

Universidad de San Carlos de Guatemala

Facultad de Ingeniería

Escuela de Ciencias y Sistemas

Laboratorio Redes de Computadoras 2

Auxiliares: Edgar Cil / Randy Can



## **Manual técnico Proyecto Fase 2**

### **Grupo 2**

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Gerardo Steve Muñoz Contreras	201900853
Luis Dannel Ernesto Castellanos Galindo	201902238

## Definición del problema

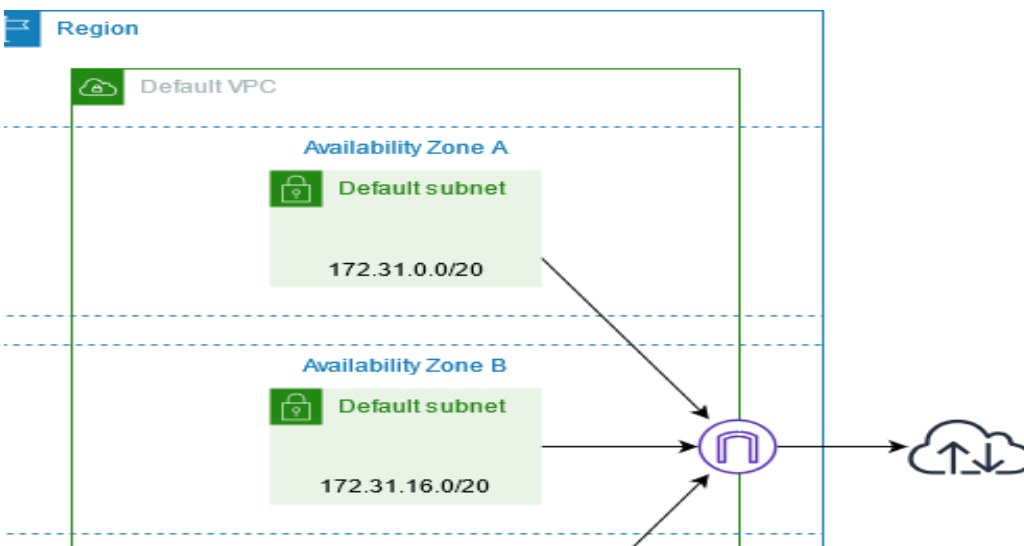
Ucron ahora cuenta con la red que usted configuró previamente debido a esto los administradores de este país se percataron de la calidad y eficiencia de su trabajo, tanto solucionando problemas como exponiendo de forma clara las nuevas tecnologías que benefician al país.

Debido a esto se le solicita que cree una página para dos de los departamentos más importantes del país para que se pueda dar a conocer el país en todo el mundo y a la vez para poder administrar los recursos del país. Para esto se le pide que utilice los servicios de AWS y algún administrador de dominios para poder posicionar a Ucron con su página web en los primeros puestos de búsqueda.

## Arquitectura

Tomando en cuenta que se necesita tener una base de datos y una página web lo recomendable es tener dos servidores para al momento de exponer puertos se pueda restringir quien tenga acceso.

