Felhő alapú szolgáltatások ZH

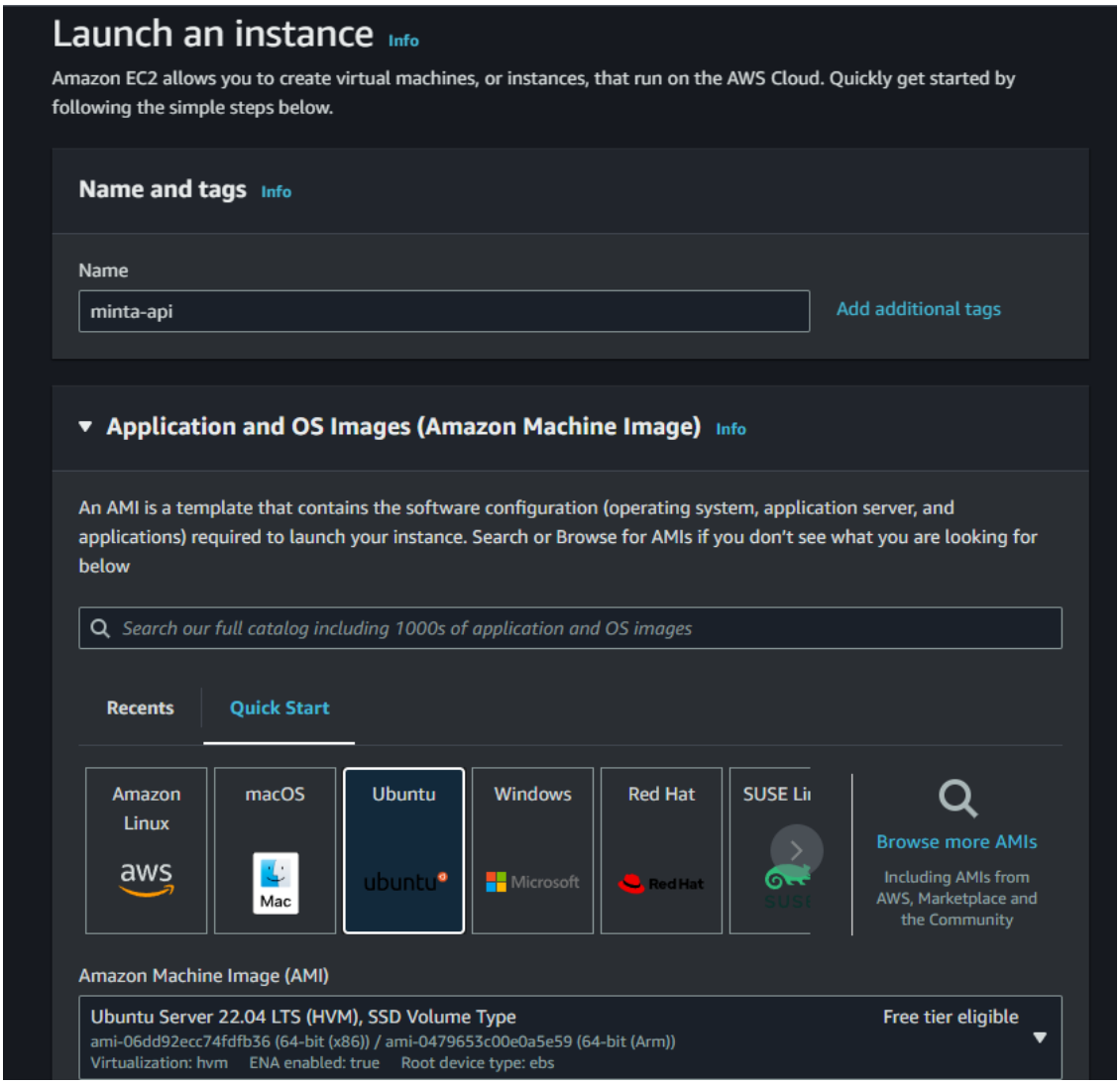
LoadBalancer:

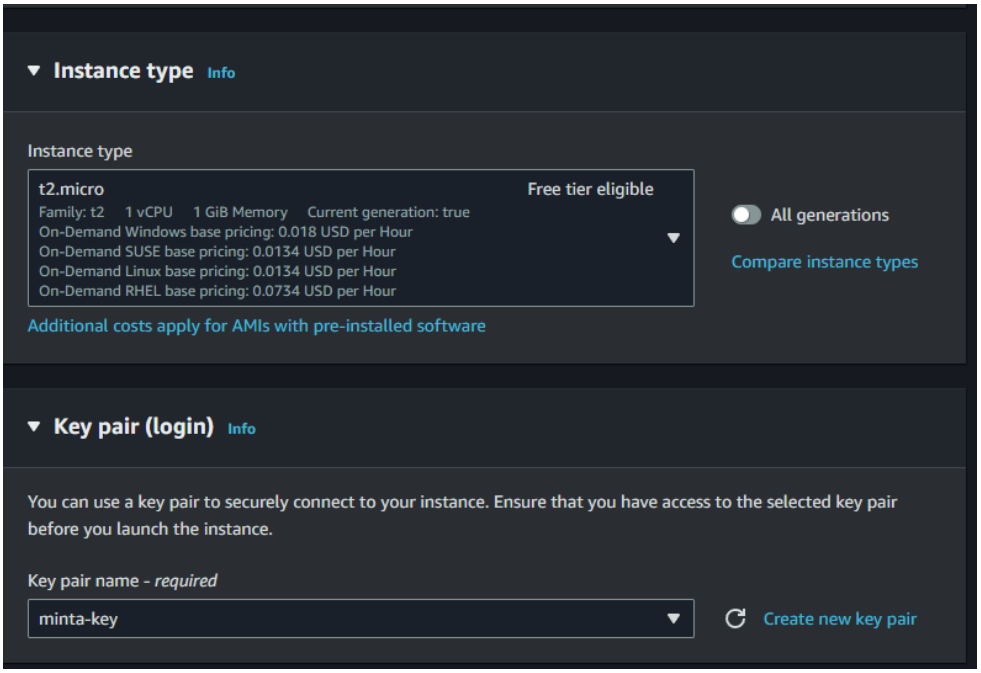
https://wiki.farkas-attila.hu/index.php/EDU::GAMF::Felh%C5%91alap%C3%BA-szolg%C3%A1ltat%C3%A1sok::AWS#Load_Balancer

API minta(ZH-n nem ez lesz):

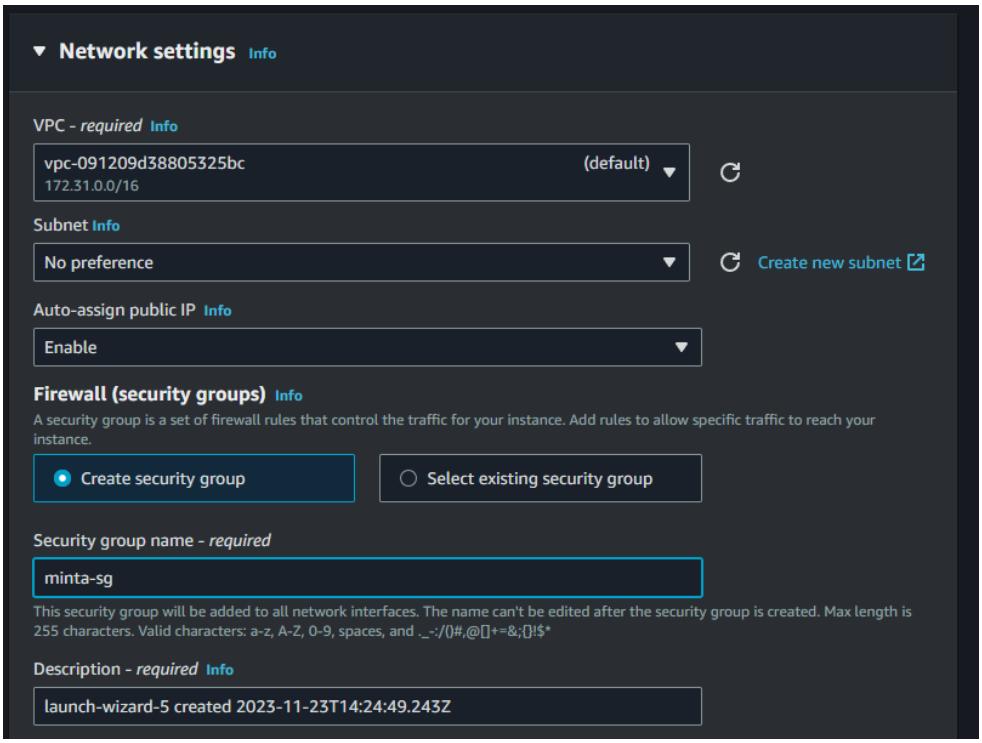
```
#!/bin/bash


# variables
NEPTUN="neptun"           # your neptun
MYSQL_DOMAIN="localhost" # RDS mysql domain

apt update
apt install wget unzip python3 python3-pip -y
pip3 install flask mysql.connector

# get code
mkdir /tmp/code
cd /tmp/code
wget https://wiki.farkas-attila.hu/images/c/c7/Weboldal.zip
unzip Weboldal.zip
#

# change <ip> tag in code
sed -i "s/<ip>/$MYSQL_DOMAIN/g" api.py
#


# create directory for server
mkdir -p /srv/$NEPTUN


mv api.py /srv/$NEPTUN/

# remove tmp directory
cd /
rm /tmp/code

echo "@reboot root sleep 10s && python3 /srv/$NEPTUN/api.py &" >>
/etc/crontab
cd /srv/$NEPTUN && python3 api.py &
```

