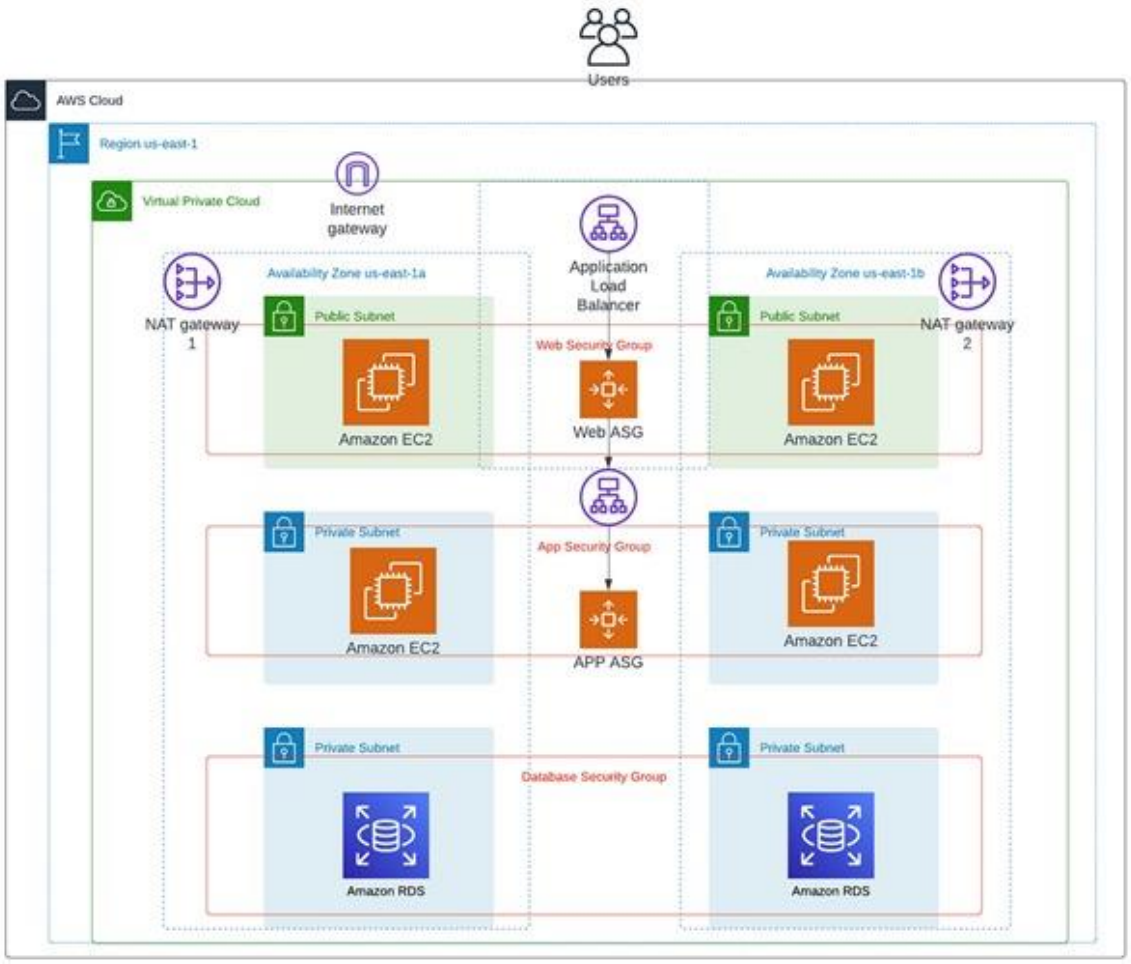
AWS THREE-TIRE ARCHITECTURE PROJECT



CREATE VPC:

VPC settings

Resources to create Info

Create only the VPC resource or the VPC and other networking resources.

(•) VPC only ( ) VPC and more

Name tag - *optional*

Creates a tag with a key of 'Name' and a value that you specify.

my-vpc-01

IPv4 CIDR block Info

(•) IPv4 CIDR manual input

( ) IPAM-allocated IPv4 CIDR block

IPv4 CIDR

25.0.0.0/16

CIDR block size must be between /16 and /28.

IPv6 CIDR block Info

(•) No IPv6 CIDR block

( ) IPAM-allocated IPv6 CIDR block

( ) Amazon-provided IPv6 CIDR block

( ) IPv6 CIDR owned by me

You successfully created vpc-03bf6dab171856c3f / my-vpc-01

CREATE SUBNET:1

Create subnet Info

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

public-subnet-1

The name can be up to 256 characters long.

Availability Zone Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1a

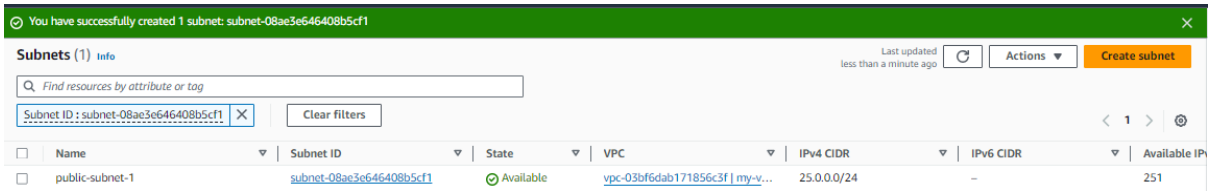
IPv4 VPC CIDR block Info

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

25.0.0.0/16

IPv4 subnet CIDR block

25.0.0.0/24 256 IPs



CREATE SUBNET:2

Create subnet Info

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

public-subnet-2

The name can be up to 256 characters long.

Availability Zone **Info**

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1b

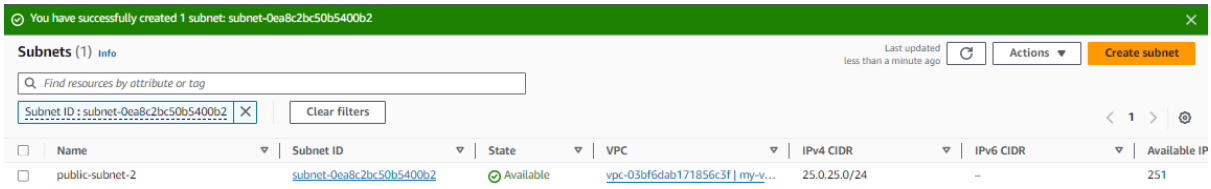
IPv4 VPC CIDR block **Info**

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

25.0.0.0/16

IPv4 subnet CIDR block

25.0.25.0/24 256 IPs



CREATE SUBNET:3

Create subnet Info

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

private-subnet-1

The name can be up to 256 characters long.

Availability Zone Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1a

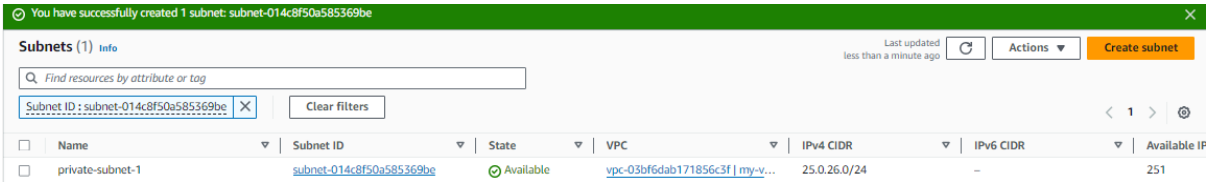
IPv4 VPC CIDR block Info

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

25.0.0.0/16

IPv4 subnet CIDR block

25.0.26.0/24 256 IPs



CREATE SUBNET:4

Create subnet Info

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

private-subnet-2

The name can be up to 256 characters long.

Availability Zone Info

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1b

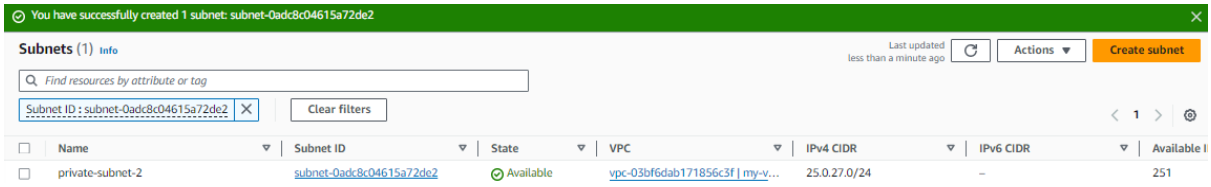
IPv4 VPC CIDR block Info

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

25.0.0.0/16

IPv4 subnet CIDR block

25.0.27.0/24 256 IPs



CREATE SUBNET:5

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

private-subnet-rds-1

The name can be up to 256 characters long.

Availability Zone **Info**

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1a

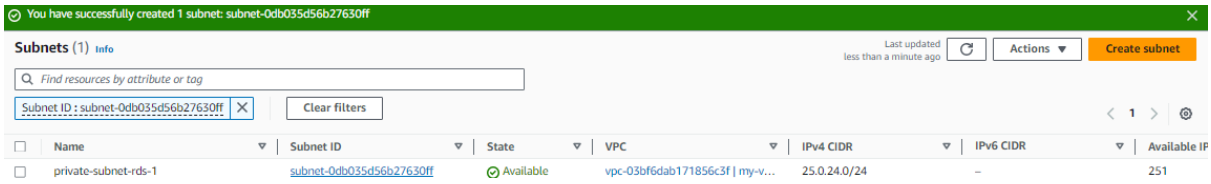
IPv4 VPC CIDR block **Info**

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

25.0.0.0/16

IPv4 subnet CIDR block

25.0.24.0/24 256 IPs



CREATE SUBNET:6

VPC

VPC ID

Create subnets in this VPC.

vpc-03bf6dab171856c3f (my-vpc-01)

Associated VPC CIDRs

IPv4 CIDRs

25.0.0.0/16

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

private-subnet-rds-2

The name can be up to 256 characters long.