## Arquitectura Propuesta



## Servidor:

app.py

```
from flask import Flask, redirect, url_for, render_template, request
from flask_cors import CORS
import json
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017")
mydb = myclient["Redes2"]
images = mydb["images"]
personas = mydb["personas"]
app = Flask(__name__)
CORS(app)

@app.route('/')
def home():
    respuesta = {'message': 'welcome to the 1st server'}
    return json.dumps(respuesta)

@app.route('/allPeople')
def allPeople():
    all_people = personas.find()
    respuesta = []
    for element in all_people:
        del element['_id']
        respuesta.append(element)
    return {'personas': respuesta }

@app.route('/addPeople')
def addPeople():
    requestBody = request.get_json(force=True)
    nombre = requestBody['nombre']
    puesto = requestBody['puesto']
    sender = {'nombre': nombre, 'puesto': puesto}
    personas.insert_one(sender)
    return {'message': 'person added successfully'}

@app.route('/allImages')
def allImages():
    all_images = images.find()
    respuesta = []
    for element in all_images:
        del element['_id']
```

```

        respuesta.append(element)
    return {'imagenes': respuesta}

@app.route('/addImage')
def addImage():
    requestBody = request.get_json(force=True)
    nombre = requestBody['nombre']
    imageurl = requestBody['imagen']
    sender = {'nombre': nombre, 'imagen': imageurl}
    images.insert_one(sender)
    return {'message': 'image added successfully'}

@app.route('/datosMonedas')
def datosMonedas():
    f = open('tipocambio.json')
    data = json.load(f)
    return data

if __name__ == '__main__':
    # port = int(os.environ.get('PORT', 5000))
    app.run(debug=False, host='0.0.0.0', port=5000)

