



LABORATORIO **CONFIGURACIÓN DE** **UNA AMAZON VPC**

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OBJETIVOS

- Crear una VPC con una subred privada y una pública, una puerta de enlace de internet y una puerta de enlace de NAT.
- Configurar las tablas de enrutamiento asociadas con las subredes para el tráfico de internet mediante una puerta de enlace de internet y una puerta de enlace de NAT
- Iniciar un servidor bastión en una subred pública.
- Usar un servidor bastión para iniciar sesión en una instancia en una subred privada.

TAREA 1: CREAR UNA 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.

Lab VPC

IPv4 CIDR block [Info](#)
☒ IPv4 CIDR manual input
☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR
10.0.0.0/16
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

Tenancy [Info](#)
Default

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.

Key Value - optional

Q Name X Q Lab VPC X Remove tag

Add tag

You can add 49 more tags

Cancel Create VPC

- Crearemos una VPC con la configuración que se ve en la imagen de la izquierda.
- Vemos como la VPC quedó creada y disponible.

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP option set	Main route table	Main network ACL
	-	vpc-0262b433a0cf1e5cf	Available	172.31.0.0/16	-	dopt-0b65ec9dcf5c2649b	rtb-0583a6ff0db8d2785	acl-054ca0e06ba8d9846

- Activamos los DNS hostnames en la configuración de la VC.

Actions ▲

Create default VPC

Create flow log

Edit VPC settings

Edit CIDRs

Manage middlebox routes

Manage tags

Delete VPC

Create VPC

VPC details

VPC ID
vpc-07998e44f98d78786

Name
Lab VPC

DHCP settings

DHCP option set [Info](#)
dopt-0b65ec9dcf5c2649b ▼

DNS settings

☐ Enable DNS resolution [Info](#)

☒ Enable DNS hostnames [Info](#)

Network Address Usage metrics settings

☐ Enable Network Address Usage metrics [Info](#)

Cancel

Save

TAREA 2.1: CREAR UNA SUBRED PÚBLICA

Actions ▲ **Create subnet**

- View details
- Create flow log
- Edit subnet settings**
- Edit IPv6 CIDRs
- Edit network ACL association
- Edit route table association
- Edit CIDR reservations
- Share subnet
- Manage tags
- Delete subnet

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.

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.

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.

IPv4 subnet CIDR block
 256 IPs
< > ^ v

▼ **Tags - optional**

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="Public Subnet"/>	<input type="button" value="Remove"/>
<input type="button" value="Add new tag"/>		
You can add 49 more tags.		
<input type="button" value="Remove"/>		
<input type="button" value="Add new subnet"/>		

Auto-assign IP settings [Info](#)
Enable AWS to automatically assign a public IPv4 or IPv6 address to a new primary network interface for an instance in this subnet.

☒ **Enable auto-assign public IPv4 address** [Info](#)

☐ **Enable auto-assign customer-owned IPv4 address** [Info](#)
Option disabled because no customer owned pools found.

- Creamos una subred pública con la configuración que vemos en la imagen del medio. Luego, habilitaremos la asignación automática de IPs

TAREA 2.2: CREAR UNA SUBRED PRIVADA

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.

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.

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.

IPv4 subnet CIDR block
 512 IPs
< > ^ v

▼ **Tags - optional**

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="Private Subnet"/>	<input type="button" value="Remove"/>
<input type="button" value="Add new tag"/>		
You can add 49 more tags.		
<input type="button" value="Remove"/>		
<input type="button" value="Add new subnet"/>		

- Creamos otra subred pero en este caso privada, lo haremos con la configuración que vemos en la imagen del medio.

TAREA 3: CREAR UNA PUERTA DE ENLACE DE INTERNET

Internet gateway settings

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

Lab IGW

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 Value - optional

Q Name X Q Lab IGW X Remove

Add new tag

You can add 49 more tags.

Cancel Create internet gateway

- Creará una puerta de enlace de internet para su VPC. Necesita una puerta de enlace de internet para establecer conectividad externa con instancias de EC2 en las VPC.

Actions ▲ Create internet gateway

View details < 1 > ⚙

Attach to VPC

Detach from VPC

Manage tags

Delete internet gateway

State

✓ Attached

⊖ Detached

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.