Availability Zone **Info**

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

US West (N. California) / us-west-1b

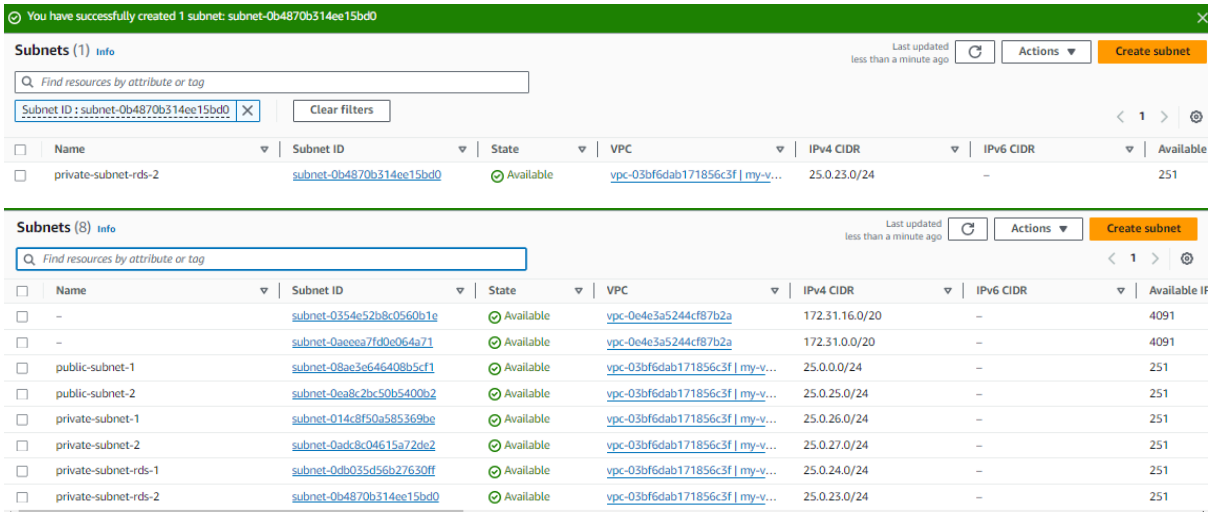
IPv4 VPC CIDR block **Info**

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

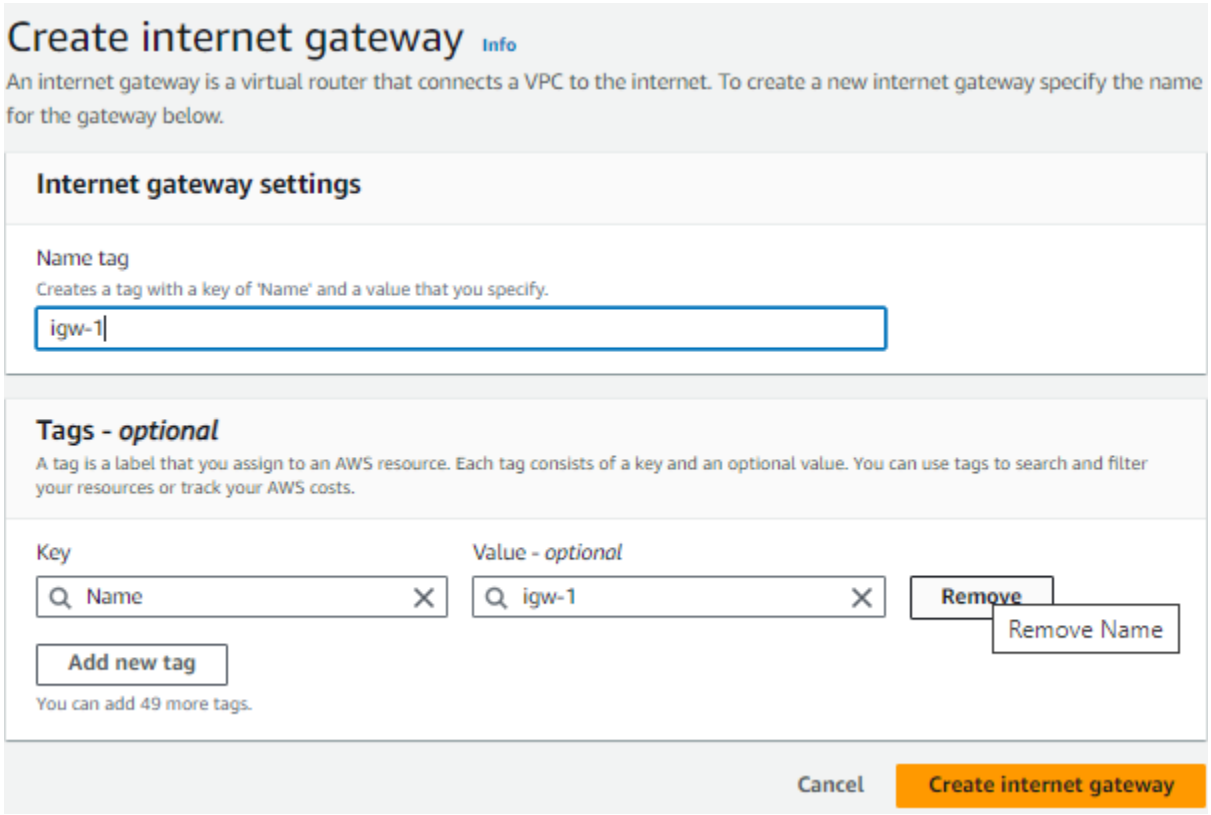
25.0.0.0/16

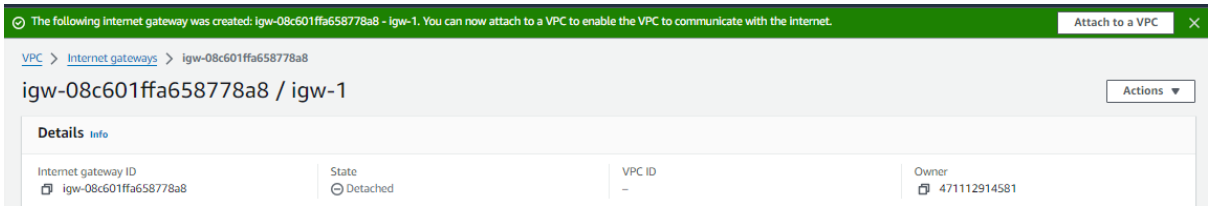
IPv4 subnet CIDR block

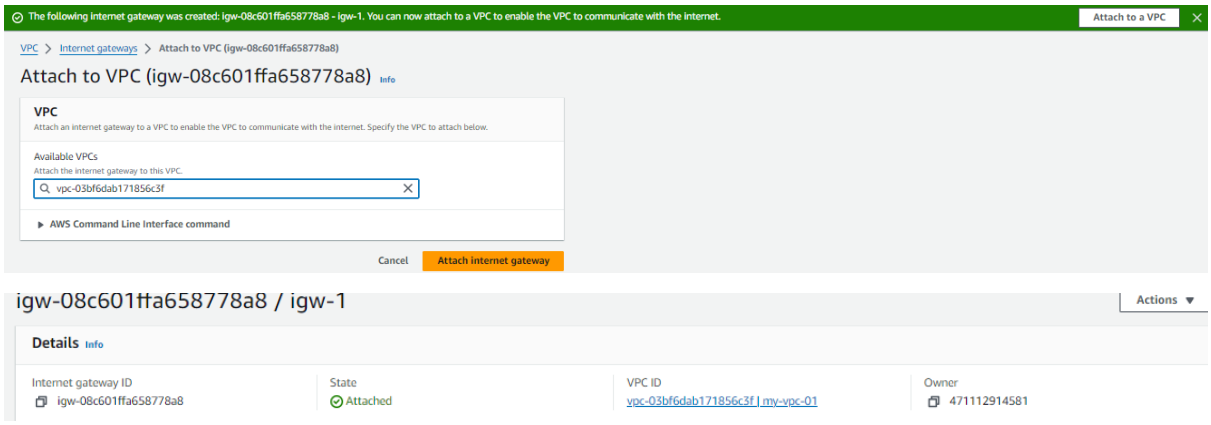
25.0.23.0/24 256 IPs



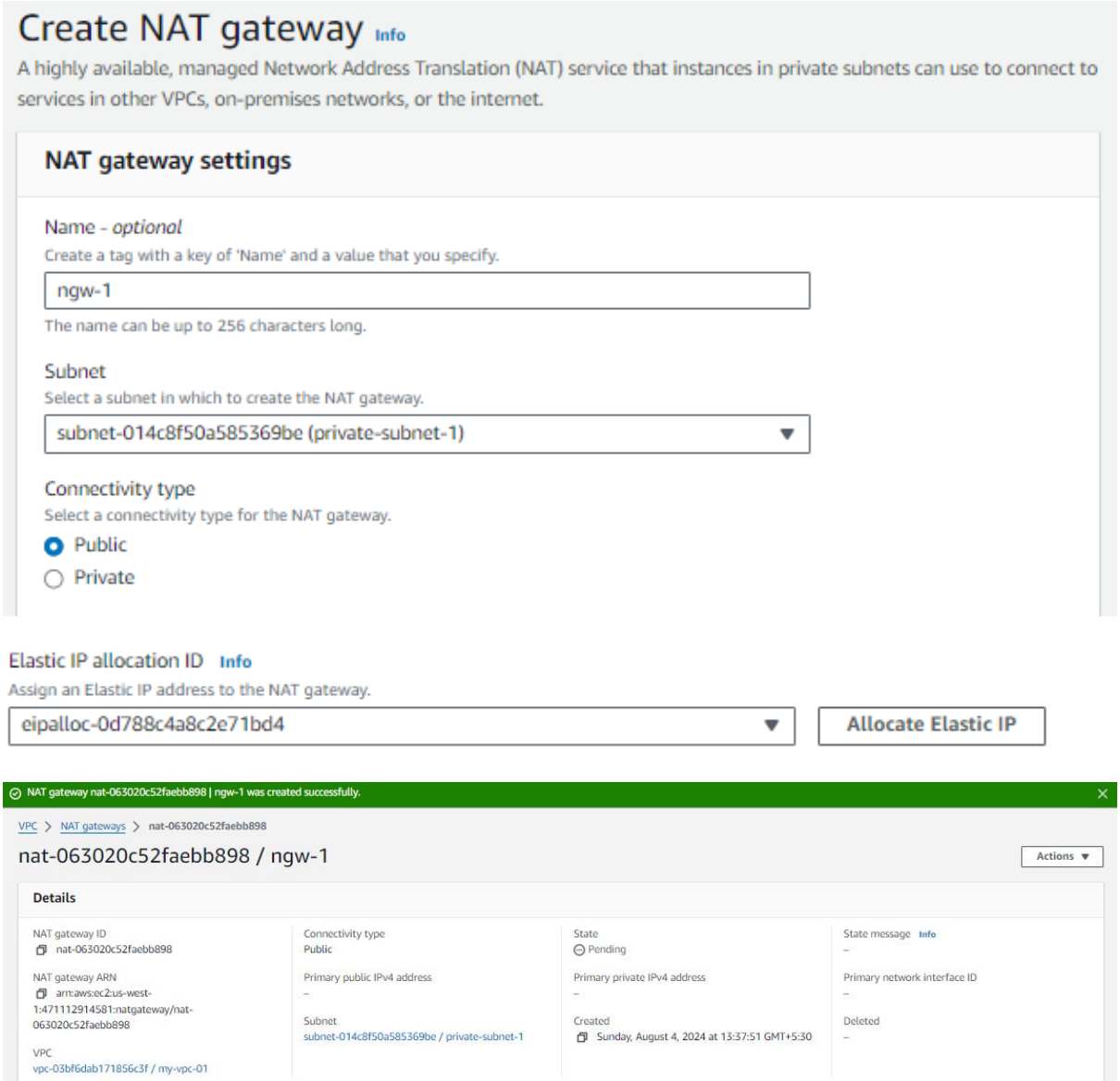
CREATE INTERNET GATEWAY AND ATTACH TO VPC:





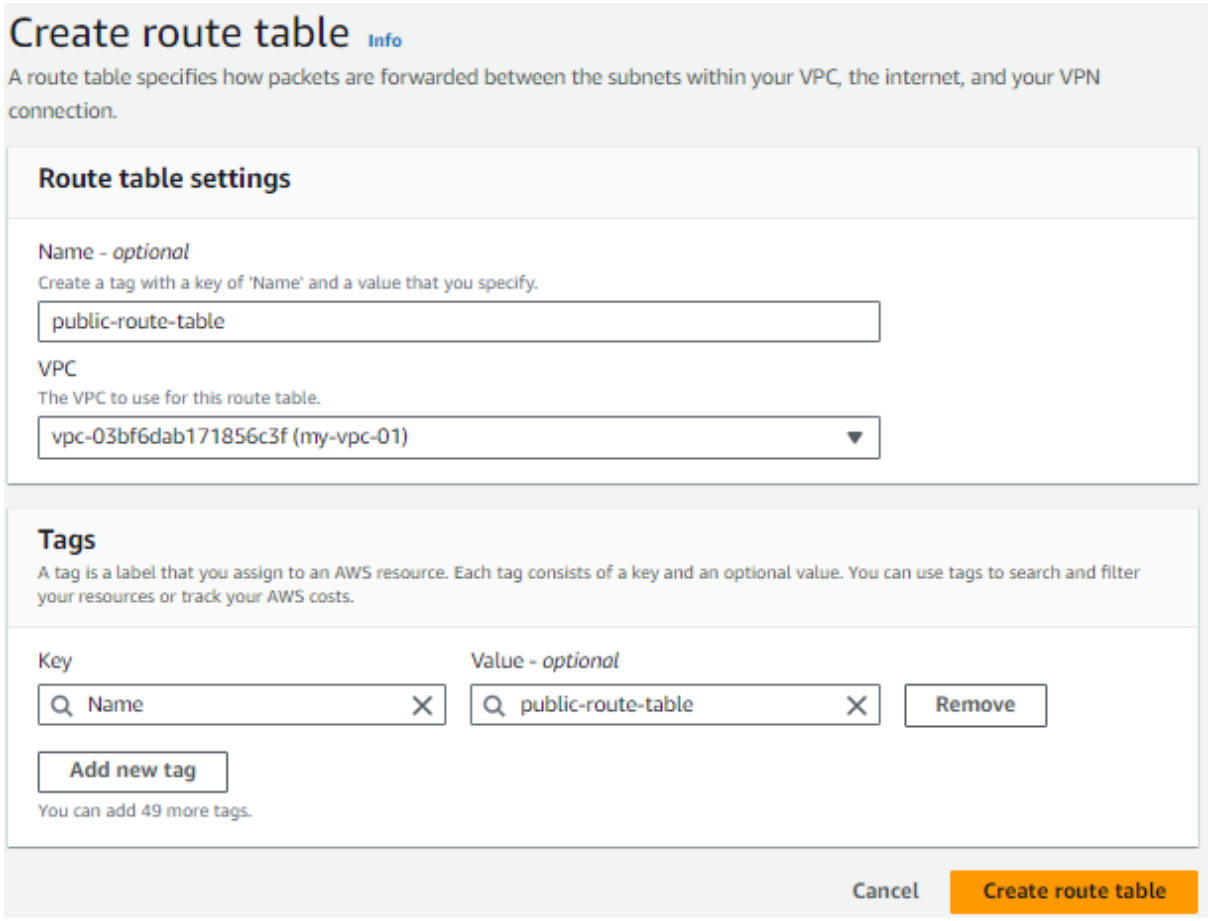


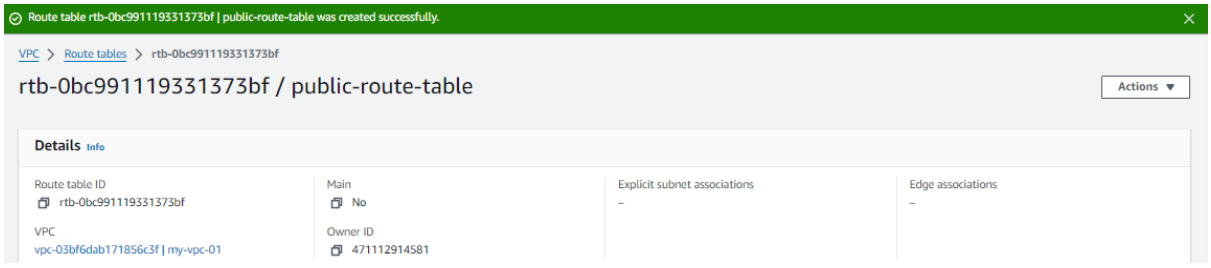
CREATE NAT GATEWAY



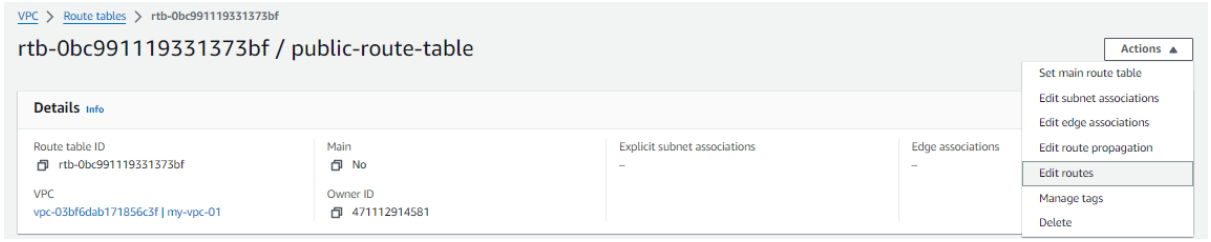
CREATE ROUTE TABLE:1

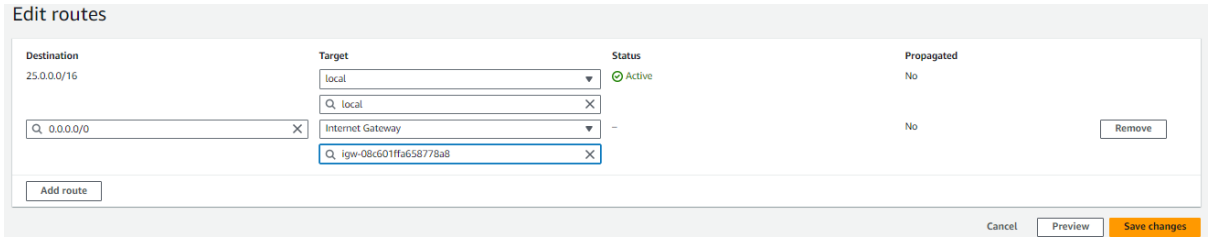
Public route table



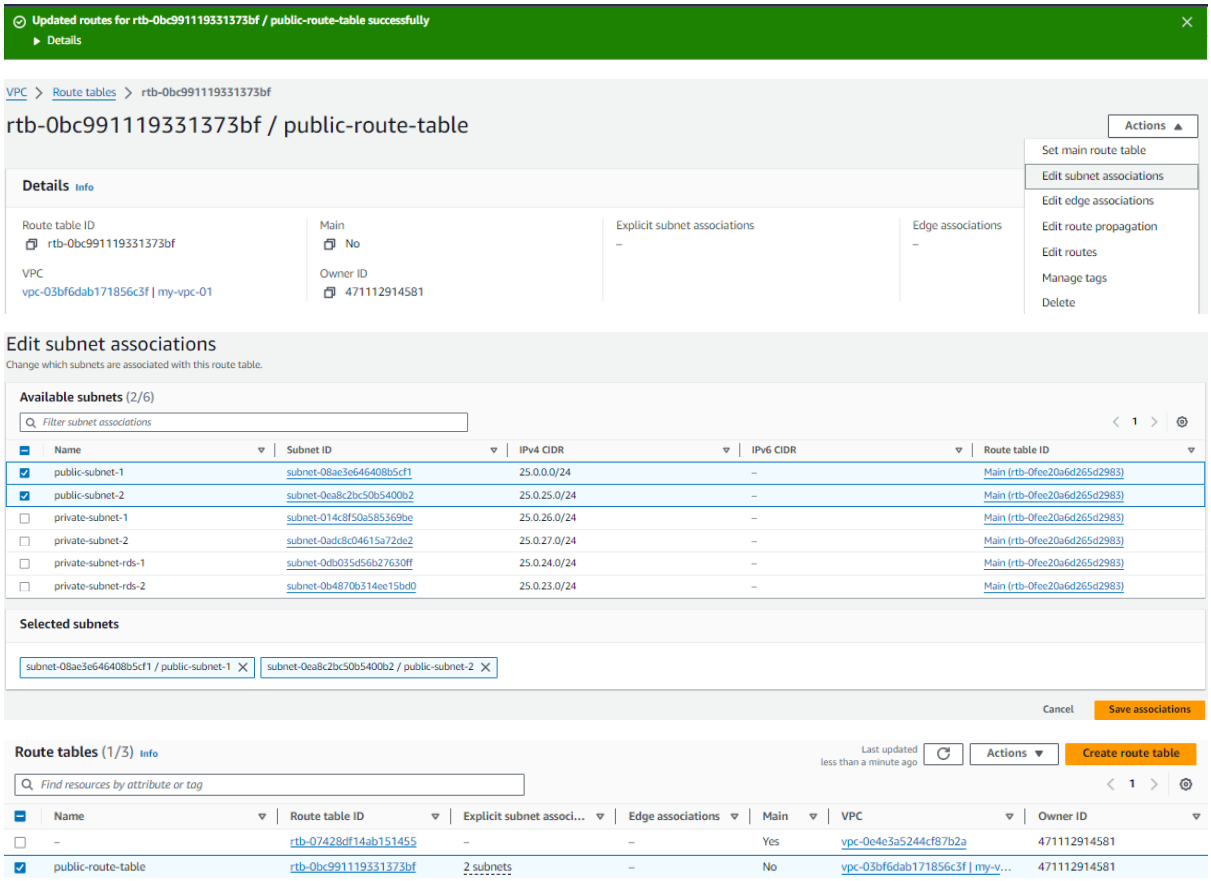


Here I edit the public route and attach internet gateway



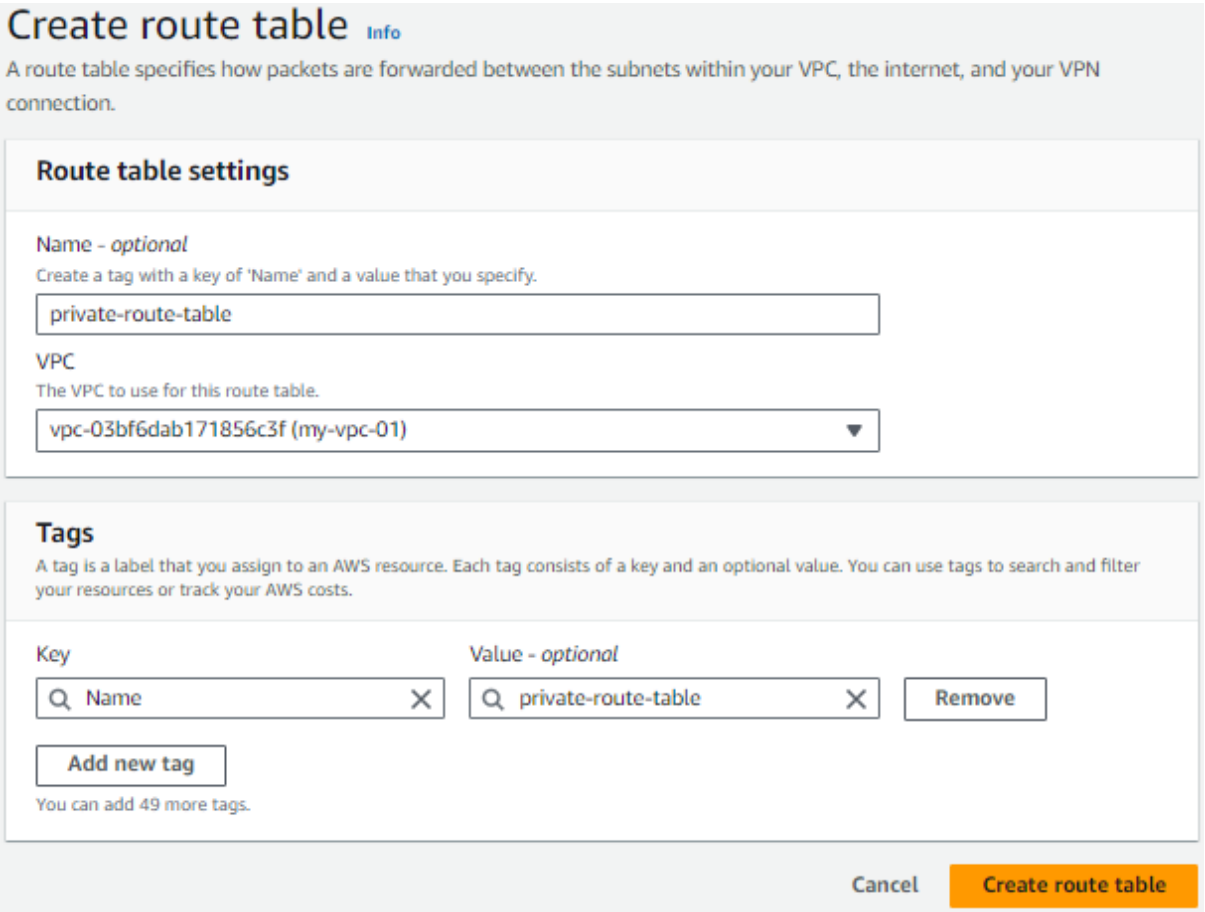


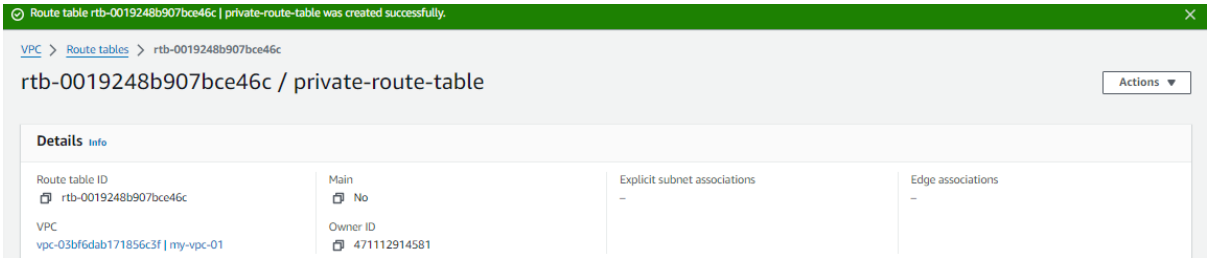
EDIT THE SUBNET ASSOCIATIONS AND ATTACH THE TWO PUBLIC SUBNETS TO PUBLIC ROUTE TABLE



