address	Private IPv4 addresses 172.31.39.102
Instance state Running	Public IPv4 DNS ec2-3-82-10-131.compute-1.amazonaws.com open address	Private IPv4 DNS ip-172-31-39-102.ec2.internal
Instance type t2.micro	Elastic IP addresses	VPC ID

Use the ec2 public IP on the browser tab to view the index.html page which we configured thru the user data.



Manual instance with IP 3.82.10.131

The above line on the web page is from the following input in the user data
 echo "Manual instance with IP \$IP_ADDR" > /var/www/html/index.html

Load Balancer creation:

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 1: Configure Load Balancer

Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify multiple Availability Zones to increase the availability of your load balancer.

VPC ⓘ	vpc-3a66c147 (172.31.0.0/16) (default) ↓	
Availability Zones	<input checked="" type="checkbox"/> us-east-1a	subnet-b2dc4bed ↓
	IPv4 address ⓘ	Assigned by AWS
	<input checked="" type="checkbox"/> us-east-1b	subnet-1a7ff47c ↓
	IPv4 address ⓘ	Assigned by AWS
	<input checked="" type="checkbox"/> us-east-1c	subnet-dae677fb ↓
	IPv4 address ⓘ	Assigned by AWS
	<input checked="" type="checkbox"/> us-east-1d	subnet-74421839 ↓
	IPv4 address ⓘ	Assigned by AWS
	<input checked="" type="checkbox"/> us-east-1e	subnet-37cb1506 ↓

Configure a new security group with only 80 port open.

Configure health.html to health check parameter:

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 4: Configure Routing

Your load balancer routes requests to the targets in this target group using the protocol and port that you specify, and performs health checks on the targets us apply to all of the listeners configured on this load balancer; you can edit the listeners and add listeners after the load balancer is created.

Target group

Target group	<input type="text" value="New target group"/>
Name	<input type="text" value="autoscalinggrp"/>
Target type	<input checked="" type="radio"/> Instance <input type="radio"/> IP <input type="radio"/> Lambda function
Protocol	<input type="text" value="HTTP"/>
Port	<input type="text" value="80"/>
Protocol version	<input checked="" type="radio"/> HTTP1 Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2. <input type="radio"/> HTTP2 Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available. <input type="radio"/> gRPC

 Services ▼

[Alt+S]

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 4: Configure Routing

- Protocol version
- ☒ HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.
 - ☐ HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.
 - ☐ gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

Health checks

Protocol	<input type="text" value="HTTP"/>
Path	<input type="text" value="/health.html"/>

▼ Advanced health check settings

Port	<input checked="" type="radio"/> traffic port <input type="radio"/> override
Healthy threshold	<input type="text" value="5"/>
Unhealthy threshold	<input type="text" value="2"/>
Timeout	<input type="text" value="5"/> seconds
Interval	<input type="text" value="30"/> seconds
Success codes	<input type="text" value="200"/>

Register the 'manual with userdata' as target:

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 5: Register Targets

checks.

Registered targets

To deregister instances, select one or more registered instances and then click Remove.

<input type="checkbox"/>	Instance	Name	Port	State	Security groups	Zone
<input type="checkbox"/>	i-0471f5e27222cfd99	Manual with userdata	80	running	launch-wizard-1	us-east-1a

Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specific different port.

Add to registered

on port

80

Q Search Instances

X

<input type="checkbox"/>	Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR
<input checked="" type="checkbox"/>	i-0471f5e27222cfd99	Manual with userdata	<div>●</div> running	launch-wizard-1	us-east-1a	subnet-b2dc4bed	172.31.32.0/20

Launch the Load balancer. Wait for the load balancer to be provisioned.

Capacity Reservations

▼ Images

AMIs

▼ Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

▼ Network & Security

Security Groups New

Elastic IPs New

Placement Groups

Key Pairs

Network Interfaces New

▼ Load Balancing

Load Balancers

Target Groups New

▼ Auto Scaling

Launch Configurations

Auto Scaling Groups

Create Load Balancer

Actions

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones	Type
<input checked="" type="checkbox"/>	Testing-autoscaling	Testing-autoscaling-6531195...	active	vpc-3a06c147	us-east-1b, us-east-1f, ...	application

Load balancer: Testing-autoscaling

Description

Listeners

Monitoring

Integrated services

Tags

Basic Configuration

Name	Testing-autoscaling
ARN	arn:aws:elasticloadbalancing:us-east-1:306007885508:loadbalancer/app/Testing-autoscaling/f03f116b6439b390
DNS name	Testing-autoscaling-653119531.us-east-1.elb.amazonaws.com (A Record)
State	active
Type	application
Scheme	internet-facing
IP address type	ipv4

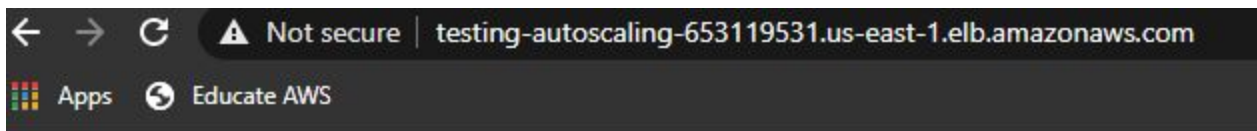
Edit IP address type

Check the Target group and the health status of the manual EC2 server we added.

