Logística Inteligente S.A.

Julián Santos, Santiago Ramírez, Daniel Pombo, Nataly Díaz

Procedimiento de Creación de Ambiente

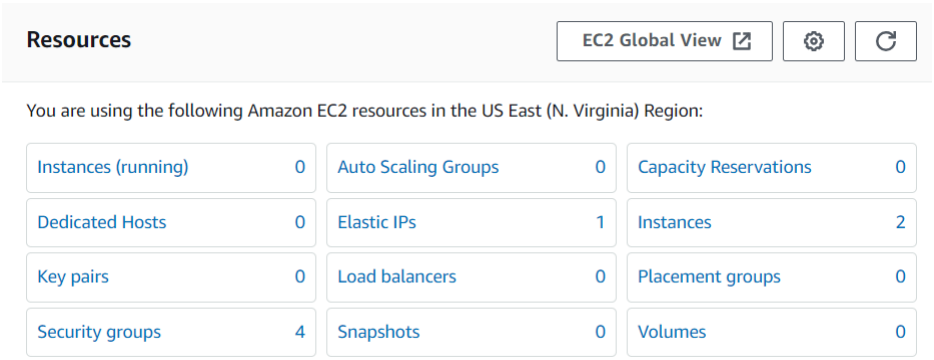
Los siguientes servicios fueron configurados en AWS Academy.

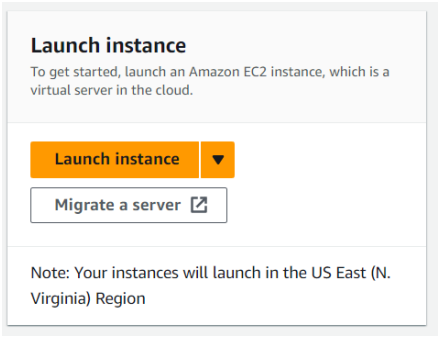
Se adjunta pantallazos como prueba de su implementación.

Creación de instancia EC2 – ETL

1. **Identificar recursos**

   En este caso no hay instancias corriendo y por el tipo de servicio que queremos correr de acuerdo al flujo definido se creara una instancia básica t2.micro.





Click en Launch Instance

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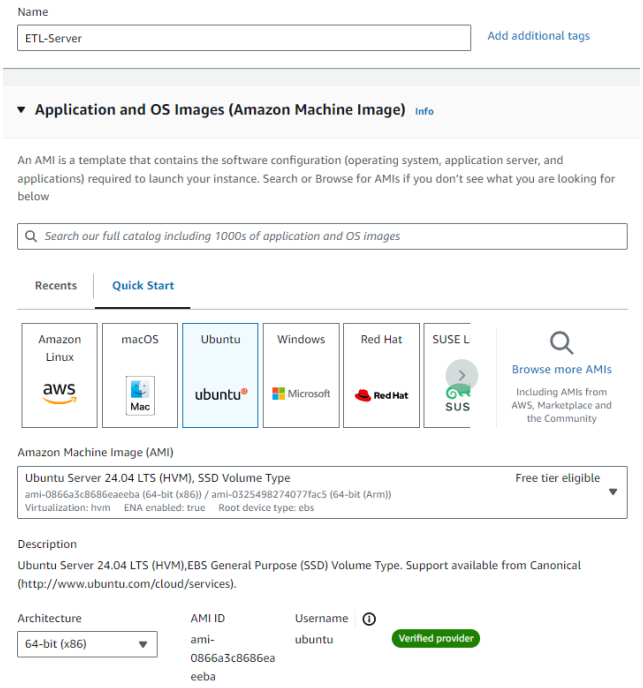
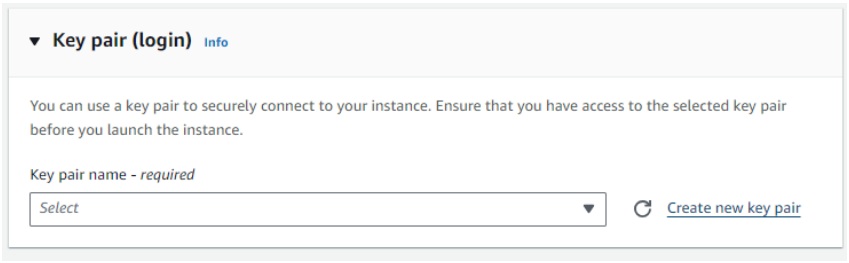


Para la arquitectura del servicio defino el nombre de la instancia es **ETL-server (Ubuntu 24.04 free tier)**



Por seguridad, creamos las llaves de conexión (create new key pair - pem). Nota: Luego para usar a través de putty se convierten a tipo ppk usando puttyGen.

