

Esencial en AWS:



Construir una Red desde Cero

	2017	2018	2019	2020	2021	2022
Regiones	16	19	23	24	25	27
AZ	42	57	70	77	81	87
Chache						410

Overview of Amazon Web Services
AWS Whitepaper

Scalable
Elastic

High Availability
Fault Tolerance

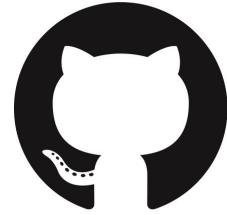
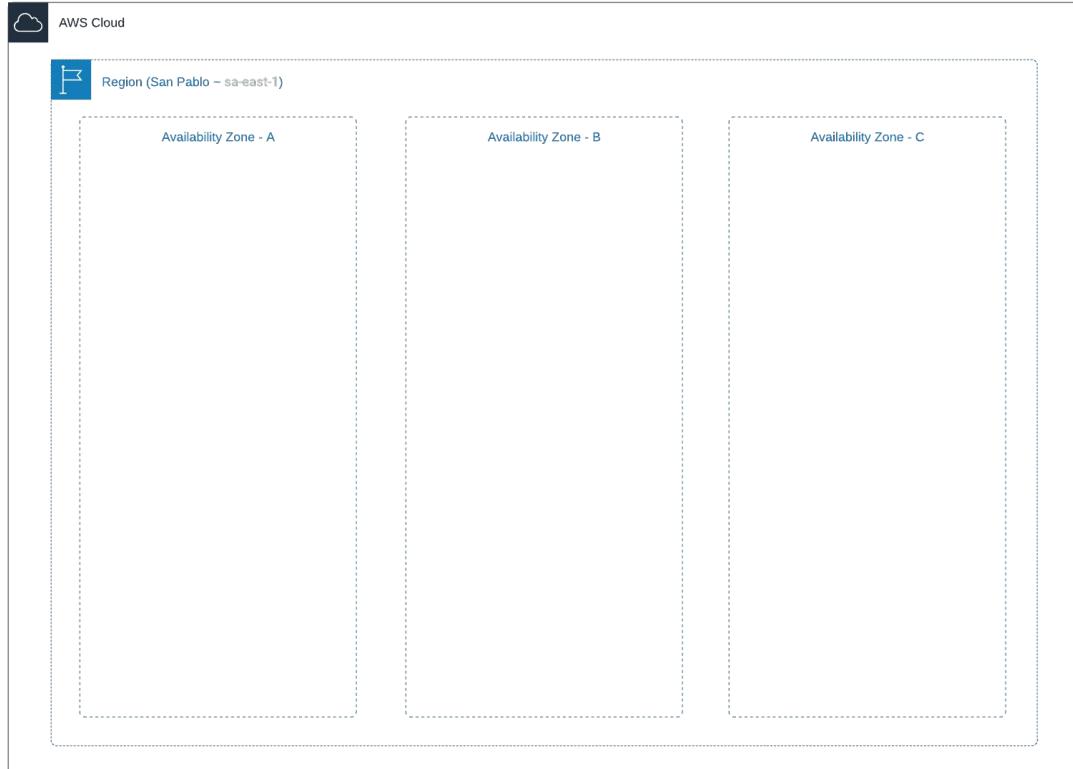


IaaS, PaaS, SaaS

Compute | Storage | Database | Migration | Networking & CDN | Development Tools | Management Tools |