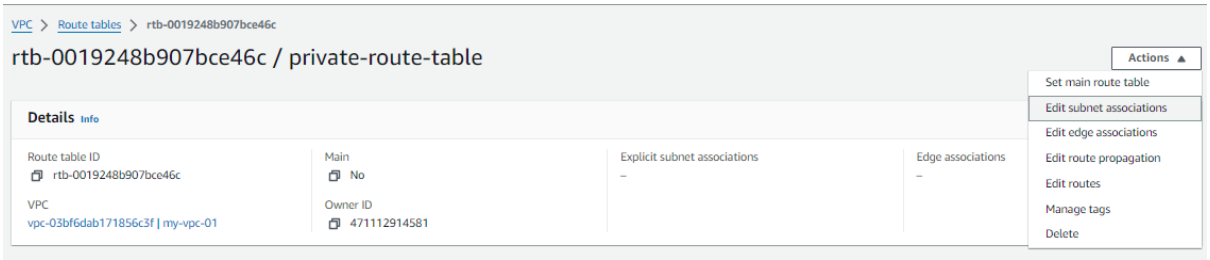
CREATE ROUTE TABLE:2

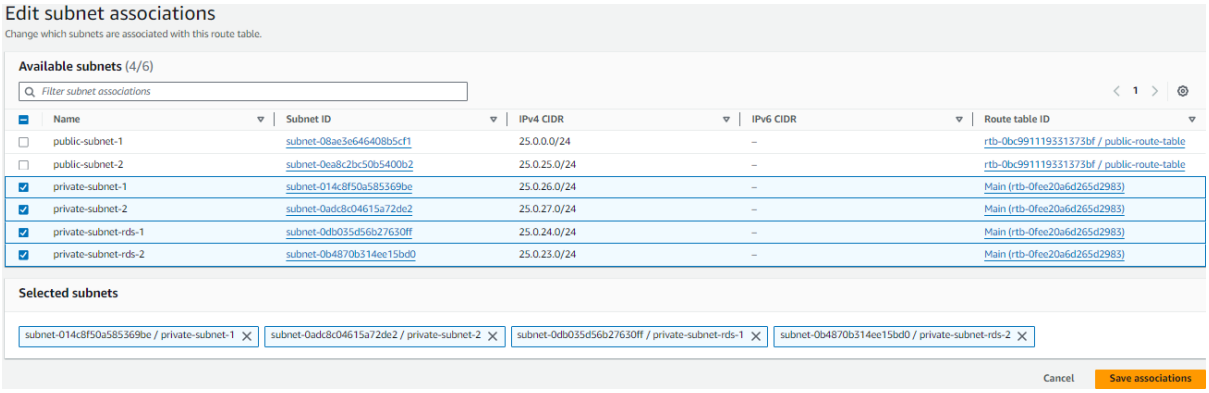
PRIVATE ROUTE TABLE

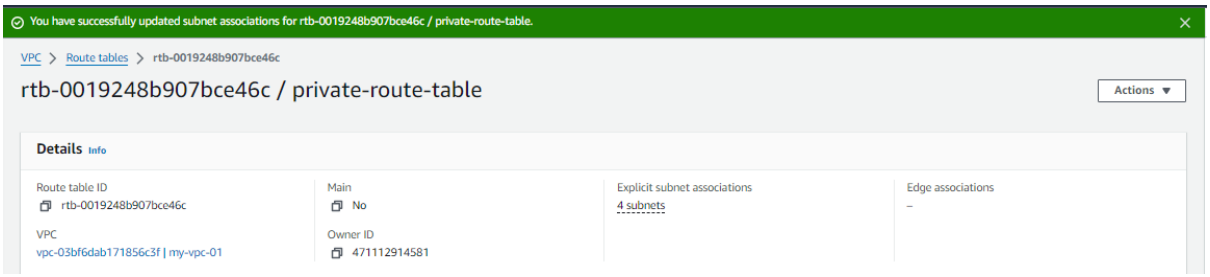




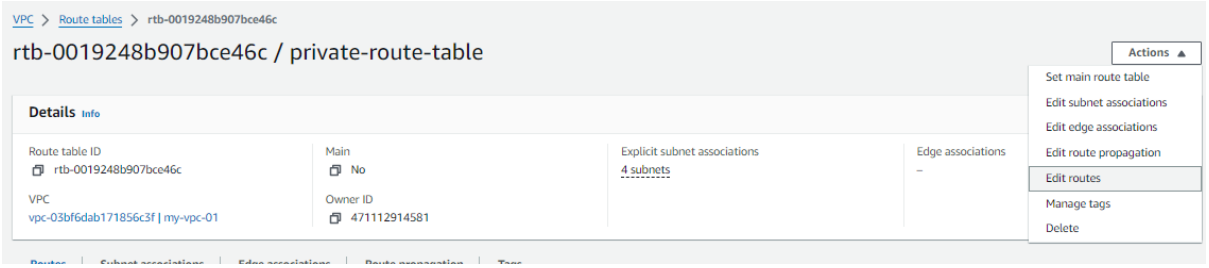
HERE I EDIT SUBNET ASSOCIATION AND ATTACH FOUR PRIVATE SUBNETS TO THE PRIVATE ROUTE TABLE