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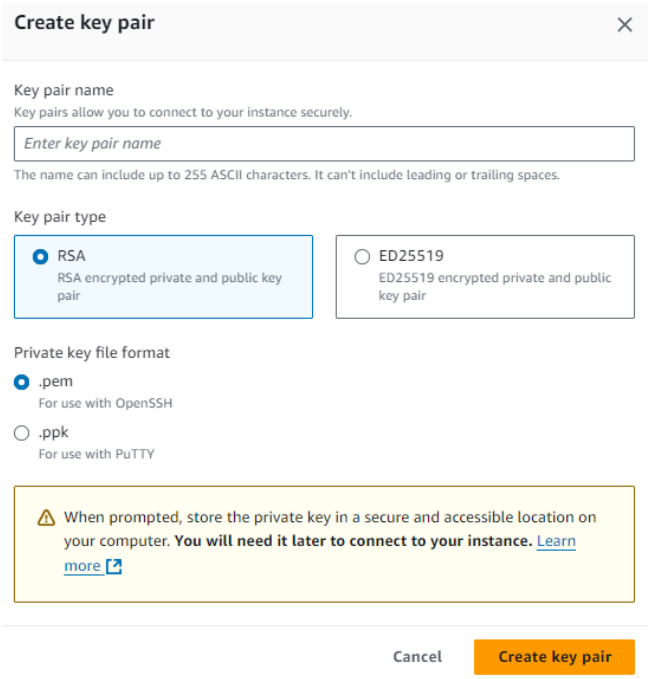
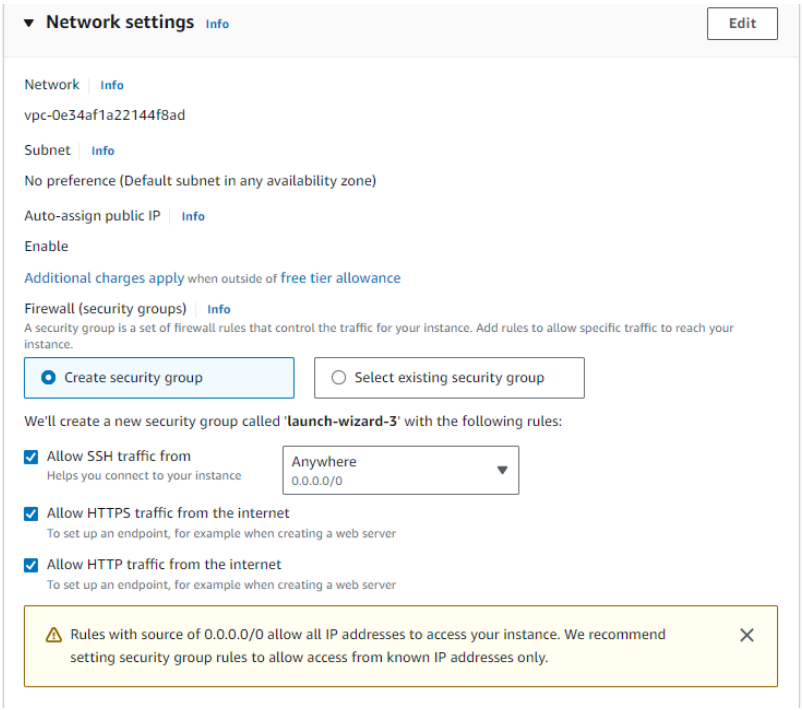
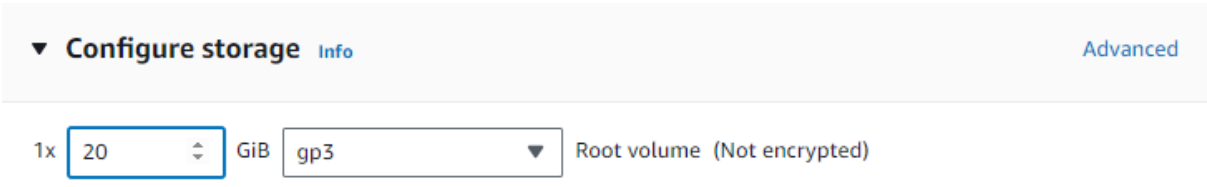


Luego garantizamos el acceso al equipo desde internet





La capacidad de la maquina será de 20GB

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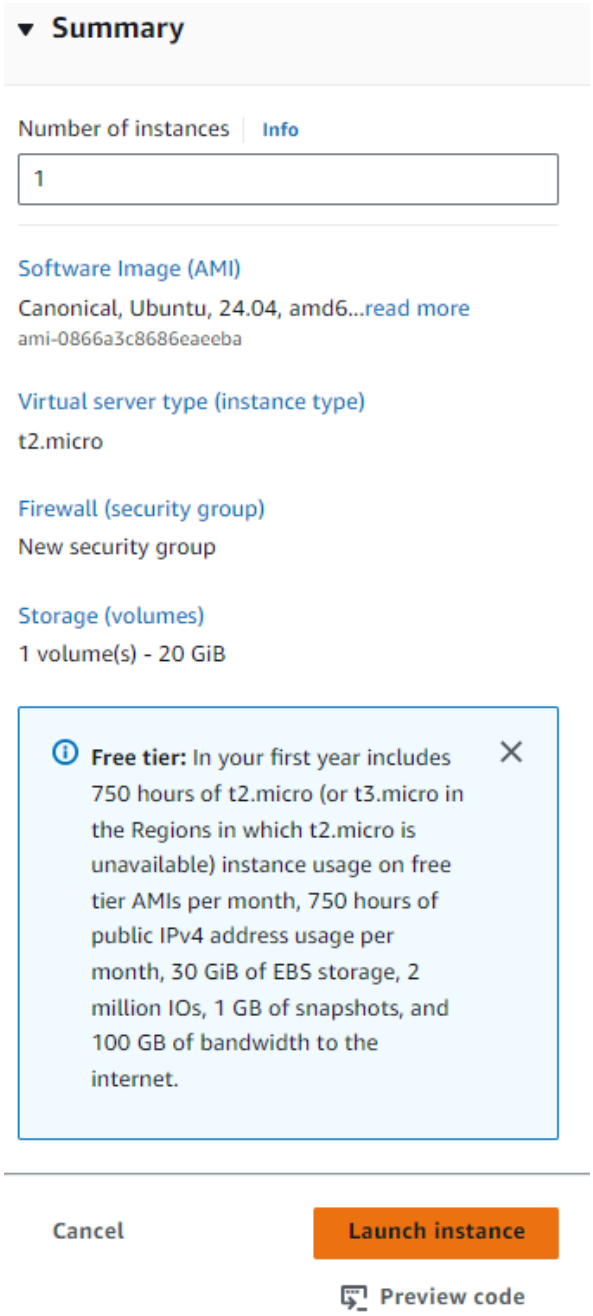
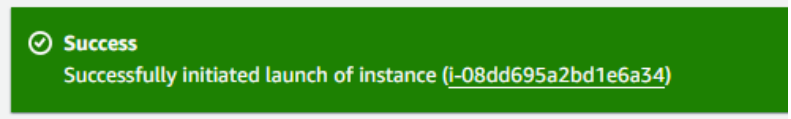


Finalmente click en Launch instance.



Para garantizar el acceso a la instancia EC2 se asignara una IP fija creada previamente:

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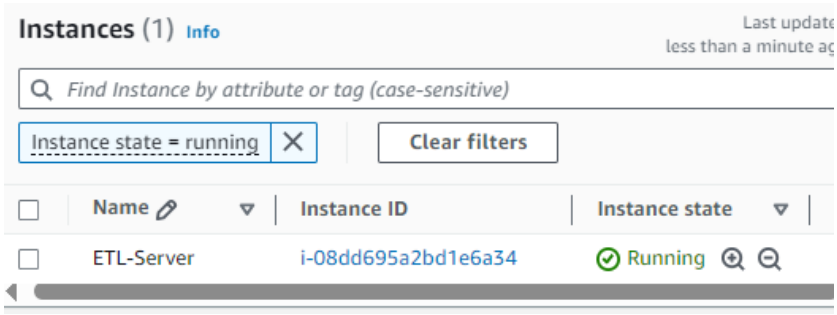
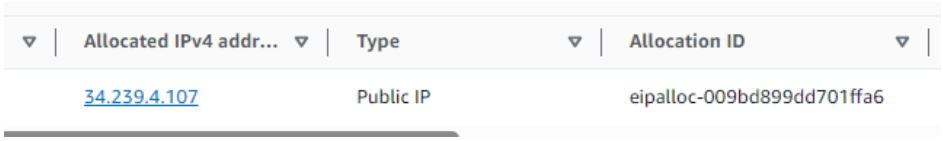
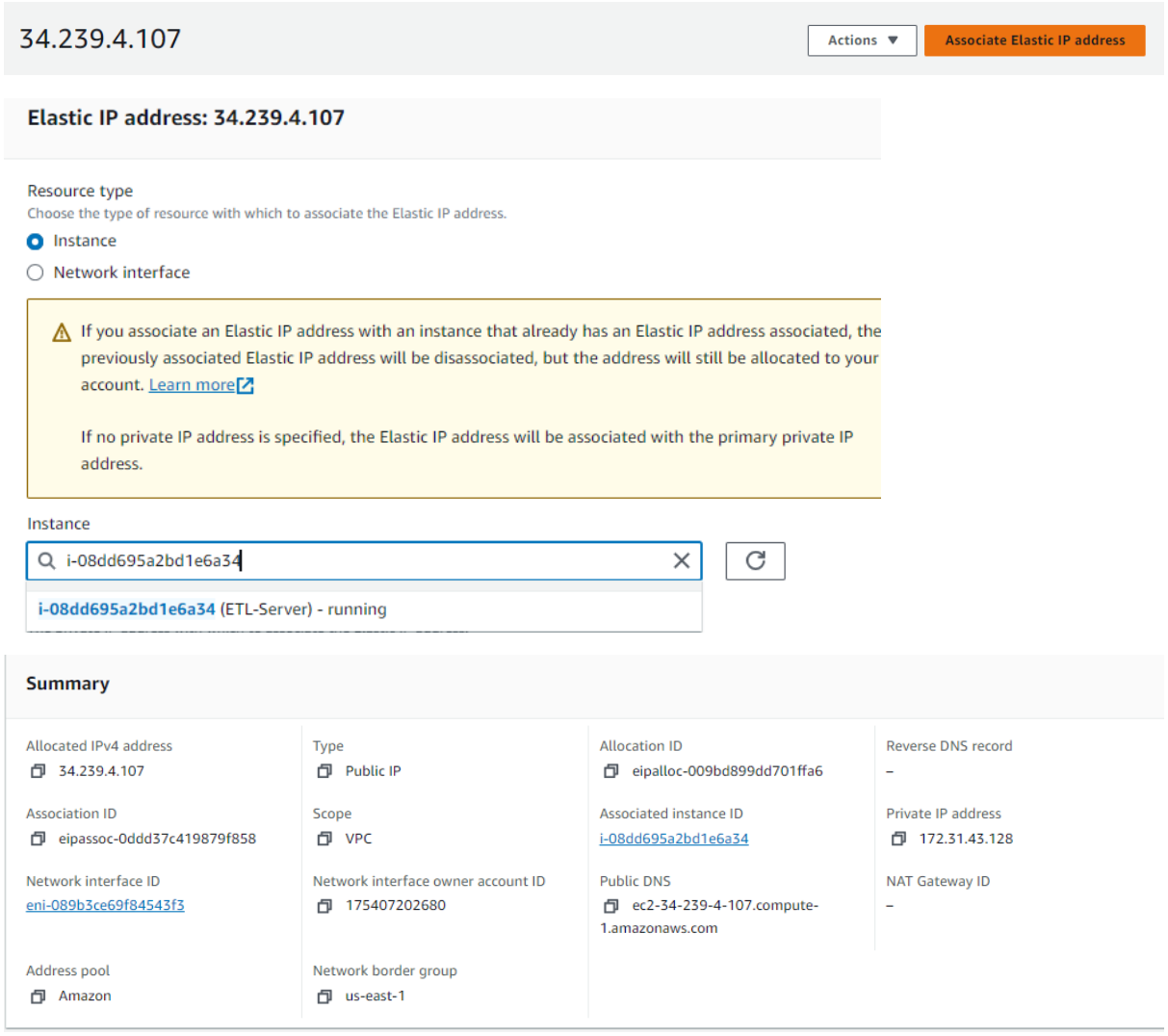


La IP creada mediante el servicio Elastic Ip Address es la siguiente:



Esta se asigna al servidor ETL-server creado.



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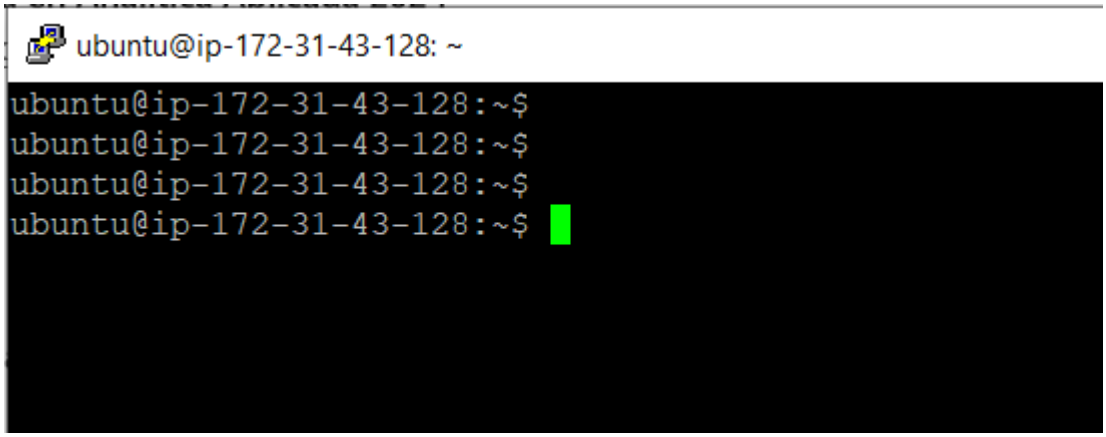
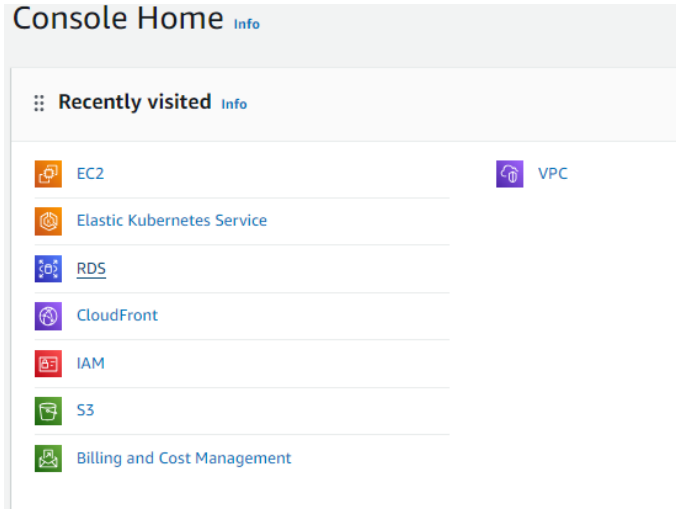