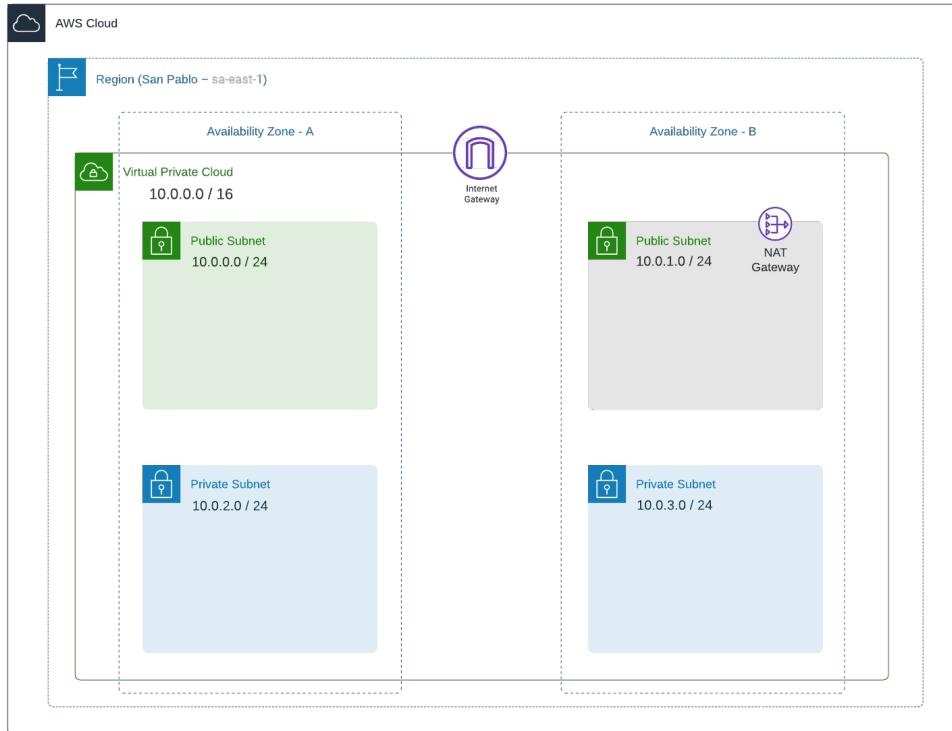


Diagramas de Arquitectura



<https://github.com/Pabloin/Nerdearla-2022-AWS-Workshop>

Diagramas de Arquitectura

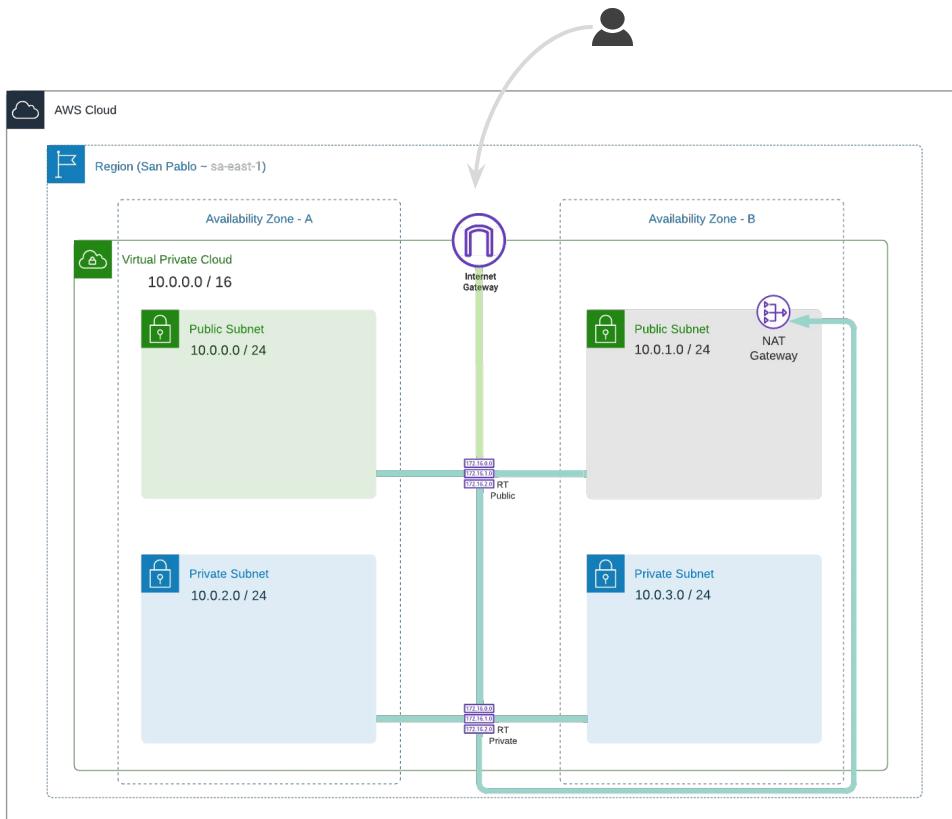


10.0.0.0 / 16

10.0.0.0 / 24
10.0.1.0 / 24

10.0.2.0 / 24
10.0.3.0 / 24

Reservada por AWS:	
- Dirección de la red	10.0.0.0/24
- Gateway	10.0.0.1/24
- DNS	10.0.0.2/24
- Reservada por AWS	10.0.0.3/24
- Dirección de broadcast	10.0.0.255/24



Your VPCs (1/1) [Info](#)

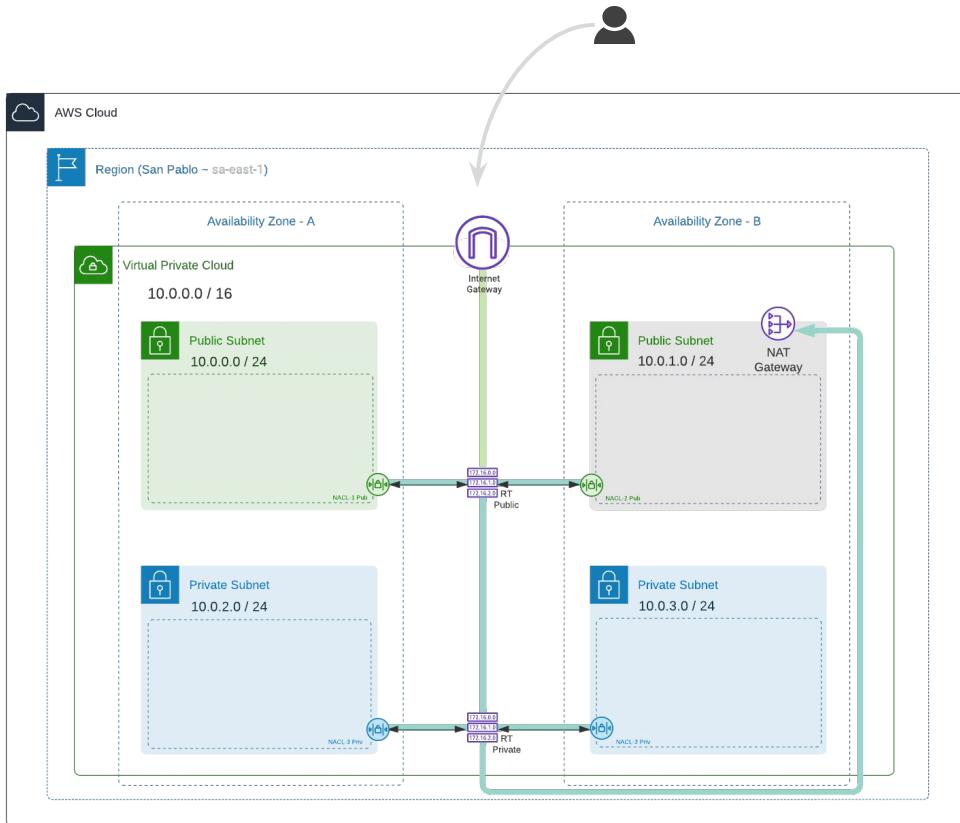
Name **MyOregonVPC**

Enable auto-assign public IPv4 address

Auto-assign IPv4 [Info](#)