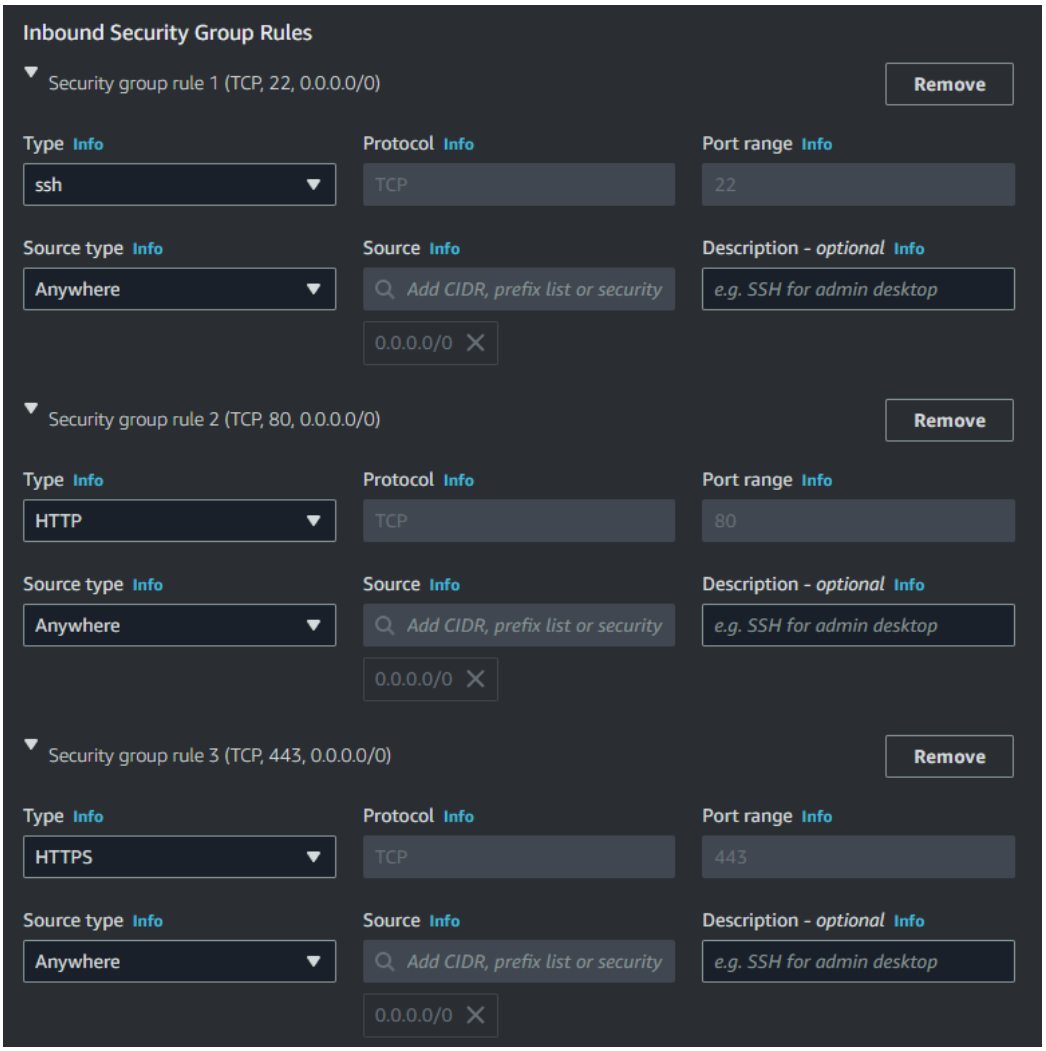
1) EC2 -> Instances -> Launch instances

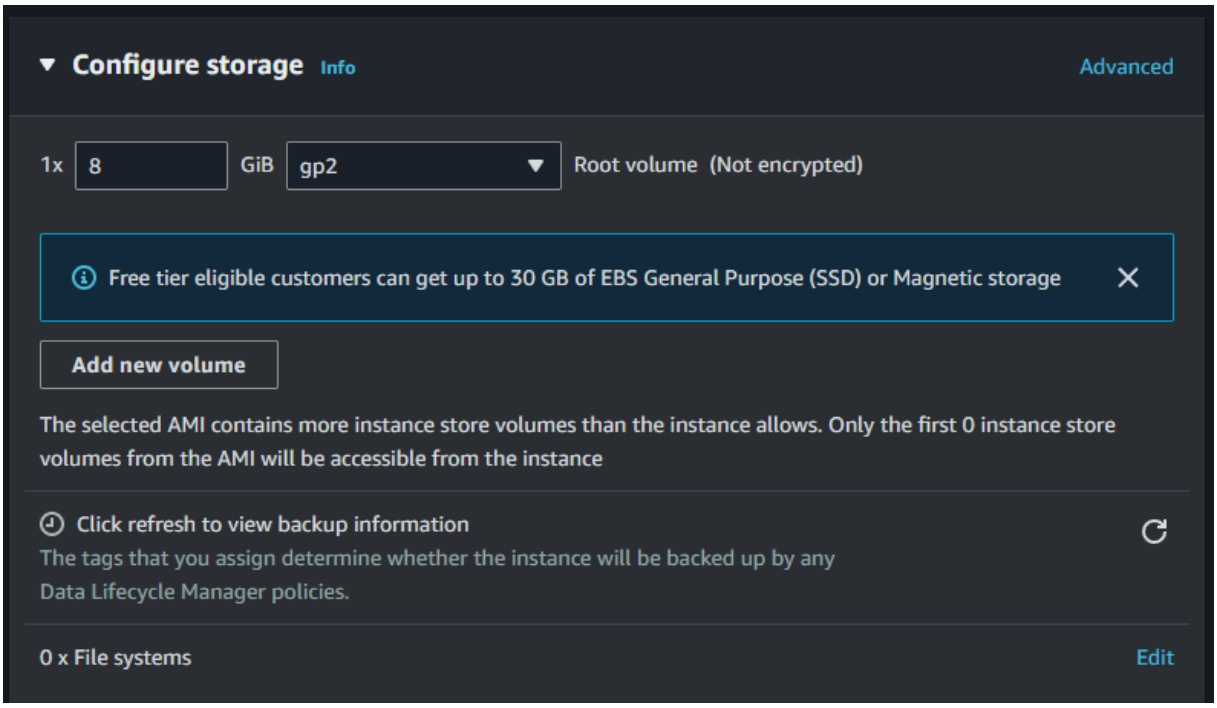




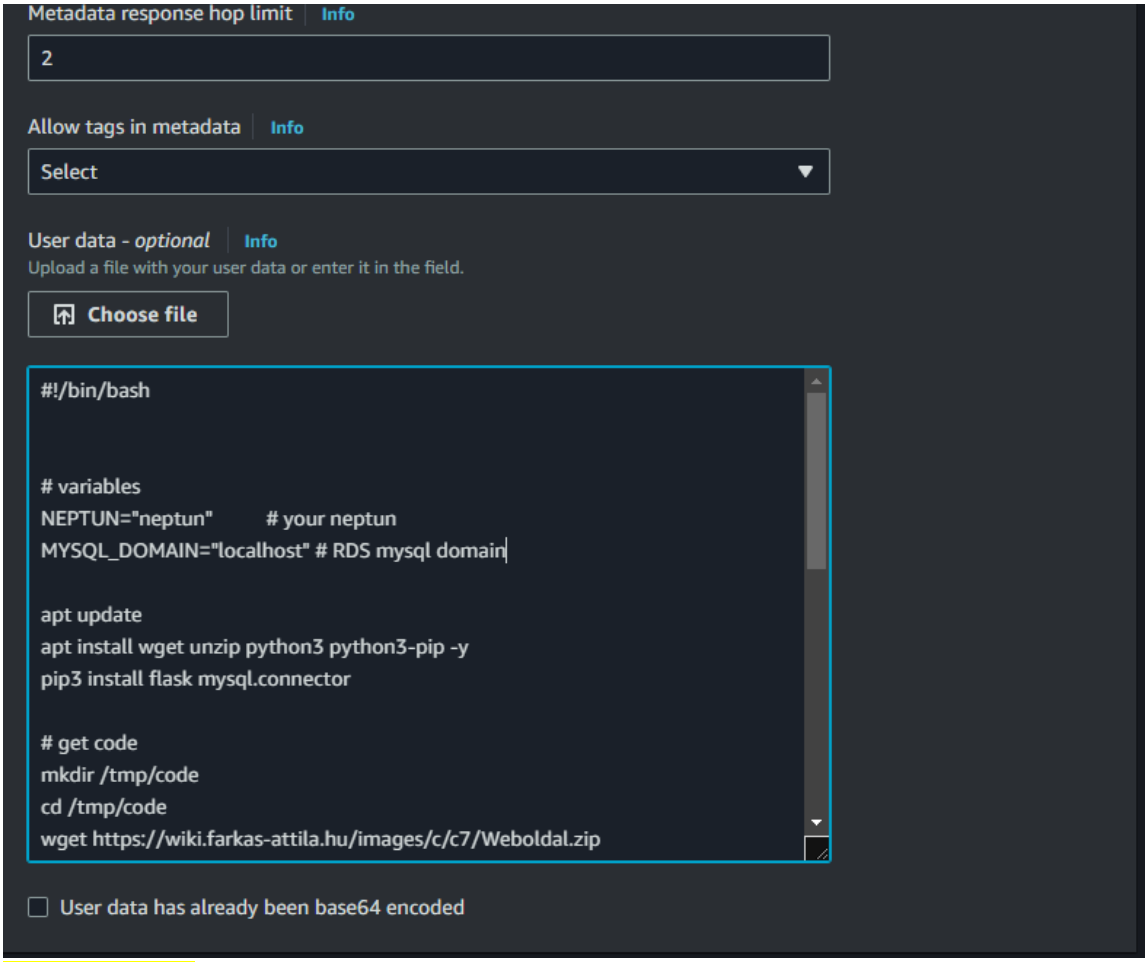
Default VPC


Network settings Info
VPC - required Info
vpc-091209d38805325bc (default)
172.31.0.0/16
Subnet Info
No preference
Create new subnet
Auto-assign public IP Info
Enable
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.
Create security group
Select existing security group
Security group name - required
minta-sg
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*
Description - required Info
launch-wizard-5 created 2023-11-23T14:24:49.243Z


Inbound Security Group Rules
Security group rule 1 (TCP, 22, 0.0.0.0/0)
Remove
Type Info
ssh
Protocol Info
TCP
Port range Info
22
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Security group rule 2 (TCP, 80, 0.0.0.0/0)
Remove
Type Info
HTTP
Protocol Info
TCP
Port range Info
80
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Security group rule 3 (TCP, 443, 0.0.0.0/0)
Remove
Type Info
HTTPS
Protocol Info
TCP
Port range Info
443
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop



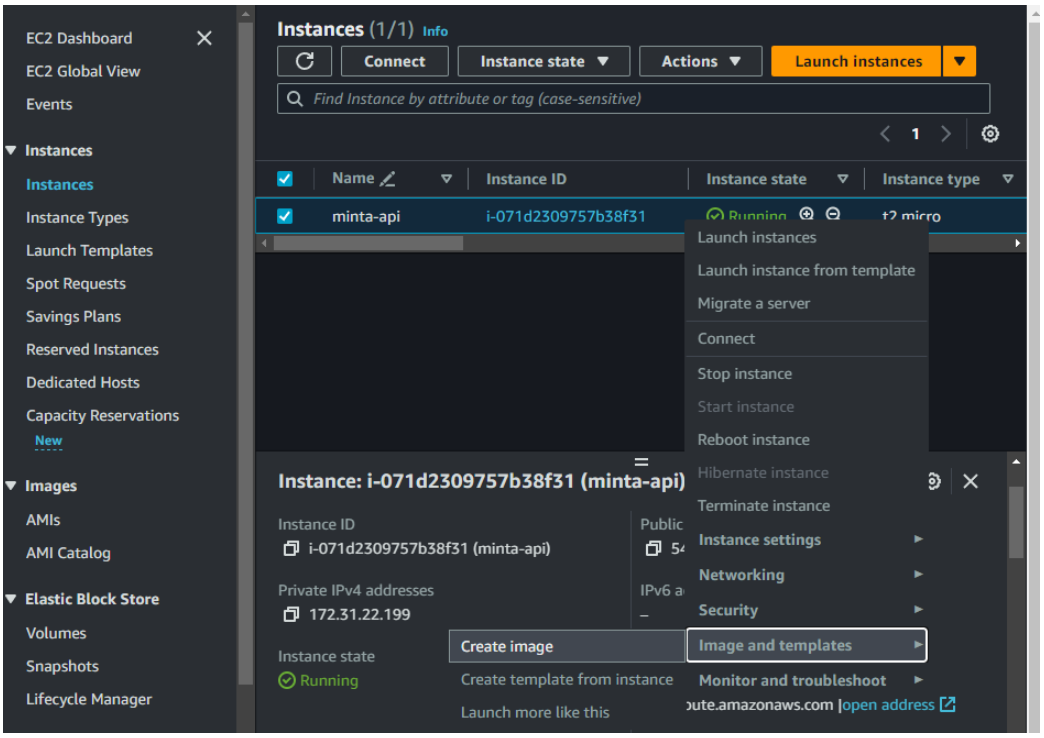
Ha kell indító script:
Advanced details ->

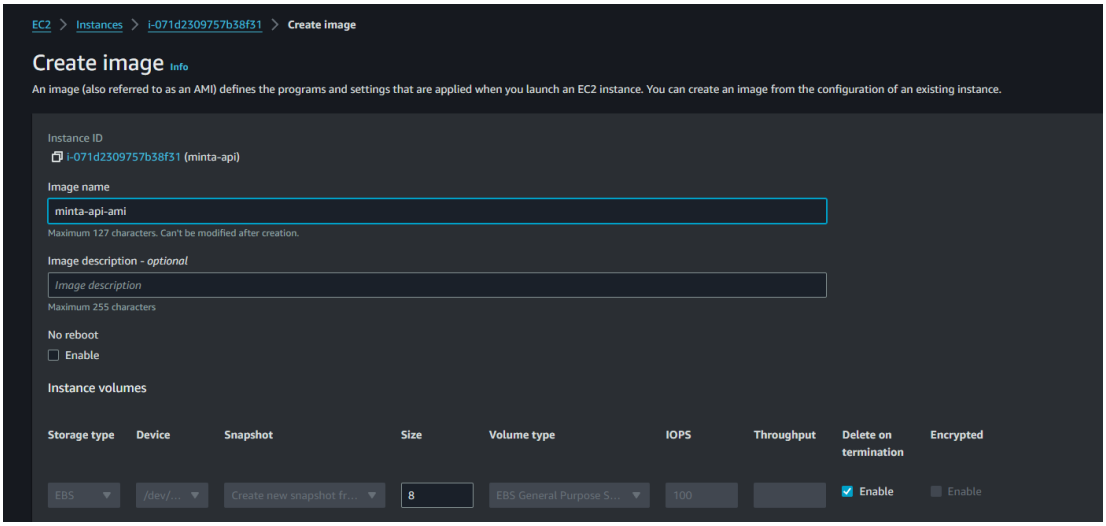


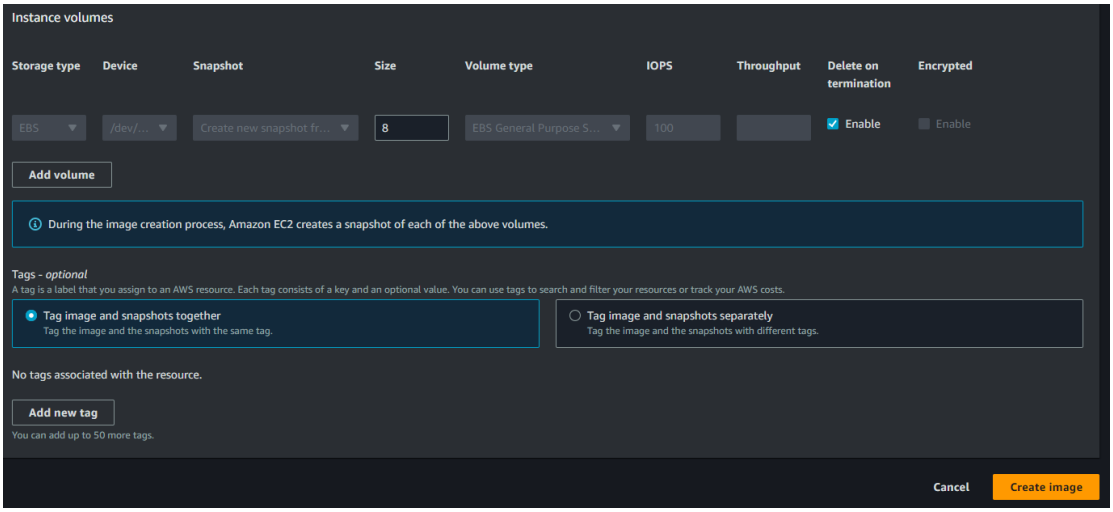
Launch instance

Teszt: Instances -> Public IPv4 DNS -> open address -> https:// -> http://

2) Create AMI

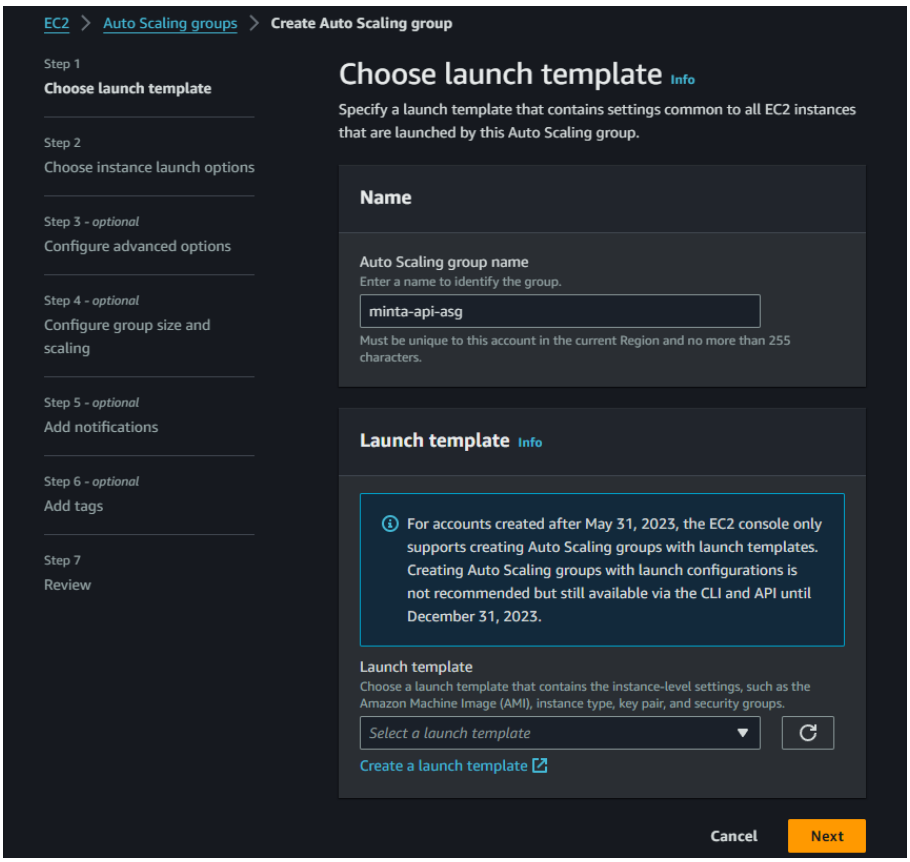

EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
New
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Instances (1/1) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Name
Instance ID
Instance state
Instance type
minta-api
i-071d2309757b38f31
Launch instances
Launch instance from template
Migrate a server
Connect
Stop instance
Start instance
Reboot instance
Hibernate instance
Terminate instance
Instance settings
Networking
Security
Image and templates
Monitor and troubleshoot
Instance: i-071d2309757b38f31 (minta-api)
Instance ID
i-071d2309757b38f31 (minta-api)
Private IPv4 addresses
172.31.22.199
Instance state
Running
Create image
Create template from instance
Launch more like this
open address


EC2 > Instances > i-071d2309757b38f31 > Create image
Create image Info
An image (also referred to as an AMI) defines the programs and settings that are applied when you launch an EC2 instance. You can create an image from the configuration of an existing instance.
Instance ID
i-071d2309757b38f31 (minta-api)
Image name
minta-api-ami
Maximum 127 characters. Can't be modified after creation.
Image description - optional
Image description
Maximum 255 characters
No reboot
Enable
Instance volumes
Storage type
Device
Snapshot
Size
Volume type
IOPS
Throughput
Delete on termination
Encrypted
EBS
/dev/...
Create new snapshot fr...
8
EBS General Purpose S...
100
Enable
Enable