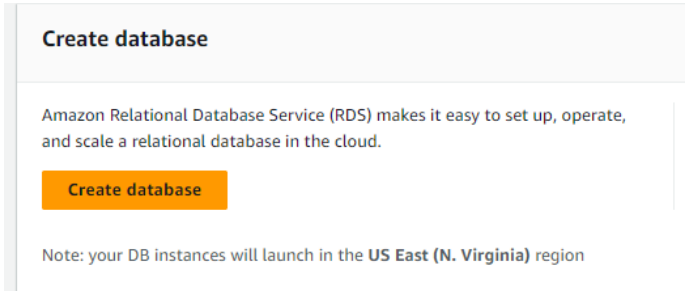
La instancia esta conectada a través de Putty con el usuario ubunto utilizando las credenciales de seguridad.

Creación de instancia RDS

Sobre la consola de servicios de AWS se busca el servicio RDS



Se crea la base de datos



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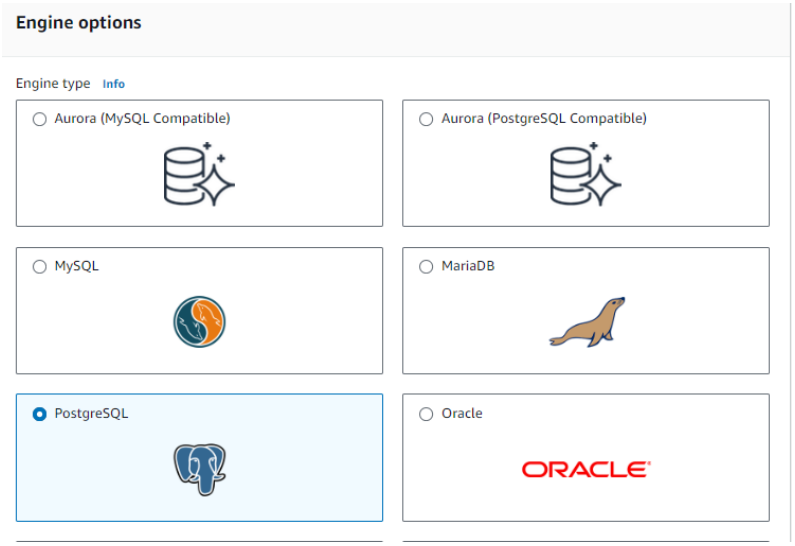
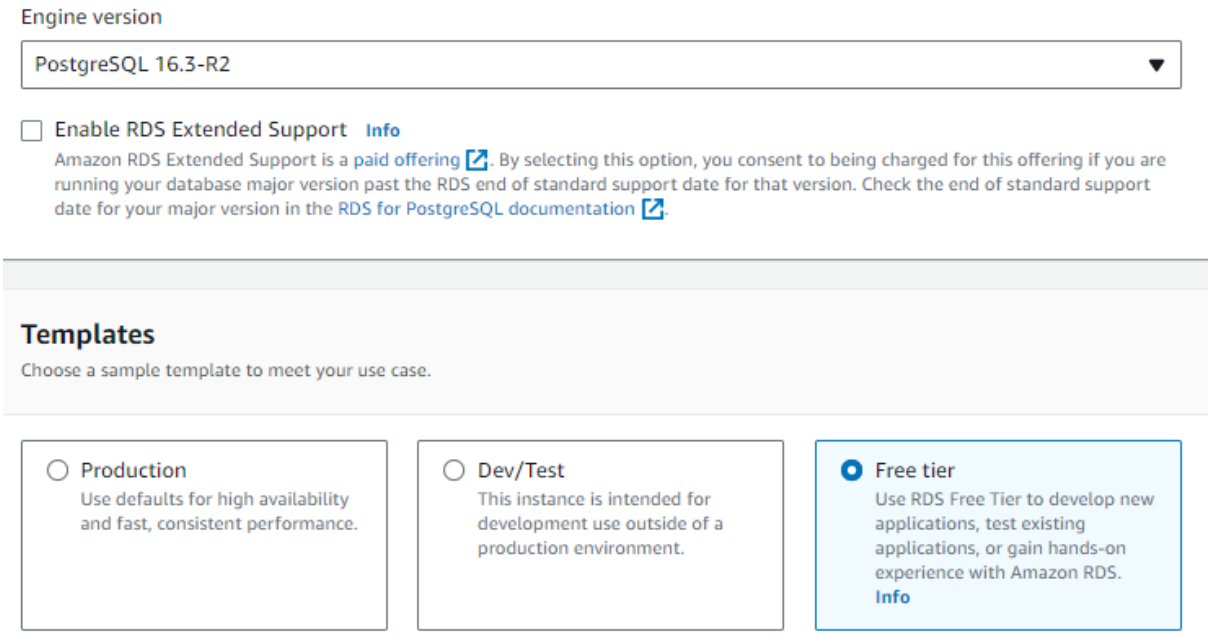