Q vpc-07998e44f98d78786 X

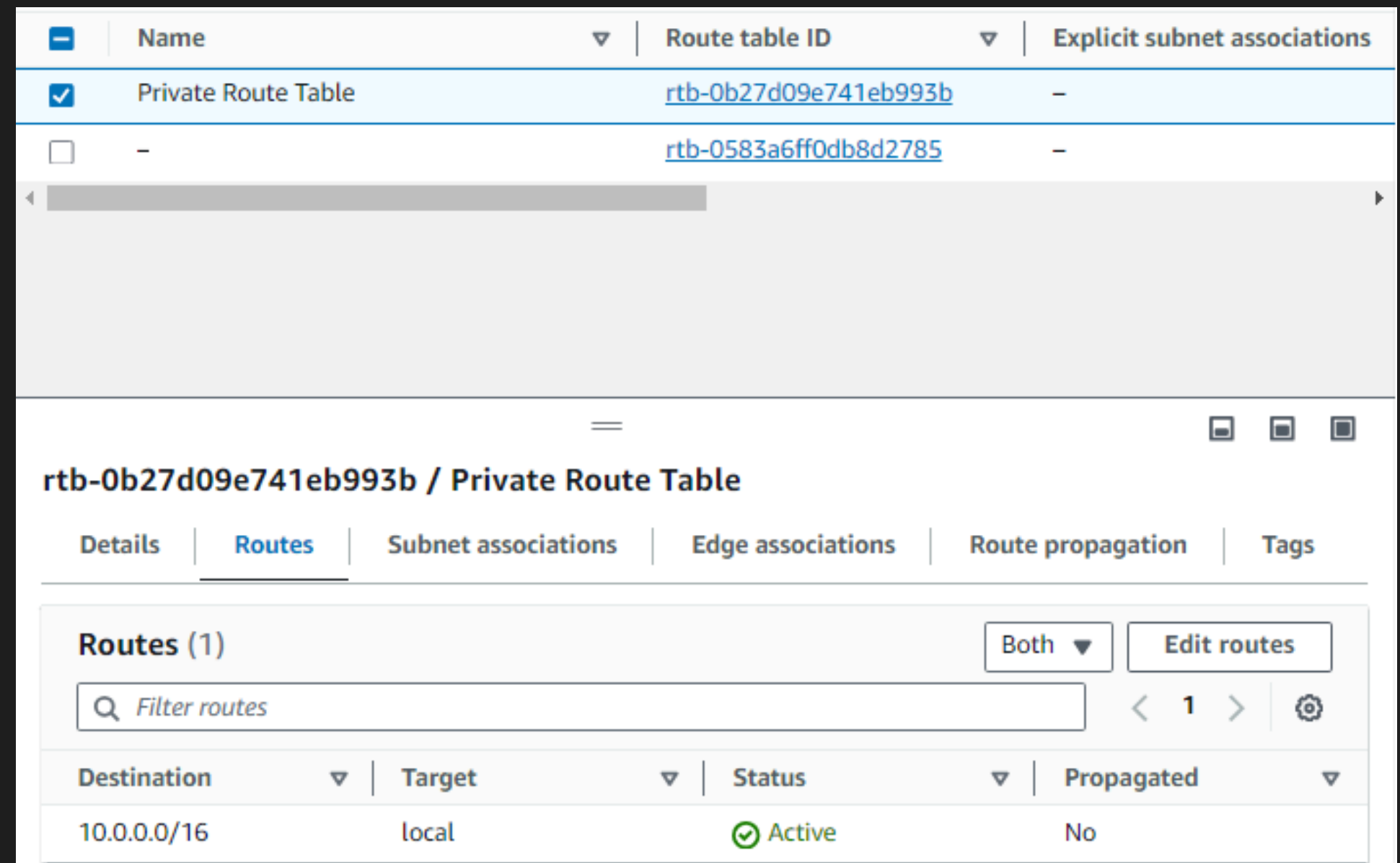
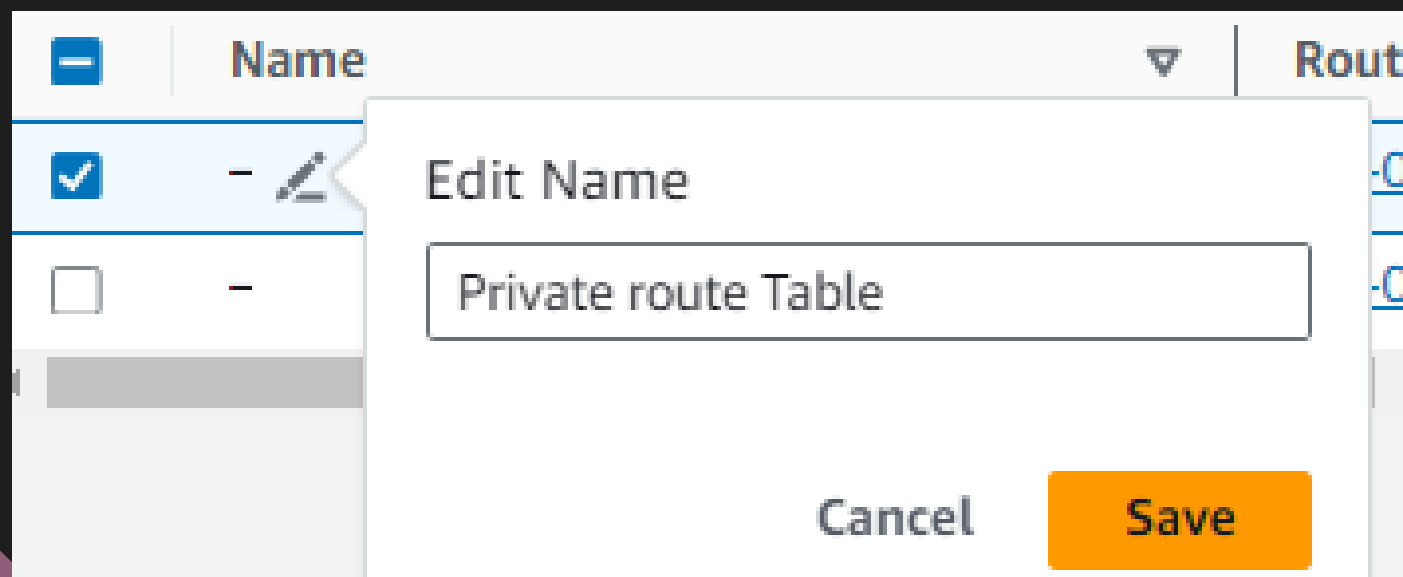
► AWS Command Line Interface command