```

Dockerfile:

```

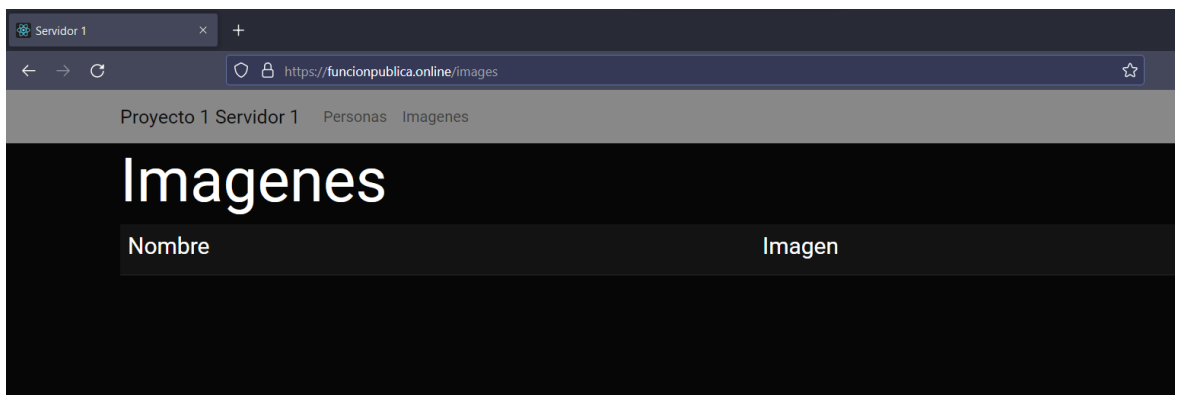
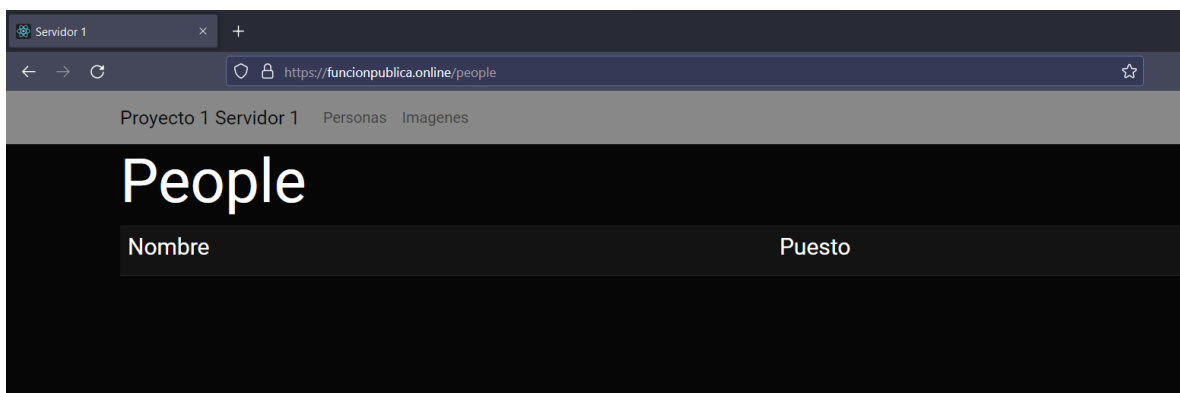
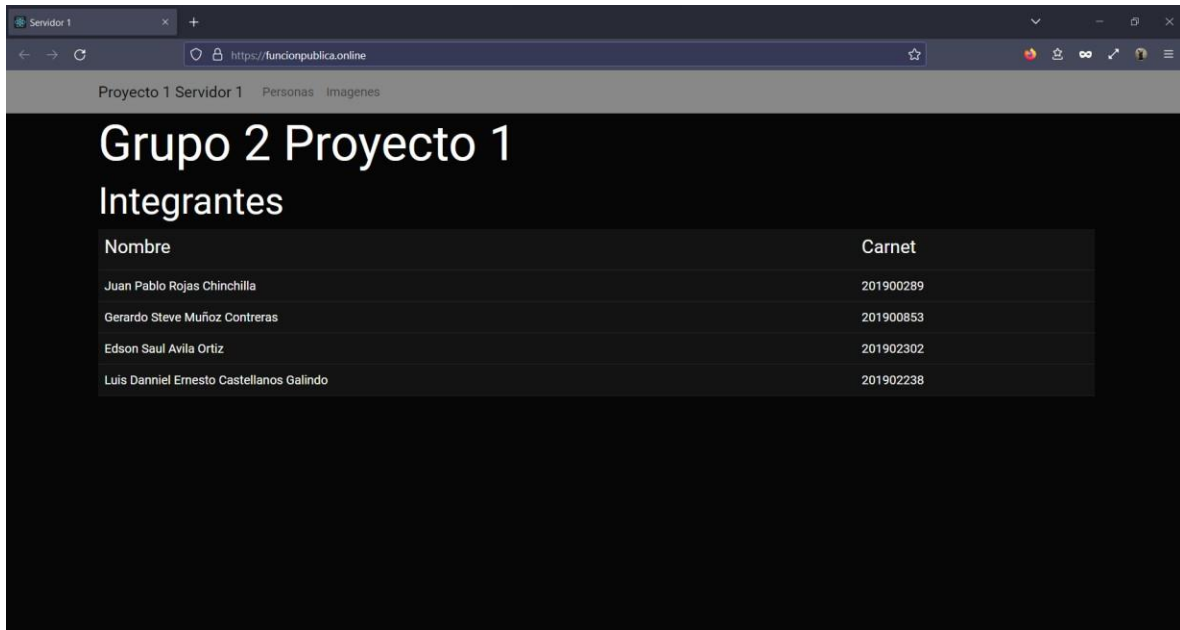
FROM python:3.10-alpine3.15

WORKDIR /backend
COPY app.py ./app.py
RUN pip install Flask
RUN pip install Flask-Cors
RUN pip install pymongo
EXPOSE 5000
CMD ["python", "app.py"]

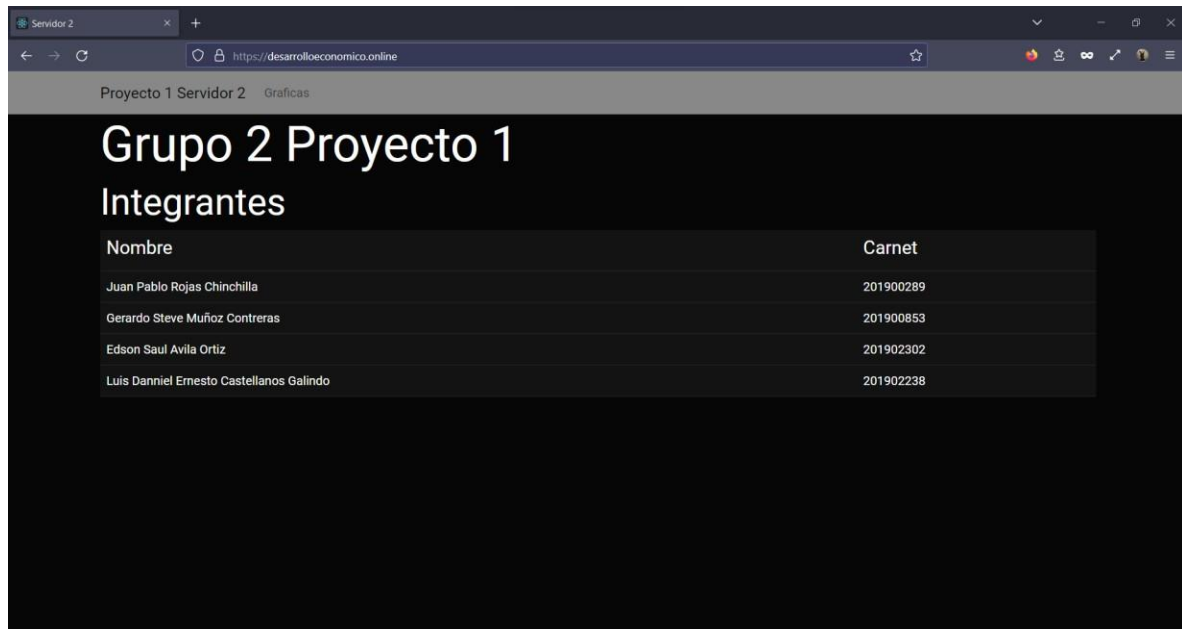
```