The screenshot shows the AWS Management Console interface for an autoscaling group named 'autoscalinggrp'. The left sidebar contains navigation links for various AWS services, including Capacity Reservations, Images, Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The main content area displays the 'autoscalinggrp' configuration page, which includes a 'Basic configuration' section with details on target type, protocol, VPC, and load balancer. Below this, the 'Registered targets' section shows a table with one target instance.

Instance ID	Name	Port	Zone	Status	Status details
i-0471f5e27222cfd99	Manual with userdata	80	us-east-1a	healthy	

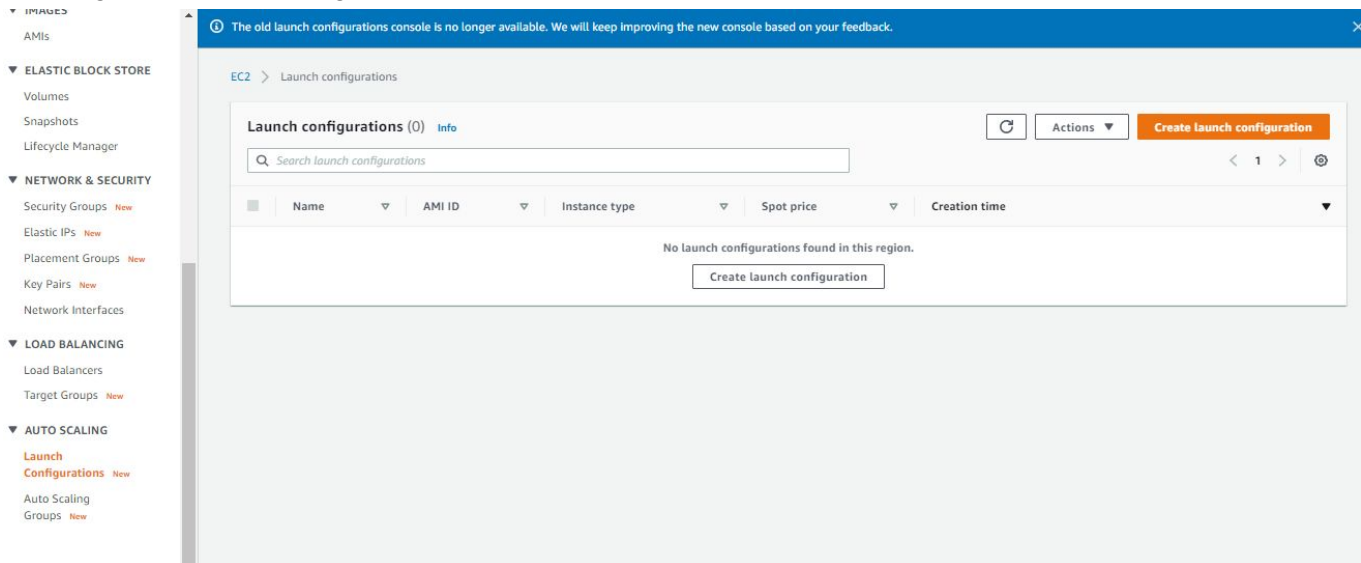
Use the DNS name of the load balancer and refresh the page. We should be able to see the same web page from our manual server.



