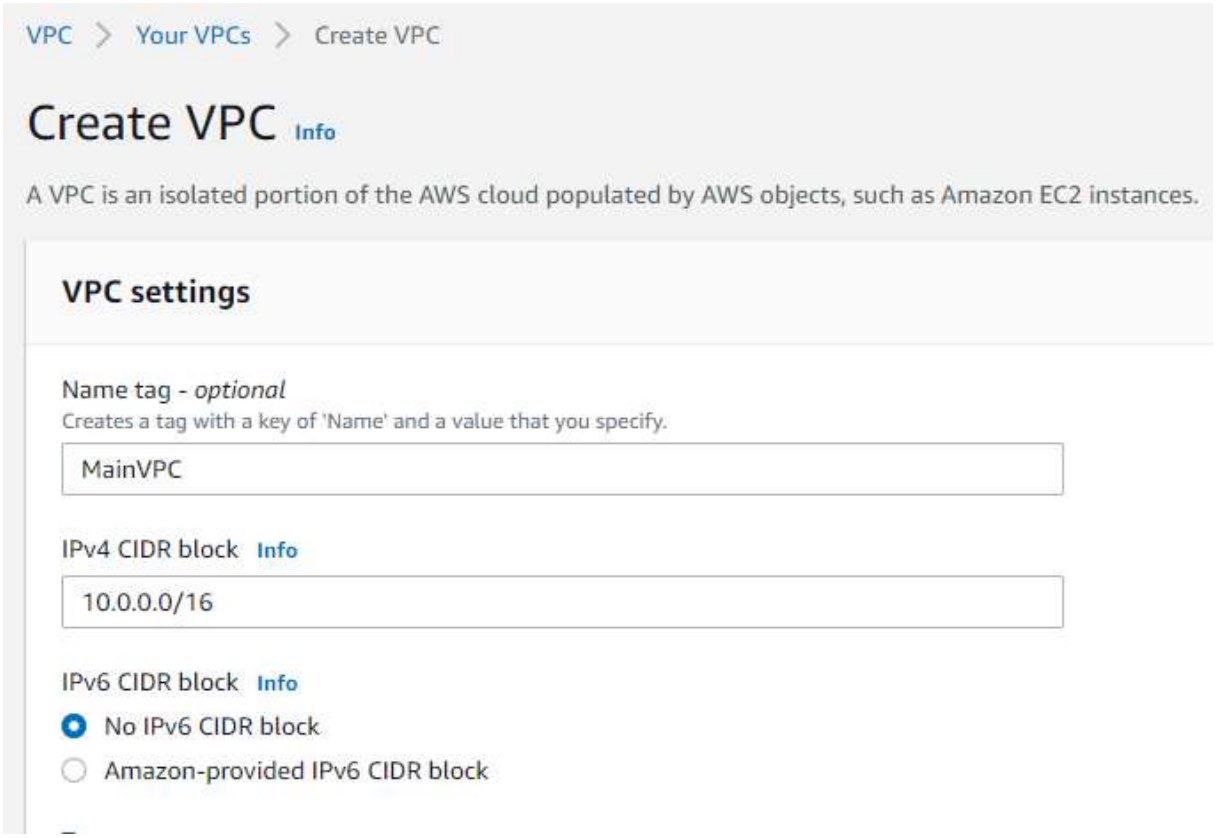
Création de l’infrastructure réseau sur le cloud aws

Procédure rédigée par : CHERIF Ahmed

Table des matières

1-\ Create VPC

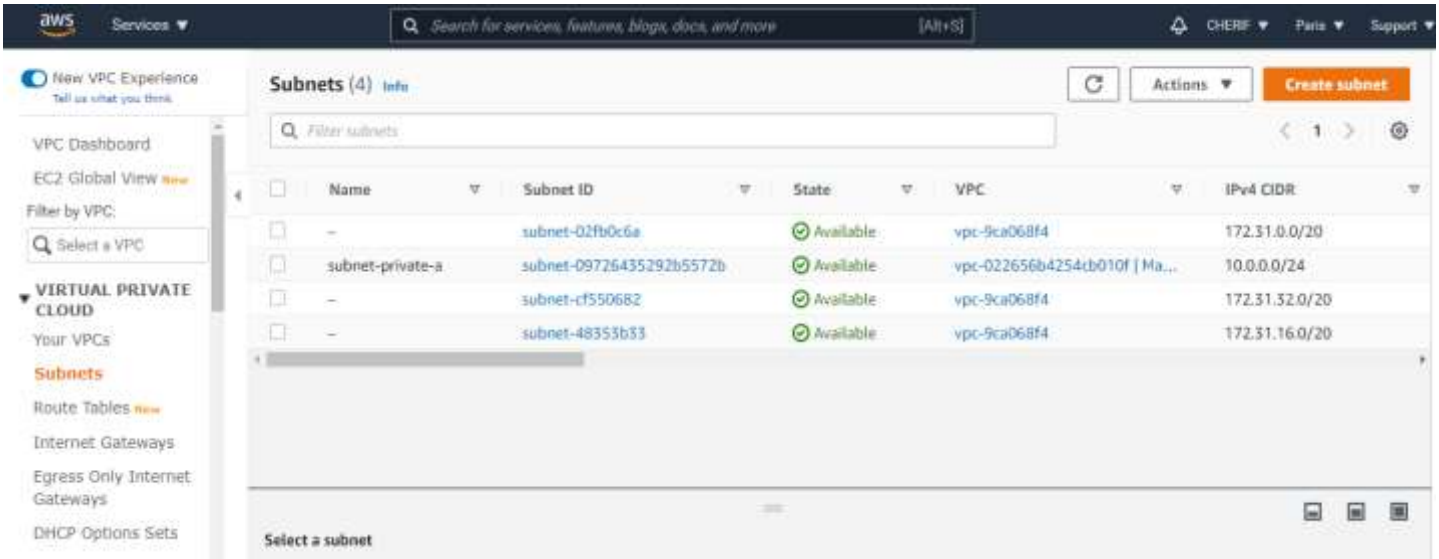
Saisir le nom et CIDR BLOC



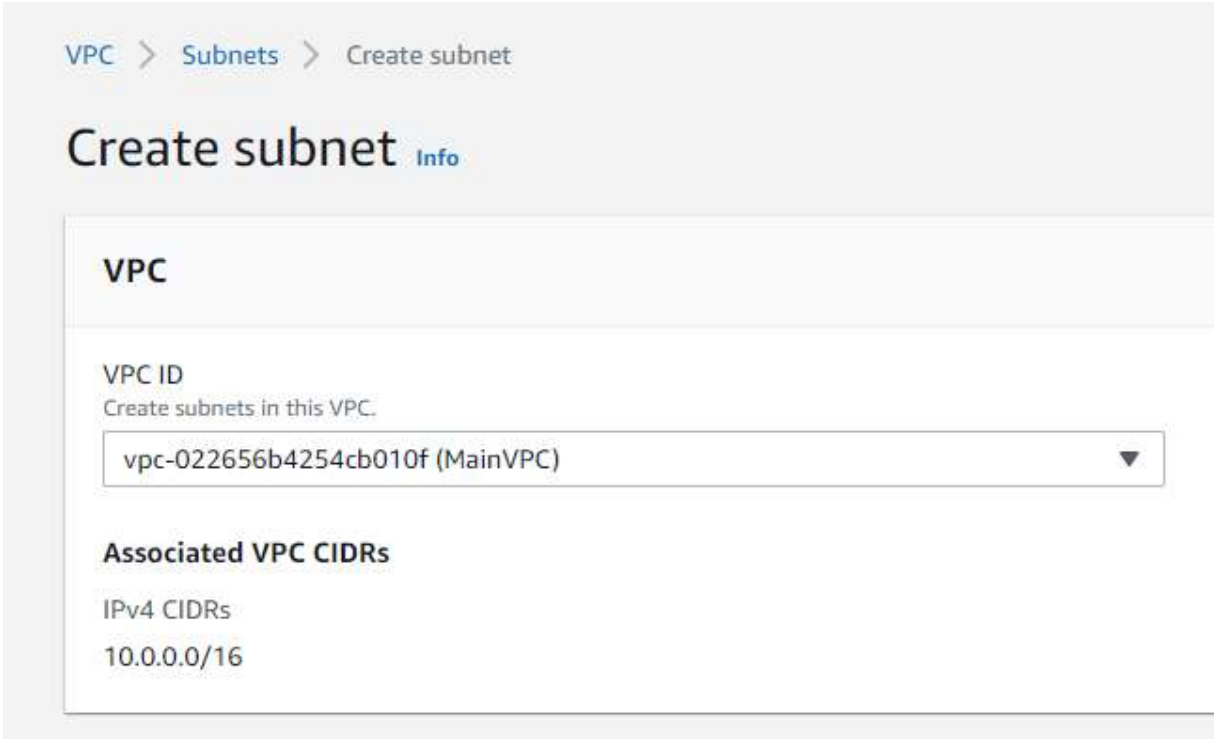
2-\ Create subnet

Dans AWS, voici comment créer un tel sous-réseau :

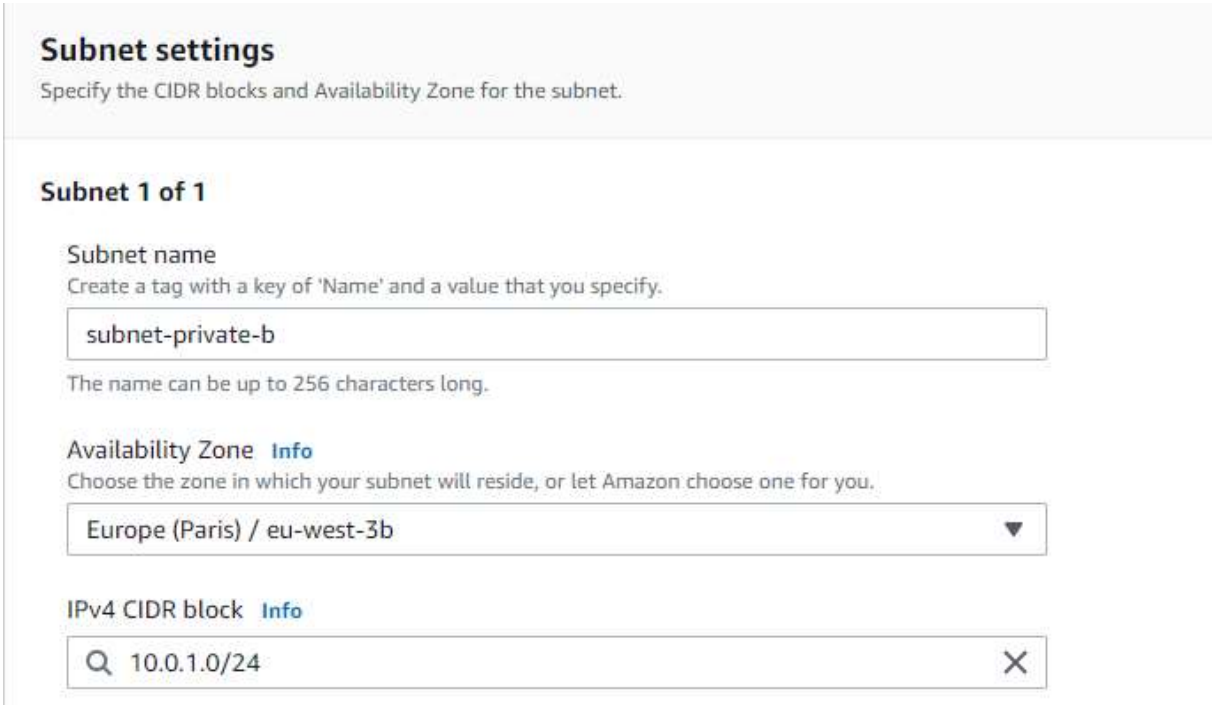
- cliquez sur le bouton **Subnets** à gauche ;
- cliquez sur **Create subnet** ;
- configurez un sous-réseau sur la plage **10.0.0.0/24**, comme ci-dessous ;
- cliquez sur **Create** ;
- L'identifiant de votre sous-réseau s'affiche, cliquez sur **Close** et vous verrez votre sous-réseau apparaître dans l'interface.



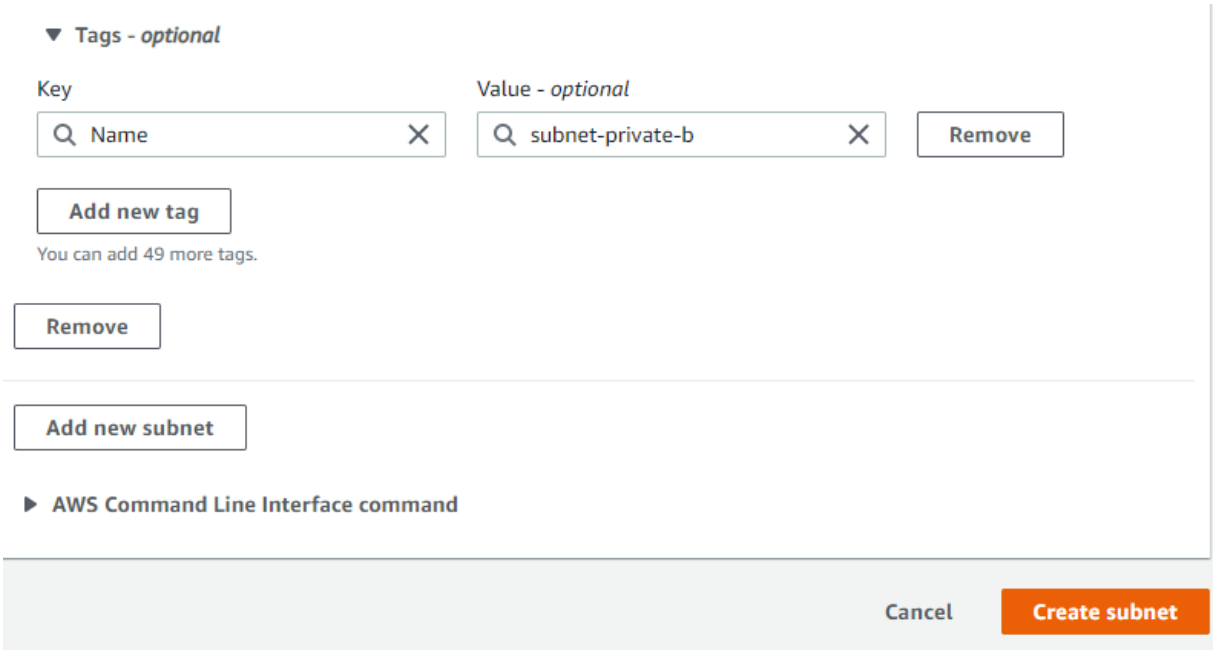
Choisir le vpc (Virtual Private Cloud)



Saisir le nom de sous-reseau , choisir la zone de disponibilité, et donner le CIDR de sous réseau

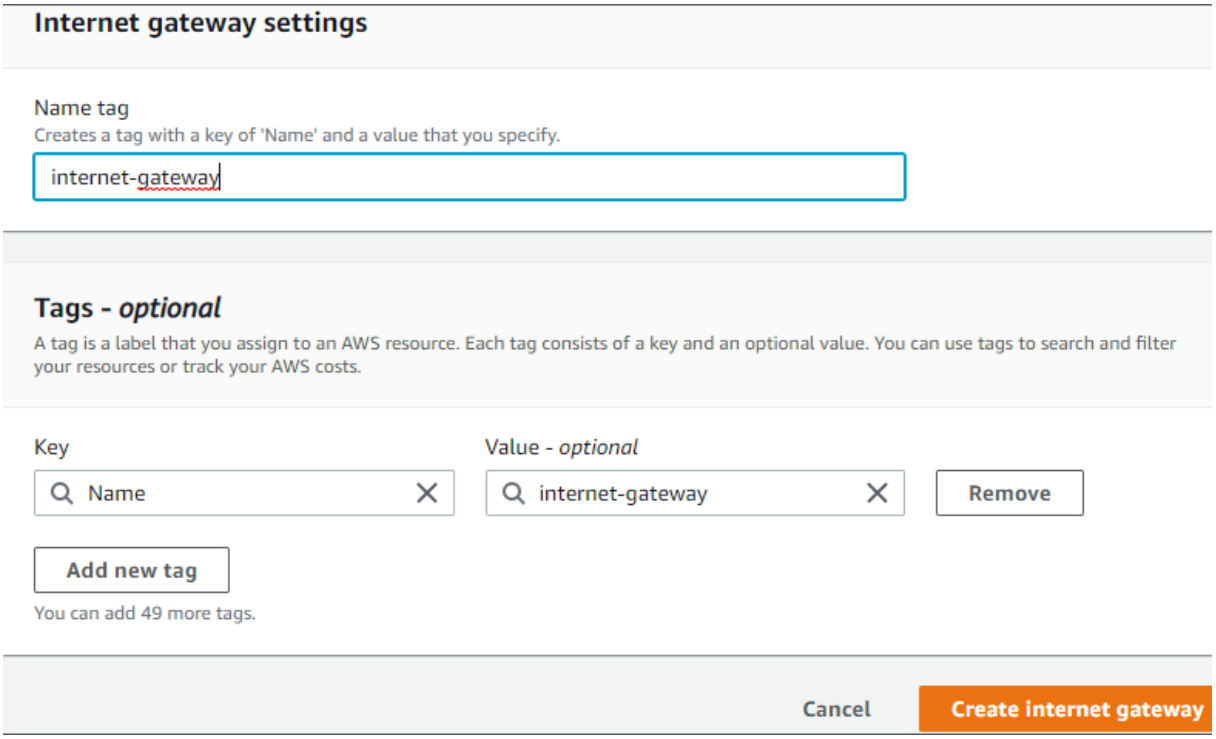


Ne rien modifier cette partie et valider en cliquant sur create subnet



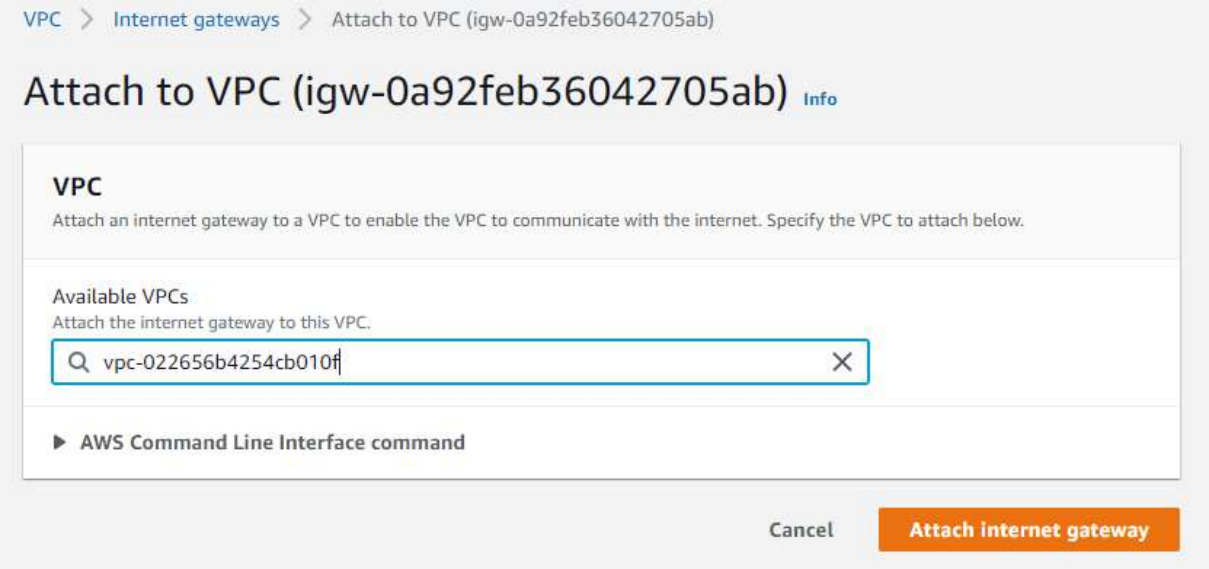
3-\ Create Internet gateway

Saisir le nom de la passerelle



Attacher mon passerelle à mon VPC

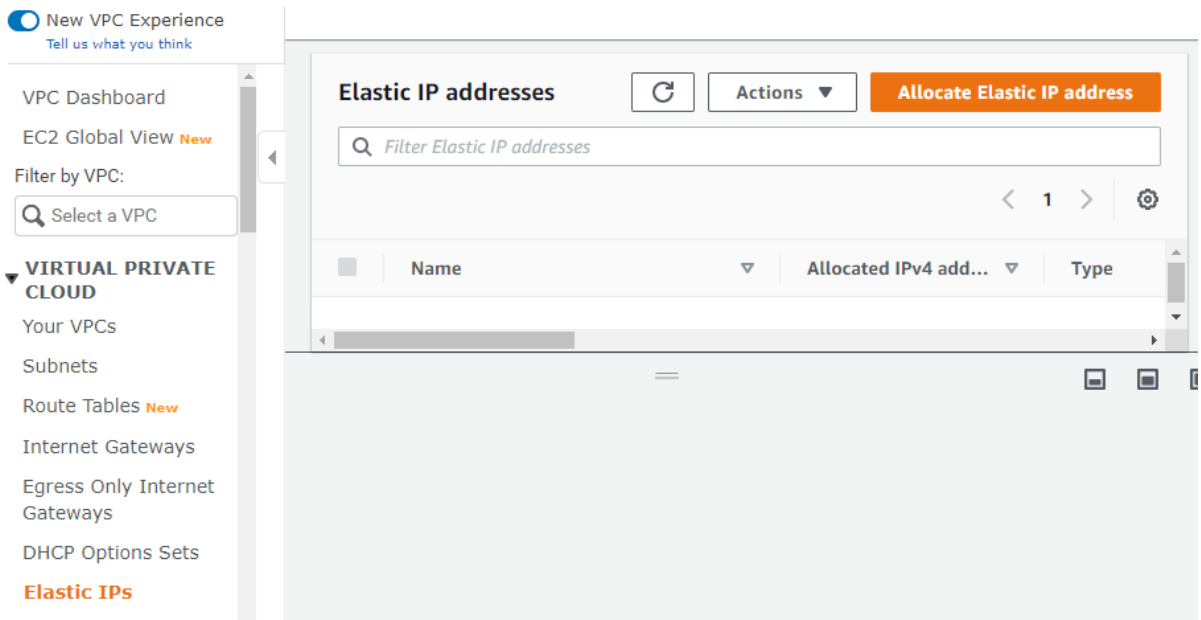
Choisir mon VPC

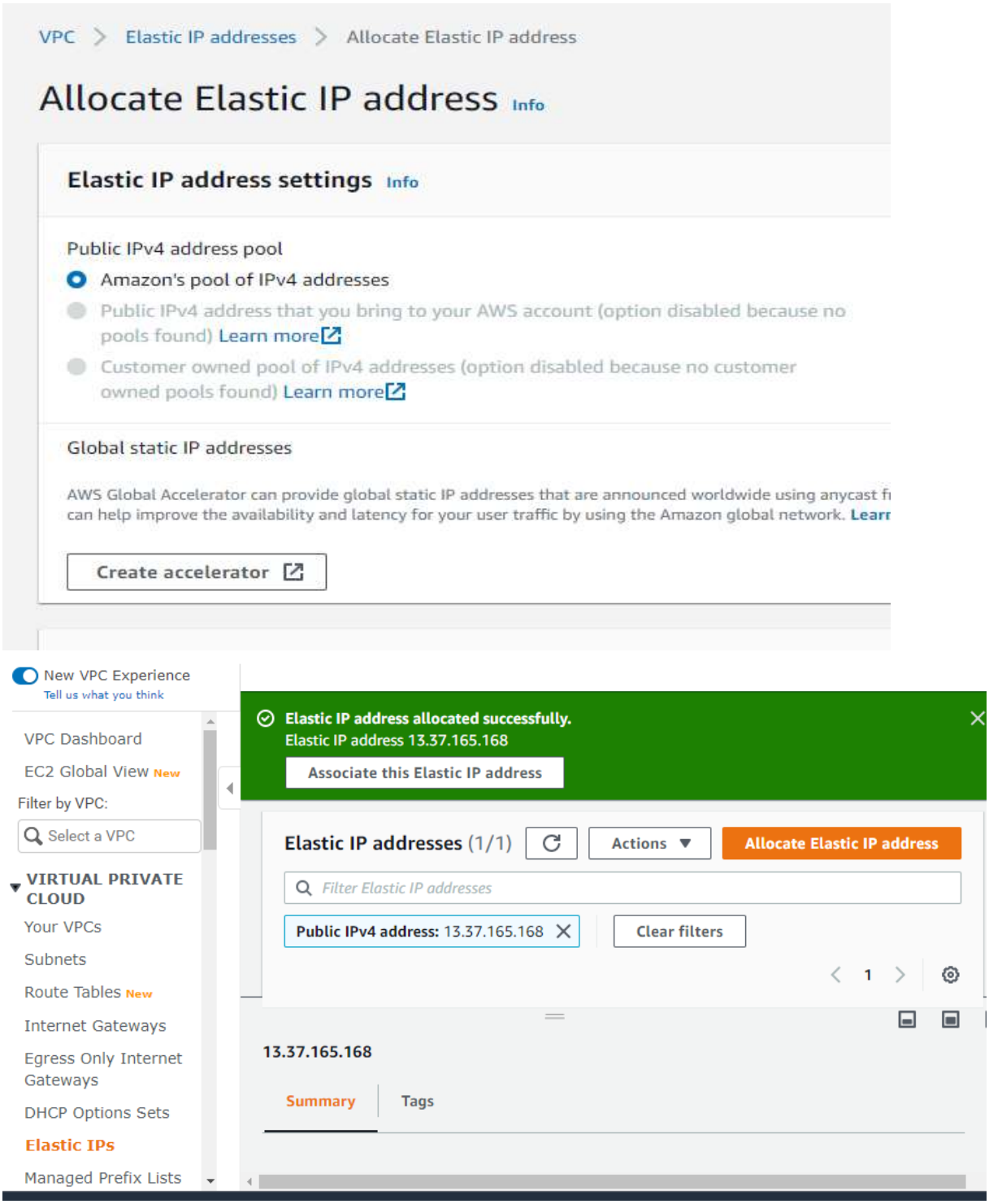


Valider en cliquant sur Attach internet gateway

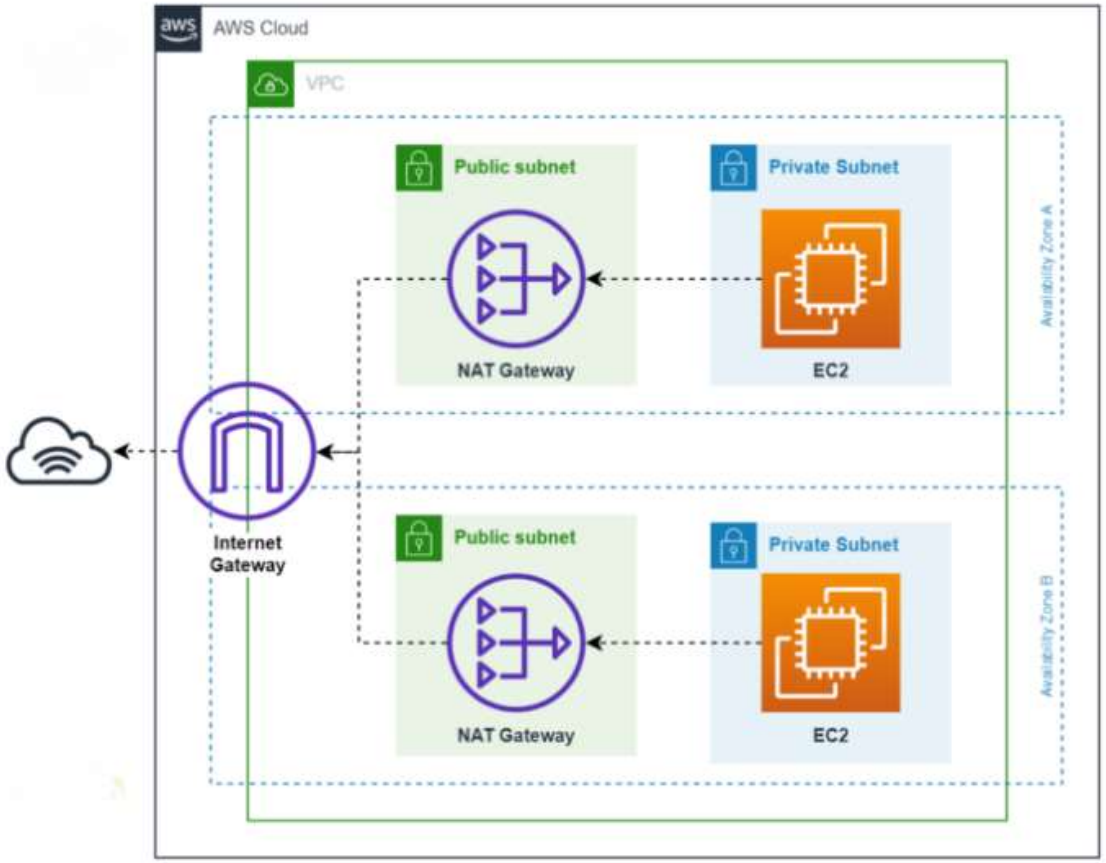
4-\ Allocate Elastic IP address

1. Cliquez sur **Elastic IPs** sur la gauche.
2. Cliquez sur **Allocate new address**.
3. Cliquez sur **Allocate**.
4. L'adresse IP s'affiche, cliquez sur **Close**.



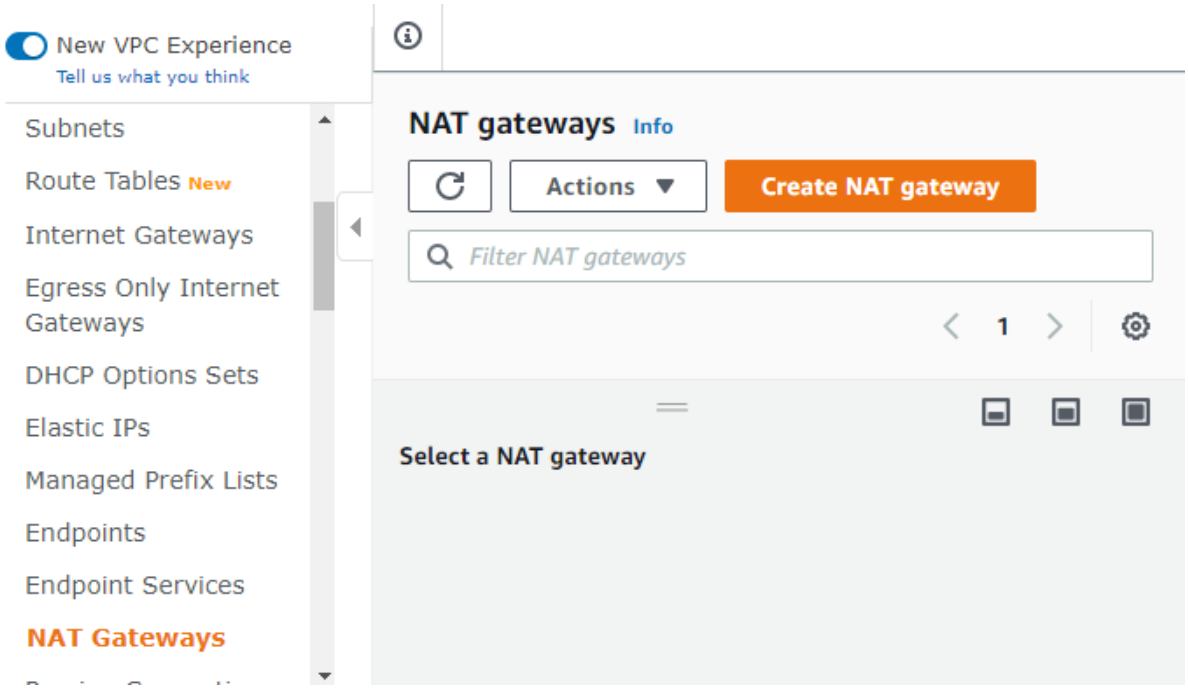

VPC > Elastic IP addresses > Allocate Elastic IP address
Allocate Elastic IP address Info
Elastic IP address settings Info
Public IPv4 address pool
Amazon's pool of IPv4 addresses
Public IPv4 address that you bring to your AWS account (option disabled because no pools found) Learn more
Customer owned pool of IPv4 addresses (option disabled because no customer owned pools found) Learn more
Global static IP addresses
AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast fi
can help improve the availability and latency for your user traffic by using the Amazon global network. Learr
Create accelerator
New VPC Experience
Tell us what you think
VPC Dashboard
EC2 Global View New
Filter by VPC:
Select a VPC
VIRTUAL PRIVATE CLOUD
Your VPCs
Subnets
Route Tables New
Internet Gateways
Egress Only Internet Gateways
DHCP Options Sets
Elastic IPs
Managed Prefix Lists
Elastic IP address allocated successfully.
Elastic IP address 13.37.165.168
Associate this Elastic IP address
Elastic IP addresses (1/1)
Actions
Allocate Elastic IP address
Filter Elastic IP addresses
Public IPv4 address: 13.37.165.168
Clear filters
1
13.37.165.168
Summary
Tags

5-\ création d’une passerelle NAT

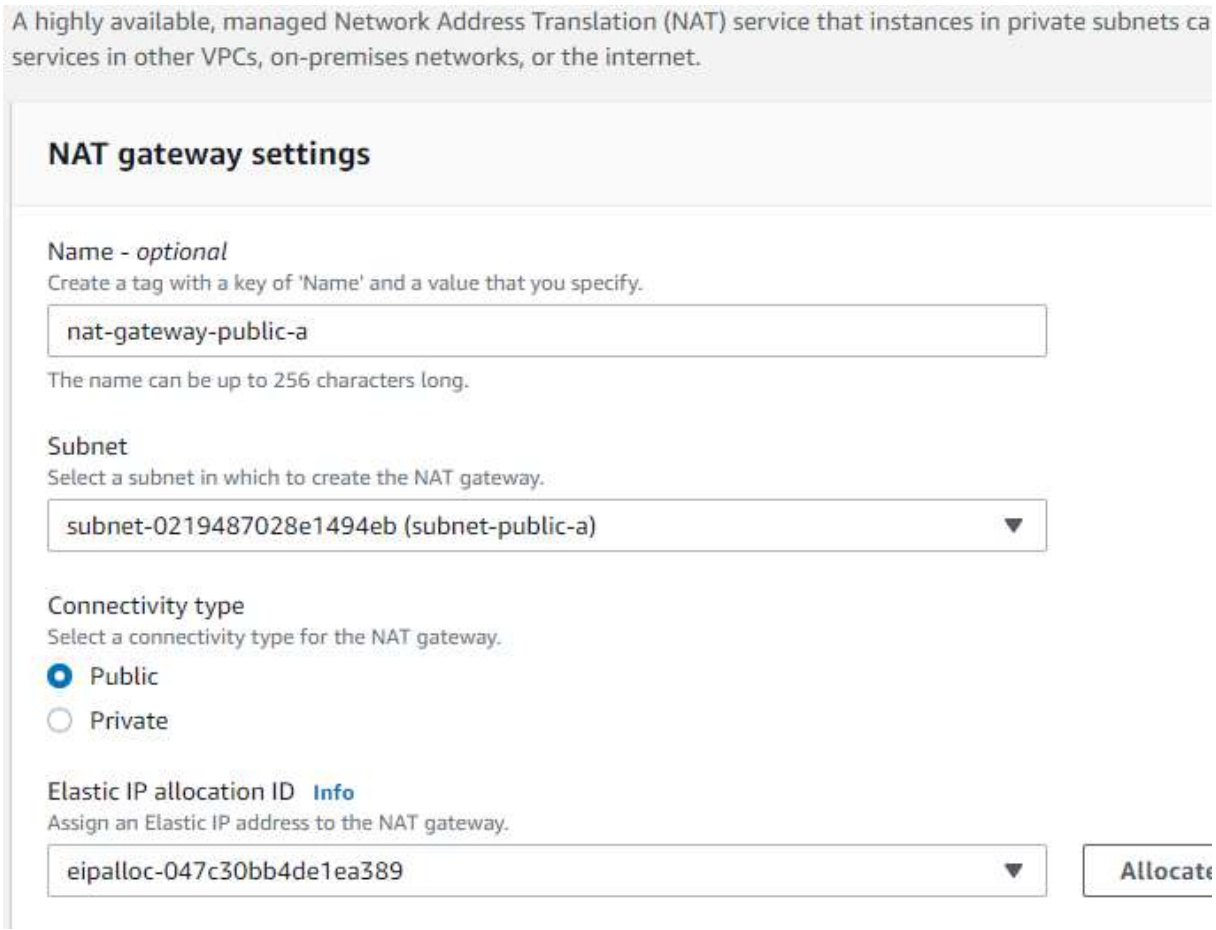


It allows resources in a private subnet to access the internet (think yum updates, external database connections, wget calls, OS patch, etc).

It only works one way. The internet at large cannot get through your NAT to your private resources unless you explicitly allow it.
Cela ne fonctionne que dans un sens. L'Internet dans son ensemble ne peut pas accéder à vos ressources privées via votre NAT à moins que vous ne l'autorisiez explicitement.

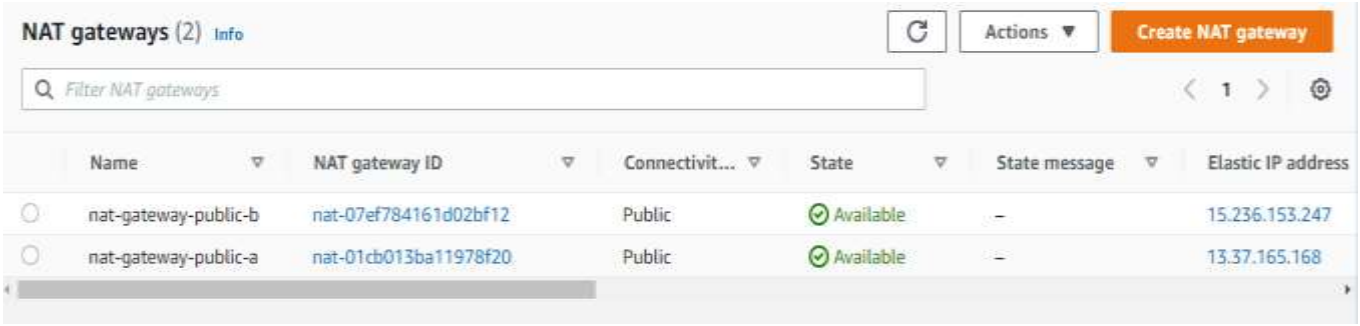


Saisir le nom, choisir le sous-reseau public et choisir elastic ip address

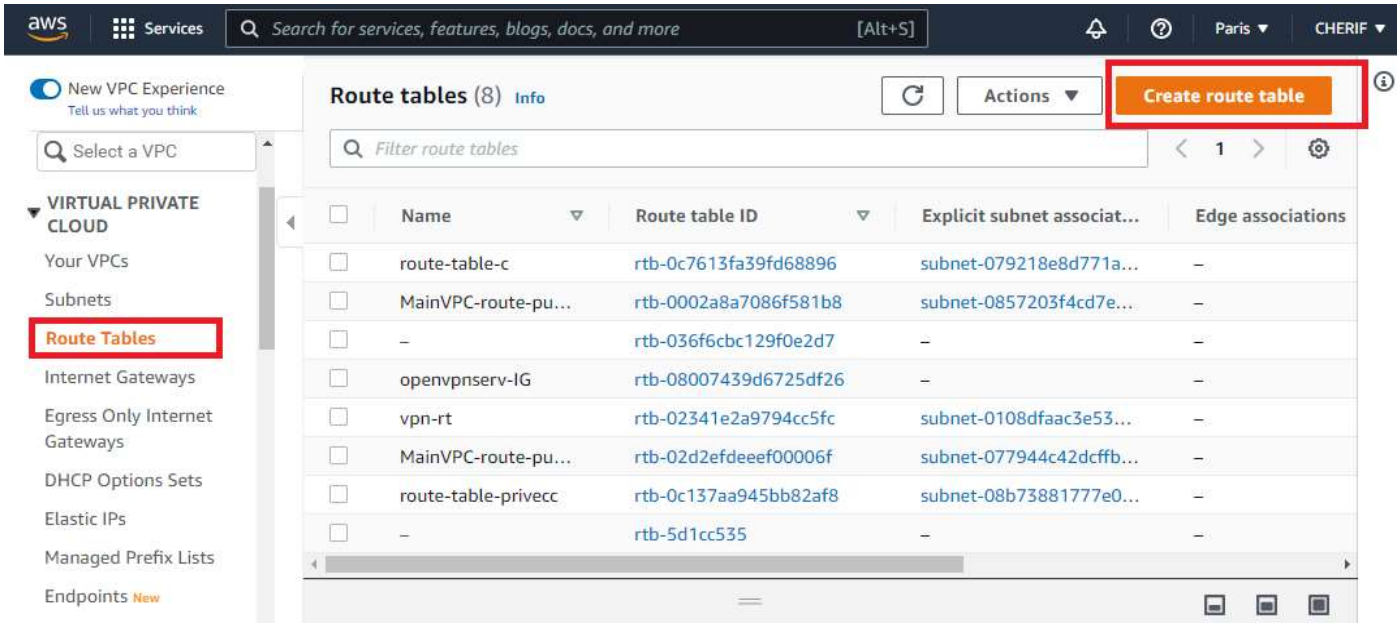


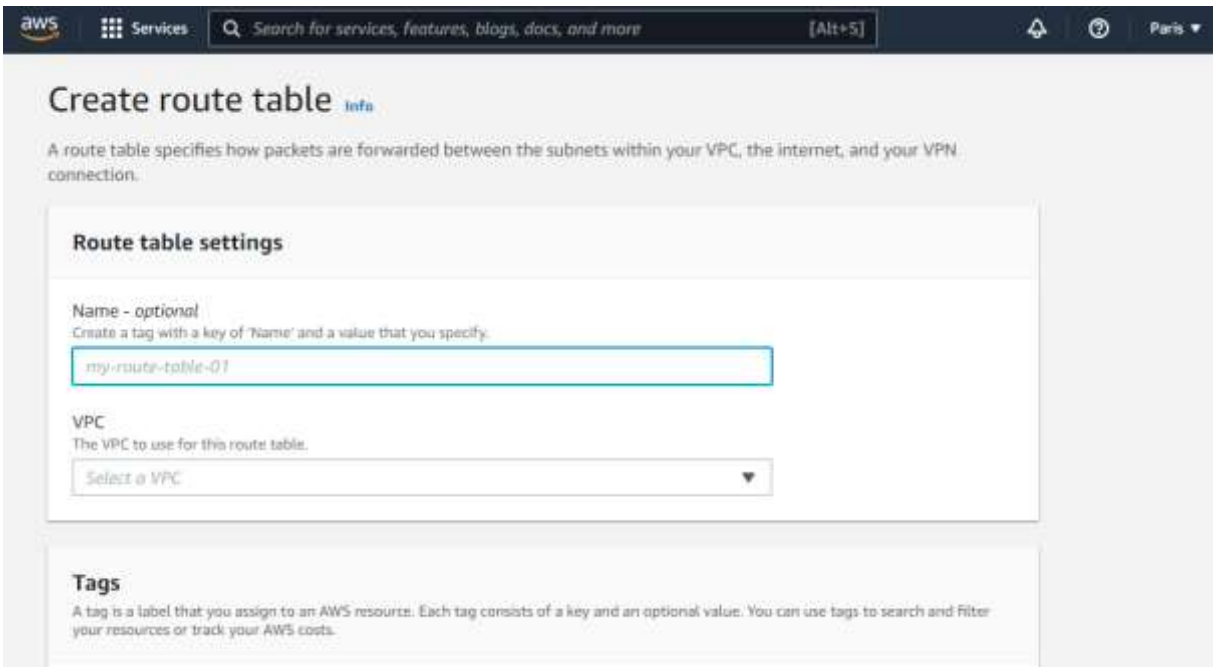
Création d'une autre passerelle pour le réseau public de la zone de disponibilité b donc il faut demander une autre adresse ip fixe (elastic ip address)

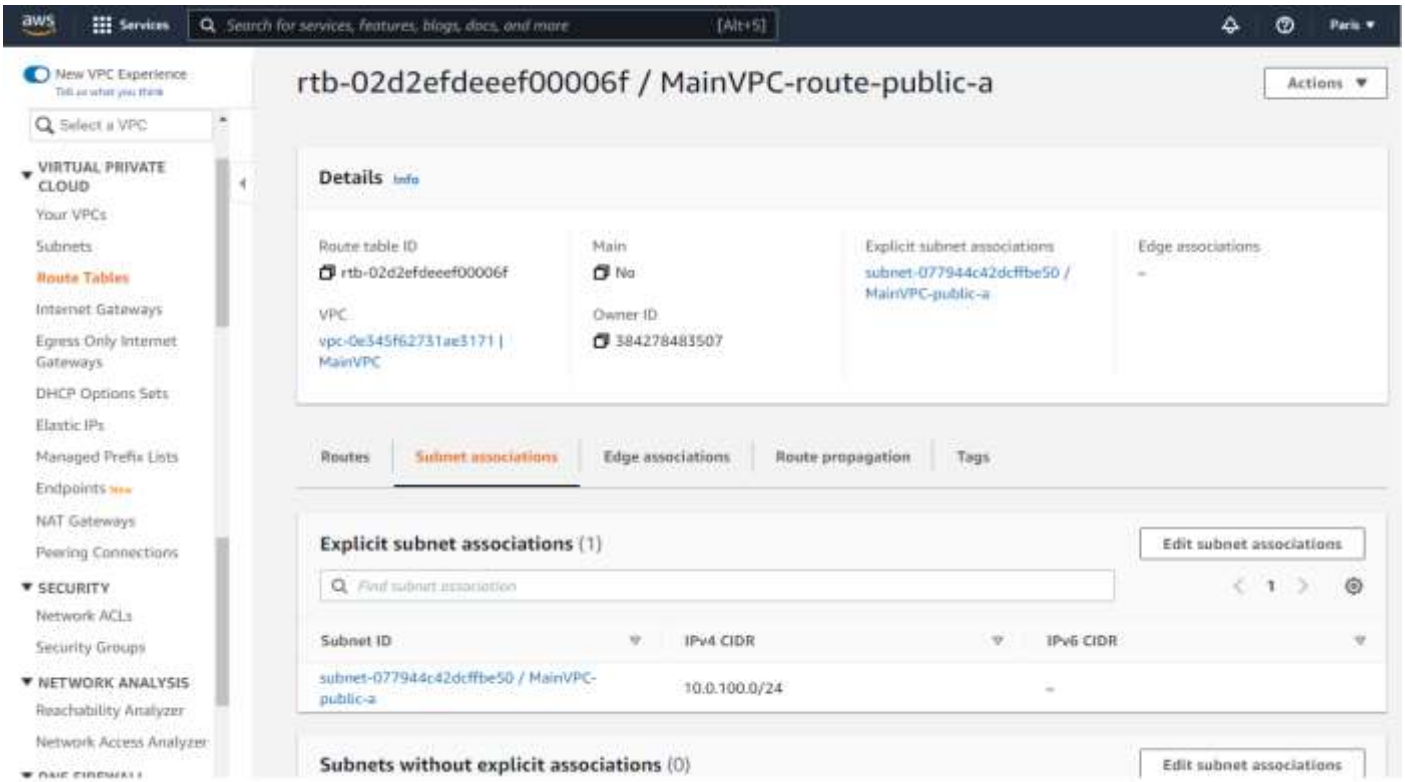
La zone de disponibilité d'une région est un datacenter donc il est indépendant d'une autre zone de disponibilité d'une même région.

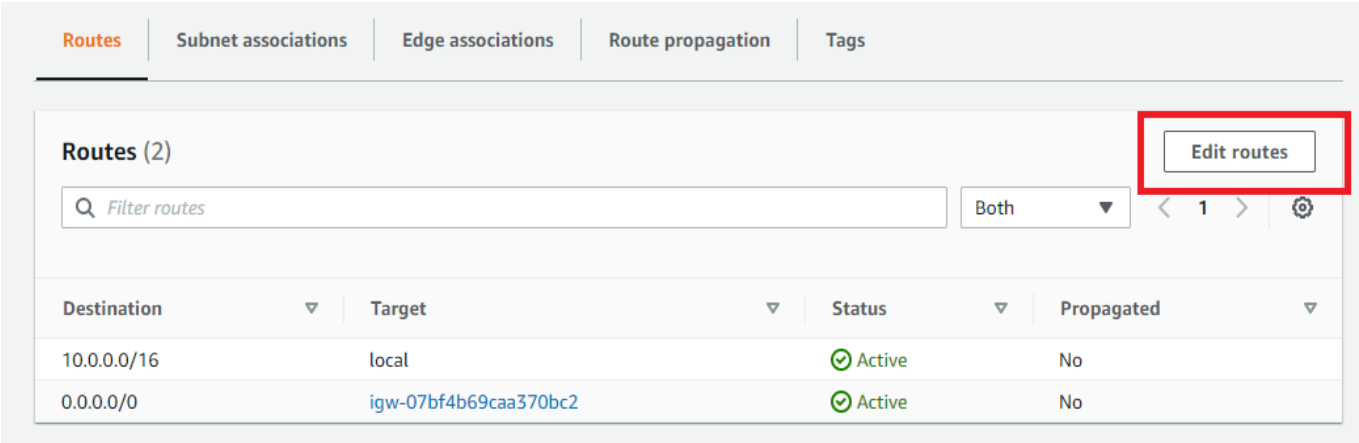


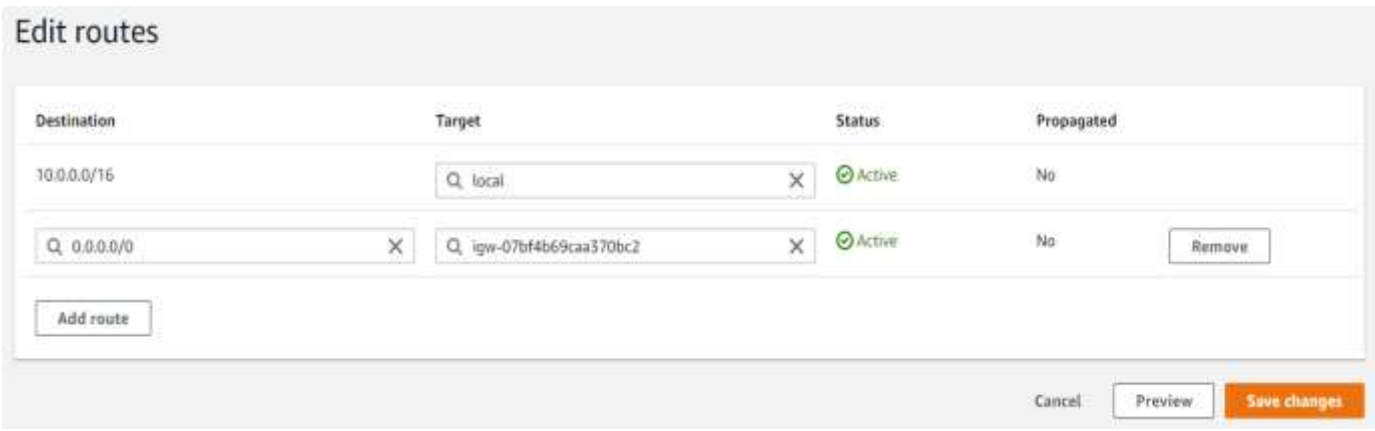
6-\ Création d'une route table






rtb-02d2efdeeef00006f / MainVPC-route-public-a
Actions
Details Info
Route table ID
rtb-02d2efdeeef00006f
Main
No
Explicit subnet associations
subnet-077944c42dcffbe50 / MainVPC-public-a
Edge associations
VPC
vpc-0e345f62731ae3171 | MainVPC
Owner ID
384278483507
Routes
Subnet associations
Edge associations
Route propagation
Tags
Explicit subnet associations (1)
Edit subnet associations
Subnet ID
IPv4 CIDR
IPv6 CIDR
subnet-077944c42dcffbe50 / MainVPC-public-a
10.0.100.0/24
Subnets without explicit associations (0)
Edit subnet associations


Routes
Subnet associations
Edge associations
Route propagation
Tags
Routes (2)
Edit routes
Filter routes
Both
1
Destination
Target
Status
Propagated
10.0.0.0/16
local
Active
No
0.0.0.0/0
igw-07bf4b69caa370bc2
Active
No


Edit routes
Destination
Target
Status
Propagated
10.0.0.0/16
local
Active
No
0.0.0.0/0
igw-07bf4b69caa370bc2
Active
No
Remove
Add route
Cancel
Preview
Save changes

7-\ Automatisation avec cloudformation

```
AWSTemplateFormatVersion: 2010-09-09
Description: >-
  AWS CloudFormation VPC Template
Resources:
# creation d'un VPC
  MonSuperVPC:
    Type: 'AWS::EC2::VPC'
    Properties:
      CidrBlock: 10.0.0.0/16
      Tags:
        - Key: Name
          Value: 'MainVPC'

# création des 2 sous réseau public
  PublicSubnetA:
    Type: AWS::EC2::Subnet
    Properties:
      AvailabilityZone: !Select
       - 0
       - Fn::GetAZs: !Ref 'AWS::Region'
      CidrBlock: 10.0.100.0/24
      Tags:
       - Key: Name
         Value: 'MainVPC-public-a'
      VpcId: !Ref MonSuperVPC

  PublicSubnetB:
    Type: AWS::EC2::Subnet
    Properties:
      AvailabilityZone: !Select
       - 1
       - Fn::GetAZs: !Ref 'AWS::Region'
      CidrBlock: 10.0.101.0/24
      Tags:
       - Key: Name
         Value: 'MainVPC-public-b'
      VpcId: !Ref MonSuperVPC

 # creation d'un sous réseau privé
  PrivateSubnetA:
    Type: AWS::EC2::Subnet
    Properties:
      AvailabilityZone: !Select
       - 0
       - Fn::GetAZs: !Ref 'AWS::Region'
      CidrBlock: 10.0.0.0/24
      Tags:
       - Key: Name
```

```
      Value: 'MainVPC-private-a'
    VpcId: !Ref MonSuperVPC

  PrivateSubnetB:
    Type: AWS::EC2::Subnet
    Properties:
      AvailabilityZone: !Select
       - 1
       - Fn::GetAZs: !Ref 'AWS::Region'
      CidrBlock: 10.0.1.0/24
      Tags:
       - Key: Name
         Value: 'MainVPC-private-b'
      VpcId: !Ref MonSuperVPC

# creation d'une passerelle de sortie vers Internet
  InternetGateway:
    Type: AWS::EC2::InternetGateway
    Properties:
      Tags:
       - Key: Name
         Value: 'MainVPC-InternetGateway'

  AttachInternetGateway:
    Type: 'AWS::EC2::VPCGatewayAttachment'
    Properties:
      VpcId: !Ref MonSuperVPC
      InternetGatewayId: !Ref InternetGateway


# création d'une route pour le réseau public A pour la sortie à Internet
  PublicRouteTableA:
    Type: AWS::EC2::RouteTable
    Properties:
      VpcId: !Ref MonSuperVPC
      Tags:
        - Key: Name
          Value: MainVPC-route-public-a

  AttachPublicRouteTableA:
    Type: AWS::EC2::SubnetRouteTableAssociation
    Properties:
      RouteTableId: !Ref PublicRouteTableA
      SubnetId: !Ref PublicSubnetA

  PublicRouteA:
    Type: AWS::EC2::Route
    Properties:
      DestinationCidrBlock: 0.0.0.0/0
      GatewayId: !Ref InternetGateway
      RouteTableId: !Ref PublicRouteTableA
```

```
# création d'une route pour le réseau public B pour la sortie à Internet
 PublicRouteTableB:
  Type: AWS::EC2::RouteTable
  Properties:
    VpcId: !Ref MonSuperVPC
    Tags:
      - Key: Name
        Value: MainVPC-route-public-b

 AttachPublicRouteTableB:
  Type: AWS::EC2::SubnetRouteTableAssociation
  Properties:
    RouteTableId: !Ref PublicRouteTableB
    SubnetId: !Ref PublicSubnetB

 PublicRouteB:
  Type: AWS::EC2::Route
  Properties:
    DestinationCidrBlock: 0.0.0.0/0
    GatewayId: !Ref InternetGateway
    RouteTableId: !Ref PublicRouteTableB
```