## Vistas en producción

Servidor 1:



Servidor 2:



The screenshot shows a web browser window with the address bar displaying `https://desarrolloeconomico.online`. The page title is "Proyecto 1 Servidor 2 Graficas". The main content area has a dark background with the text "Grupo 2 Proyecto 1" and "Integrantes" in large white font. Below this is a table with two columns: "Nombre" and "Carnet". The table contains four rows of data.

Nombre	Carnet
Juan Pablo Rojas Chinchilla	201900289
Gerardo Steve Muñoz Contreras	201900853
Edson Saul Avila Ortiz	201902302
Luis Danniel Ernesto Castellanos Galindo	201902238

# Configuración Route 53

## Records (6) Info

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.



Delete record

Import zone file

Create record

Filter records by property or value

Type

Routing policy

Alias

< 1 >



<input type="checkbox"/>	Record name	Type	Routin...	Differ...	Value/Route traffic to
<input type="checkbox"/>	5-de-api.online	A	Simple	-	dualstack.de-balancer-941410684.us-east-1.elb.amazonaw...
<input type="checkbox"/>	5-de-api.online	NS	Simple	-	ns-1006.awsdns-61.net. ns-178.awsdns-22.com. ns-1603.awsdns-08.co.uk. ns-1482.awsdns-57.org.
<input type="checkbox"/>	5-de-api.online	SOA	Simple	-	ns-1006.awsdns-61.net. awsdns-hostmaster.amazon.com. 1...
<input type="checkbox"/>	geradohueco.5-de-api.online	CNAME	Simple	-	5-de-api.online
<input type="checkbox"/>	ml.5-de-api.online	CNAME	Simple	-	5-de-api.online
<input type="checkbox"/>	www.5-de-api.online	CNAME	Simple	-	5-de-api.online

## Records (5) Info

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.