Manual instance with IP 3.82.10.131

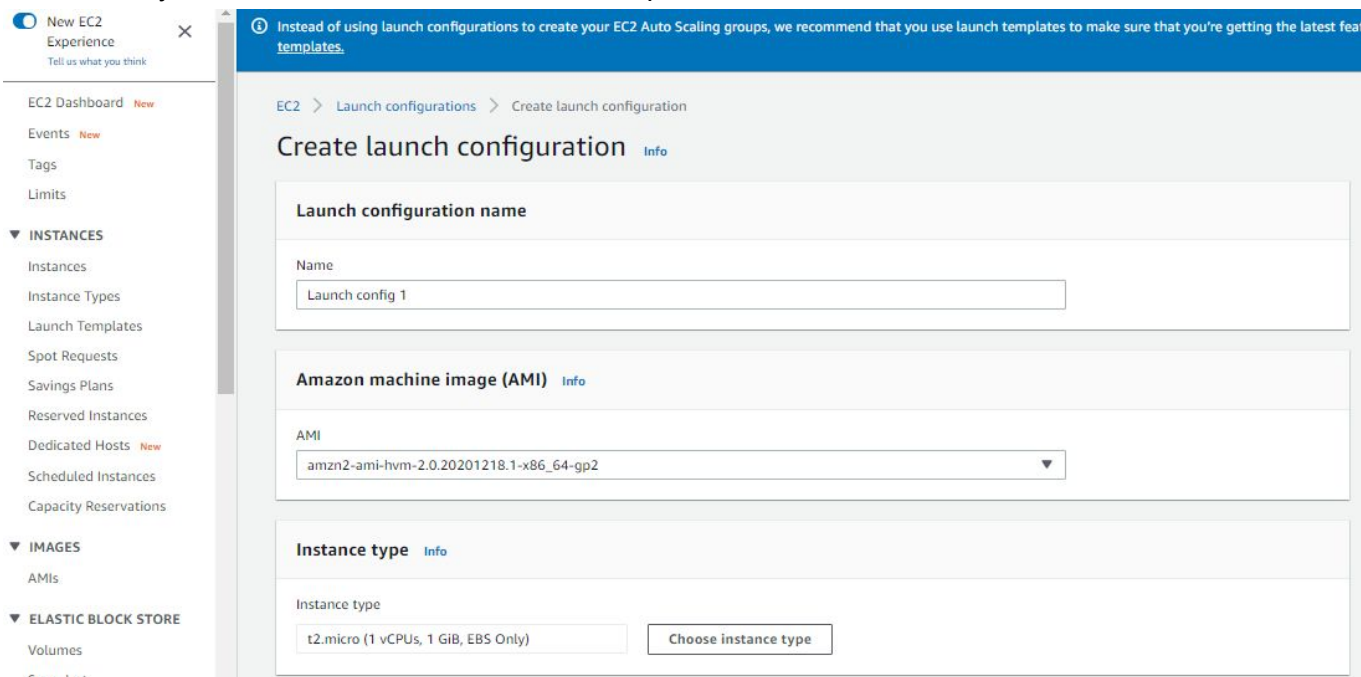
Launching a Autoscaling EC2

Creating the Launch configuration



Use the AMI ID from the already launched instance to map the AMI ID faster, else the search for AMI might take up more time.

Also carefully choose t2 micro instances to save up credits for later.



Under Additional configuration - optional
add the user data as input

New EC2 Experience

EC2 Dashboard

Events

Tags

Limits

INSTANCES

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Scheduled Instances

Capacity Reservations

IMAGES

AMIs

ELASTIC BLOCK STORE

Volumes

Don't include in launch configuration

Metadata version

Don't include in launch configuration

Metadata response hop limit

Don't include in launch configuration

User data

☒ As text

☐ As file

```
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
echo "Autoscale instance with IP $IP_ADDR" > /var/www/html/index.html
echo "ok" > /var/www/html/health.html
```

☐ Input is already base64 encoded

IP address type

☒ Only assign a public IP address to instances launched in a subnet with auto-assign public IP enabled (default)

☐ Assign a public IP address to every instance.

☐ Do not assign a public IP address to any instances.

Note: this option only affects instances launched into an Amazon VPC

Later, if you want to use a different launch configuration, you can create a new one and apply it to any Auto Scaling group. Existing launch configurations cannot be edited.

Storage (volumes)

EBS volumes

☐

Volume type

Devices

Snapshot

Size (GiB)

Volume type

Root

/dev/xvda

snap-019159f1e06f32720

8

General purpose (SSD)

+ Add new volume

Free tier eligible customers can get up to 30 GB of EBS storage. [Learn more about free usage tier eligibility and usage restrictions.](#)

Security groups

Assign a security group

☒ Create a new security group

☐ Select an existing security group

Security group name

AutoScaling-Security-Group-1

Description

Open the port 80 for HTTP traffic alone

Assign a security group

☒ Create a new security group
☐ Select an existing security group

Security group name: AutoScaling-Security-Group-2

Description: AutoScaling-Security-Group-2 (2021-01-22T07:31:59.893Z)

Rules

Type	Protocol	Port range	Source type	Source
<input type="checkbox"/> HTTP	TCP	80	Anywhere	0.0.0.0/0

+ Add new rule

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

You will not be able to connect to this instance as the AMI requires port(s) 22 to be open in order to have access. Your current security group doesn't have port(s) 22 open.

Create the launch configuration.

The old launch configurations console is no longer available. We will keep improving the new console based on your feedback.

Successfully created launch configuration: Launch config 1

EC2 > Launch configurations

Launch configurations (1) [Info](#)

Search launch configurations

Name	AMI ID	Instance type	Spot price	Creation time
Launch config 1	ami-0be2609ba8...	t2.micro	-	Fri Jan 22 2021 13:06:46 GMT+0530 (India Standard Time)

Create the autoscaling group

The screenshot shows the Amazon EC2 Auto Scaling console landing page. On the left is a navigation sidebar with links to EC2 Dashboard, Events, Tags, Limits, INSTANCES (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations), IMAGES (AMIs), and ELASTIC BLOCK STORE (Volumes, Snapshots). The main content area has a dark header with the text "Amazon EC2 Auto Scaling helps maintain the availability of your applications" and a sub-header "Auto Scaling groups are collections of Amazon EC2 instances that enable automatic scaling and fleet management features. These features help you maintain the health and availability of your applications." Below this is a "How it works" diagram showing an "Auto Scaling group" box containing four instance icons. The first two are solid, labeled "Minimum size", and the last two are dashed, labeled "Scale out as needed". A bracket below the first two icons is labeled "Desired capacity". To the right of the diagram is a "Pricing" section stating that Amazon EC2 Auto Scaling features have no additional fees beyond the service fees for Amazon EC2, CloudWatch, and other AWS resources. Below pricing is a "Getting started" section with links for "What is Amazon EC2 Auto Scaling?" and "Getting started with Amazon EC2 Auto Scaling". At the top right of the main content area is a "Create Auto Scaling group" button.