Enable auto-assign public IPv4 address

RT-Public	0.0.0.0 / 0	→	igw-
RT-Public	10.0.0.0 / 16	→	local
RT-Private	0.0.0.0 / 0	→	nat-
RT-Private	10.0.0.0 / 16	→	local



NACL (Custom)

[ephemeral ports](#)

Caso de USO: Internet - Web Server - BD

NACL-Public-A		Inbound rules				
Rule number	Type	Protocol	Port range	Source	Allow/Deny	
100	HTTP (80)	TCP (6)	80	0.0.0.0/0	<input checked="" type="checkbox"/> Allow	
200	SSH (22)	TCP (6)	22	181.164.85.20/32	<input checked="" type="checkbox"/> Allow	
300	Custom TCP	TCP (6)	1024 - 65535	0.0.0.0/0	<input checked="" type="checkbox"/> Allow	
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny	
NACL-Public-A		Outbound rules				
Rule number	Type	Protocol	Port range	Destination	Allow/Deny	
100	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Allow	
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny	

NACL-Private		Inbound rules				
Rule number	Type	Protocol	Port range	Source	Allow/Deny	
100	MySQL/Aurora (3306)	TCP (6)	3306	10.0.0.0/24	<input checked="" type="checkbox"/> Allow	
200	SSH (22)	TCP (6)	22	10.0.0.243/32	<input checked="" type="checkbox"/> Allow	
300	Custom TCP	TCP (6)	1024 - 65535	0.0.0.0/0	<input checked="" type="checkbox"/> Allow	
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny	
NACL-Private		Outbound rules				
Rule number	Type	Protocol	Port range	Destination	Allow/Deny	
100	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Allow	
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny	

NACL (Custom)

Seguridad - “Física”

Caso de USO: Internet - Web Server - BD

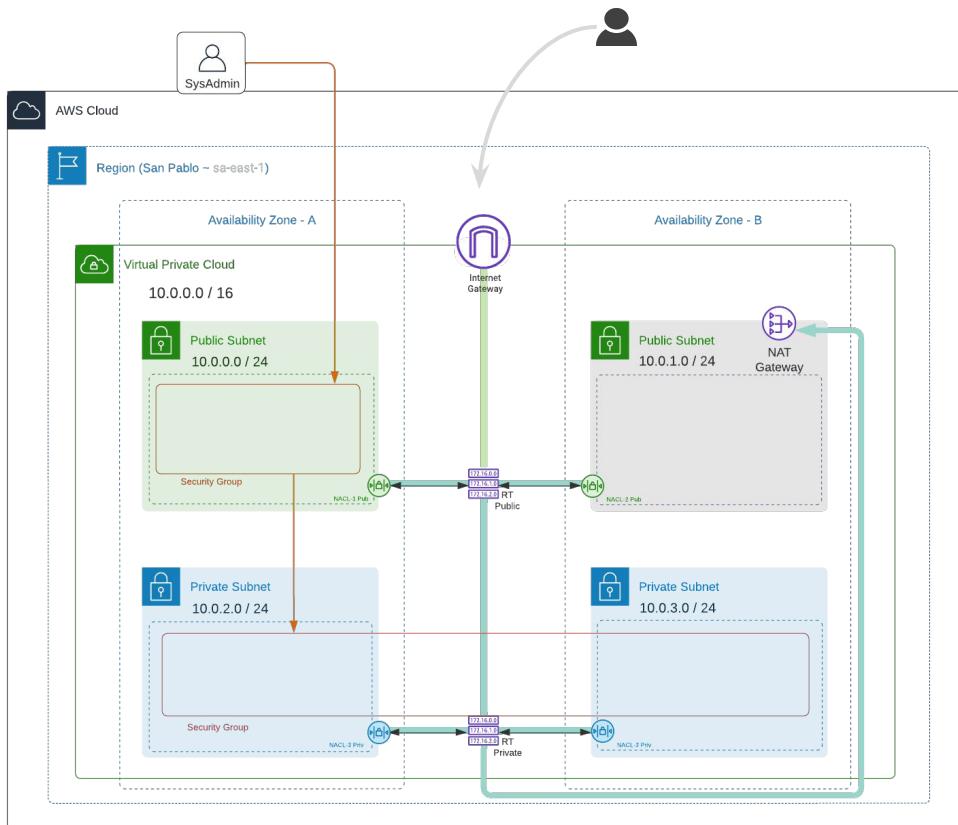
NACL-Public-A					
Inbound rules					
Rule number	Type	Protocol	Port range	Source	Allow/Deny
100	HTTP (80)	TCP (6)	80	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
200	SSH (22)	TCP (6)	22	181.164.85.20/32	<input checked="" type="checkbox"/> Allow
300	Custom TCP	TCP (6)	1024 - 65535	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny
Outbound rules					
Rule number	Type	Protocol	Port range	Destination	Allow/Deny
100	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny

[ephemeral ports](#)

Caso de USO: Update SW. Privado por Nat Gwy

NACL-Public-B					
Inbound rules					
Rule number	Type	Protocol	Port range	Source	Allow/Deny
100	HTTP (80)	TCP (6)	80	10.0.2.0/24	<input checked="" type="checkbox"/> Allow
200	HTTPS (443)	TCP (6)	443	10.0.2.0/24	<input checked="" type="checkbox"/> Allow
300	Custom TCP	TCP (6)	1024 - 65535	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny
Outbound rules					
Rule number	Type	Protocol	Port range	Destination	Allow/Deny
100	HTTP (80)	TCP (6)	80	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
200	HTTPS (443)	TCP (6)	443	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
300	Custom TCP	TCP (6)	1024 - 65535	10.0.2.0/24	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny

NACL-Private					
Inbound rules					
Rule number	Type	Protocol	Port range	Source	Allow/Deny
100	MySQL/Aurora (3306)	TCP (6)	3306	10.0.0.0/24	<input checked="" type="checkbox"/> Allow
200	SSH (22)	TCP (6)	22	10.0.0.243/32	<input checked="" type="checkbox"/> Allow
300	Custom TCP	TCP (6)	1024 - 65535	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny
Outbound rules					
Rule number	Type	Protocol	Port range	Destination	Allow/Deny
100	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Allow
*	All traffic	All	All	0.0.0.0/0	<input checked="" type="checkbox"/> Deny



Security Groups

WebDMZ-SG

Inbound rules

Type	Protocol	Port range	Source	Description - optional
HTTP	TCP	80	0.0.0.0/0	-
SSH	TCP	22	181.164.85.20/32	-
Custom TCP	TCP	1024 - 65535	0.0.0.0/0	User-Data Setup (yum update, git clone)

Outbound rules

Type	Protocol	Port range	Destination
All TCP	TCP	0 - 65535	0.0.0.0/0

MyDB-SG

Inbound rules

Type	Protocol	Port range	Source
SSH	TCP	22	sg- (WebDMZ-SG)
MySQL/Aurora	TCP	3306	sg- (WebDMZ-SG)

Outbound rules

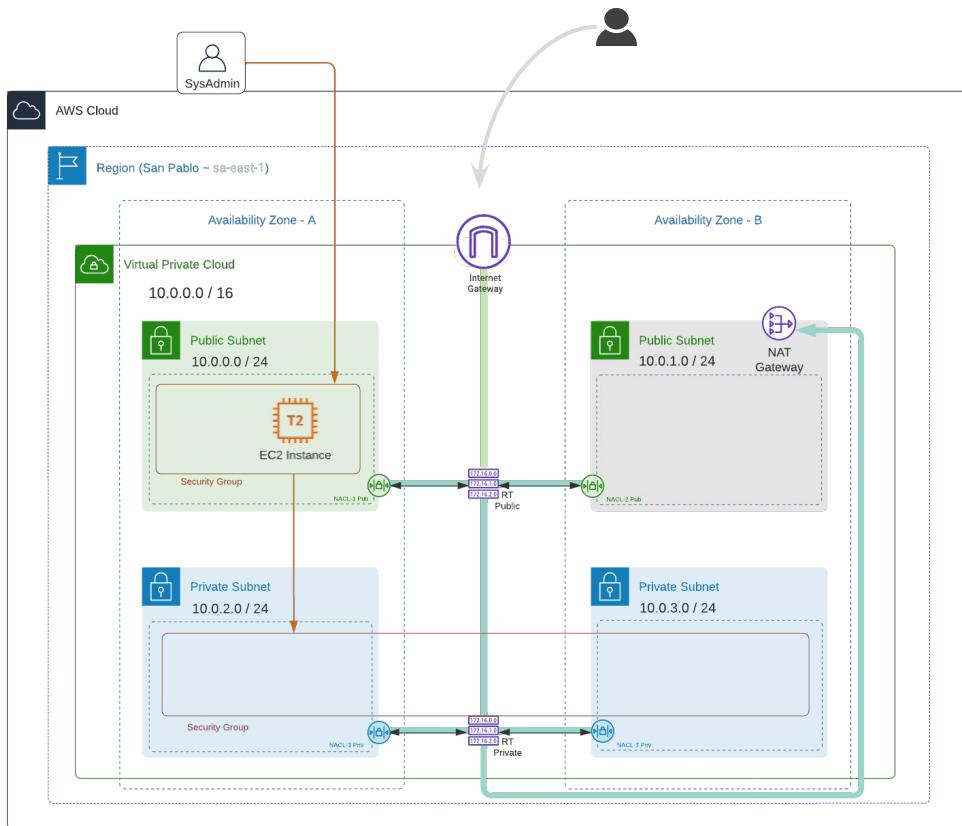
Type	Protocol	Port range	Destination
All traffic	All	All	0.0.0.0/0

3306 | desde SG-1

22 | desde SG-1

Diagramas de Arquitectura

Prueba de la Capa Web



EC2 Web

A screenshot of a web browser window titled 'EC2 Web'. The page displays a scenic image of a glacier and the text 'AWS Essentials 2021 Getting Started - Glacier site v1.2'. To the left, a terminal window shows the command-line steps to set up the website:

```
#!/bin/bash
yum update -y
yum install httpd -y
yum install git -y
service httpd start
chkconfig httpd on
cd /var/www/html
echo "Hello!" > index.html
```