Delete record

Import zone file

Create record

Filter records by property or value

Type

Routing policy




Alias

< 1 >



<input type="checkbox"/>	Record name	Type	Routin...	Differ...	Value/Route traffic to
<input type="checkbox"/>	5-fp-api.site	A	Simple	-	dualstack.fp-balancer-1079192606.us-east-1.elb.amazona...
<input type="checkbox"/>	5-fp-api.site	NS	Simple	-	ns-1937.awsdns-50.co.uk. ns-658.awsdns-18.net. ns-1067.awsdns-05.org. ns-257.awsdns-32.com.
<input type="checkbox"/>	5-fp-api.site	SOA	Simple	-	ns-1937.awsdns-50.co.uk. awsdns-hostmaster.amazon.com....
<input type="checkbox"/>	tk.5-fp-api.site	CNAME	Simple	-	5-fp-api.site
<input type="checkbox"/>	www.5-fp-api.site	CNAME	Simple	-	5-fp-api.site




## Load Balancer de

VPC	<a href="#">vpc-06d9341589f0770b7</a> 
Availability Zones	<a href="#">subnet-00c535d60978e6457 - us-east-1a</a>  IPv4 address: Assigned by AWS  <a href="#">subnet-016ad1e36149d650e - us-east-1b</a>  IPv4 address: Assigned by AWS  <a href="#">Edit subnets</a>
Hosted zone	Z35SXDOTRQ7X7K
Creation time	November 4, 2022 at 10:01:49 PM UTC-6

### Security

Security groups	<a href="#">sg-02d1740c22719f066</a> , <a href="#">launch-wizard-5</a> • <a href="#">launch-wizard-5</a> created 2022-11-03T05:33:18.129Z  <a href="#">Edit security groups</a>
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## Load Balancer fp

VPC	<a href="#">vpc-0a205839527b04eee</a> 
Availability Zones	<a href="#">subnet-0085d571fbe95b3e7 - us-east-1a</a>  IPv4 address: Assigned by AWS  <a href="#">subnet-0cab0ca73ca84c475 - us-east-1b</a>  IPv4 address: Assigned by AWS  <a href="#">Edit subnets</a>
Hosted zone	Z35SXDOTRQ7X7K
Creation time	November 4, 2022 at 9:59:58 PM UTC-6

### Security

Security groups	<a href="#">sg-0e4d1ef6d4f1af1d5</a> , <a href="#">launch-wizard-3</a> • <a href="#">launch-wizard-3</a> created 2022-11-03T05:01:34.638Z  <a href="#">Edit security groups</a>
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VPcs1 de










Details			
VPC ID vpc-06d9341589f0770b7	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-02de270b5e8bae834	Main route table rtb-0a5d29e0e078dae02	Main network ACL acl-02c2c708d98ce7bc4
Default VPC No	IPv4 CIDR 10.0.0.0/24	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 620574657763	

VPc2 fp









Details			
VPC ID vpc-0a205839527b04eee	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-02de270b5e8bae834	Main route table rtb-04e0ac8f0fb9b0d7e	Main network ACL acl-05ecf1b6ec1182147
Default VPC No	IPv4 CIDR 10.0.0.0/24	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 620574657763	

# Subnets










## Vpc1 privada

Details			
<div>Subnet ID</div> <div> subnet-0cab0ca73ca84c475</div> <div>Available IPv4 addresses</div> <div> 57</div> <div>Network border group</div> <div> us-east-1</div> <div>Default subnet</div> <div>No</div> <div>Customer-owned IPv4 pool</div> <div>–</div> <div>IPv6-only</div> <div>No</div> <div>DNS64</div> <div>Disabled</div>	<div>Subnet ARN</div> <div> arn:aws:ec2:us-east-1:620574657763:subnet/subnet-0cab0ca73ca84c475</div> <div>IPv6 CIDR</div> <div>–</div> <div>VPC</div> <div><a href="#">vpc-0a205839527b04eee</a>   <a href="#">vpc-redes</a></div> <div>Auto-assign public IPv4 address</div> <div>Yes</div> <div>Outpost ID</div> <div>–</div> <div>Hostname type</div> <div>IP name</div> <div>Owner</div> <div> 620574657763</div>	<div>State</div> <div> Available</div> <div>Availability Zone</div> <div> us-east-1b</div> <div>Route table</div> <div><a href="#">rtb-0f3596291d01acf62</a>   <a href="#">table-router-1</a></div> <div>Auto-assign IPv6 address</div> <div>No</div> <div>IPv4 CIDR reservations</div> <div>–</div> <div>Resource name DNS A record</div> <div>Disabled</div>	<div>IPv4 CIDR</div> <div> 10.0.0.64/26</div> <div>Availability Zone ID</div> <div> use1-az4</div> <div>Network ACL</div> <div><a href="#">acl-05ecf1b6ec1182147</a></div> <div>Auto-assign customer-owned IPv4 address</div> <div>No</div> <div>IPv6 CIDR reservations</div> <div>–</div> <div>Resource name DNS AAAA record</div> <div>Disabled</div>