Switch to Launch configuration from Launch Template and select the created launch configuration

The screenshot shows the "Choose launch template or configuration" step in the Amazon EC2 Auto Scaling console. The left sidebar is the same as in the previous screenshot. The main content area has a breadcrumb trail "EC2 > Auto Scaling groups > Create Auto Scaling group". Below the breadcrumb is a list of steps: Step 1 (Choose launch template or configuration), Step 2 (Configure settings), Step 3 (optional) (Configure advanced options), Step 4 (optional) (Configure group size and scaling policies), Step 5 (optional) (Add notifications), Step 6 (optional) (Add tags), and Step 7 (Review). The "Choose launch template or configuration" section has a sub-header "Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group. If you currently use launch configurations, you might consider migrating to launch templates." Below this is a "Name" section with a text input field for "Auto Scaling group name" containing "First ASG". Below the input field is a note: "Must be unique to this account in the current Region and no more than 255 characters." Below the "Name" section is a "Launch configuration" section with a "Switch to launch template" link. The "Launch configuration" section has a sub-header "Launch configuration" and a description: "Choose a launch configuration that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups." Below the description is a dropdown menu showing "Launch config 1" and a refresh button. Below the dropdown is a table with the following data:

Launch configuration	AMI ID	Date created
Launch config 1	ami-0be2609ba883822ec	Fri Jan 22 2021 13:06:46 GMT+0530 (India Standard Time)

Below the table is a section for "Security groups" and "Instance type". The "Security groups" section shows a list of security groups, and the "Instance type" section shows a list of instance types.

Select all the subnets:

Step 2: Configure settings

Step 3 (optional): Configure advanced options

Step 4 (optional): Configure group size and scaling policies

Step 5 (optional): Add notifications

Step 6 (optional): Add tags

Step 7: Review

Network Info

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

VPC

vpc-3a66c147
172.31.0.0/16 Default

[Create a VPC](#)

Subnets

Select subnets

- us-east-1a | subnet-b2dc4bed
172.31.32.0/20 Default
- us-east-1b | subnet-1a7ff47c
172.31.0.0/20 Default
- us-east-1c | subnet-dae677fb
172.31.80.0/20 Default
- us-east-1d | subnet-74421839
172.31.16.0/20 Default
- us-east-1e | subnet-37cb1506
172.31.48.0/20 Default
- us-east-1f | subnet-310f433f
172.31.64.0/20 Default

[Create a subnet](#)

Cancel Previous Skip to review **Next**

Configure the load balancer which we created already:

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1: Choose launch template or configuration

Step 2: Configure settings

Step 3 (optional): **Configure advanced options**

Step 4 (optional): Configure group size and scaling policies

Step 5 (optional): Add notifications

Step 6 (optional): Add tags

Step 7: Review

Configure advanced options Info

Choose a load balancer to distribute incoming traffic for your application across instances to make it more reliable and easily scalable. You can also set options that give you more control over health check replacements and monitoring.

Load balancing - optional Info

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

- ☐ No load balancer
Traffic to your Auto Scaling group will not be fronted by a load balancer.
- ☒ Attach to an existing load balancer
Choose from your existing load balancers.
- ☐ Attach to a new load balancer
Quickly create a basic load balancer to attach to your Auto Scaling group.

Attach to an existing load balancer

Select the load balancers that you want to attach to your Auto Scaling group.

- ☒ Choose from your load balancer target groups
This option allows you to attach Application, Network, or Gateway Load Balancers.
- ☐ Choose from Classic Load Balancers

Existing load balancer target groups
Only instance target groups that belong to the same VPC as your Auto Scaling group are available for selection.

Select target groups

- autoscalinggrp | HTTP

Next

Fix the desired (1), min(1) and max(2) capacity details

The screenshot shows the 'Create Auto Scaling group' wizard in the AWS Management Console, specifically Step 4: 'Configure group size and scaling policies'. The left sidebar shows the navigation menu with 'INSTANCES' and 'IMAGES' expanded. The main content area has a breadcrumb trail: 'EC2 > Auto Scaling groups > Create Auto Scaling group'. Below the breadcrumb, there's a list of steps: Step 1 (Choose launch template or configuration), Step 2 (Configure settings), Step 3 (optional) (Configure advanced options), Step 4 (optional) (Configure group size and scaling policies - current step), Step 5 (optional) (Add notifications), Step 6 (optional) (Add tags), and Step 7 (Review). The main content area is titled 'Configure group size and scaling policies' with an 'Info' link. Below the title, there's a description: 'Set the desired, minimum, and maximum capacity of your Auto Scaling group. You can optionally add a scaling policy to dynamically scale the number of instances in the group.' There are two sections: 'Group size - optional' and 'Scaling policies - optional'. The 'Group size - optional' section has three input fields: 'Desired capacity' (value: 2), 'Minimum capacity' (value: 1), and 'Maximum capacity' (value: 2). The 'Scaling policies - optional' section has a description: 'Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand.' There are two radio buttons: 'Target tracking scaling policy' (selected) and 'None'. The 'Target tracking scaling policy' section has a description: 'Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.'