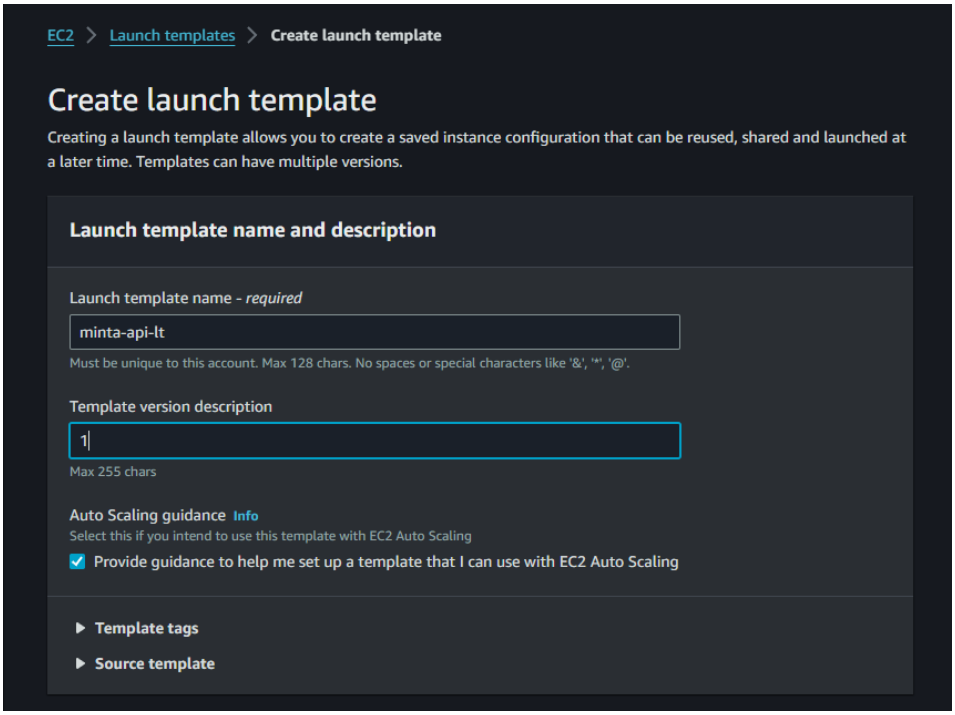

Instance volumes
Storage type
Device
Snapshot
Size
Volume type
IOPS
Throughput
Delete on termination
Encrypted
EBS
/dev/...
Create new snapshot fr...
8
EBS General Purpose S...
100
Enable
Enable
Add volume
During the image creation process, Amazon EC2 creates a snapshot of each of the above volumes.
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
Tag image and snapshots together
Tag the image and the snapshots with the same tag.
Tag image and snapshots separately
Tag the image and the snapshots with different tags.
No tags associated with the resource.
Add new tag
You can add up to 50 more tags.
Cancel
Create image

Ellenőrzés: Images -> AMIs // Elastic Block Store -> Snapshots

3) Auto Scaling Groups -> Create Auto Scaling group ->



Create a launch template



Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

Application and OS Images (Amazon Machine Image) - required 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 | My AMIs | Quick Start

Owned by me | Shared with me

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

minta-api-ami
ami-003e5f989401f5ba7
2023-11-23T14:48:20.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description

-

Architecture	AMI ID
x86_64	ami-003e5f989401f5ba7

Instance type Info

Advanced

Instance type

t2.micro Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.018 USD per Hour
On-Demand SUSE base pricing: 0.0134 USD per Hour
On-Demand Linux base pricing: 0.0134 USD per Hour
On-Demand RHEL base pricing: 0.0734 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

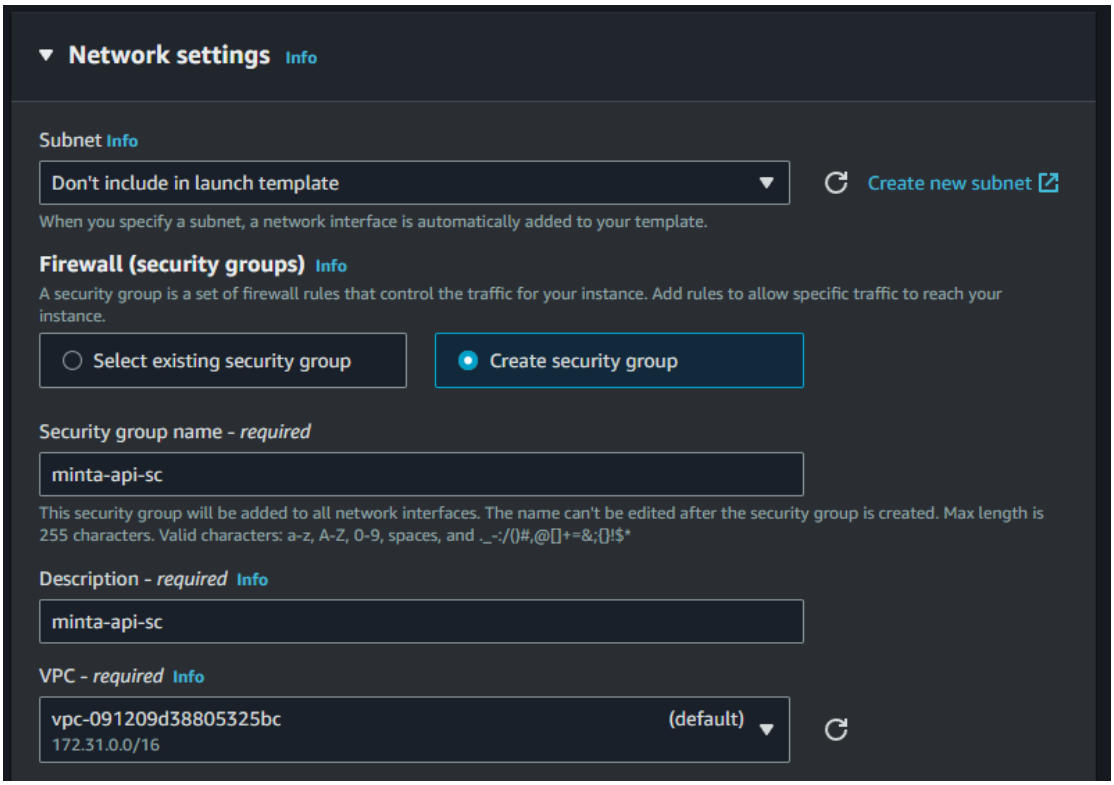
Key pair (login) Info

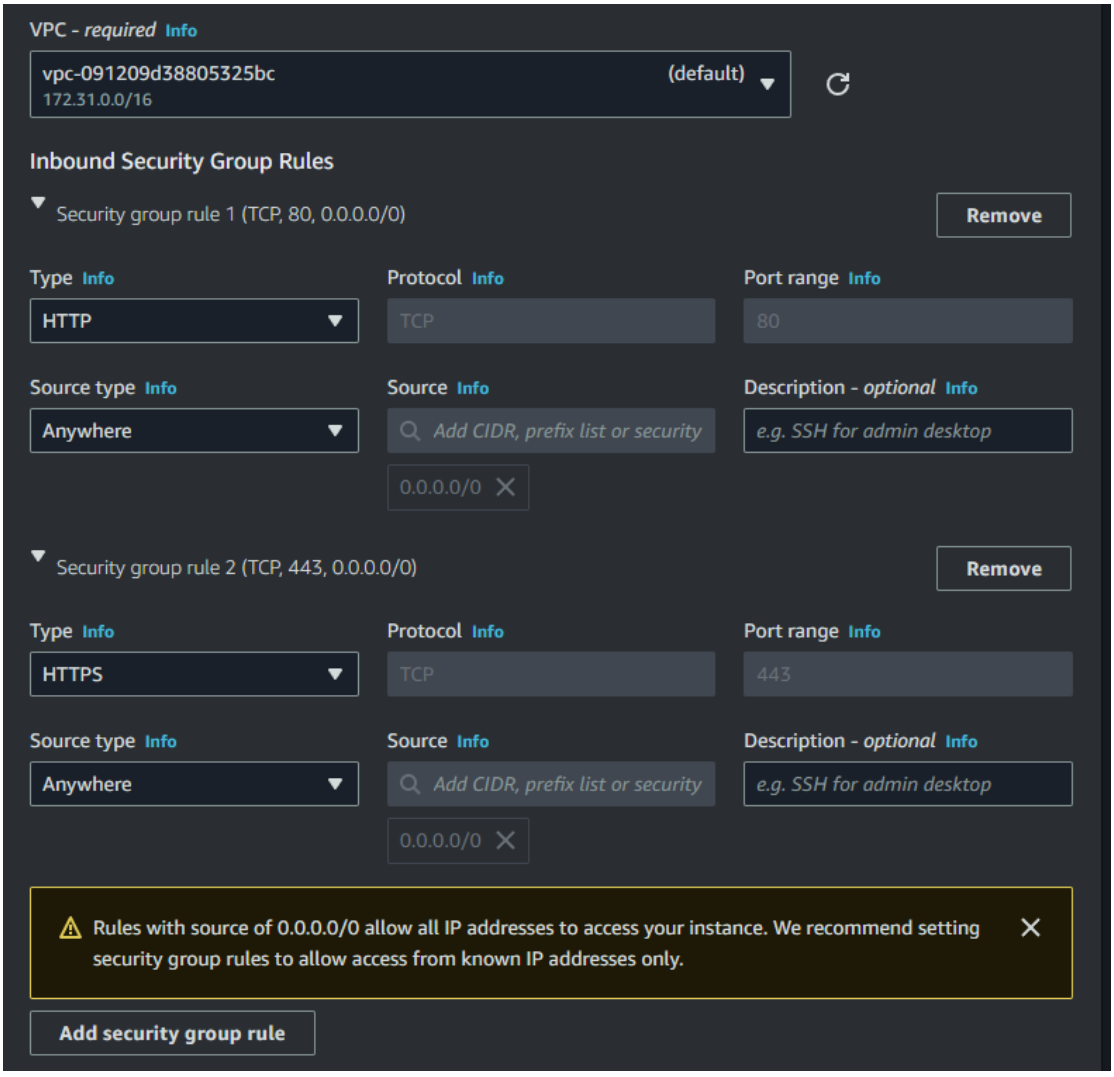
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

minta-key

Create new key pair


Network settings Info
Subnet Info
Don't include in launch template
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
Security group name - required
minta-api-sc
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*
Description - required Info
minta-api-sc
VPC - required Info
vpc-091209d38805325bc
172.31.0.0/16
(default)


VPC - required Info
vpc-091209d38805325bc
172.31.0.0/16
(default)
Inbound Security Group Rules
Security group rule 1 (TCP, 80, 0.0.0.0/0)
Remove
Type Info
HTTP
Protocol Info
TCP
Port range Info
80
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Security group rule 2 (TCP, 443, 0.0.0.0/0)
Remove
Type Info
HTTPS
Protocol Info
TCP
Port range Info
443
Source type Info
Anywhere
Source Info
Add CIDR, prefix list or security
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
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.
Add security group rule

Storage (volumes) Info

EBS Volumes

Hide details

Volume 1 (AMI Root) (8 GiB, EBS, General purpose SSD (gp2))
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

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Resource tags Info

No resource tags are currently included in this template. Add a resource tag to include it in the launch template.

Add new tag

You can add up to 50 more tags.