## Vpc1 publica

Details			
<div>Subnet ID</div> <div> subnet-00c535d60978e6457</div> <div>Available IPv4 addresses</div> <div> 57</div> <div>Network border group</div> <div> us-east-1</div> <div>Default subnet</div> <div>No</div> <div>Customer-owned IPv4 pool</div> <div>–</div>	<div>Subnet ARN</div> <div> arn:aws:ec2:us-east-1:620574657763:subnet/subnet-00c535d60978e6457</div> <div>IPv6 CIDR</div> <div>–</div> <div>VPC</div> <div><a href="#">vpc-06d9341589f0770b7</a>   <a href="#">vpc-redes2</a></div> <div>Auto-assign public IPv4 address</div> <div>Yes</div> <div>Outpost ID</div> <div>–</div>	<div>State</div> <div> Available</div> <div>Availability Zone</div> <div> us-east-1a</div> <div>Route table</div> <div><a href="#">rtb-0687905ff800650e0</a>   <a href="#">table-route-2</a></div> <div>Auto-assign IPv6 address</div> <div>No</div> <div>IPv4 CIDR reservations</div> <div>–</div>	<div>IPv4 CIDR</div> <div> 10.0.0.0/26</div> <div>Availability Zone ID</div> <div> use1-az2</div> <div>Network ACL</div> <div><a href="#">acl-02c2c708d98ce7bc4</a></div> <div>Auto-assign customer-owned IPv4 address</div> <div>No</div> <div>IPv6 CIDR reservations</div> <div>–</div>

Vpc 2 privada

Details			
<div>Subnet ID</div> <div> subnet-00c535d60978e6457</div> <div>Available IPv4 addresses</div> <div> 57</div> <div>Network border group</div> <div> us-east-1</div> <div>Default subnet</div> <div>No</div> <div>Customer-owned IPv4 pool</div> <div>–</div> <div>IPv6-only</div> <div>No</div> <div>DNS64</div> <div>Disabled</div>	<div>Subnet ARN</div> <div> arn:aws:ec2:us-east-1:620574657763:subnet/subnet-00c535d60978e6457</div> <div>IPv6 CIDR</div> <div>–</div> <div>VPC</div> <div><a href="#">vpc-06d9341589f0770b7</a>   <a href="#">vpc-redes2</a></div> <div>Auto-assign public IPv4 address</div> <div>Yes</div> <div>Outpost ID</div> <div>–</div> <div>Hostname type</div> <div>IP name</div> <div>Owner</div> <div> 620574657763</div>	<div>State</div> <div> Available</div> <div>Availability Zone</div> <div> us-east-1a</div> <div>Route table</div> <div><a href="#">rtb-0687905ff800650e0</a>   <a href="#">table-route-2</a></div> <div>Auto-assign IPv6 address</div> <div>No</div> <div>IPv4 CIDR reservations</div> <div>–</div> <div>Resource name DNS A record</div> <div>Disabled</div>	<div>IPv4 CIDR</div> <div> 10.0.0.0/26</div> <div>Availability Zone ID</div> <div> use1-az2</div> <div>Network ACL</div> <div><a href="#">acl-02c2c708d98ce7bc4</a></div> <div>Auto-assign customer-owned IPv4 address</div> <div>No</div> <div>IPv6 CIDR reservations</div> <div>–</div> <div>Resource name DNS AAAA record</div> <div>Disabled</div>