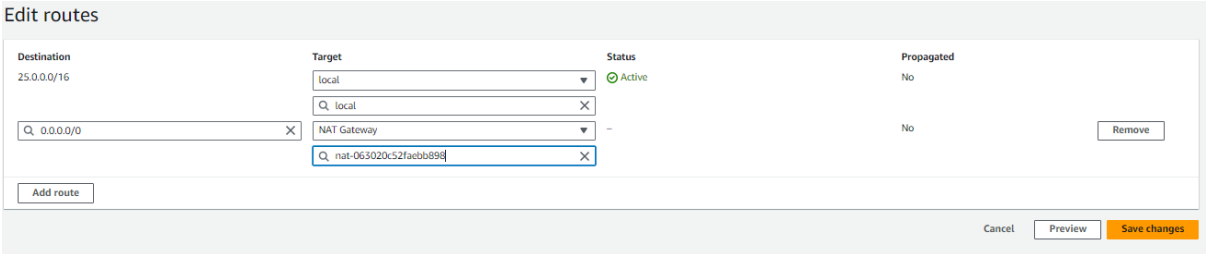


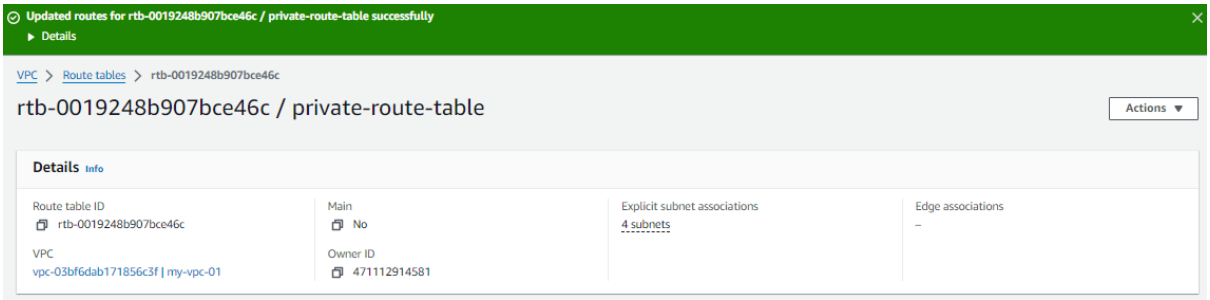




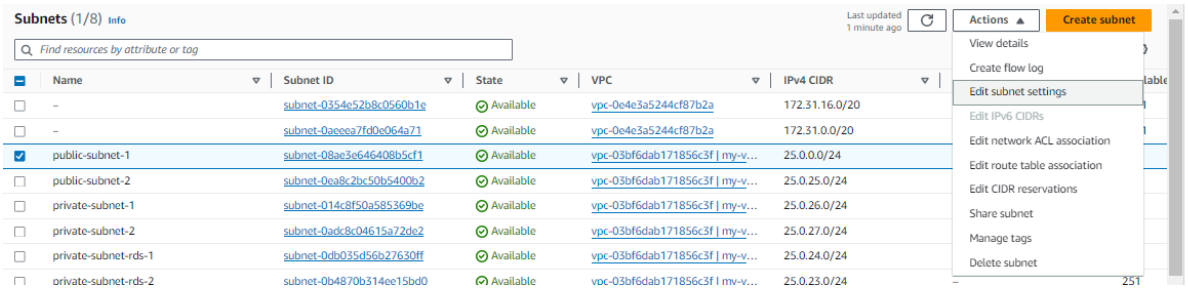
NOW EDIT THE PRIVATE ROUTE TABLE AND ATTACH NAT GATEWAY

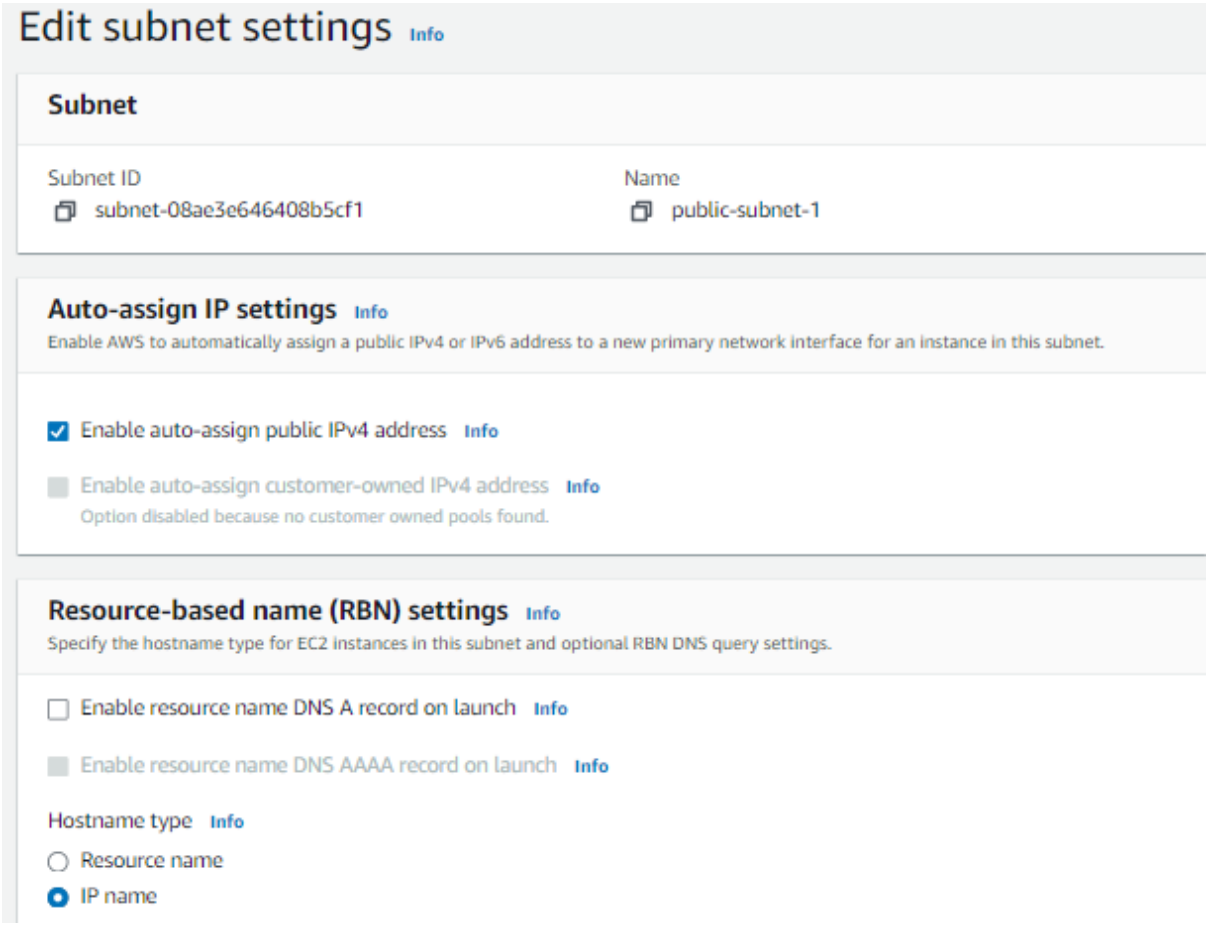






HERE I GO TO ACTION AND EDIT SUBNET SETTINGS TO ENABLE AUTO ASSIGN PUBLIC IPV4 ADDRESS

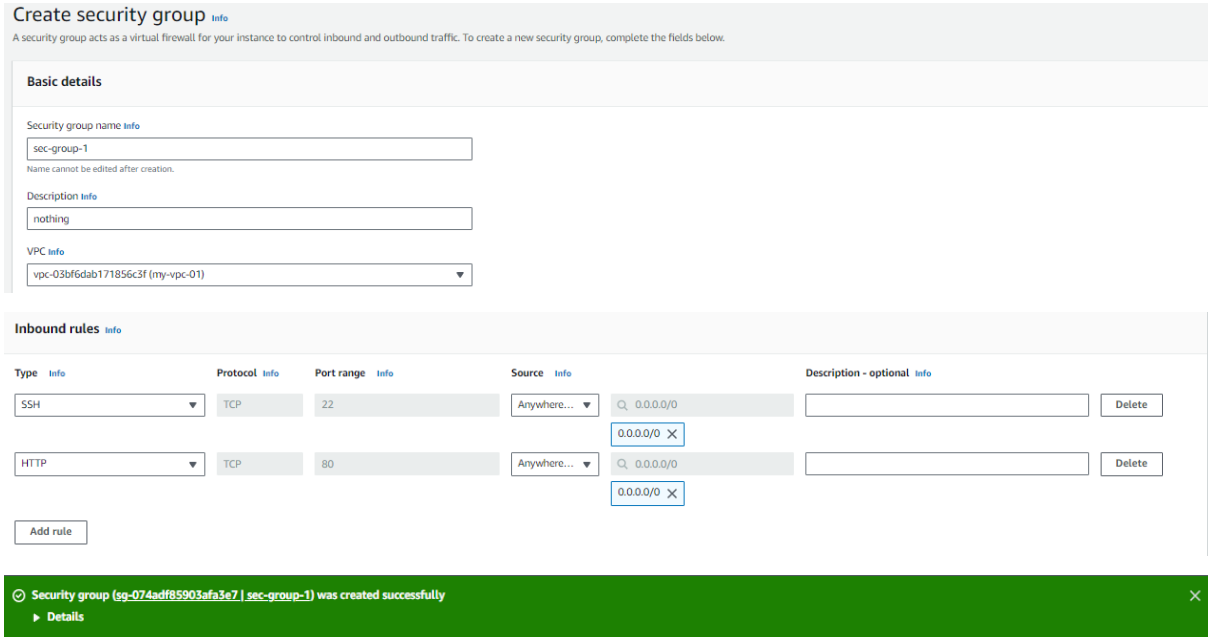




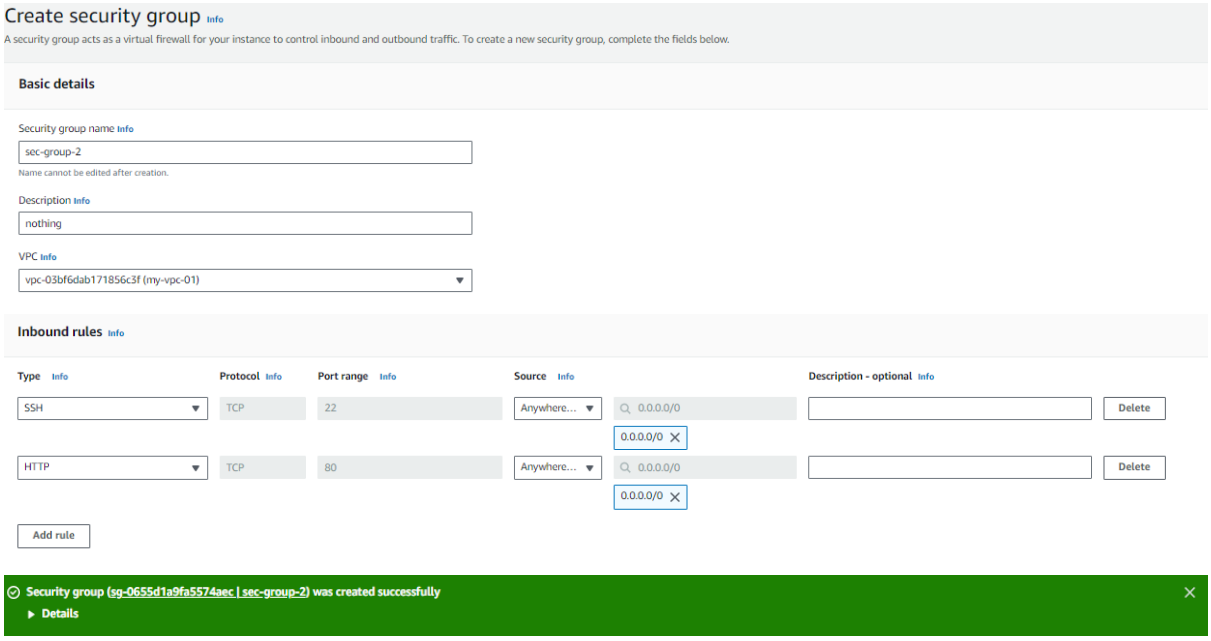
NOTE: HERE SAME PROCESS TO REMAINING FIVE SUBNETS

CREATE SECURITY GROUPS: 02

SECURITY GROUP:1

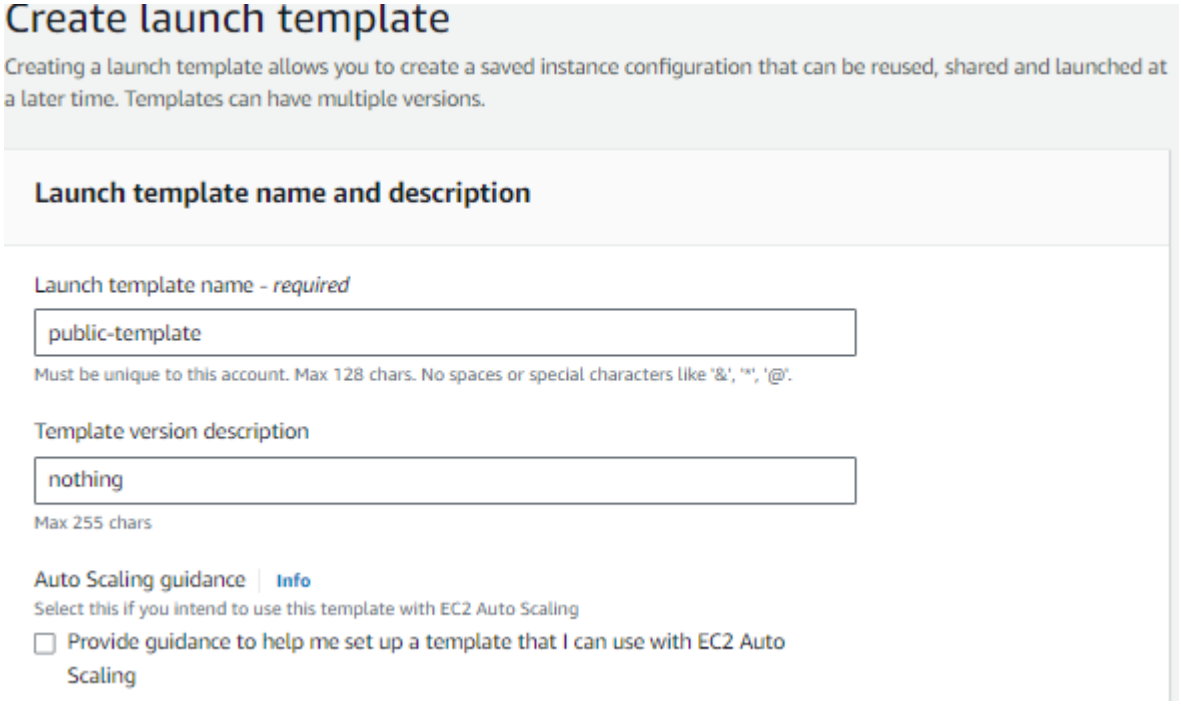


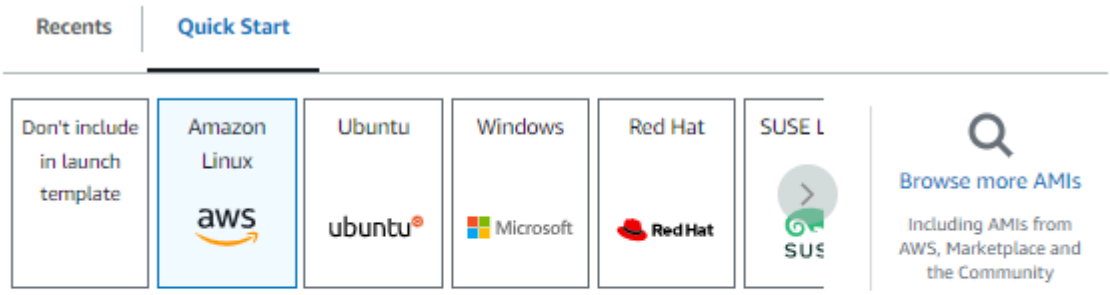
SECURITY GROUP:2



NOW LAUNCH TWO TEMPLATES:

FIRST TEMPLATE NAME: public-template





Amazon Machine Image (AMI)

Amazon Linux 2023 AMI — Free tier eligible
ami-0b36f2748d7665334 (64-bit (x86), uefi-preferred) / ami-09b373e652bc4f475 (64-bit (Arm), uefi)
Virtualization: hvm ENA enabled: true Root device type: ebs

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 RHEL base pricing: 0.0282 USD per Hour
On-Demand SUSE base pricing: 0.0138 USD per Hour
On-Demand Windows base pricing: 0.0184 USD per Hour
On-Demand Linux base pricing: 0.0138 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

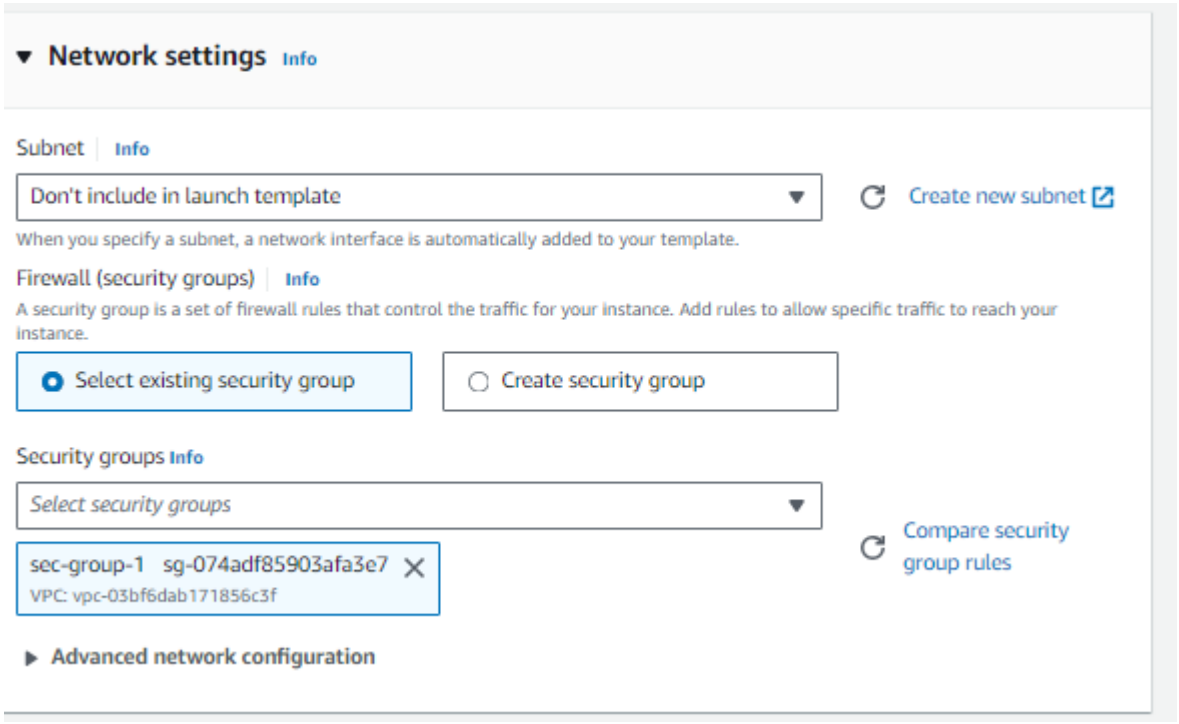
Key pair (login) Info

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.