Se escoge para esta arquitectura PostgreSQL



Se escoge la BD básica y free tier

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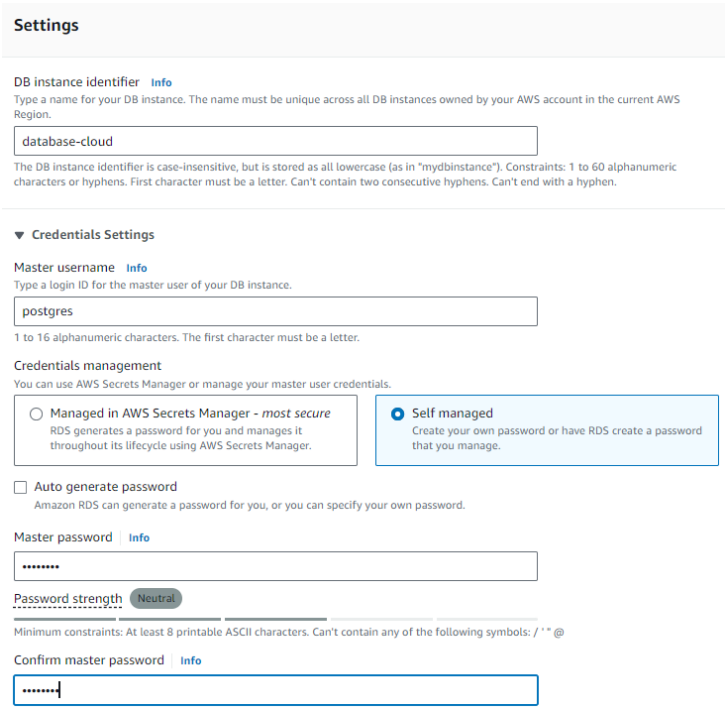
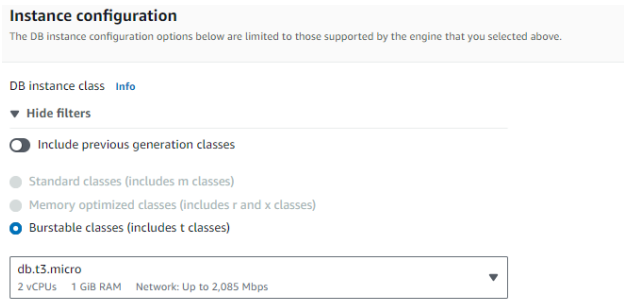
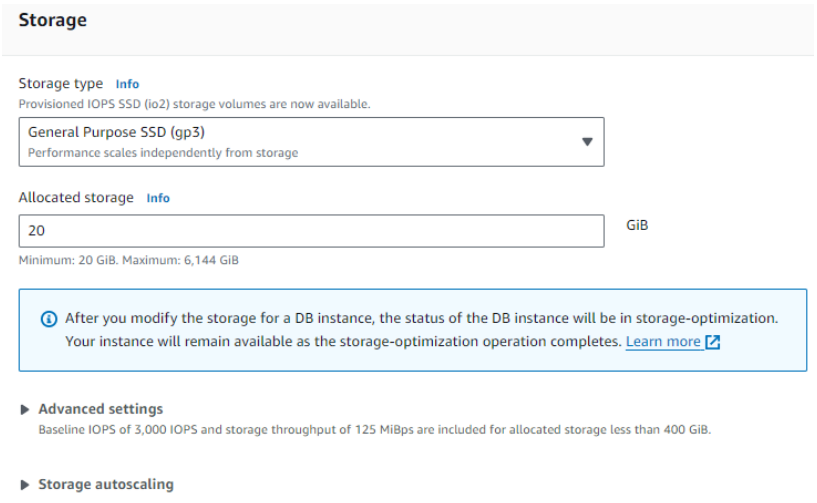


Se configura el nombre de la instancia, en este caso database-cloud, el usuario para conexión postgres y con un password y su respectiva confirmación.



Para el procesamiento requerido se puede configurar una db.t3.micro



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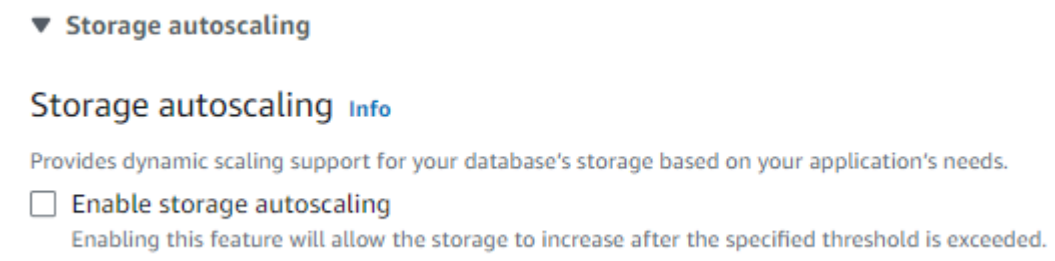
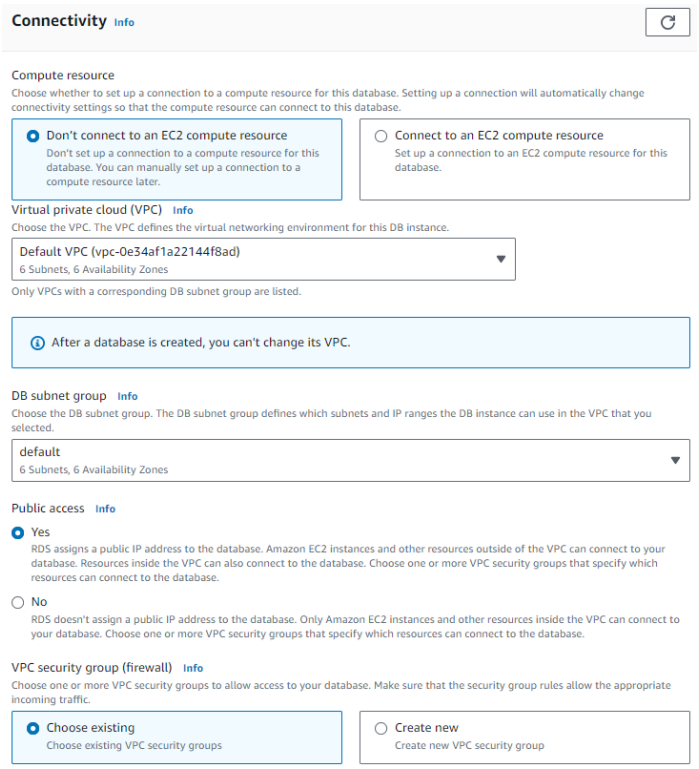
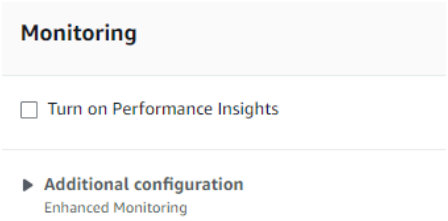
Almacenamiento de 20 GB storage



Se deshabilita la opción de autoscaling para evitar costos adicionales no requeridos.



Por defecto no se conectara a una instancia EC2, se deja acceso publico habilitado para garantizar la conexión.