Vpc 2 publica

Details			
<div>Subnet ID</div> <div> subnet-016ad1e36149d650e</div> <div>Available IPv4 addresses</div> <div> 57</div> <div>Network border group</div> <div> us-east-1</div> <div>Default subnet</div> <div>No</div> <div>Customer-owned IPv4 pool</div> <div>–</div> <div>IPv6-only</div> <div>No</div> <div>DNS64</div> <div>Disabled</div>	<div>Subnet ARN</div> <div> arn:aws:ec2:us-east-1:620574657763:subnet/subnet-016ad1e36149d650e</div> <div>IPv6 CIDR</div> <div>–</div> <div>VPC</div> <div><a href="#">vpc-06d9341589f0770b7</a>   <a href="#">vpc-redes2</a></div> <div>Auto-assign public IPv4 address</div> <div>Yes</div> <div>Outpost ID</div> <div>–</div> <div>Hostname type</div> <div>IP name</div> <div>Owner</div> <div> 620574657763</div>	<div>State</div> <div> Available</div> <div>Availability Zone</div> <div> us-east-1b</div> <div>Route table</div> <div><a href="#">rtb-0687905ff800650e0</a>   <a href="#">table-route-2</a></div> <div>Auto-assign IPv6 address</div> <div>No</div> <div>IPv4 CIDR reservations</div> <div>–</div> <div>Resource name DNS A record</div> <div>Disabled</div>	<div>IPv4 CIDR</div> <div> 10.0.0.64/26</div> <div>Availability Zone ID</div> <div> use1-az4</div> <div>Network ACL</div> <div><a href="#">acl-02c2c708d98ce7bc4</a></div> <div>Auto-assign customer-owned IPv4 address</div> <div>No</div> <div>IPv6 CIDR reservations</div> <div>–</div> <div>Resource name DNS AAAA record</div> <div>Disabled</div>

Tablas de ruteo

DetailsInfo

Route table ID

rtb-0f3596291d01acf62

VPC

vpc-0a205839527b04eee | vpc-redes

Main

No

Owner ID

620574657763

Explicit subnet associations

2 subnets

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (3)

Edit routes

Filter routes

Both

< 1 >

Destination	Target	Status	Propagated
::/0	igw-0bed8bf6201e5037	Active	No
0.0.0.0/0	igw-0bed8bf6201e5037	Active	No
10.0.0.0/24	local	Active	No

DetailsInfo

Route table ID

rtb-0687905ff800650e0

VPC

vpc-06d9341589f0770b7 | vpc-redes2

Main

No

Owner ID

620574657763

Explicit subnet associations

2 subnets

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (3)

Edit routes

Filter routes

Both

< 1 >

Destination	Target	Status	Propagated
::/0	igw-0401ed0b9a699caa4	Active	No
0.0.0.0/0	igw-0401ed0b9a699caa4	Active	No
10.0.0.0/24	local	Active	No

# igw-0401ed0b9a699caa4 / gateway2

Details <a href="#">Info</a>		
Internet gateway ID igw-0401ed0b9a699caa4	State Attached	VPC ID vpc-06d9341589f0770b7   vpc-redes2

igw-0401ed0b9a699caa4 / gateway2

# igw-0bed8bfb6201e5037 / gatewayredes

Acti

Details <a href="#">Info</a>			
Internet gateway ID igw-0bed8bfb6201e5037	State Attached	VPC ID vpc-0a205839527b04eee   vpc-redes	Owner 620574657763

igw-0bed8bfb6201e5037 / gatewayredes