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1
Choose launch template or configuration

Step 2
Configure settings

Step 3 (optional)
Configure advanced options

Step 4 (optional)
Configure group size and scaling policies

Step 5 (optional)
Add notifications

Step 6 (optional)
Add tags

Step 7
Review

Configure group size and scaling policies [Info](#)

Set the desired, minimum, and maximum capacity of your Auto Scaling group. You can optionally add a scaling policy to dynamically scale the number of instances in the group.

Group size - optional [Info](#)

Specify the size of the Auto Scaling group by changing the desired capacity. You can also specify minimum and maximum capacity limits. Your desired capacity must be within the limit range.

Desired capacity

Minimum capacity

Maximum capacity

Scaling policies - optional

Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand. [Info](#)

☐ Target tracking scaling policy
Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.

☒ None

Scaling policy to add an instance if load is more than 80% for more than 180 seconds

The screenshot shows the 'Create Auto Scaling group' wizard in the AWS Management Console, specifically Step 7: 'Review'. The left sidebar shows the navigation menu with 'INSTANCES' and 'IMAGES' expanded. The main content area has a breadcrumb trail: 'EC2 > Auto Scaling groups > Create Auto Scaling group'. Below the breadcrumb, there's a list of steps: Step 1 (Choose launch template or configuration), Step 2 (Configure settings), Step 3 (optional) (Configure advanced options), Step 4 (optional) (Configure group size and scaling policies), Step 5 (optional) (Add notifications), Step 6 (optional) (Add tags), and Step 7 (Review - current step). The main content area is titled 'Scaling policies - optional' with an 'Info' link. Below the title, there's a description: 'Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand.' There are two radio buttons: 'Target tracking scaling policy' (selected) and 'None'. The 'Target tracking scaling policy' section has a description: 'Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.' Below the description, there are three input fields: 'Scaling policy name' (value: Target Tracking Policy), 'Metric type' (value: Average CPU utilization), and 'Target value' (value: 80). There is also an input field for 'Instances need' (value: 180) with the text 'seconds warm up before including in metric'. There is a checkbox 'Disable scale in to create only a scale-out policy' which is unchecked. The 'None' section is empty.

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1
Choose launch template or configuration

Step 2
Configure settings

Step 3 (optional)
Configure advanced options

Step 4 (optional)
Configure group size and scaling policies

Step 5 (optional)
Add notifications

Step 6 (optional)
Add tags

Step 7
Review

Scaling policies - optional [Info](#)

Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand. [Info](#)

☒ Target tracking scaling policy
Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.

☐ None

Scaling policy name

Metric type

Target value

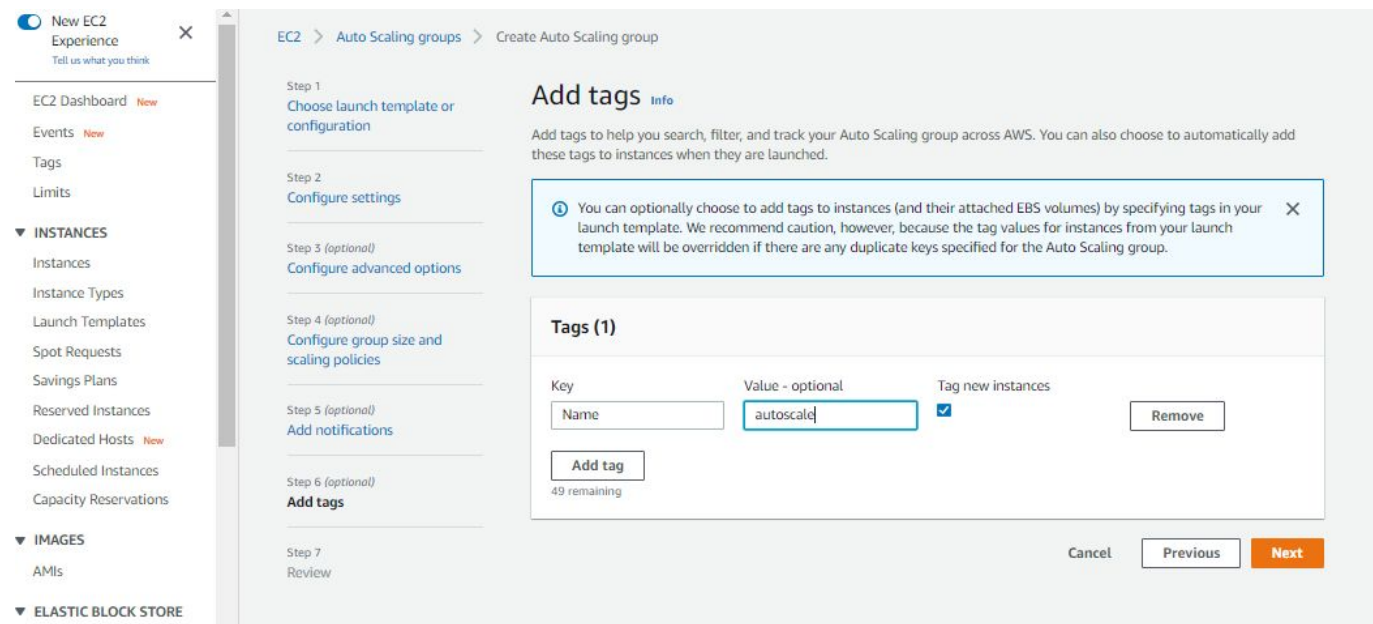
Instances need
 seconds warm up before including in metric

☐ Disable scale in to create only a scale-out policy

Instance scale-in protection - optional

Instance scale-in protection
If an instance from an ASG is terminated, newly launched instances will be protected from scale-in by default.