Se deja deshabilitado el monitoreo

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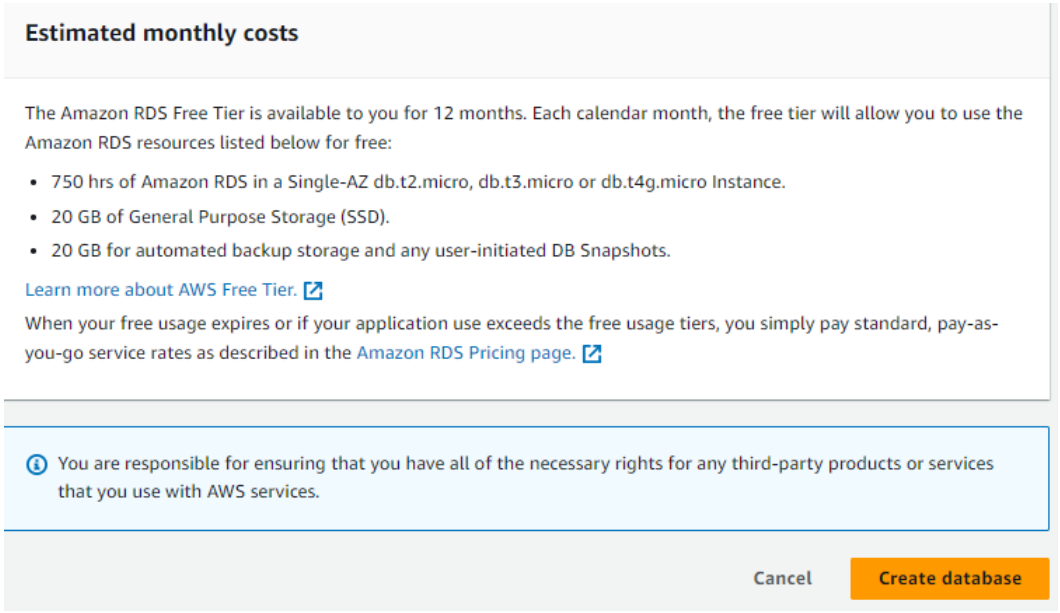
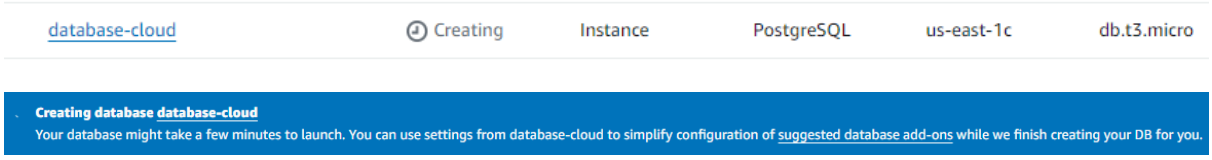
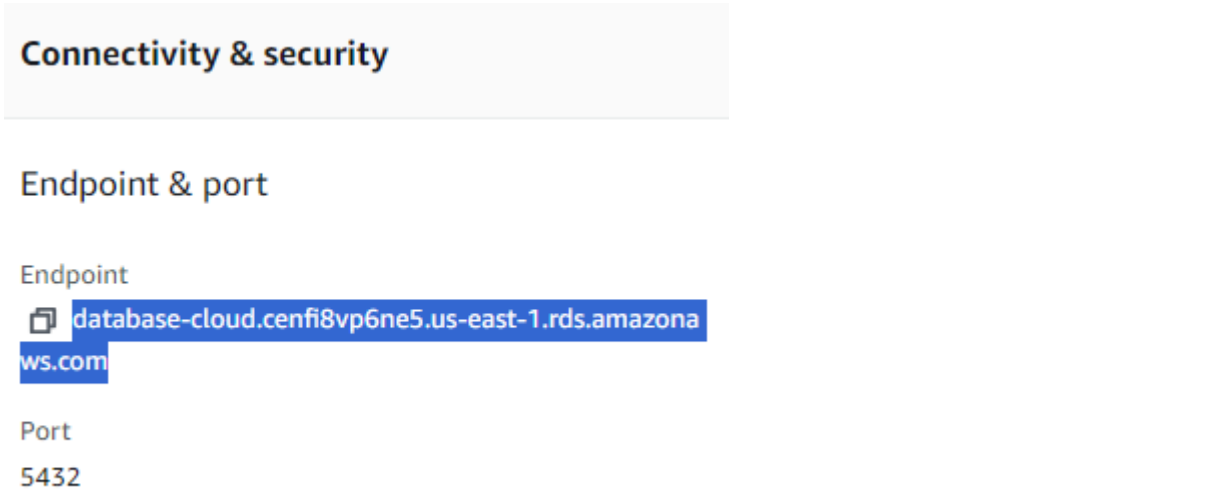


Se crea la base de datos (click Create database)





La base de datos queda creada y habilitada la dirección es **database-cloud.cenfi8vp6ne5.us-east-1.rds.amazonaws.com**

Para garantizar el acceso se realiza un test a través de un cliente de conexión de base de datos como DBeaver.

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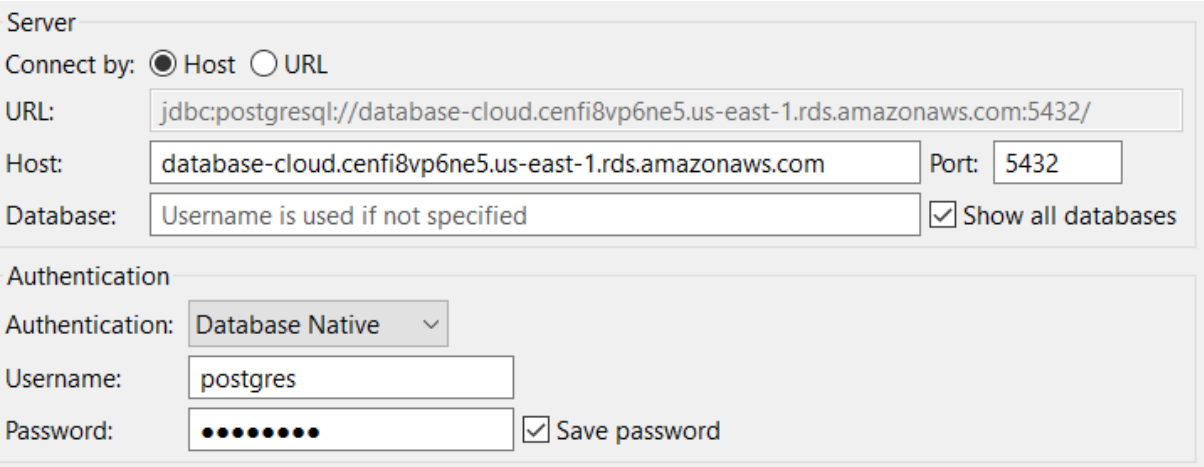
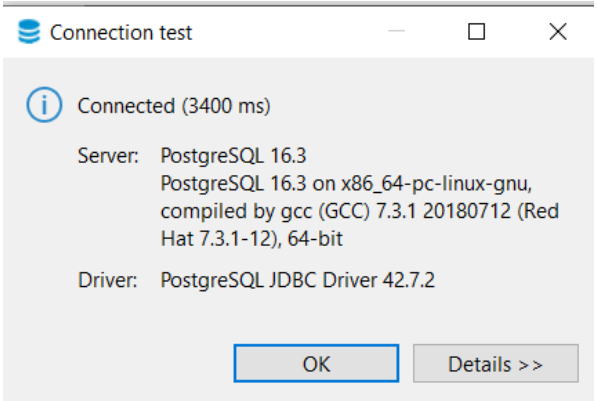