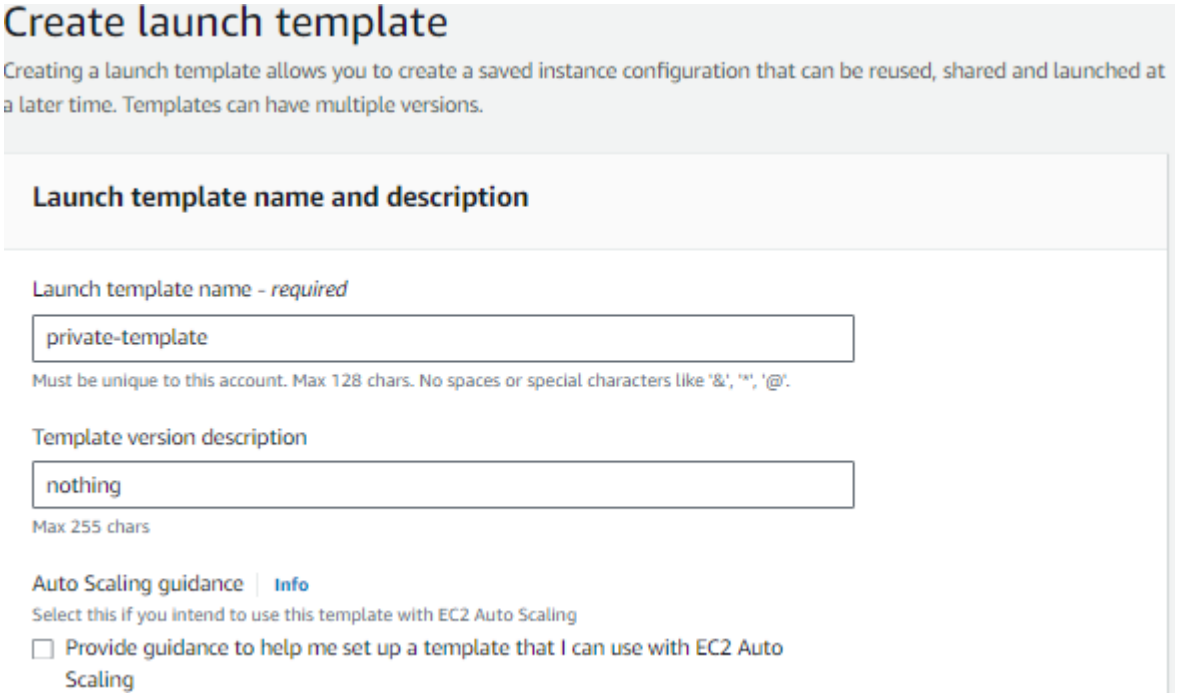
Key pair name

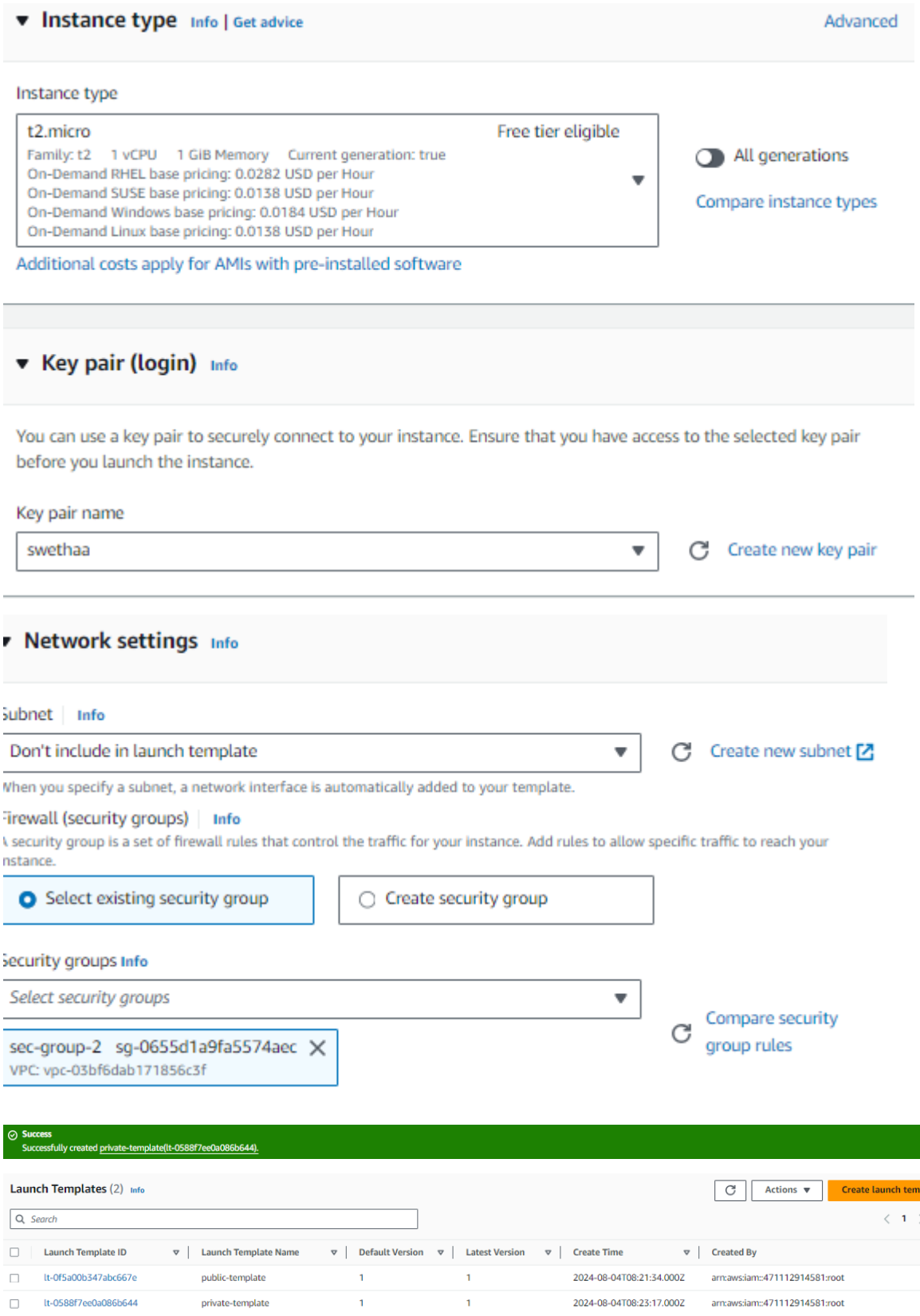
swethaa

Create new key pair



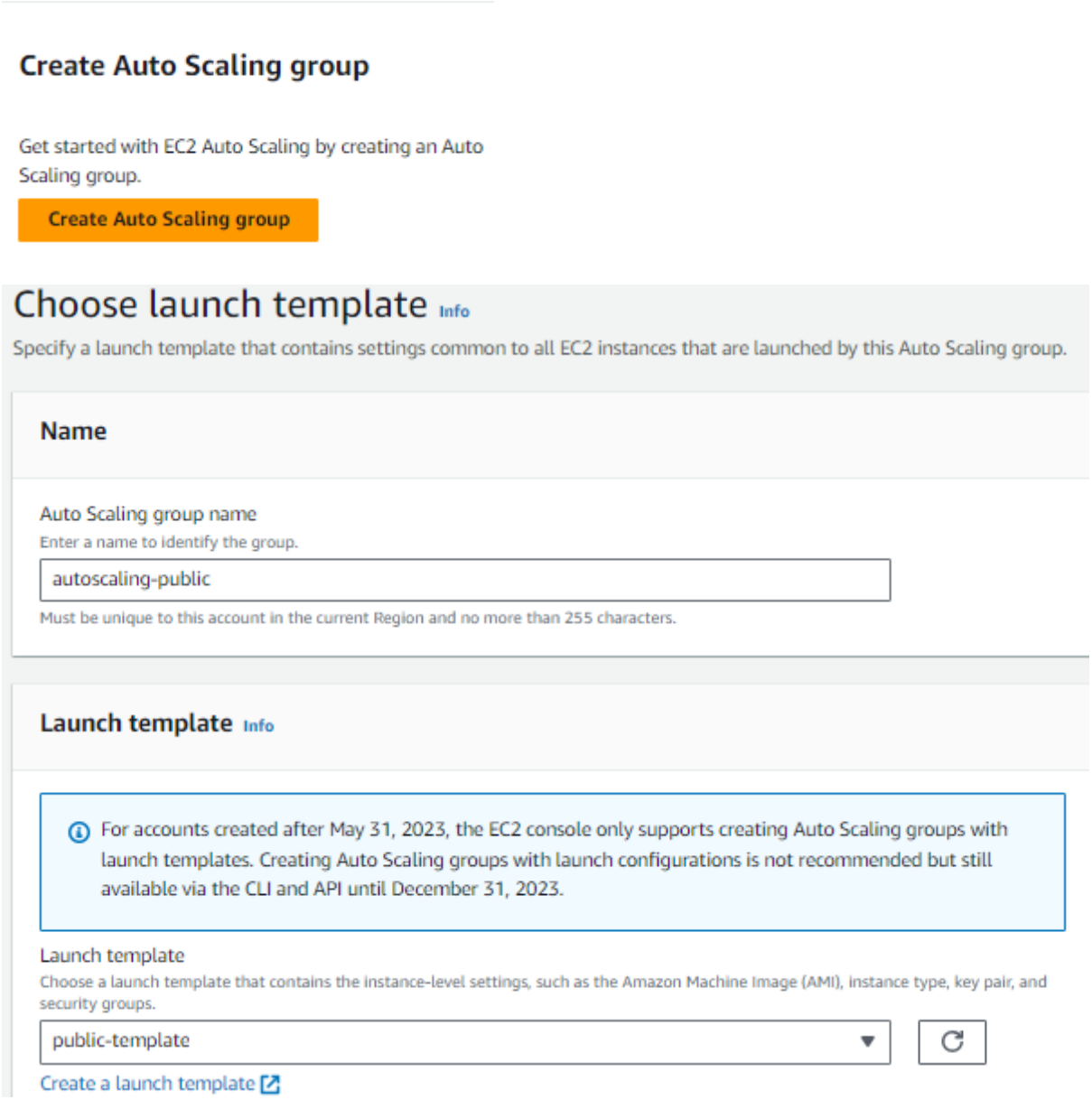
SECOND TEMPLATE NAME: private-template





LAUNCH AUTO SCALINGS GROUPS TWO:

FIRST AUTO SCALING GROUP NAME: autoscaling-public



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.

vpc-03bf6dab171856c3f (my-vpc-01)
25.0.0.0/16

Create a VPC

Availability Zones and subnets

Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.