Advanced details Info

Summary

Software Image (AMI)
minta-api-ami
ami-003e5f989401f5ba7

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

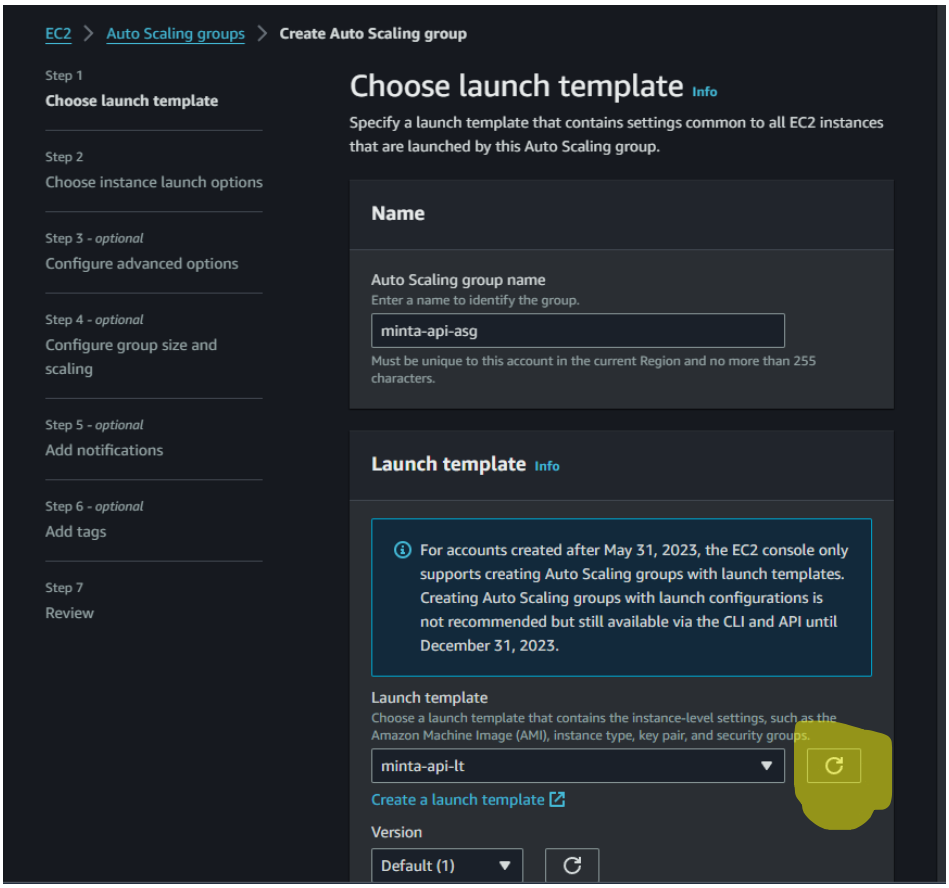
Storage (volumes)
1 volume(s) - 8 GiB

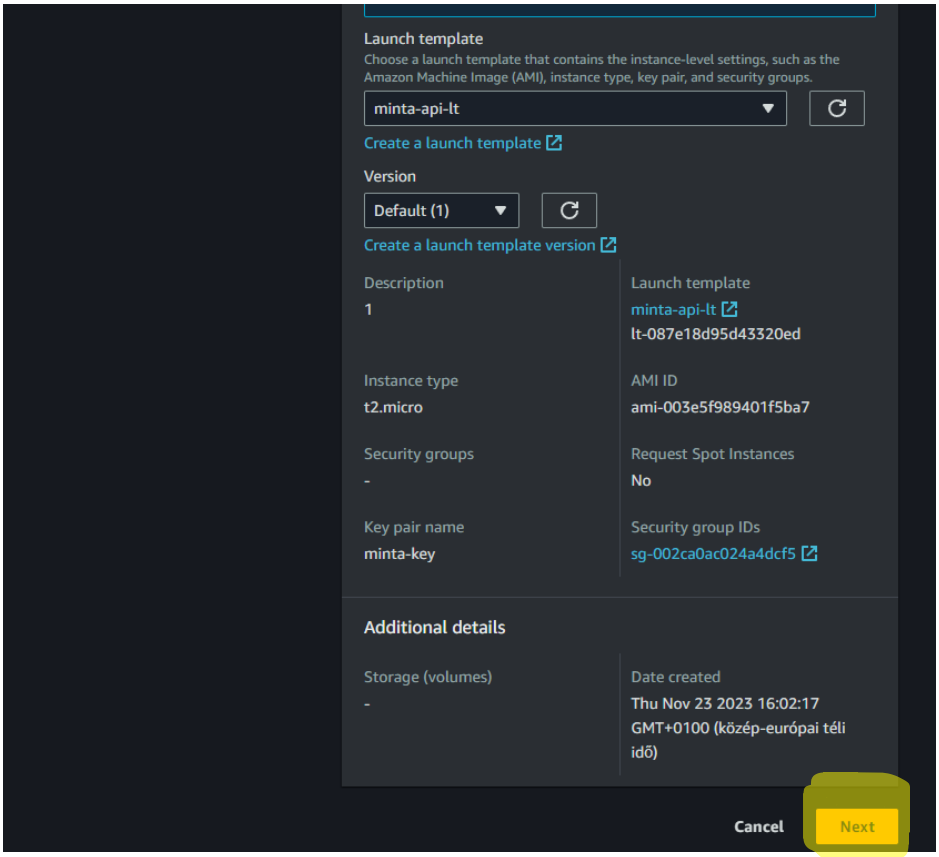
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