Tags



The screenshot shows the 'Add tags' step in the 'Create Auto Scaling group' wizard. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, INSTANCES, IMAGES, and ELASTIC BLOCK STORE. The main content area shows the 'Add tags' step with a warning box and a table for adding tags.

Add tags [Info](#)

Add tags to help you search, filter, and track your Auto Scaling group across AWS. You can also choose to automatically add these tags to instances when they are launched.

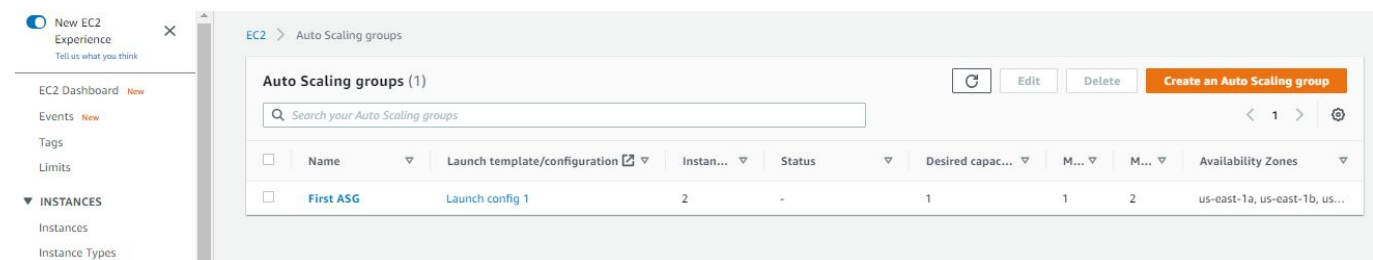
Warning: You can optionally choose to add tags to instances (and their attached EBS volumes) by specifying tags in your launch template. We recommend caution, however, because the tag values for instances from your launch template will be overridden if there are any duplicate keys specified for the Auto Scaling group.

Key	Value - optional	Tag new instances	
Name	autoscale	<input checked="" type="checkbox"/>	<button>Remove</button>

Add tag 49 remaining

Cancel Previous **Next**

Review and Launch

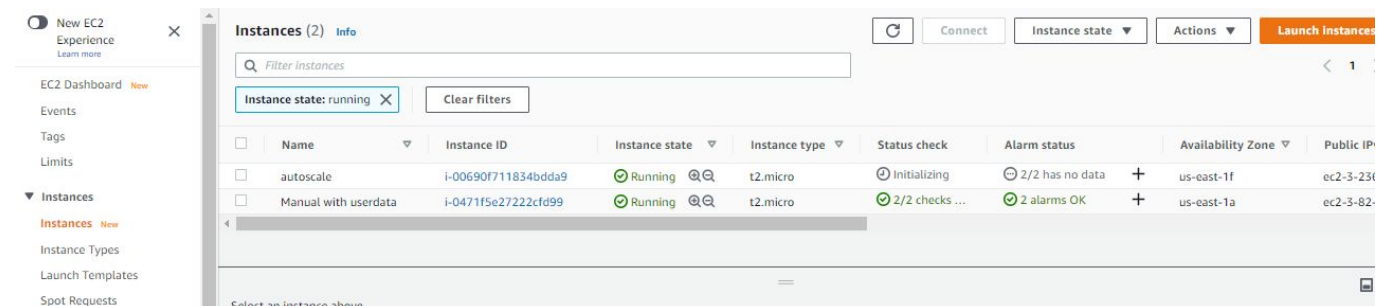


The screenshot shows the 'Auto Scaling groups' page in the AWS Management Console. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, INSTANCES, IMAGES, and ELASTIC BLOCK STORE. The main content area shows a table of Auto Scaling groups.

Auto Scaling groups (1) [Refresh](#) [Edit](#) [Delete](#) [Create an Auto Scaling group](#)

<input type="checkbox"/>	Name	Launch template/configuration	Instan...	Status	Desired capac...	M...	M...	Availability Zones
<input type="checkbox"/>	First ASG	Launch config 1	2	-	1	1	2	us-east-1a, us-east-1b, us...

Keep a watch on the instance window of the console if autoscale is adding a new instance automatically.



The screenshot shows the 'Instances' page in the AWS Management Console. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, INSTANCES, IMAGES, and ELASTIC BLOCK STORE. The main content area shows a table of instances.