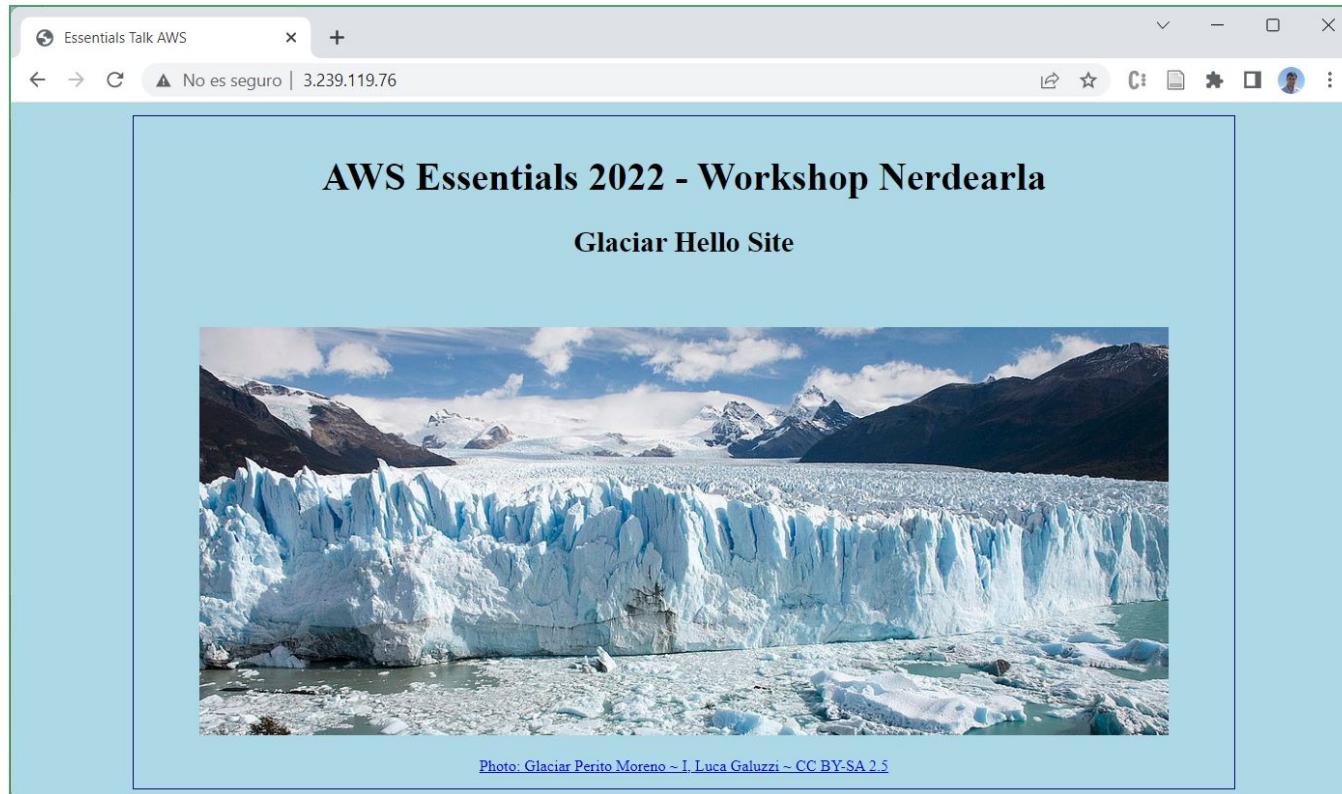
Below the terminal, another command is shown:

```
git clone https://github.com/uade-arqit/lab-aws.git
unzip lab-aws/c-site-glacier/lab-02/site-glacier-lab-02.zip
cp -r lab-02/site/* /var/www/html/
```

user_data_glacier.sh

Se debería ver ...

Prueba de la Capa Web



Database con RDS

aws Servicios ▾

RDS > 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.

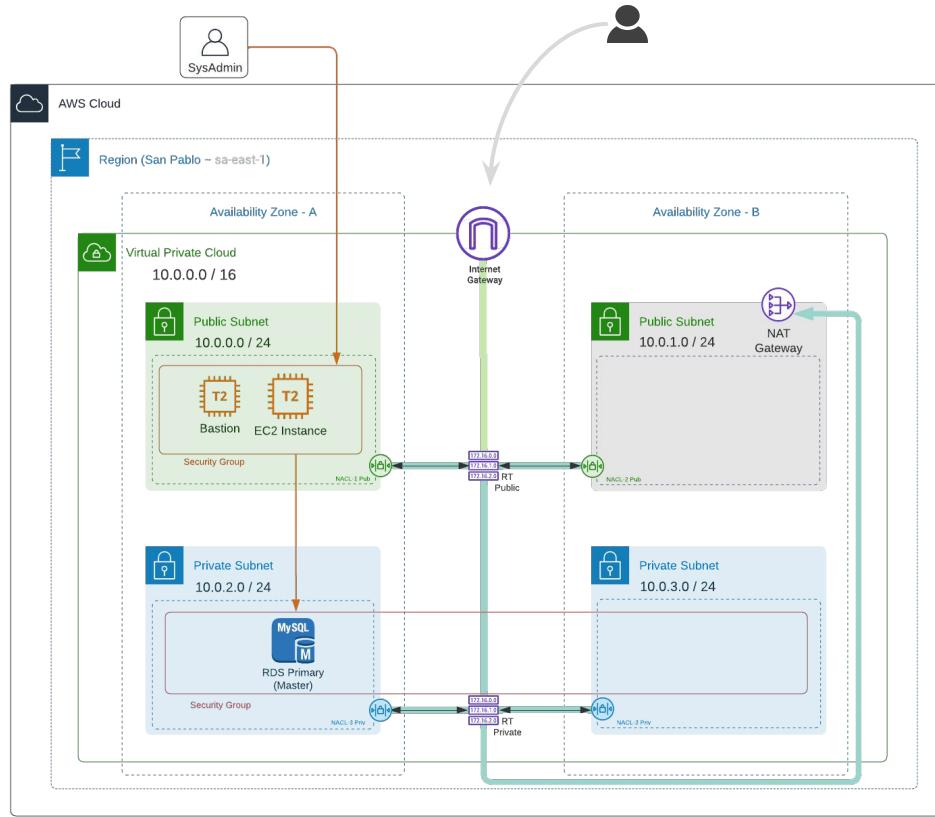
Engine options

Engine type [Info](#)