Se colocan las credenciales y el host de la BD que esta en AWS.



El resultado es la conexión correcta de SQL.

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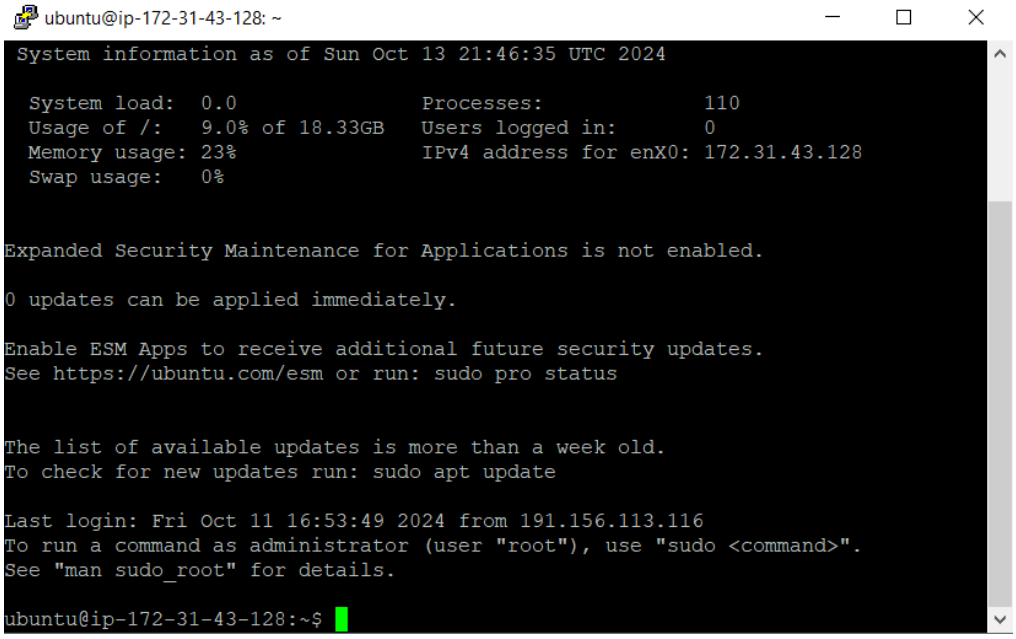
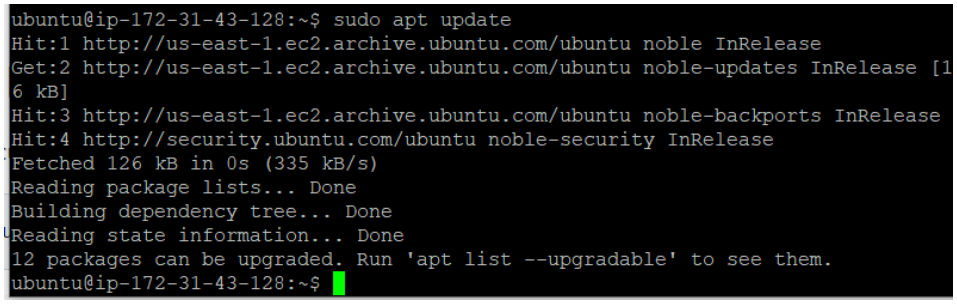
Creación de ambiente de jupyter hub dentro de instancia EC2 creada anteriormente:

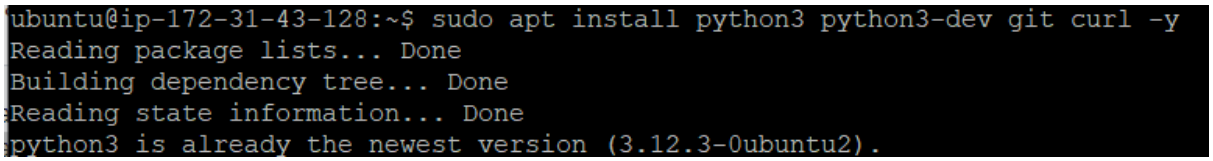
Ingreso a la instancia mediante programa de Putty con usuario **ubuntu**.



Se corren los siguientes comandos:

- sudo apt update
- sudo apt install python3 python3-dev git curl -y





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```
Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-43-128:~$
```

Se corre el siguiente comando para la instalación de Jupyter Hub:

- curl -L https://tljh.jupyter.org/bootstrap.py | sudo -E python3 - --admin **ubuntu**

```
ubuntu@ip-172-31-43-128:~$ curl -L https://tljh.jupyter.org/bootstrap.py | sudo
-E python3 - --admin ubuntu
```

Luego de unos minutos queda habilitado TLJH