Instances (2) [Info](#) [Refresh](#) [Connect](#) [Instance state](#) [Actions](#) [Launch Instances](#)

[Clear filters](#)

[Instance state: running](#) [Clear filters](#)

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	autoscale	i-00690f711834bdda9	Running	t2.micro	Initializing	2/2 has no data	us-east-1f	ec2-3-234
<input type="checkbox"/>	Manual with userdata	i-0471f5e27222cfd99	Running	t2.micro	2/2 checks ...	2 alarms OK	us-east-1a	ec2-3-82

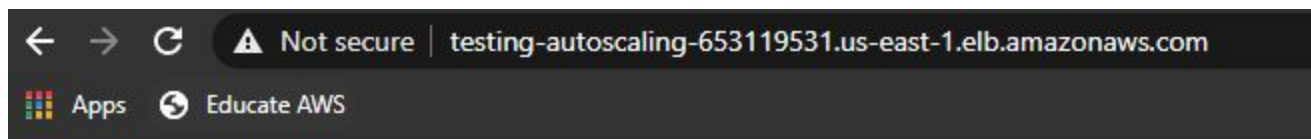
Select an instance above

Check the Target group->Target group label-> Targets the autoscale instance should be available there

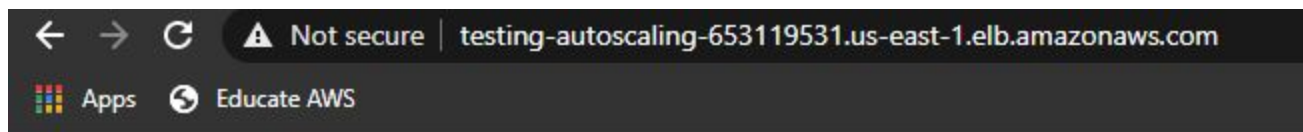
The screenshot shows the AWS Management Console interface for the 'autoscalinggrp' target group. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, Instances, Images, and Elastic Block Store. The main content area displays the 'Basic configuration' for the target group, including Target type (Instance), Protocol : Port (HTTP : 80), VPC (vpc-3a66c147), and Load balancer (Testing-autoscaling). Below this, the 'Targets' tab is active, showing a table of registered targets. The table has columns for Instance ID, Name, Port, Zone, Status, and Status details. Two targets are listed: 'Manual with userdata' (Instance ID: i-0471f5e27222cfd99) and 'autoscale' (Instance ID: i-00690f711834bdda9), both with a status of 'healthy'.

Instance ID	Name	Port	Zone	Status	Status details
i-0471f5e27222cfd99	Manual with userdata	80	us-east-1a	healthy	
i-00690f711834bdda9	autoscale	80	us-east-1f	healthy	

Now use the Load balancer link(DNS) and refresh the page to see the autoscale instance and the manual instance alternatively



Autoscale instance with IP 3.236.64.46



Manual instance with IP 3.82.10.131

Creating IAM user - apiuser

Add user

12345

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name*

[+ Add another user](#)

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

Access type* ☒ **Programmatic access**
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.

☐ **AWS Management Console access**
Enables a **password** that allows users to sign-in to the AWS Management Console.

* Required

[Cancel](#) [Next: Permissions](#)

Policy addition

Add user

12345

Set permissions

Add user to group

Copy permissions from existing user

Attach existing policies directly

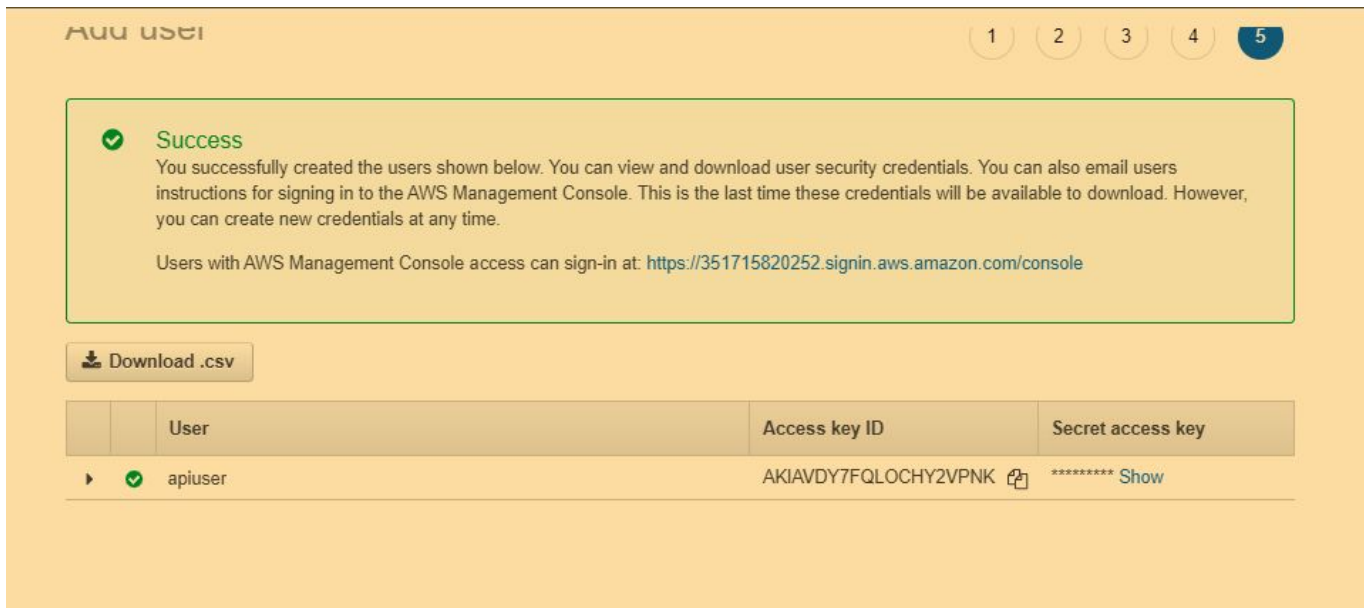
[Create policy](#) [Refresh](#)