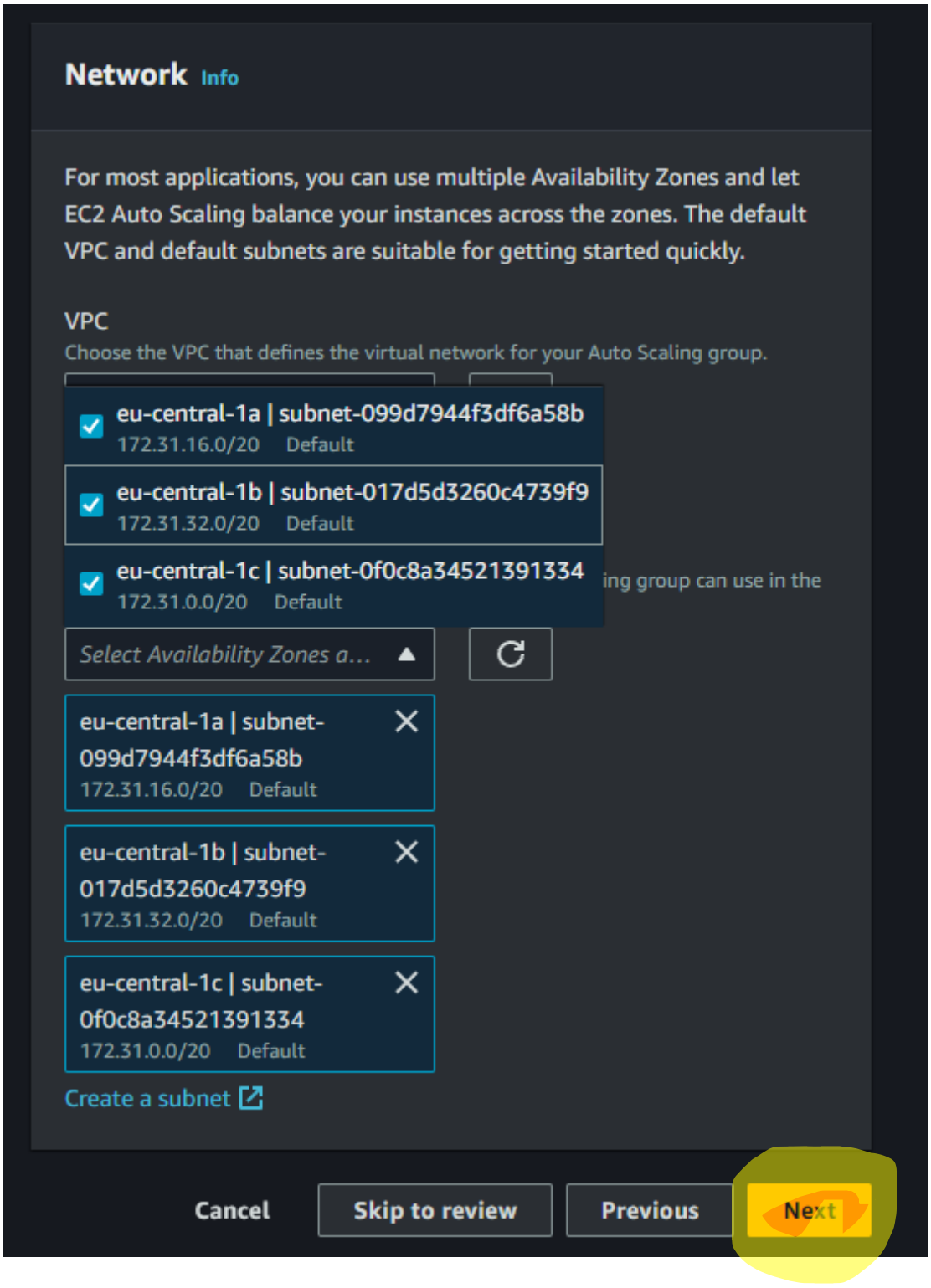
Cancel

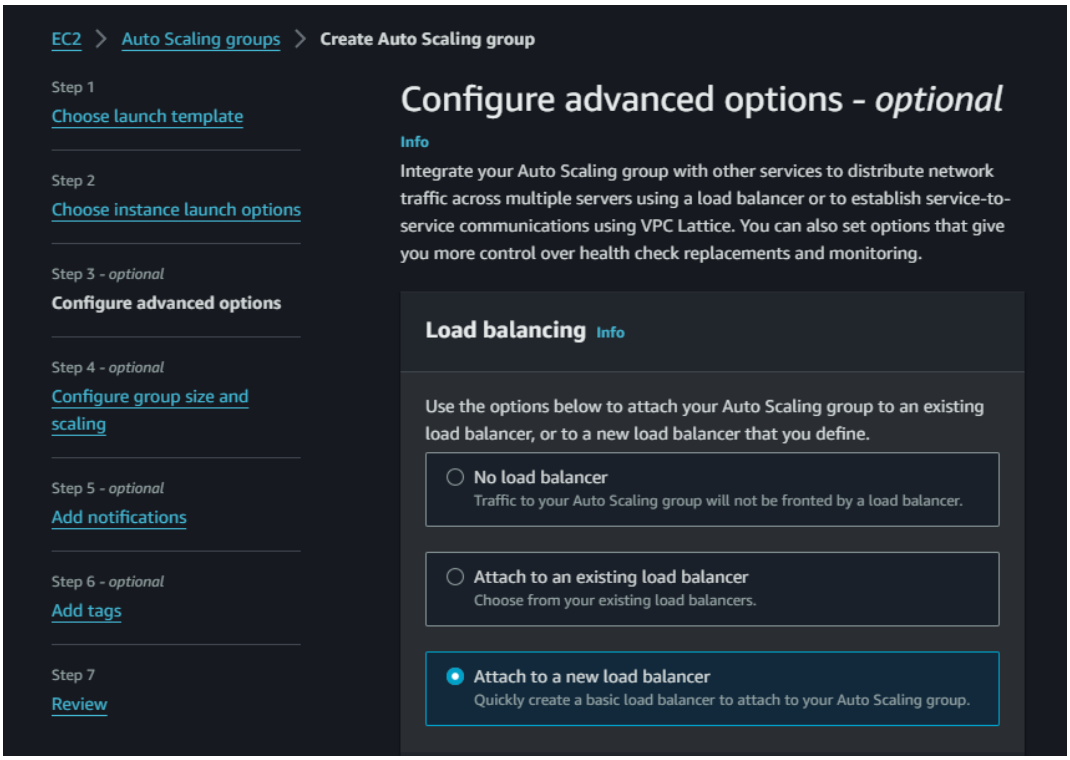
Create launch template

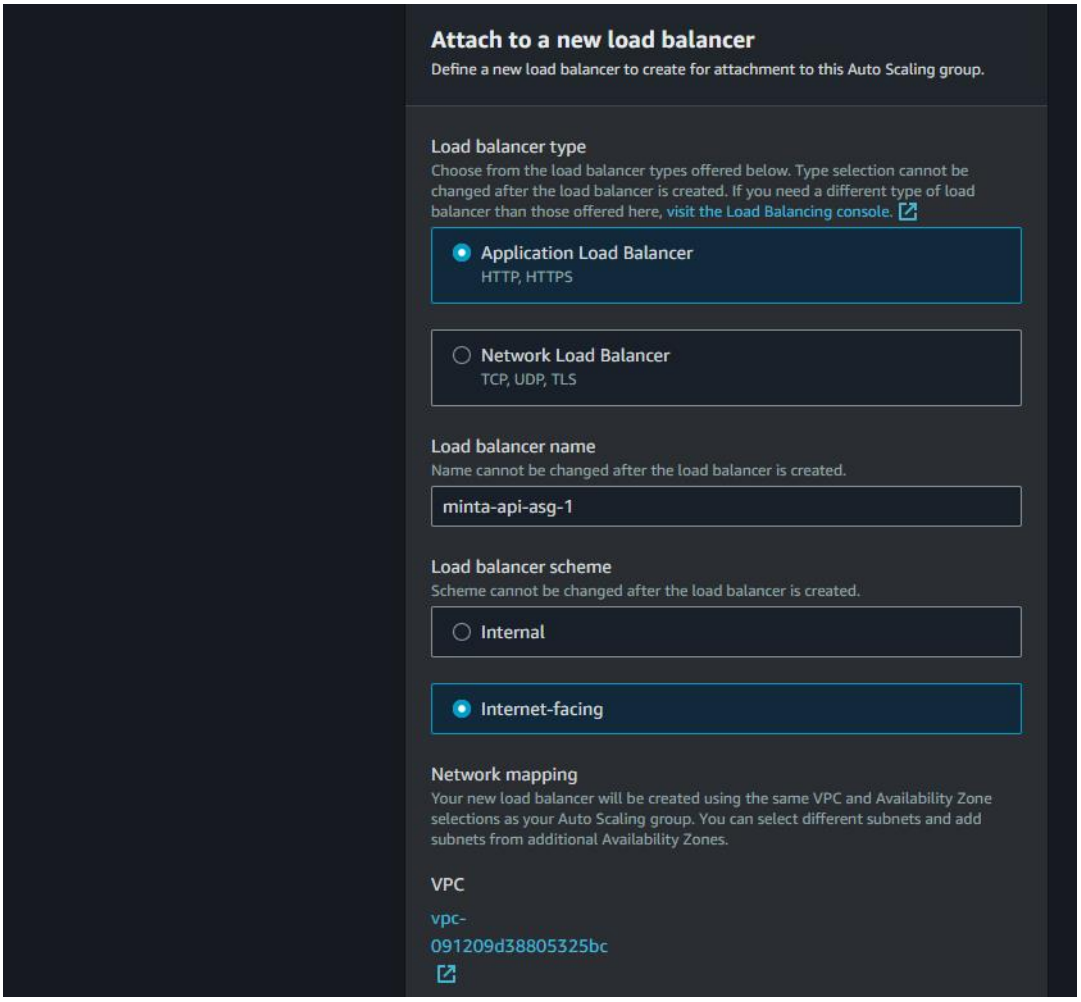
<- to ASG


EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
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
Choose launch template Info
Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group.
Name
Auto Scaling group name
Enter a name to identify the group.
minta-api-asg
Must be unique to this account in the current Region and no more than 255 characters.
Launch template Info
For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.
Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
minta-api-lt
Create a launch template
Version
Default (1)


Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
minta-api-lt
Create a launch template
Version
Default (1)
Create a launch template version
Description
1
Launch template
minta-api-lt
lt-087e18d95d43320ed
Instance type
t2.micro
AMI ID
ami-003e5f989401f5ba7
Security groups
-
Request Spot Instances
No
Key pair name
minta-key
Security group IDs
sg-002ca0ac024a4dcf5
Additional details
Storage (volumes)
-
Date created
Thu Nov 23 2023 16:02:17 GMT+0100 (közép-európai téli idő)
Cancel
Next


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
Choose the VPC that defines the virtual network for your Auto Scaling group.
eu-central-1a | subnet-099d7944f3df6a58b
172.31.16.0/20 Default
eu-central-1b | subnet-017d5d3260c4739f9
172.31.32.0/20 Default
eu-central-1c | subnet-0f0c8a34521391334
172.31.0.0/20 Default
ing group can use in the
Select Availability Zones a...
eu-central-1a | subnet-099d7944f3df6a58b
172.31.16.0/20 Default
eu-central-1b | subnet-017d5d3260c4739f9
172.31.32.0/20 Default
eu-central-1c | subnet-0f0c8a34521391334
172.31.0.0/20 Default
Create a subnet
Cancel
Skip to review
Previous
Next


EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
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
Configure advanced options - optional
Info
Integrate your Auto Scaling group with other services to distribute network traffic across multiple servers using a load balancer or to establish service-to-service communications using VPC Lattice. You can also set options that give you more control over health check replacements and monitoring.
Load balancing 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 a new load balancer
Define a new load balancer to create for attachment to this Auto Scaling group.
Load balancer type
Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the Load Balancing console.
Application Load Balancer
HTTP, HTTPS
Network Load Balancer
TCP, UDP, TLS
Load balancer name
Name cannot be changed after the load balancer is created.
minta-api-asg-1
Load balancer scheme
Scheme cannot be changed after the load balancer is created.
Internal
Internet-facing
Network mapping
Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.
VPC
vpc-
091209d38805325bc

VPC

vpc-
091209d38805325bc

Availability Zones and subnets

You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.

eu-central-1c — subnet-0f0c8a34521391334

eu-central-1b — subnet-017d5d3260c4739f9

eu-central-1a — subnet-099d7944f3df6a58b

Listeners and routing

If you require secure listeners, or multiple listeners, you can configure them from the Load Balancing console after your load balancer is created.

Protocol	Port	Default routing (forward to)
HTTP	80	Create a target group

New target group name

An instance target group with default settings will be created.

minta-api-asg-1

Tags - *optional*

Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them.

Add tag

50 remaining

VPC Lattice integration options Info

To improve networking capabilities and scalability, integrate your Auto Scaling group with VPC Lattice. VPC Lattice facilitates communications between AWS services and helps you connect and manage your applications across compute services in AWS.

Select VPC Lattice service to attach

- (•) No VPC Lattice service
  VPC Lattice will not manage your Auto Scaling group's network access and connectivity with other services.
- ( ) Attach to VPC Lattice service
  Incoming requests associated with specified VPC Lattice target groups will be routed to your Auto Scaling group.

Create new VPC Lattice service

Additional settings

Monitoring Info

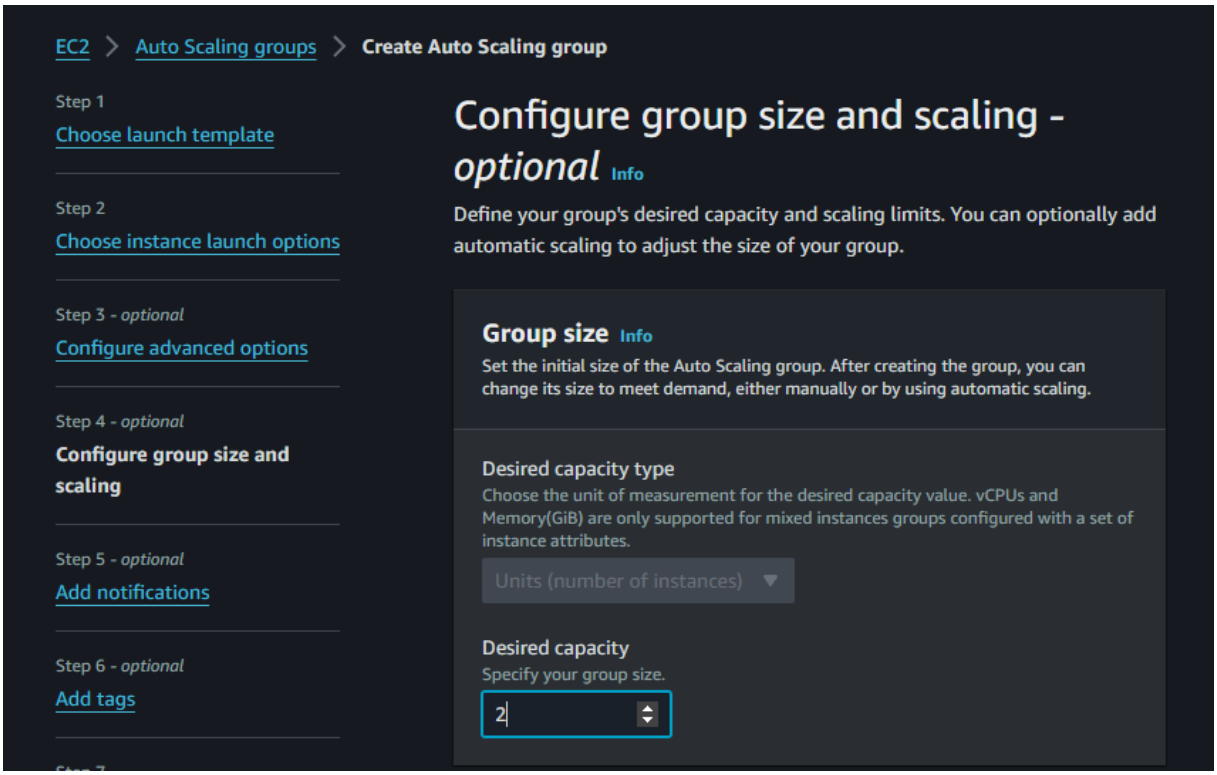
☐ Enable group metrics collection within CloudWatch