Cancel Attach internet gateway

- La asociamos a la VPC creada anteriormente.

TAREA 4: CONFIGURAR TABLAS DE ENRUTAMIENTO

- Agarramos la tabla de rutas ya creada y le modificamos el nombre.



☒

Public Route Table

Route 2

Destination	Target	Status
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="Internet Gateway"/>	-
	<input type="text" value="igw-0a787b11d80929914"/>	

Propagated
No

Remove

Add route

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/2)

< 1 > ⚙

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	Public Subnet	subnet-0d610e111d68...	10.0.0.0/24	-	Main (rtb-0b27d...
<input type="checkbox"/>	Private Subnet	subnet-0ca9473e0b369...	10.0.2.0/23	-	Main (rtb-0b27d...

- Seleccionamos la tabla de rutas que modificamos y agregamos una nueva ruta ese destino y objetivo.
- Guardamos las asociaciones seleccionando a la subred pública

TAREA 5: INICIAR UN SERVIDOR BASTIÓN EN LA SUBRED PÚBLICA

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.5.2...[read more](#)
ami-0604d81f2fd264c7b

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

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

Cancel [Launch instance](#)
[Review commands](#)

- Creamos una instancia de EC2 la cual será el bastion server.
- Le crearemos un grupo de seguridad que permita el SSH.

TAREA 6: CREAR UNA PUERTA DE ENLACE DE NAT

- Creamos una NAT gateway para la subred pública. En la tabla de ruta privada agregaremos una ruta por la NAT y al 0.0.0.0/0

NAT gateway settings

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

Lab NAT gateway

The name can be up to 256 characters long.

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

subnet-0d610e111d688076b (Public Subnet)

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.

eipalloc-06c05bd667688c489 [Allocate Elastic IP](#)

[▶ Additional settings](#) [Info](#)

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.

Key **Value - optional**

Q Name X Q Lab NAT gateway X Remove

Add new tag

You can add 49 more tags.

Cancel [Create NAT gateway](#)

Route 2

Destination	Target	Status
Q 0.0.0.0/0 X	NAT Gateway	-
	Q nat-02445a8dd07580150 X	

Propagated
No

[Remove](#)

[Add route](#)

DESAFÍO OPCIONAL: PROBAR LA SUBRED PRIVADA

▼ Summary

Number of instances [Info](#)

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.5.2...[read more](#)
ami-0604d81f2fd264c7b

Virtual server type (instance type)

t3.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel [Launch instance](#)

[Review commands](#)

- Lanzaremos una instancia de EC2 con un script de bash en su creación.

```
#!/bin/bash
# Turn on password authentication for lab challenge
echo 'lab-password' | passwd ec2-user --stdin
sed -i 's|[#]*PasswordAuthentication no|PasswordAuthentication yes|g'
/etc/ssh/sshd_config
systemctl restart sshd.service
```

```

      #_
    ~\   ###_
  ~~\   #####\
~~~\   #####|
~~~~\#/_
     V~' '->
       /
      /
     /
    /
   /
  /m/'

```

- **Nos conectaremos por SSH a la instancia nueva desde la instancia en la subred pública.**
- **Realizaremos un ping a google, comprobando que la instancia en la subred privada si tiene internet.**

**MUCHAS
GRACIAS**