Amazon Aurora 

MySQL 

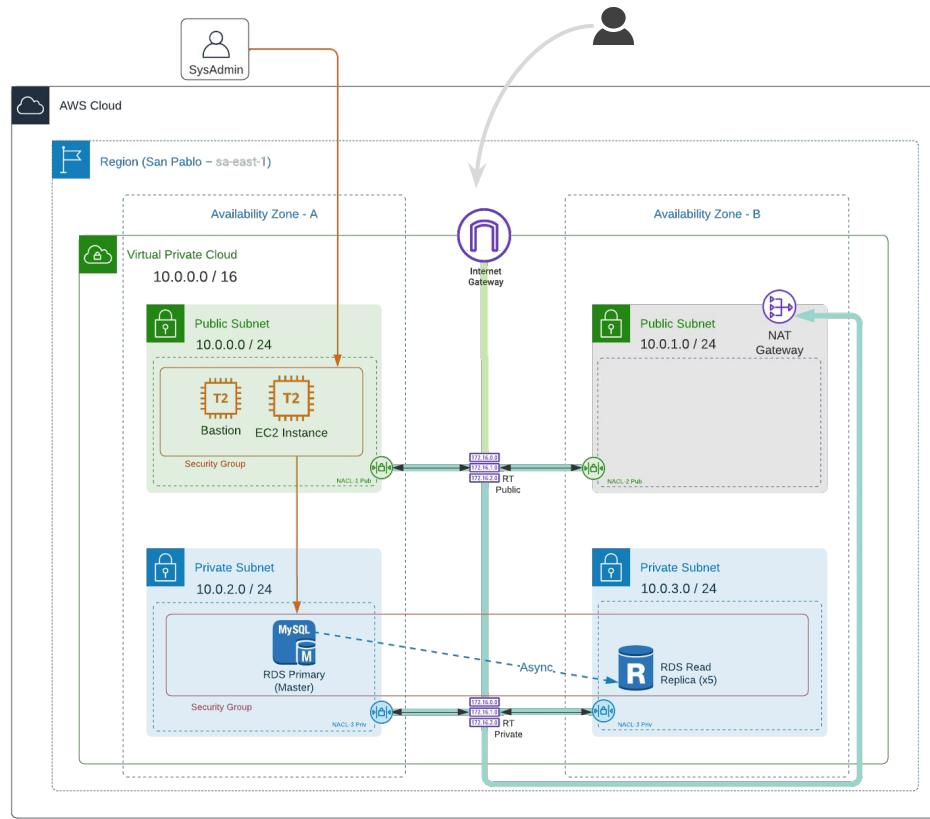
MariaDB 



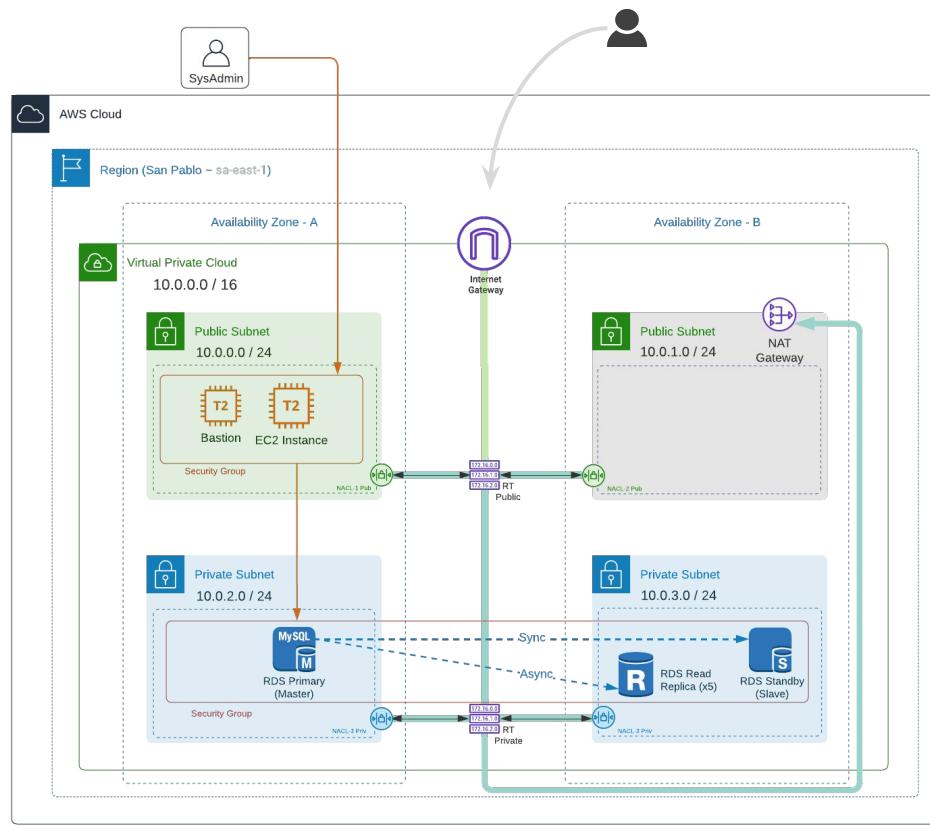
RDS No es **Serverless**, Pero Aurora Si

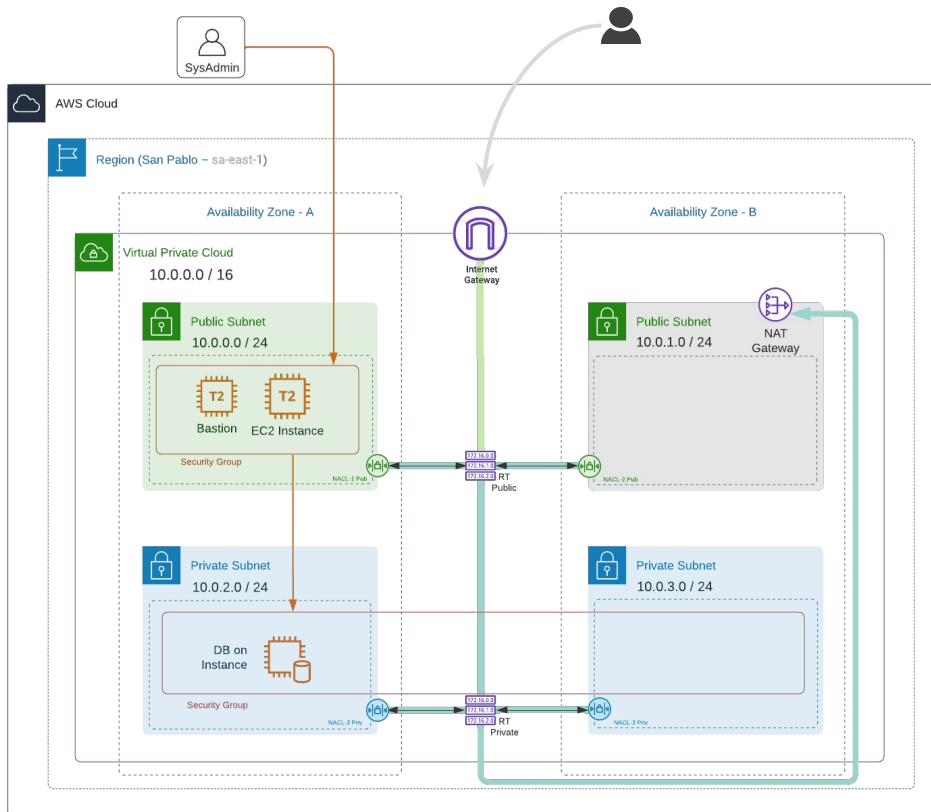
- En RDS, las instancias EC2 son administradas por AWS (**AWS Responsibility**)

Diagramas de Arquitectura



Diagramas de Arquitectura





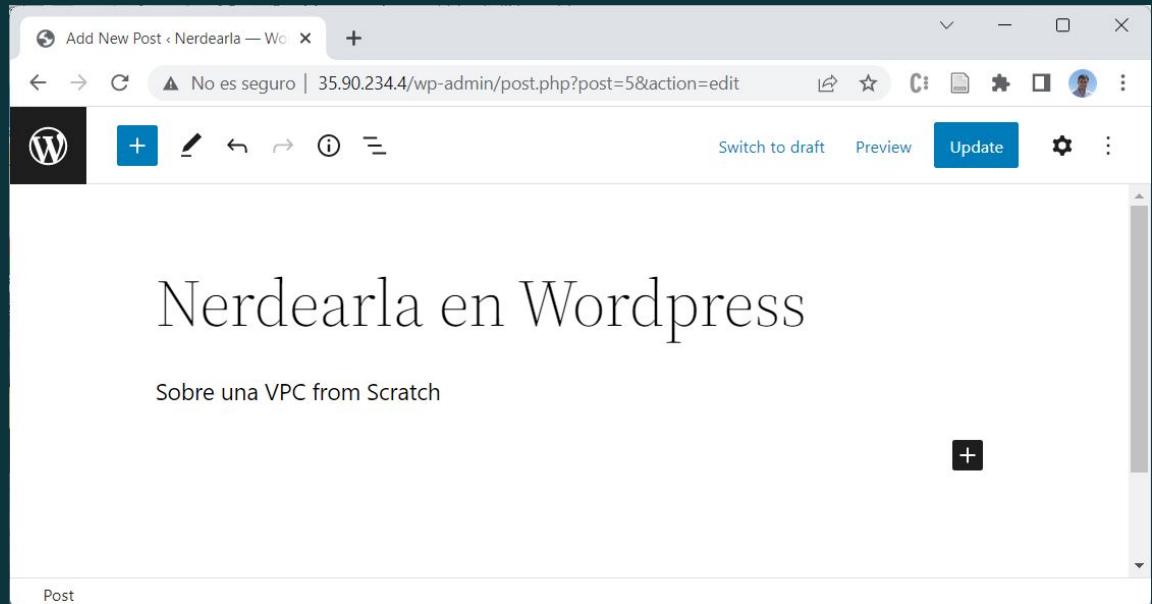
EC2 MariaDB ↗

```
#!/bin/bash
yum update -y
yum install -y mariadb-server

systemctl enable mariadb
systemctl start mariadb
```

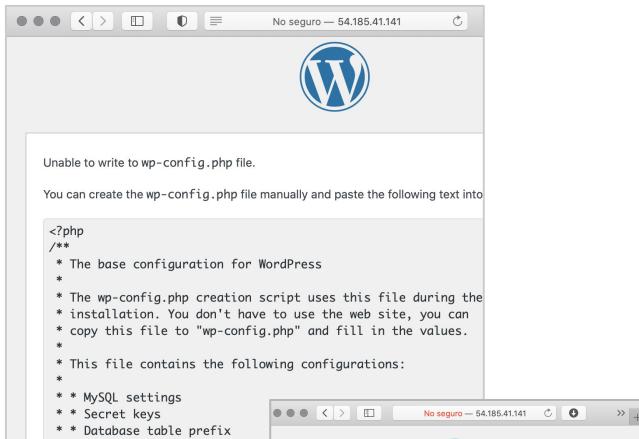
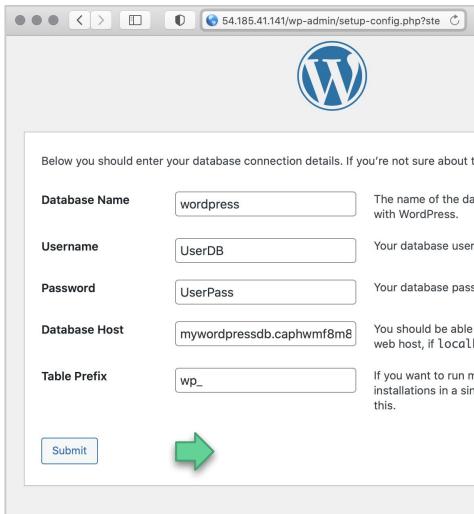
user_data_mariadb.sh

Wordpress!

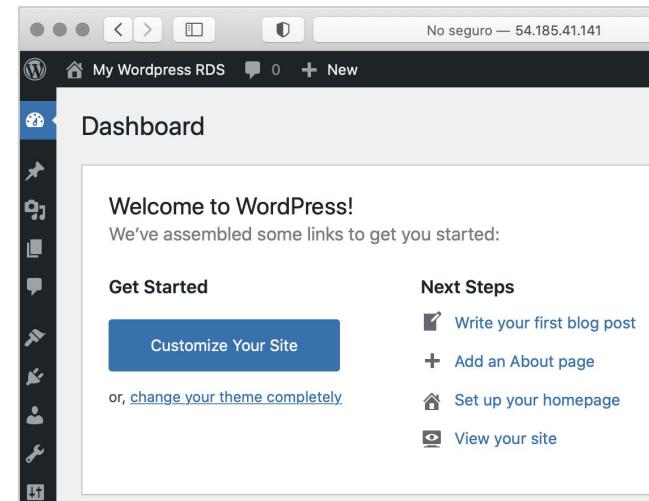


Diagramas de Arquitectura

Wordpress Instalación



```
ec2-user@ip-10-0-0-253:~$ ls
index.php      wordpress/wp-content/post.php  wp-includes/
latest.tar.gz  wp-activate.php    wp-config-sample.php wp-links-omni.php
license.txt    wp-admin/          wp-content/       wp-load.php
readme.html    wp-blog-header.php  wp-cron.php     wp-login.php
[ec2-user@ip-10-0-0-253 ~]$ sudo vim /var/www/html/
index.php      wordpress/wp-comments-post.php  wp-includes/
latest.tar.gz  wp-activate.php    wp-config-sample.php wp-links-omni.php
license.txt    wp-admin/          wp-content/       wp-load.php
readme.html    wp-blog-header.php  wp-cron.php     wp-login.php
[ec2-user@ip-10-0-0-253 ~]$ sudo vim /var/www/html/wp-config.php
```



Se debería ver ...

Wordpress Live!

Add New Post - Nerdearla — Wo x +

← → C No es seguro | 35.90.234.4/wp-admin/post.php?post=5&action=edit

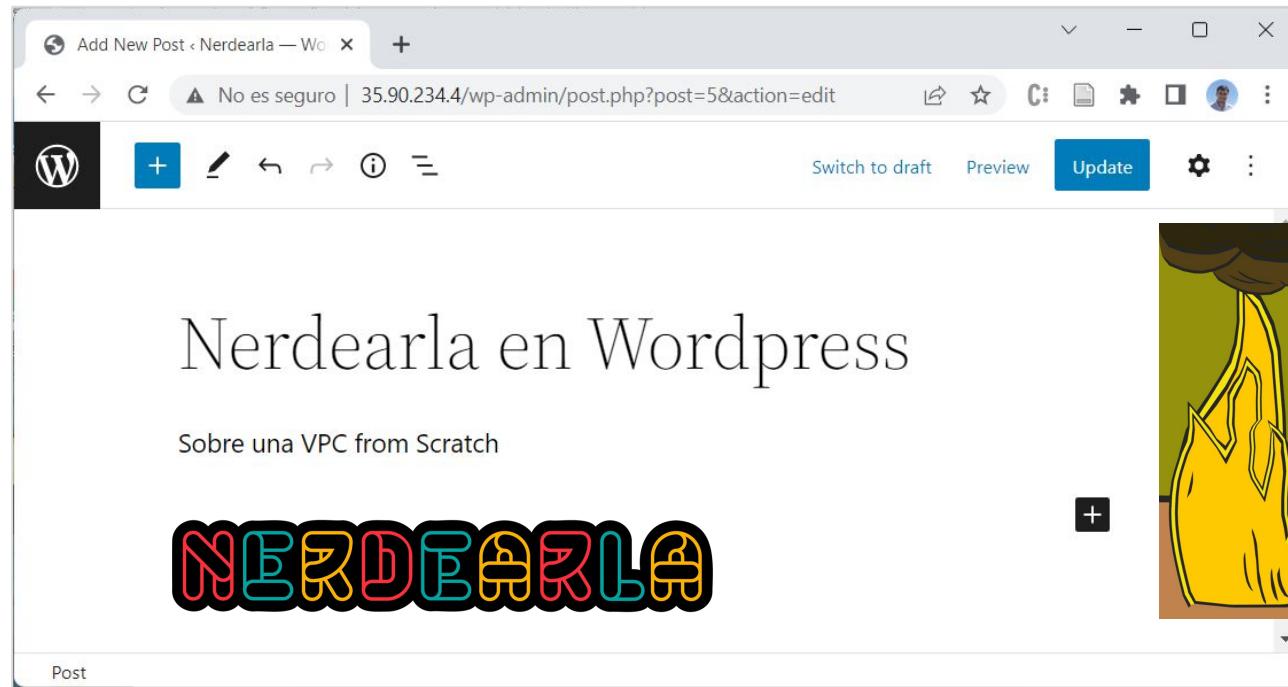
Switch to draft Preview Update

Nerdearla en Wordpress

Sobre una VPC from Scratch

NERDEARLA

Post





Muchas gracias!!