Select Availability Zones and subnets

us-west-1a | subnet-08ae3e646408b5cf1 (public-subnet-1)
25.0.0.0/24

us-west-1b | subnet-0ea8c2bc50b5400b2 (public-subnet-2)
25.0.25.0/24

Create a subnet

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.

autoscaling-public-1

Load balancer scheme

Scheme cannot be changed after the load balancer is created.

- ○ Internal
- ◉ Internet-facing

VPC

vpc-03bf6dab171856c3f my-vpc-01

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.

- ☑ us-west-1b — subnet-0ea8c2bc50b5400b2
- ☑ us-west-1a — subnet-08ae3e646408b5cf1

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.

autoscaling-public-1-tg

Desired capacity

Specify your group size.

2

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	Max desired capacity
2	5
Equal or less than desired capacity	Equal or greater than desired capacity

Auto Scaling groups (1) Info

Launch configurations | Launch templates | Actions | Create Auto Scaling group

Search your Auto Scaling groups

1

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
autoscaling-public	public-template | Version Default	0	Updating capacity...	2	2	5	us-west-1a, us-west-1b

SECOND AUTO SCALING GROUP NAME: autoscaling-private

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.

autoscaling-private

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.

private-template

Create a launch template

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.

vpc-03bf6dab171856c3f (my-vpc-01)
25.0.0.0/16

Create a VPC

Availability Zones and subnets

Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.

Select Availability Zones and subnets

us-west-1a | subnet-014c8f50a585369be (private-subnet-1)
25.0.26.0/24

us-west-1b | subnet-0adc8c04615a72de2 (private-subnet-2)
25.0.27.0/24

us-west-1a | subnet-0db035d56b27630ff (private-subnet-rds-1)
25.0.24.0/24

us-west-1b | subnet-0b4870b314ee15bd0 (private-subnet-rds-2)
25.0.23.0/24

Create a subnet

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.

autoscaling-private-1

Load balancer scheme

Scheme cannot be changed after the load balancer is created.

- ◉ Internal
- ○ Internet-facing

VPC

vpc-03bf6dab171856c3f my-vpc-01

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.

- ☑ us-west-1b — subnet-0b4870b314ee15bd0
- ☑ us-west-1a — subnet-0db035d56b27630ff

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.

autoscaling-private-1-tg

Health check grace period | Info

This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when placed into a non-running state.

30 seconds

Desired capacity

Specify your group size.

2

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	Max desired capacity
2	5
Equal or less than desired capacity	Equal or greater than desired capacity

Auto Scaling groups (2) Info

Launch configurations | Launch templates | Actions | Create Auto Scaling group

Search your Auto Scaling groups

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
autoscaling-private	private-template | Version Default	2	-	2	2	5	us-west-1a, us-west-1b
autoscaling-public	public-template | Version Default	2	-	2	2	5	us-west-1a, us-west-1b

AUTOMATICALLY CREATED EC2 INSTANCES

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
	i-0701c2c2ae28cee76	Running	t2.micro	Initializing	View alarms	us-west-1a	–	54.177.95.72
	i-0542ebf015b7ef9a8	Running	t2.micro	2/2 checks passed	View alarms	us-west-1a	–	3.101.21.32
	i-0c73561050a795e16	Running	t2.micro	2/2 checks passed	View alarms	us-west-1b	–	50.18.76.89
	i-09768de1f3e456f05	Running	t2.micro	Initializing	View alarms	us-west-1b	–	13.56.156.174

GIVE THE NAMES TO THE EC2 INSTANCES:

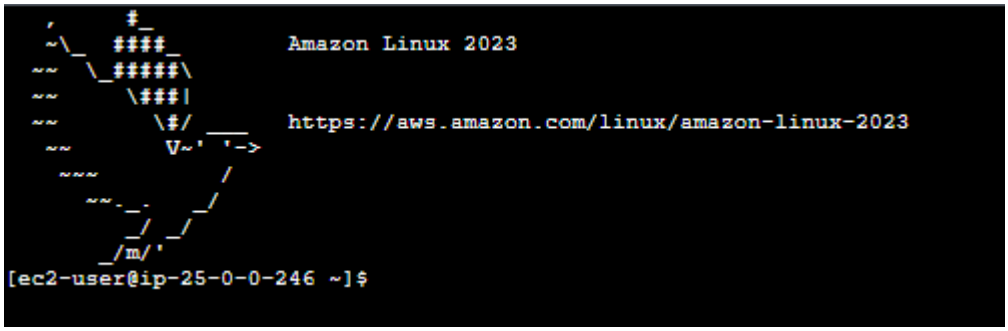
Instances (1/4) Info

Connect | Instance state | Actions | Launch instances

Find Instance by attribute or tag (case-sensitive) | All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
private-1	i-0701c2c2ae28cee76	Running	t2.micro	Initializing	View alarms	us-west-1a	–	54.177.95.72
public-1	i-0542ebf015b7ef9a8	Running	t2.micro	2/2 checks passed	View alarms	us-west-1a	–	3.101.21.32
public-2	i-0c73561050a795e16	Running	t2.micro	2/2 checks passed	View alarms	us-west-1b	–	50.18.76.89
private-2	i-09768de1f3e456f05	Running	t2.micro	Initializing	View alarms	us-west-1b	–	13.56.156.174

PUBLIC1 INSTANCE CONNECT TO THE WEB:

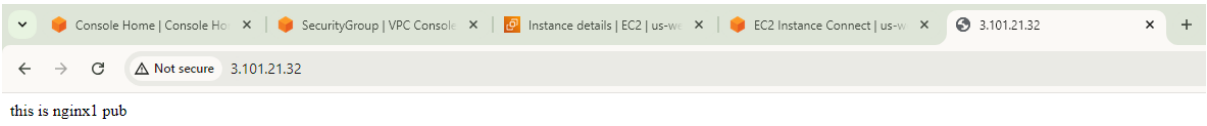


```
Last login: Sun Aug  4 08:40:06 2024 from 13.52.6.116
[ec2-user@ip-25-0-0-246 ~]$ sudo -i
[root@ip-25-0-0-246 ~]# yum update -y
Last metadata expiration check: 0:25:13 ago on Sun Aug  4 08:31:59 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-25-0-0-246 ~]# yum install nginx -y
```

```
Installed:
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch    gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64    libunwind-1.4.0-5.amzn2023.0.2.x86_64    nginx-1:1.24.0-1.amzn2023.0.2.x86_64
  nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64            nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch    nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch

Complete!
[root@ip-25-0-0-246 ~]#
```

```
[root@ip-25-0-0-246 ~]# cd /usr/share/html
-bash: cd: /usr/share/html: No such file or directory
[root@ip-25-0-0-246 ~]# cd /usr/share/nginx/html
[root@ip-25-0-0-246 html]# ls
404.html  50x.html  icons  index.html  nginx-logo.png  poweredby.png
[root@ip-25-0-0-246 html]# rm index.html
rm: remove regular file 'index.html'? yes
[root@ip-25-0-0-246 html]# vi index.html
[root@ip-25-0-0-246 html]# systemctl restart nginx
[root@ip-25-0-0-246 html]#
```



this is nginx1 pub

PUBLIC1 INSTANCE ATTACHED TO PRIVATE1 INSTANCE

```
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Sun Aug  4 08:56:55 2024 from 13.52.6.116
[ec2-user@ip-25-0-0-246 ~]$ sudo -i
[root@ip-25-0-0-246 ~]# vi swethaa.pem
[root@ip-25-0-0-246 ~]# chmod 400 "swethaa.pem"
[root@ip-25-0-0-246 ~]# ssh -i "swethaa.pem" ec2-user@25.0.24.231
The authenticity of host '25.0.24.231 (25.0.24.231)' can't be established.
ED25519 key fingerprint is SHA256:H/+s6fV5fV98fUfARDZ2vIDB/vCVH3oUAmqCpxvW8B0.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '25.0.24.231' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-25-0-24-231 ~]$
```

NOW PUBLIC2 INSTANCE ATTACHED TO THE WEB:

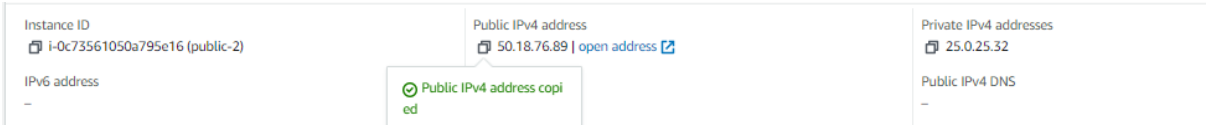
```
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-25-0-25-32 ~]$ sudo -i
[root@ip-25-0-25-32 ~]# yum update -y
Last metadata expiration check: 0:41:47 ago on Sun Aug  4 08:32:07 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-25-0-25-32 ~]# yum install nginx -y
```

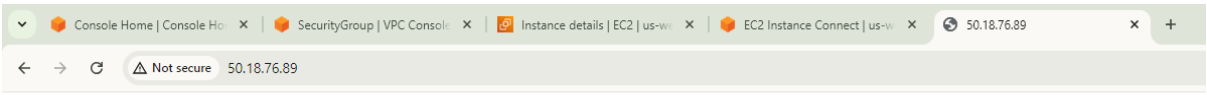
```
Installed:
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch    gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64    libunwind-1.4.0-5.amzn2023.0.2.x86_64    nginx-1:1.24.0-1.amzn2023.0.2.x86_64
  nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64            nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch    nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch

Complete!
[root@ip-25-0-25-32 ~]#
```

```
[root@ip-25-0-25-32 ~]# cd /usr/share/nginx/html
[root@ip-25-0-25-32 html]# ls
404.html  50x.html  icons  index.html  nginx-logo.png  poweredby.png
[root@ip-25-0-25-32 html]# rm index.html
rm: remove regular file 'index.html'? yes
[root@ip-25-0-25-32 html]# vi index.html
```

```
[root@ip-25-0-25-32 ~]# cd /usr/share/nginx/html
[root@ip-25-0-25-32 html]# ls
404.html  50x.html  icons  index.html  nginx-logo.png  poweredby.png
[root@ip-25-0-25-32 html]# rm index.html
rm: remove regular file 'index.html'? yes
[root@ip-25-0-25-32 html]# vi index.html
[root@ip-25-0-25-32 html]# systemctl restart nginx
```





this is nginx pub2

PUBLIC2 INSTANCE ATTACH TO PRIVATE2 INSTANCE

```
[root@ip-25-0-25-32 html]# vi swethaa.pem
[root@ip-25-0-25-32 html]# chmod 400 "swethaa.pem"
[root@ip-25-0-25-32 html]# ssh -i "swethaa.pem" ec2-user@25.0.23.188
The authenticity of host '25.0.23.188 (25.0.23.188)' can't be established.
ED25519 key fingerprint is SHA256:3CSFG4cjOyI29j/7Wnc2O8nJPOHsRcSddqYZbn1RVk4.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '25.0.23.188' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-25-0-23-188 ~]$ sudo -i
[root@ip-25-0-23-188 ~]# ls
[root@ip-25-0-23-188 ~]#
```

CREATE DATABASE:

Create database

Choose a database creation method Info

- (•) Standard create
  You set all of the configuration options, including ones for availability, security, backups, and maintenance.
- ( ) Easy create
  Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

- ( ) Aurora (MySQL Compatible)

- ( ) Aurora (PostgreSQL Compatible)

- (•) MySQL

- ( ) MariaDB

Templates

Choose a sample template to meet your use case.

- ( ) Production
  Use defaults for high availability and fast, consistent performance.
- ( ) Dev/Test
  This instance is intended for development use outside of a production environment.
- (•) Free tier
  Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. Info

Settings

DB instance identifier **Info**

Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

database-1

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ **Credentials Settings**

Master username **Info**

Type a login ID for the master user of your DB instance.

admin

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management

You can use AWS Secrets Manager or manage your master user credentials.

- (●) Managed in AWS Secrets Manager - *most secure*
  RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.
- ( ) Self managed
  Create your own password or have RDS create a password that you manage.