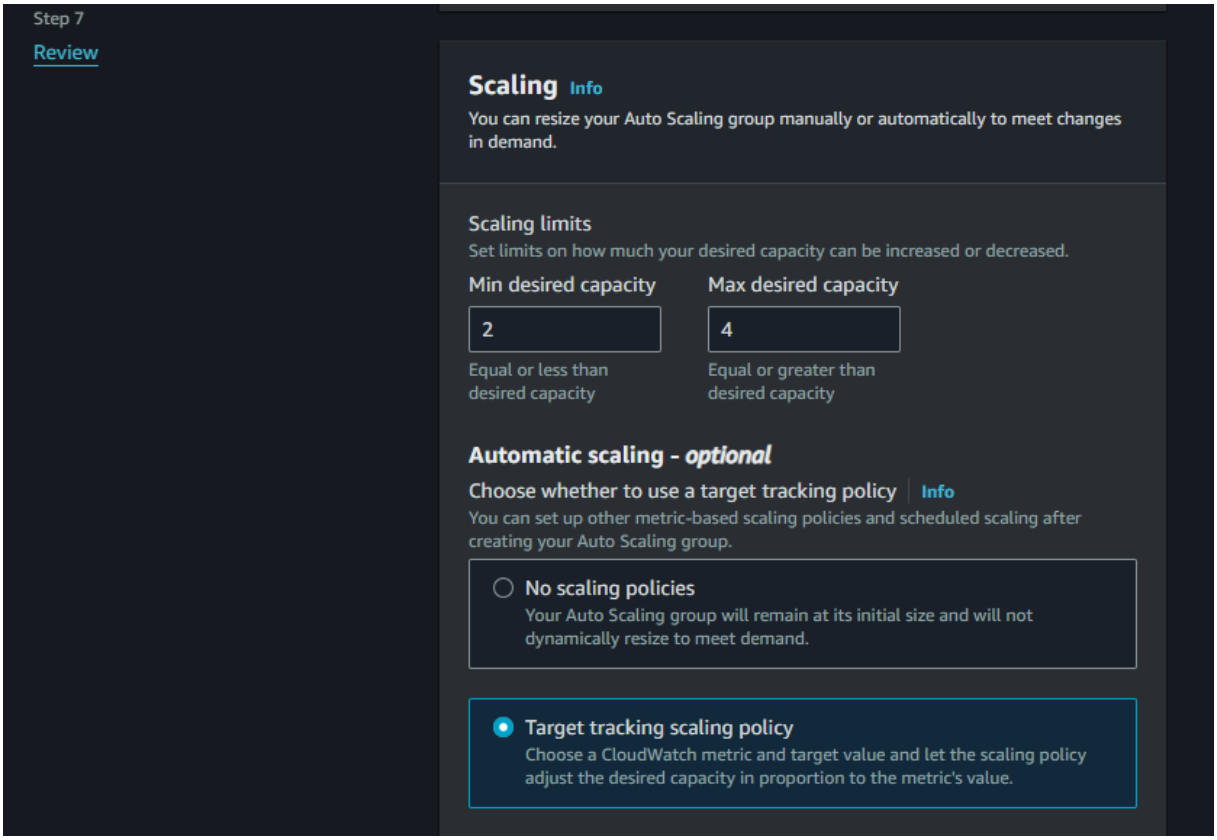
Default instance warmup Info

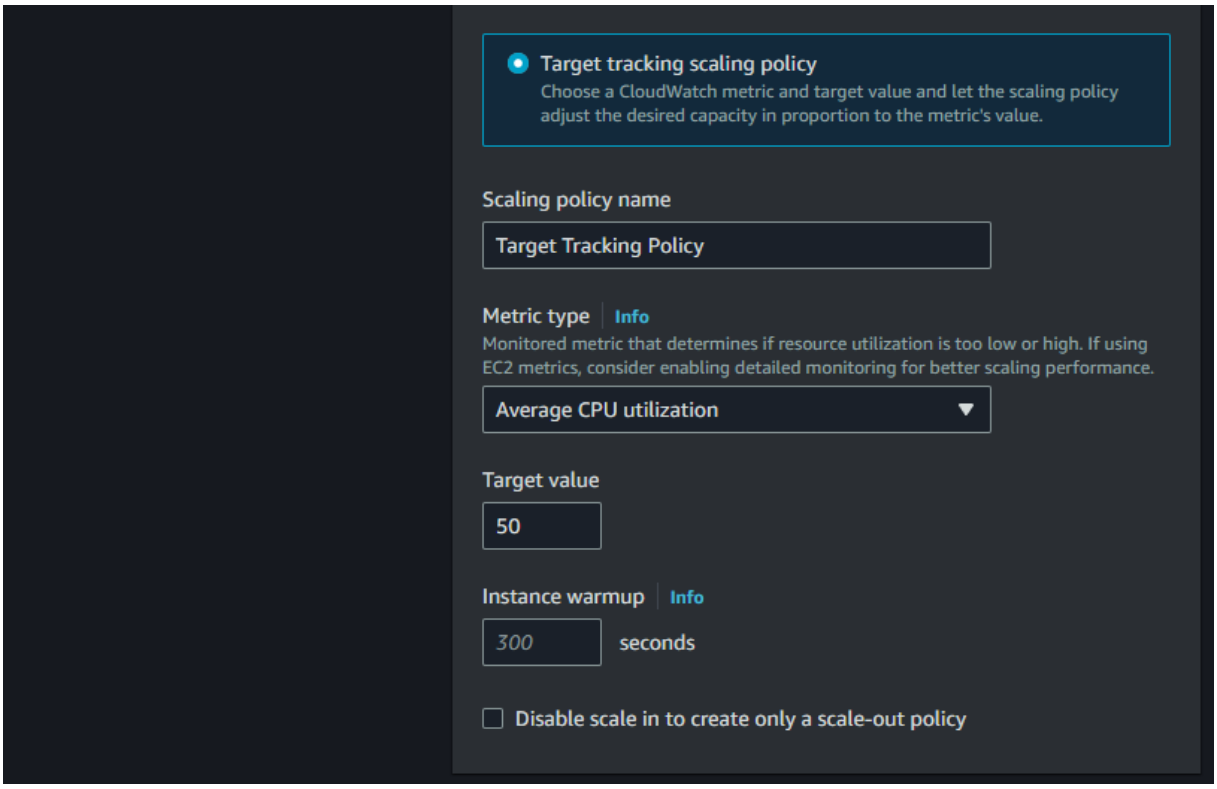
The amount of time that CloudWatch metrics for new instances do not contribute to the group's aggregated instance metrics, as their usage data is not reliable yet.

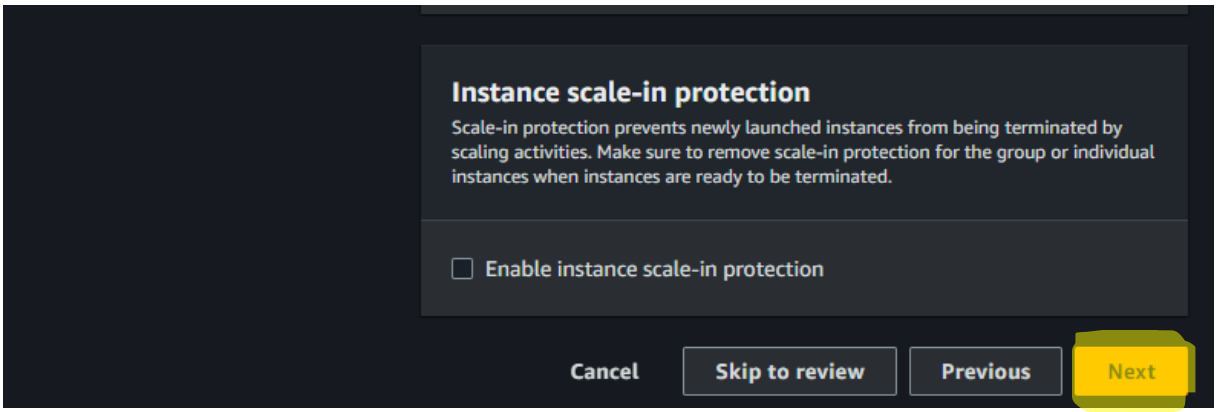
☐ Enable default instance warmup

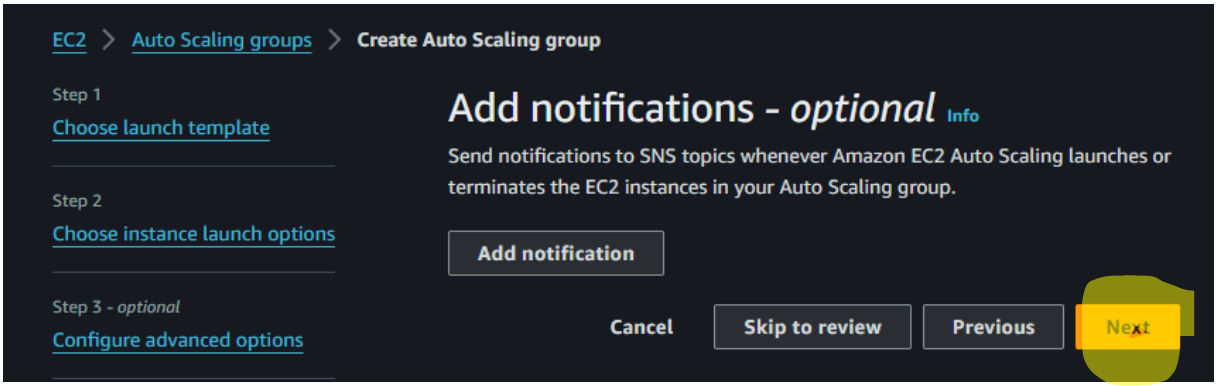
Cancel | Skip to review | Previous | Next