Filter policies

Showing 645 results

	Policy name	Type	Used as
<input checked="" type="checkbox"/>	AdministratorAccess	Job function	Permissions policy (2)
<input type="checkbox"/>	AdministratorAccess-Amplify	AWS managed	None
<input type="checkbox"/>	AlexaForBusinessDeviceSetup	AWS managed	None
<input type="checkbox"/>	AlexaForBusinessFullAccess	AWS managed	None
<input type="checkbox"/>	AlexaForBusinessGatewayExecution	AWS managed	None

Access key and Secret key for configuring CLI



Success
You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://351715820252.signin.aws.amazon.com/console>

[Download .csv](#)

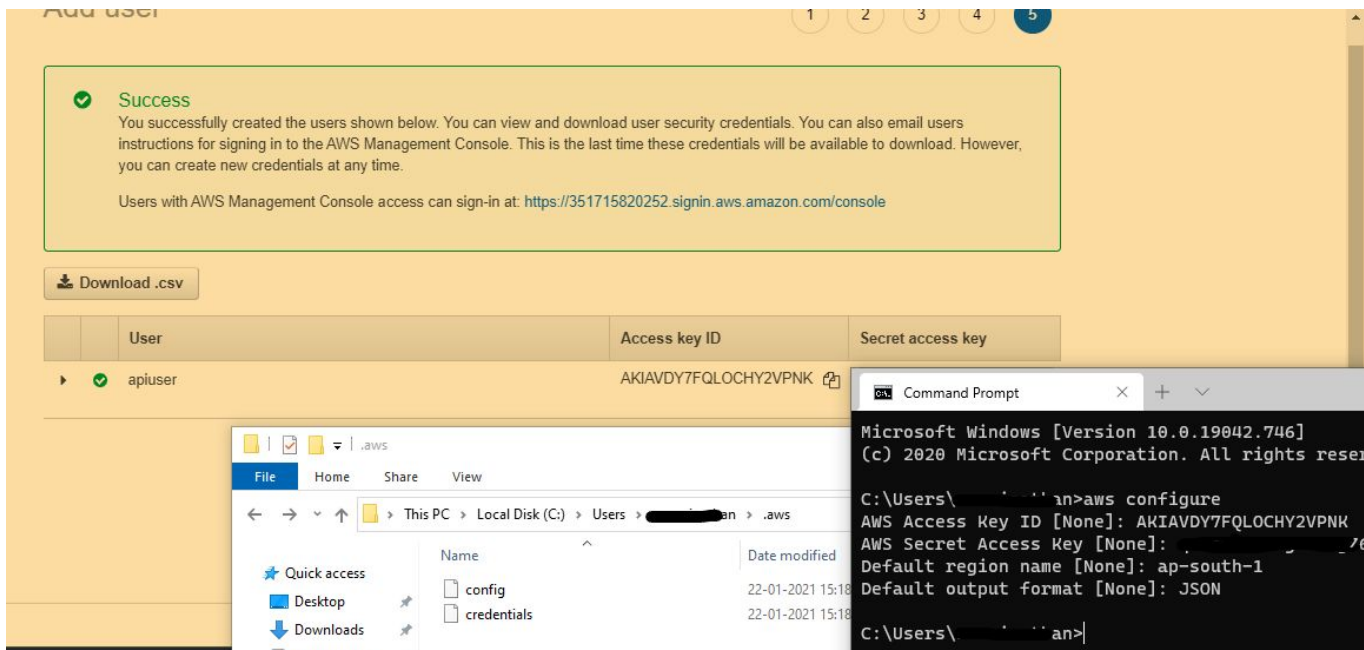
User	Access key ID	Secret access key
apiuser	AKIAVDY7FQLOCHY2VPNK	***** Show

CLI Setup

You need to input your access key, secret key and region according to your region selection and configuration.

Give output type as **json** (in small letters not capitals)

(The secret key is blacked out in the following example)



The screenshot shows the AWS IAM console 'Add user' page with a success message. Below it, a file explorer window shows the contents of the `.aws` directory, which includes `config` and `credentials` files. Overlaid on the bottom right is a Windows Command Prompt window showing the execution of the `aws configure` command. The output shows the configuration of the AWS CLI with the Access Key ID and Secret Access Key (blacked out) entered, and the default region name set to `ap-south-1` and the default output format set to `JSON`.

```
Microsoft Windows [Version 10.0.19042.746]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\...>aws configure
AWS Access Key ID [None]: AKIAVDY7FQLOCHY2VPNK
AWS Secret Access Key [None]: 
Default region name [None]: ap-south-1
Default output format [None]: JSON

C:\Users\...>
```