```
Installing TLJH installer...
Running TLJH installer...
Setting up admin users
Granting passwordless sudo to JupyterHub admins...
Setting up user environment...
Downloading & setting up user environment...
Downloading conda installer https://github.com/conda-forge/miniforge/releases/do
wnload/23.1.0-1/Mambaforge-23.1.0-1-Linux-x86_64.sh
Downloaded conda installer https://github.com/conda-forge/miniforge/releases/dow
nload/23.1.0-1/Mambaforge-23.1.0-1-Linux-x86_64.sh in 1.2s
/opt/tljh/user has pip==23.0.1, it will be upgraded to pip>=23.1.2
Setting up JupyterHub...
Downloading traefik 2.10.1 from https://github.com/traefik/traefik/releases/down
load/v2.10.1/traefik_v2.10.1_linux_amd64.tar.gz...
Created symlink /etc/systemd/system/multi-user.target.wants/jupyterhub.service -
 /etc/systemd/system/jupyterhub.service.
Created symlink /etc/systemd/system/multi-user.target.wants/traefik.service → /e
tc/systemd/system/traefik.service.
Waiting for JupyterHub to come up (1/20 tries)
Done!
```

Se ingresa al portal mediante la url http:// 34.239.4.107

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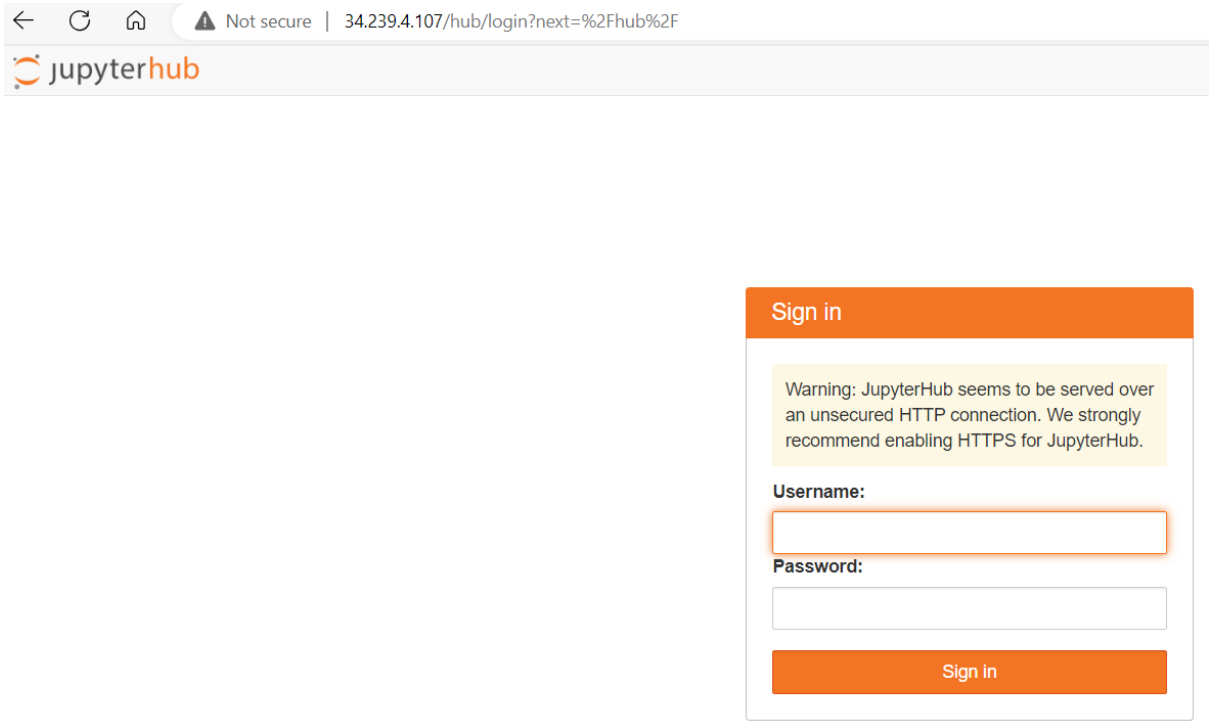
Julián Santos, Santiago Ramírez, Daniel Pombo, Nataly Díaz



Luego se configura al usuario **ubuntu**

```
ubuntu@ip-172-31-43-128:~$ sudo passwd ubuntu
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ip-172-31-43-128:~$
```

Al ingresar el usuario **ubuntu** y password configurado

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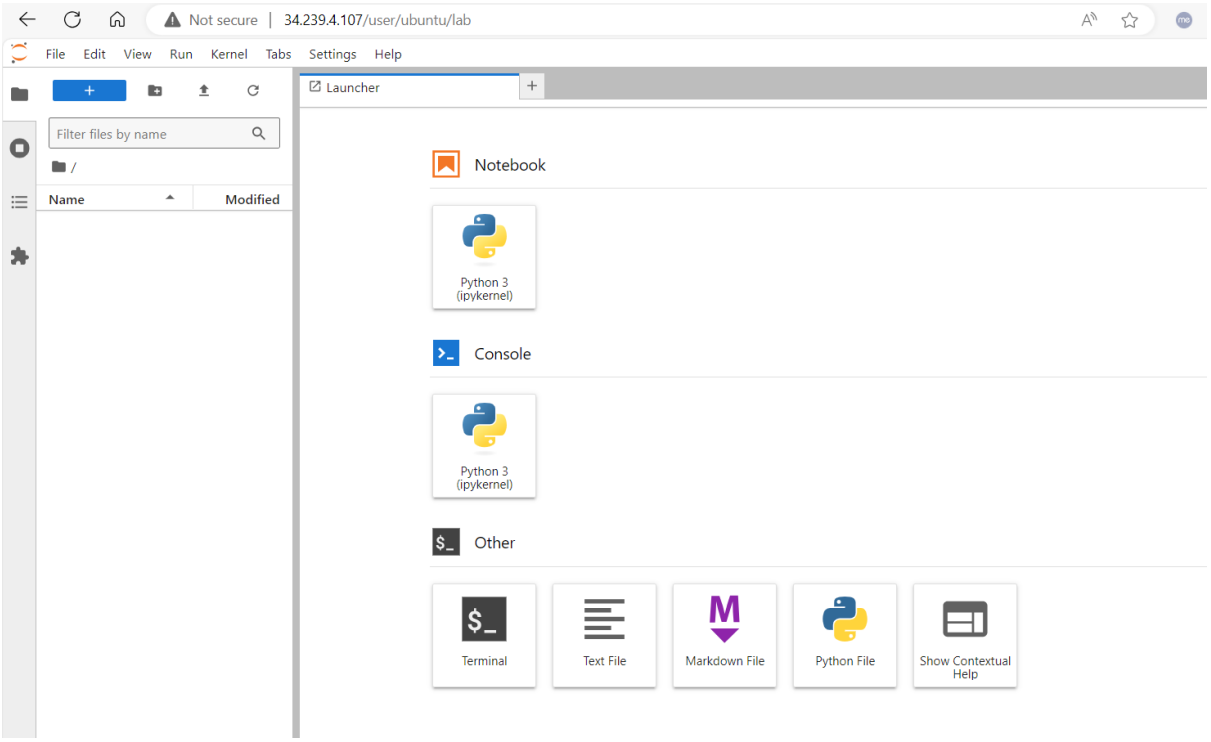

Se habilita la consola de jupyter hub y la administración del ambiente correspondiente.