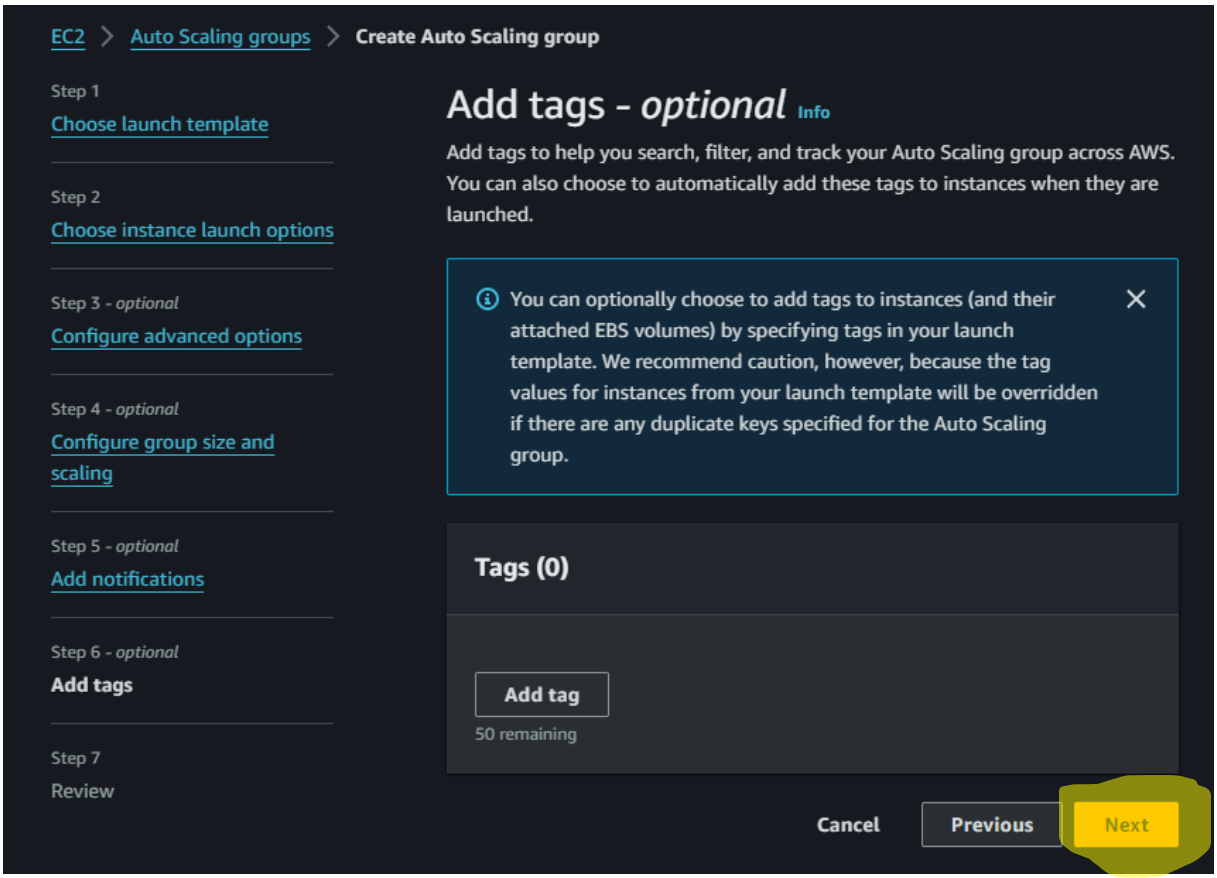

EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose instance launch options
Step 3 - optional
Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Configure group size and scaling - optional Info
Define your group's desired capacity and scaling limits. You can optionally add automatic scaling to adjust the size of your group.
Group size Info
Set the initial size of the Auto Scaling group. After creating the group, you can change its size to meet demand, either manually or by using automatic scaling.
Desired capacity type
Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.
Units (number of instances)
Desired capacity
Specify your group size.
2

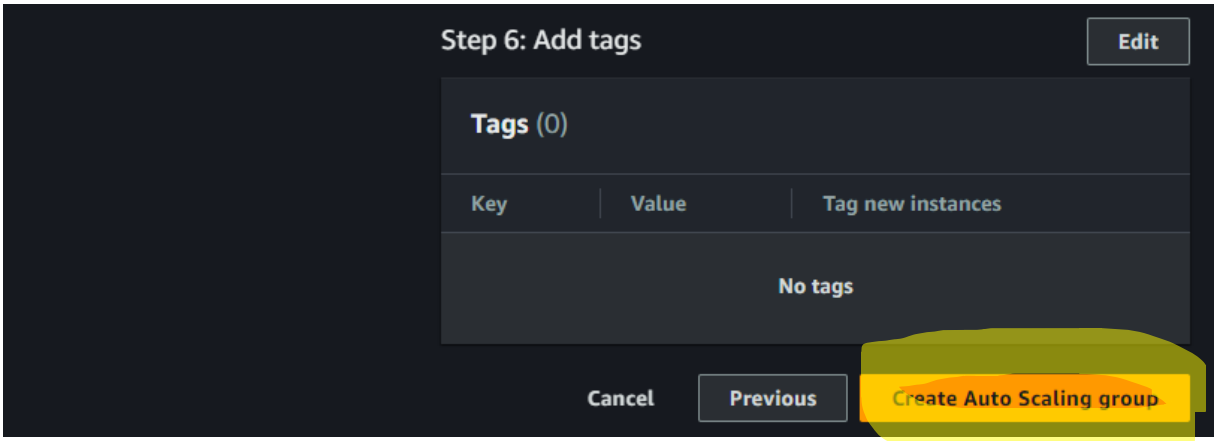

Step 7
Review
Scaling Info
You can resize your Auto Scaling group manually or automatically to meet changes in demand.
Scaling limits
Set limits on how much your desired capacity can be increased or decreased.
Min desired capacity
2
Equal or less than desired capacity
Max desired capacity
4
Equal or greater than desired capacity
Automatic scaling - optional
Choose whether to use a target tracking policy Info
You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.
No scaling policies
Your Auto Scaling group will remain at its initial size and will not dynamically resize to meet demand.
Target tracking scaling policy
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.


Target tracking scaling policy
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.
Scaling policy name
Target Tracking Policy
Metric type Info
Monitored metric that determines if resource utilization is too low or high. If using EC2 metrics, consider enabling detailed monitoring for better scaling performance.
Average CPU utilization
Target value
50
Instance warmup Info
300
seconds
Disable scale in to create only a scale-out policy

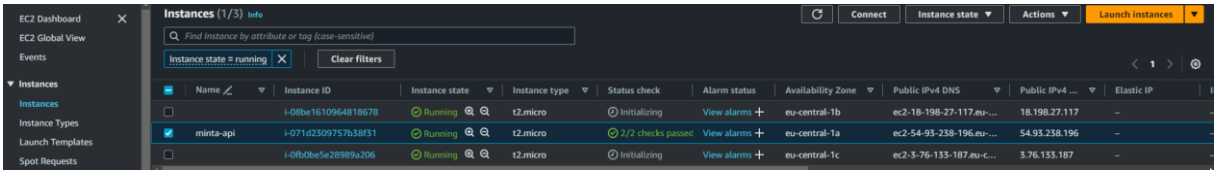

Instance scale-in protection
Scale-in protection prevents newly launched instances from being terminated by scaling activities. Make sure to remove scale-in protection for the group or individual instances when instances are ready to be terminated.
Enable instance scale-in protection
Cancel
Skip to review
Previous
Next


EC2
Auto Scaling groups
Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose instance launch options
Step 3 - optional
Configure advanced options
Add notifications - optional Info
Send notifications to SNS topics whenever Amazon EC2 Auto Scaling launches or terminates the EC2 instances in your Auto Scaling group.
Add notification
Cancel
Skip to review
Previous
Next

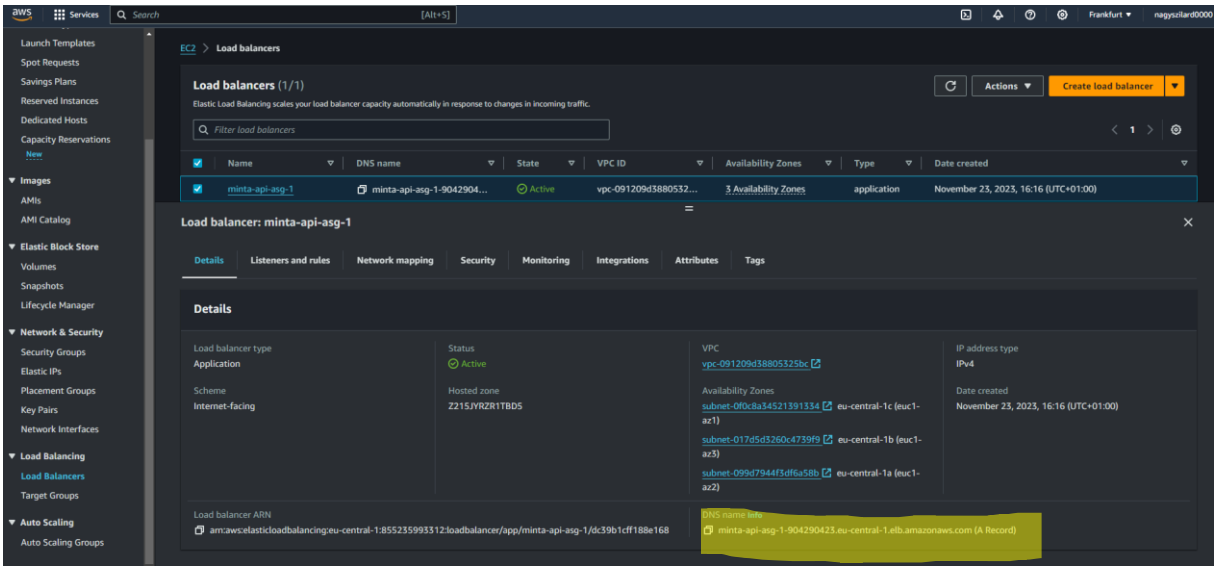


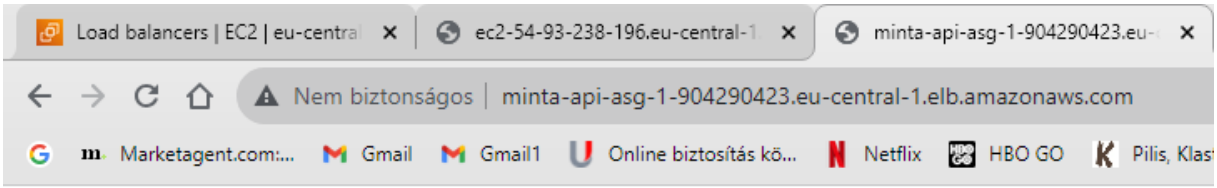


EC2 -> Instances



Load Balancing -> Load Balancers





API

Delete:

1. Delete Auto Scaling Group
2. Delete Load Balancer
3. Delete Launch Template
4. Deregister AMI
5. Delete Snapshot
6. Terminate all instances