If you manage the master user credentials in AWS Secrets Manager, additional charges apply. See AWS Secrets Manager pricing. Additionally, some RDS features aren't supported. See limitations here.

Select the encryption key **Info**

You can encrypt using the KMS key that Secrets Manager creates or a customer managed KMS key that you create.

aws/secretsmanager (default) ▼ [↻]

Add new key

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class Info

▼ Hide filters

Show instance classes that support Amazon RDS Optimized Writes Info

Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Include previous generation classes

Standard classes (includes m classes)

Memory optimized classes (includes r and x classes)

Burstable classes (includes t classes)

db.t3.micro

2 vCPUs 1 GiB RAM Network: 2,085 Mbps

Storage

Storage type Info

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)

Baseline performance determined by volume size

Allocated storage Info

20 GiB

The minimum value is 20 GiB and the maximum value is 6,144 GiB

VPC security group (firewall) Info

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriat incoming traffic.

Choose existing

Choose existing VPC security groups

Create new

Create new VPC security group

Existing VPC security groups

Choose one or more options

sec-group-1 ✕ sec-group-2 ✕

Availability Zone Info

us-west-1a

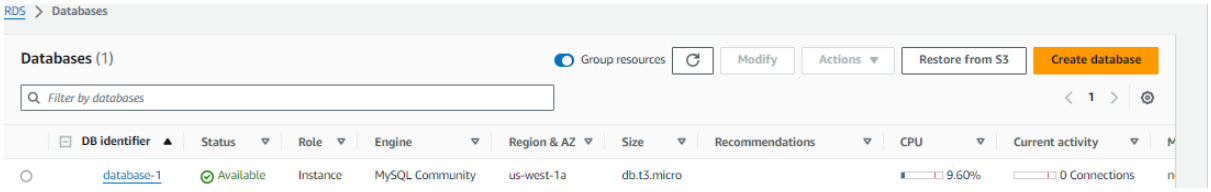
Certificate authority - *optional* Info

Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-rsa2048-g1 (default)

Expiry: May 20, 2061

If you don't select a certificate authority, RDS chooses one for you.



CREATE DB SUBNET GROUP:

Create DB subnet group

To create a new subnet group, give it a name and a description, and choose an existing VPC. You will then be able to add subnets related to that VPC.

Subnet group details

Name

You won't be able to modify the name after your subnet group has been created.

DB-subnet

Must contain from 1 to 255 characters. Alphanumeric characters, spaces, hyphens, underscores, and periods are allowed.

Description

nothing

VPC

Choose a VPC identifier that corresponds to the subnets you want to use for your DB subnet group. You won't be able to choose a different VPC identifier after your subnet group has been created.

my-vpc-01 (vpc-03bf6dab171856c3f)

Add subnets

Availability Zones

Choose the Availability Zones that include the subnets you want to add.

Choose an availability zone

us-west-1a ✕ us-west-1b ✕

Subnets

Choose the subnets that you want to add. The list includes the subnets in the selected Availability Zones.

Select subnets

subnet-0b4870b314ee15bd0 (25.0.23.0/24) ✕

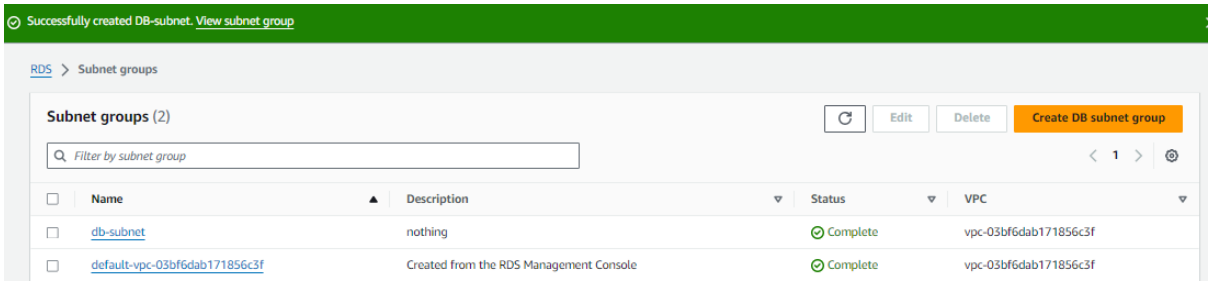
subnet-0db035d56b27630ff (25.0.24.0/24) ✕

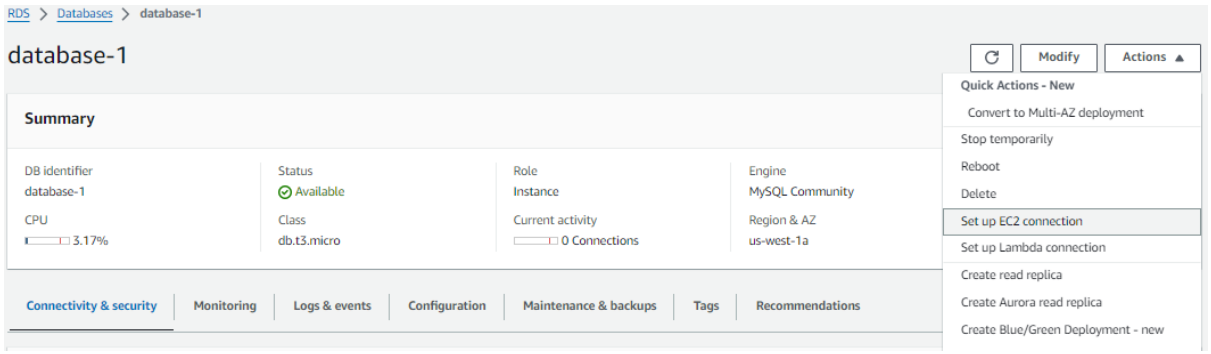
For Multi-AZ DB clusters, you must select 3 subnets in 3 different Availability Zones.

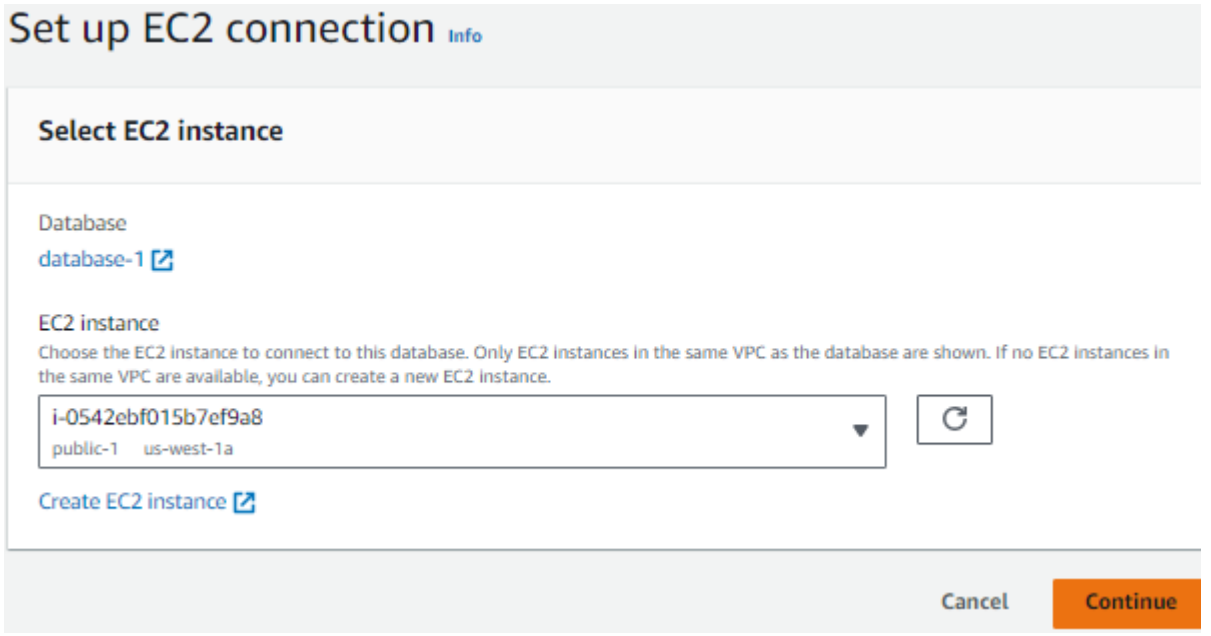
Subnets selected (2)

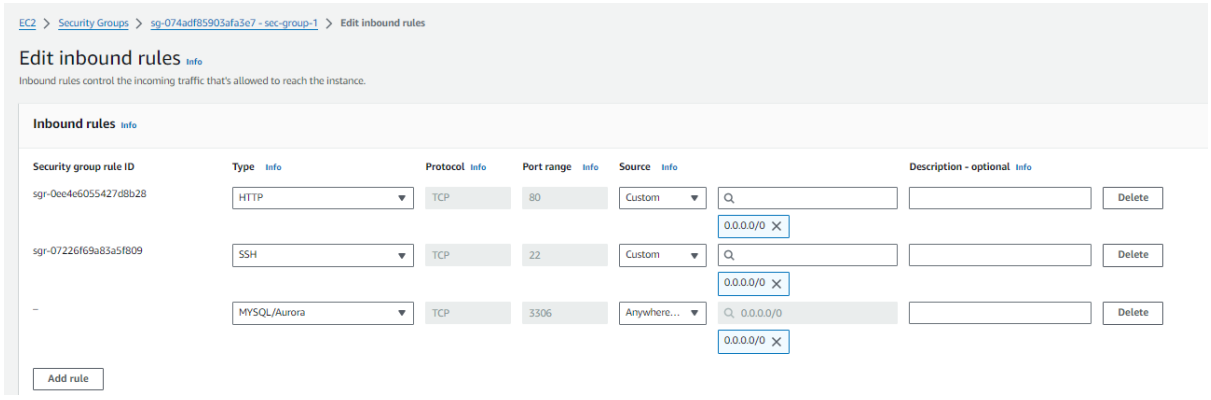
Availability zone	Subnet ID	CIDR block
us-west-1b	subnet-0b4870b314ee15bd0	25.0.23.0/24
us-west-1a	subnet-0db035d56b27630ff	25.0.24.0/24

Cancel Create


Successfully created DB-subnet. View subnet group
RDS > Subnet groups
Subnet groups (2)
Edit
Delete
Create DB subnet group
Filter by subnet group
Name
Description
Status
VPC
db-subnet
nothing
Complete
vpc-03bf6dab171856c3f
default-vpc-03bf6dab171856c3f
Created from the RDS Management Console
Complete
vpc-03bf6dab171856c3f


RDS > Databases > database-1
database-1
Modify
Actions
Summary
DB identifier
database-1
Status
Available
Role
Instance
Engine
MySQL Community
CPU
3.17%
Class
db.t3.micro
Current activity
0 Connections
Region & AZ
us-west-1a
Connectivity & security
Monitoring
Logs & events
Configuration
Maintenance & backups
Tags
Recommendations
Quick Actions - New
Convert to Multi-AZ deployment
Stop temporarily
Reboot
Delete
Set up EC2 connection
Set up Lambda connection
Create read replica
Create Aurora read replica
Create Blue/Green Deployment - new


Set up EC2 connection Info
Select EC2 instance
Database
database-1
EC2 instance
Choose the EC2 instance to connect to this database. Only EC2 instances in the same VPC as the database are shown. If no EC2 instances in the same VPC are available, you can create a new EC2 instance.
i-0542ebf015b7ef9a8
public-1 us-west-1a
Create EC2 instance
Cancel
Continue


EC2 > Security Groups > sg-074adf85903afa3e7 - sec-group-1 > Edit inbound rules
Edit inbound rules Info
Inbound rules control the incoming traffic that's allowed to reach the instance.
Inbound rules Info
Security group rule ID
Type Info
Protocol Info
Port range Info
Source Info
Description - optional Info
sgr-0ee4e6055427d8b28
HTTP
TCP
80
Custom
0.0.0.0/0
Delete
sgr-07226f69a83a5f809
SSH
TCP
22
Custom
0.0.0.0/0
Delete
MYSQL/Aurora
TCP
3306
Anywhere...
0.0.0.0/0
Delete
Add rule

CREATE DB SNAPSHOT: