

Création de l'infrastructure réseau sur le cloud aws

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Table des matières

1 -Création d'un VPC	2
2 -Création d'un sous-réseau	3
3 -Création d'un passerelle internet	5
4 -Allocation d'une adresse Elastic IP	7
5 -Création d'une passerelle NAT	9
6 -Création d'une route table	11
7 -Création d'une route table	13

1-\ Create VPC

Saisir le nom et CIDR BLOC

VPC > Your VPCs > Create VPC

Create VPC [Info](#)

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances.

VPC settings

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

MainVPC

IPv4 CIDR block [Info](#)

10.0.0.0/16

IPv6 CIDR block [Info](#)

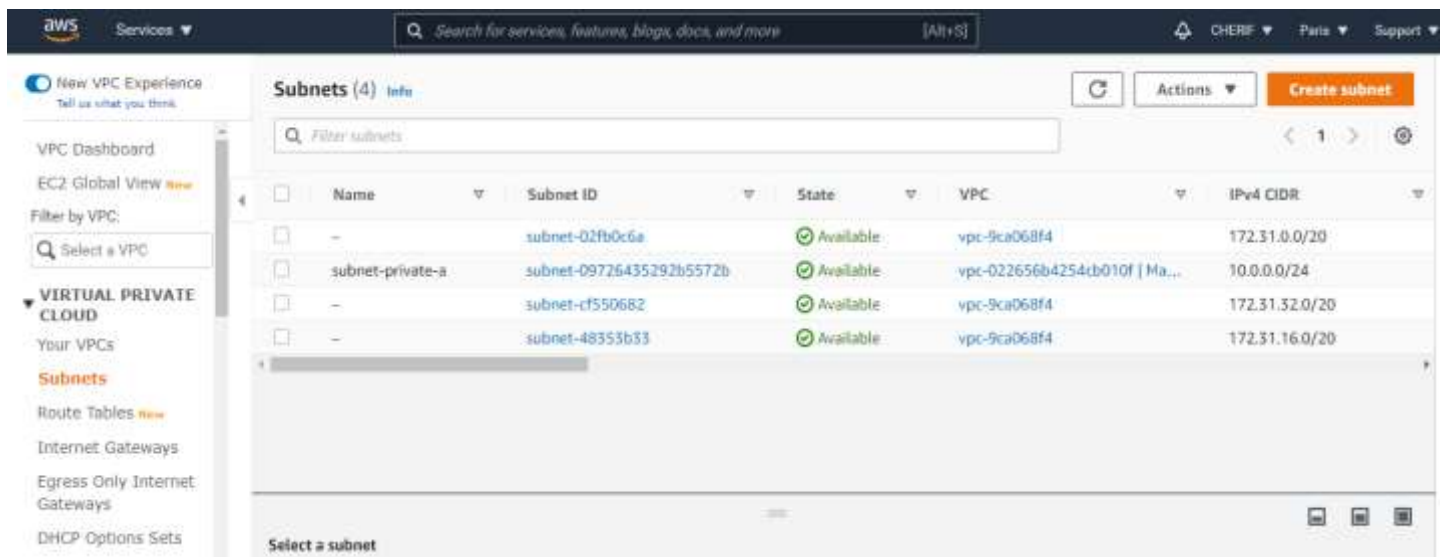
☒ No IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

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)

VPC > Subnets > Create subnet

Create subnet [Info](#)

VPC

VPC ID
Create subnets in this VPC.

vpc-022656b4254cb010f (MainVPC) ▼

Associated VPC CIDRs

IPv4 CIDRs

10.0.0.0/16

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

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.

subnet-private-b

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.

Europe (Paris) / eu-west-3b ▼

IPv4 CIDR block [Info](#)

🔍 10.0.1.0/24 ✕

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

▼ Tags - optional

Key

Value - optional

Q Name X

Q subnet-private-b X

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

► AWS Command Line Interface command

Cancel Create subnet

3-\ Create Internet gateway

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New VPC Experience Tell us what you think

VPC Dashboard

EC2 Global View New

Filter by VPC:

Q Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables New

Internet Gateways

Egress Only Internet Gateways

Internet gateways (1/1) Info

Filter internet gateways

	Name	Internet gateway ID	State	VPC
<input checked="" type="checkbox"/>	-	igw-20787749	Attached	vpc-

igw-20787749

Details Tags

Saisir le nom de la passerelle

Internet gateway settings

Name tag

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

internet-gateway

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.

Key

Q Name



Value - optional

Q internet-gateway



Remove

Add new tag

You can add 49 more tags.

Cancel

Create internet gateway

Attacher mon passerelle à mon VPC

	Name	Internet gateway ID	State
<input checked="" type="checkbox"/>	internet-gateway	igw-0a92feb36042705ab	Detached
<input type="checkbox"/>		igw-20787749	Attached

Create internet gateway

View details

Attach to VPC

Detach from VPC

Manage tags

Delete internet gateway

Choisir mon VPC

VPC > Internet gateways > Attach to VPC (igw-0a92feb36042705ab)

Attach to VPC (igw-0a92feb36042705ab) [Info](#)

VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs

Attach the internet gateway to this VPC.

► AWS Command Line Interface command

Cancel

Attach internet gateway

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**.

New VPC Experience
Tell us what you think

VPC Dashboard

EC2 Global View **New**

Filter by VPC:

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables **New**

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Elastic IP addresses [Refresh](#) [Actions](#) [Allocate Elastic IP address](#)

< 1 > [Settings](#)

	Name	Allocated IPv4 add...	Type

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. [Learn](#)

[Create accelerator](#)

☒ New VPC Experience
Tell us what you think

VPC Dashboard

EC2 Global View **New**

Filter by 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](#)

Public IPv4 address: 13.37.165.168 ✕

[Clear filters](#)

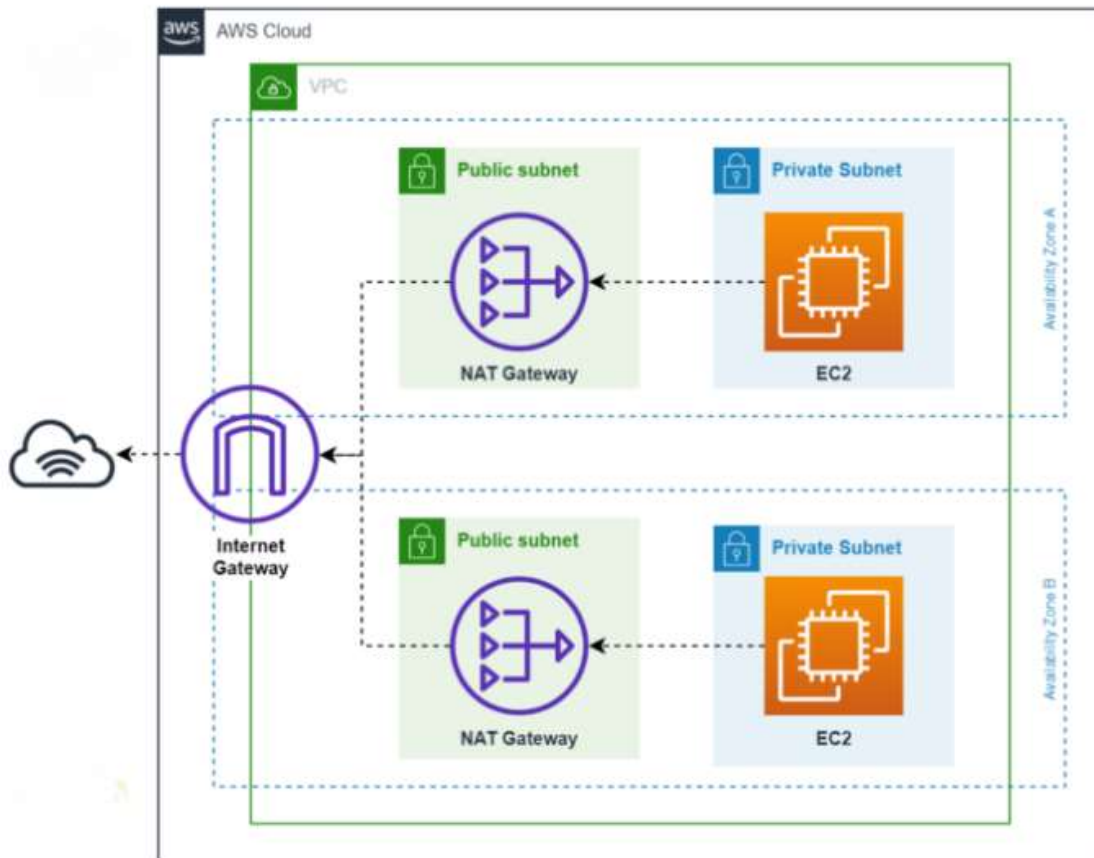
< 1 > ⚙

13.37.165.168

Summary

Tags

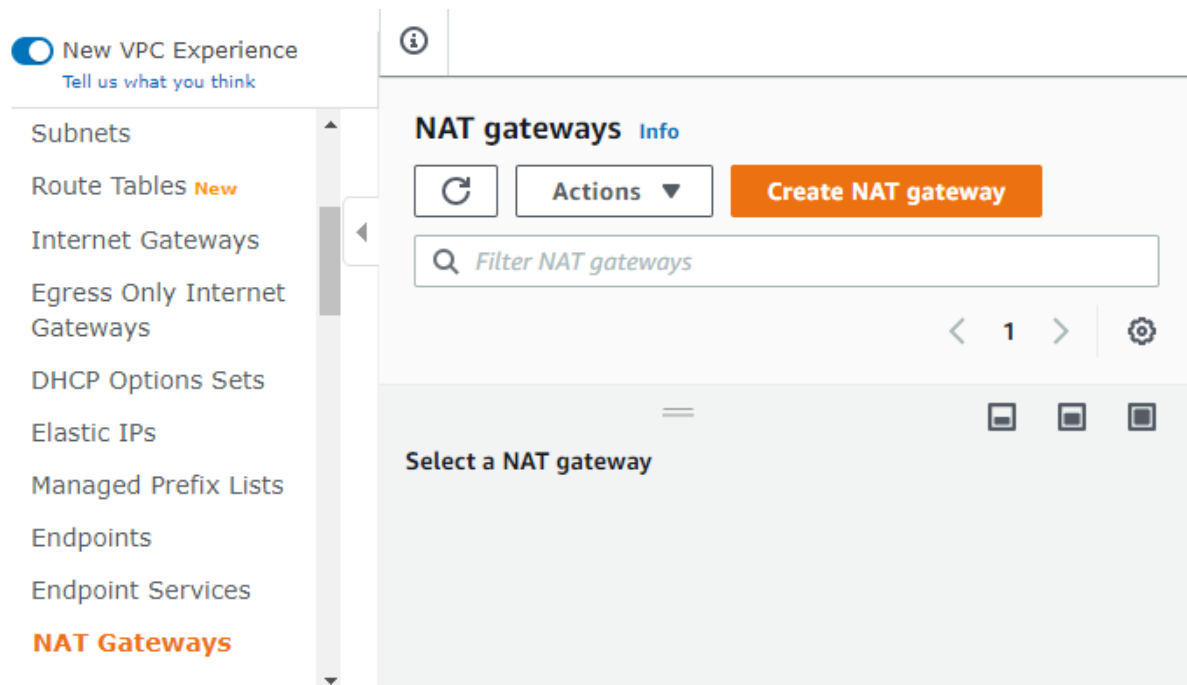
5-\ création d'une passerelle NAT



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

A highly available, managed Network Address Translation (NAT) service that instances in private subnets can use to connect to services in other VPCs, on-premises networks, or the internet.

NAT gateway settings

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

The name can be up to 256 characters long.

Subnet
Select a subnet in which to create the NAT gateway.

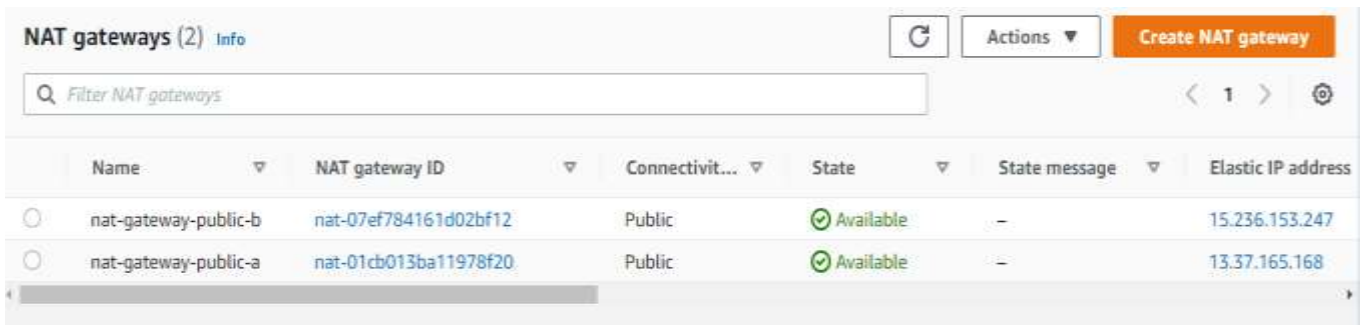
Connectivity type
Select a connectivity type for the NAT gateway.

☒ Public
☐ Private

Elastic IP allocation ID [Info](#)
Assign an Elastic IP address to the NAT gateway.

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)

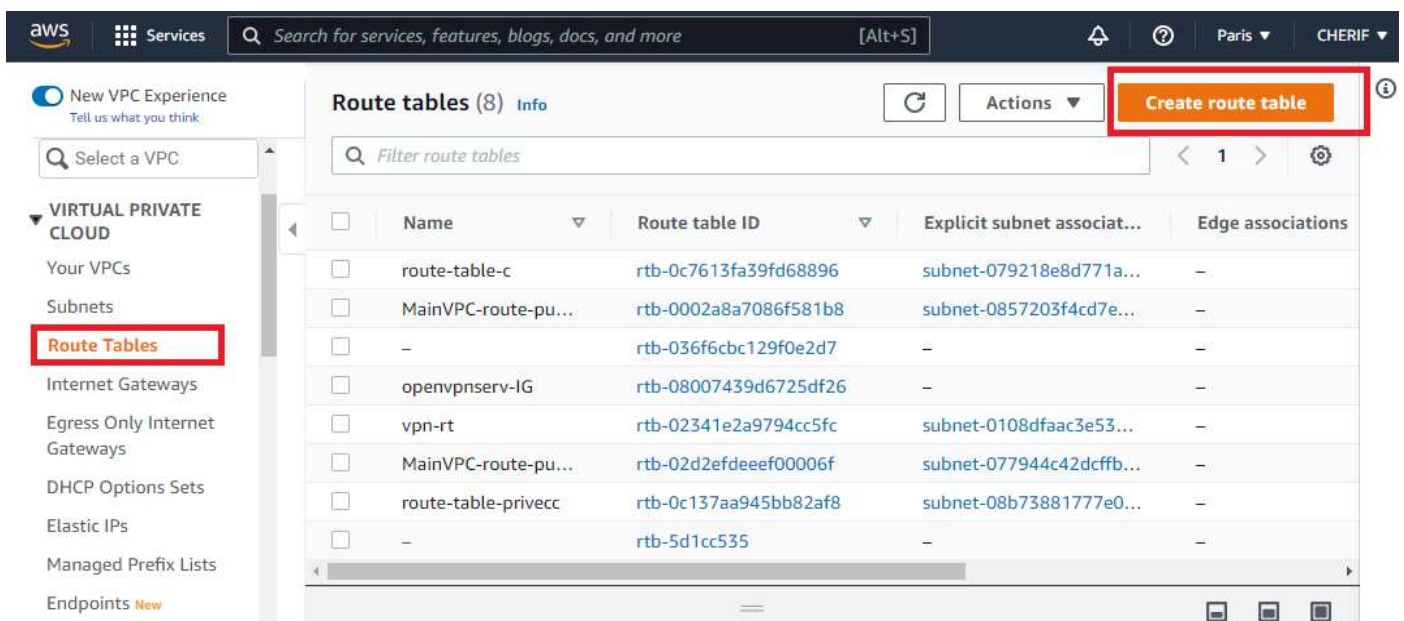
La zone de disponibilité d'une région est un datacenter donc il est indépendant d'une autre zone de disponibilité d'une même région.



The screenshot shows the 'NAT gateways (2)' page in the AWS Management Console. It includes a search bar, a table with columns for Name, NAT gateway ID, Connectivity, State, State message, and Elastic IP address, and a 'Create NAT gateway' button.

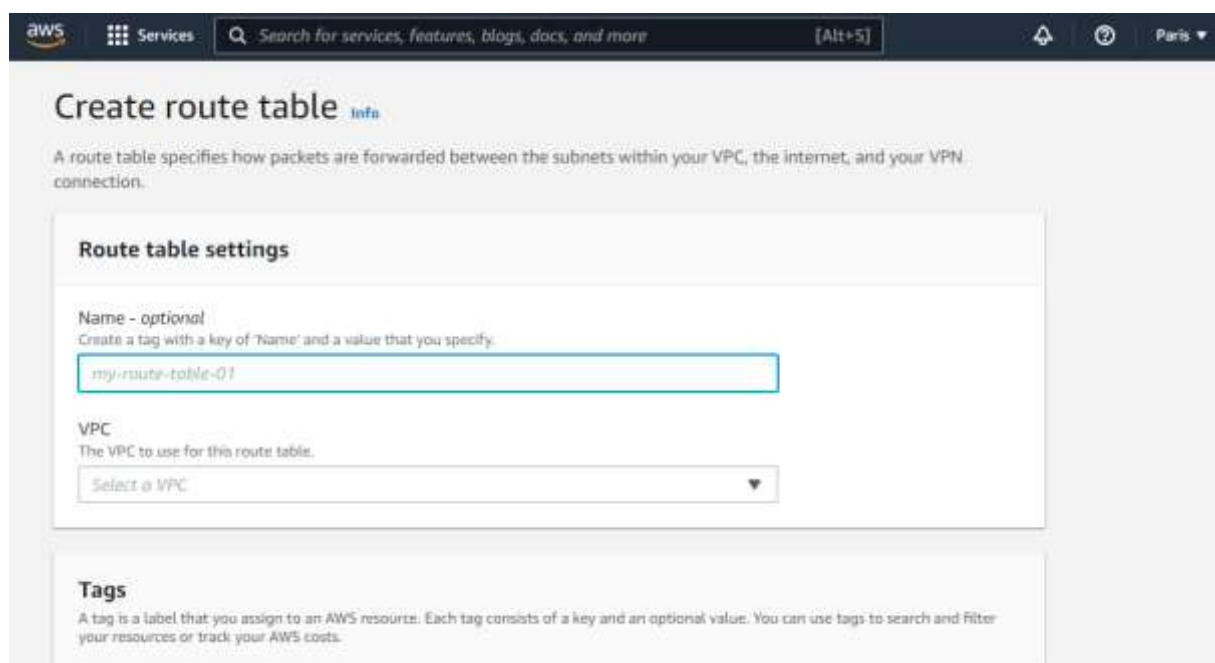
	Name	NAT gateway ID	Connectivity	State	State message	Elastic IP address
<input type="radio"/>	nat-gateway-public-b	nat-07ef784161d02bf12	Public	Available	—	15.236.153.247
<input type="radio"/>	nat-gateway-public-a	nat-01cb013ba11978f20	Public	Available	—	13.37.165.168

6-\ Création d'une route table



The screenshot shows the 'Route tables (8)' page in the AWS Management Console. The 'Create route table' button is highlighted with a red box. The left sidebar shows the 'Route Tables' option also highlighted with a red box. The main table lists various route tables with columns for Name, Route table ID, Explicit subnet associations, and Edge associations.

	Name	Route table ID	Explicit subnet associations	Edge associations
<input type="checkbox"/>	route-table-c	rtb-0c7613fa39fd68896	subnet-079218e8d771a...	—
<input type="checkbox"/>	MainVPC-route-pu...	rtb-0002a8a7086f581b8	subnet-0857203f4cd7e...	—
<input type="checkbox"/>	—	rtb-036f6cbc129f0e2d7	—	—
<input type="checkbox"/>	openvpnserv-IG	rtb-08007439d6725df26	—	—
<input type="checkbox"/>	vpn-rt	rtb-02341e2a9794cc5fc	subnet-0108dfaac3e53...	—
<input type="checkbox"/>	MainVPC-route-pu...	rtb-02d2efdeef00006f	subnet-077944c42dcffb...	—
<input type="checkbox"/>	route-table-privcc	rtb-0c137aa945bb82af8	subnet-08b73881777e0...	—
<input type="checkbox"/>	—	rtb-5d1cc535	—	—



The screenshot shows the 'Create route table' form. It includes a description of route tables, a 'Route table settings' section with fields for Name (optional) and VPC, and a 'Tags' section.

Create route table Info

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

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

VPC
The VPC to use for this route table.

Tags
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.

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New VPC Experience Tell us what you think

Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs
- Subnets
- Route Tables**
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Managed Prefix Lists
- Endpoints
- NAT Gateways
- Peering Connections

SECURITY

- Network ACLs
- Security Groups

NETWORK ANALYSIS

- Reachability Analyzer
- Network Access Analyzer

ONE FIREWALL

rtb-02d2efdeeeef00006f / MainVPC-route-public-a

Actions

Details Info

Route table ID rtb-02d2efdeeeef00006f	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

Find subnet association

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

Add route Remove

Cancel Preview Save changes

7-\ Automatisation avec cloudformation

AWS::TemplateFormatVersion: 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