Tecnológico de monterrey
Campus Querétaro

Construcción de software y toma de decisiones
TC2005B
Grupo 402

“Manual técnico de despliegue”

Deployment Instructions

For the deployment of the application we used the following technologies, AWS, more specifically an EC2 instance, an Amazon Machine Image (AMI) and AlwaysData, for hosting the project's database, a cloud hosting service that offers both free and paid database hosting plans.

1.- Creating a EC2 instance in aws

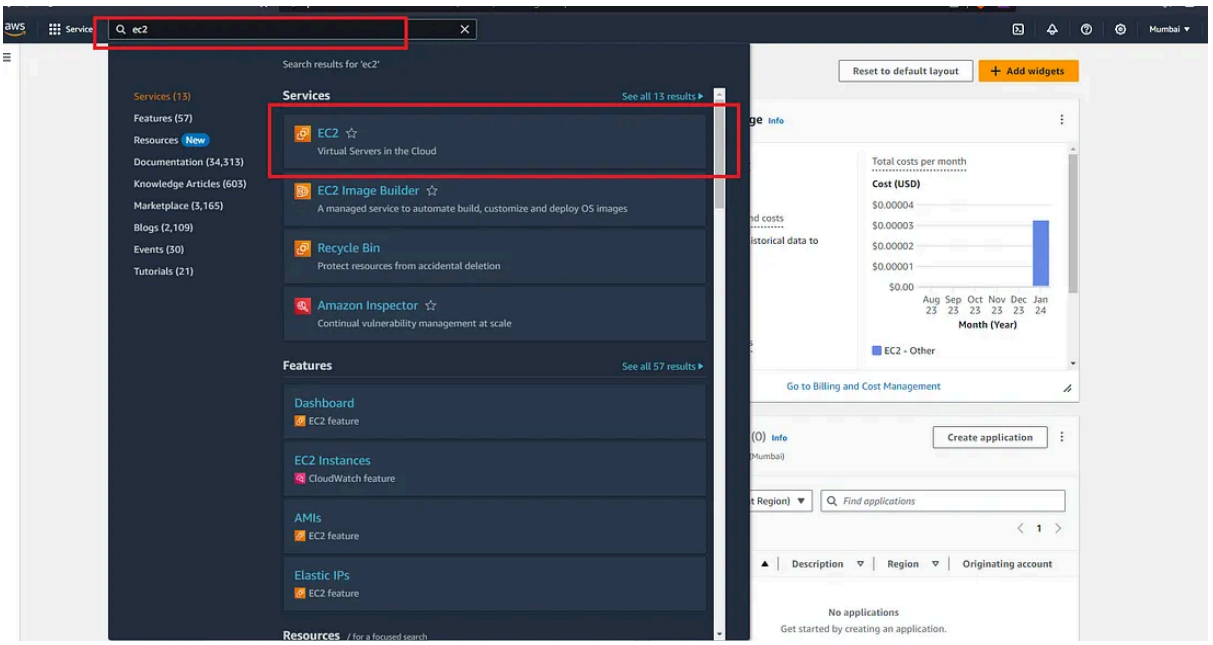
(https://medium.com/@siddhantshaha28/step-by-step-guide-to-deploy-a-node-js-server-on-amazon-ec2-72fd48f89cbd)

Step 1: Sign in to AWS Console

Create a free account and Login to your AWS Management Console.

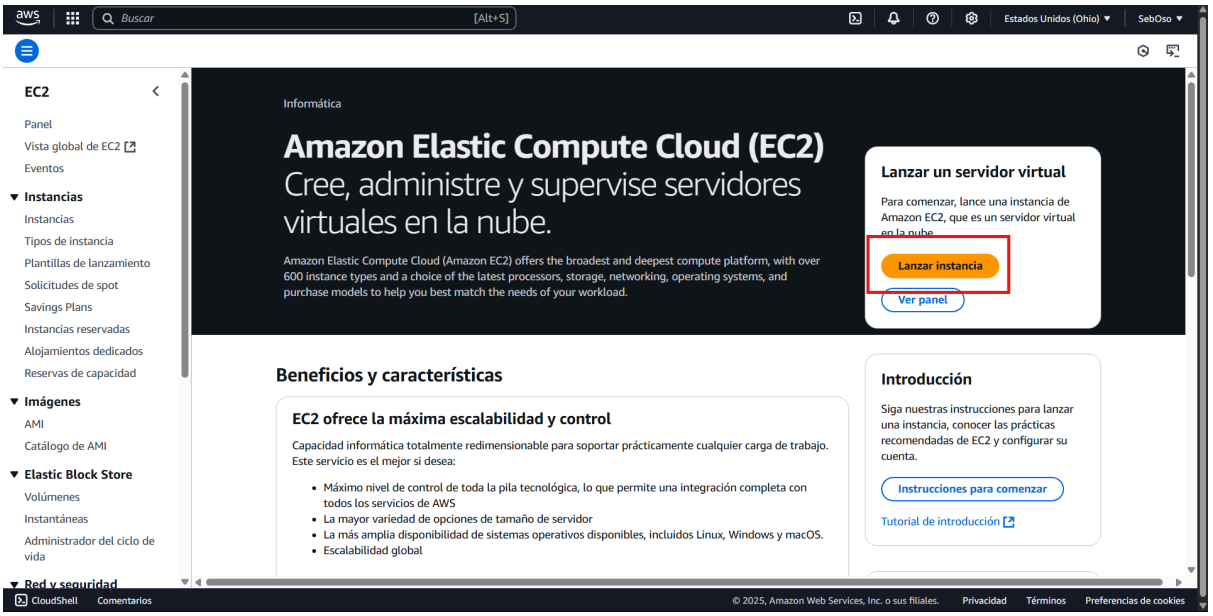
Step 2: Navigate to EC2 Dashboard

Once you login, you will be able to access the AWS console. Search for EC2 service in the search bar and select EC2 option.



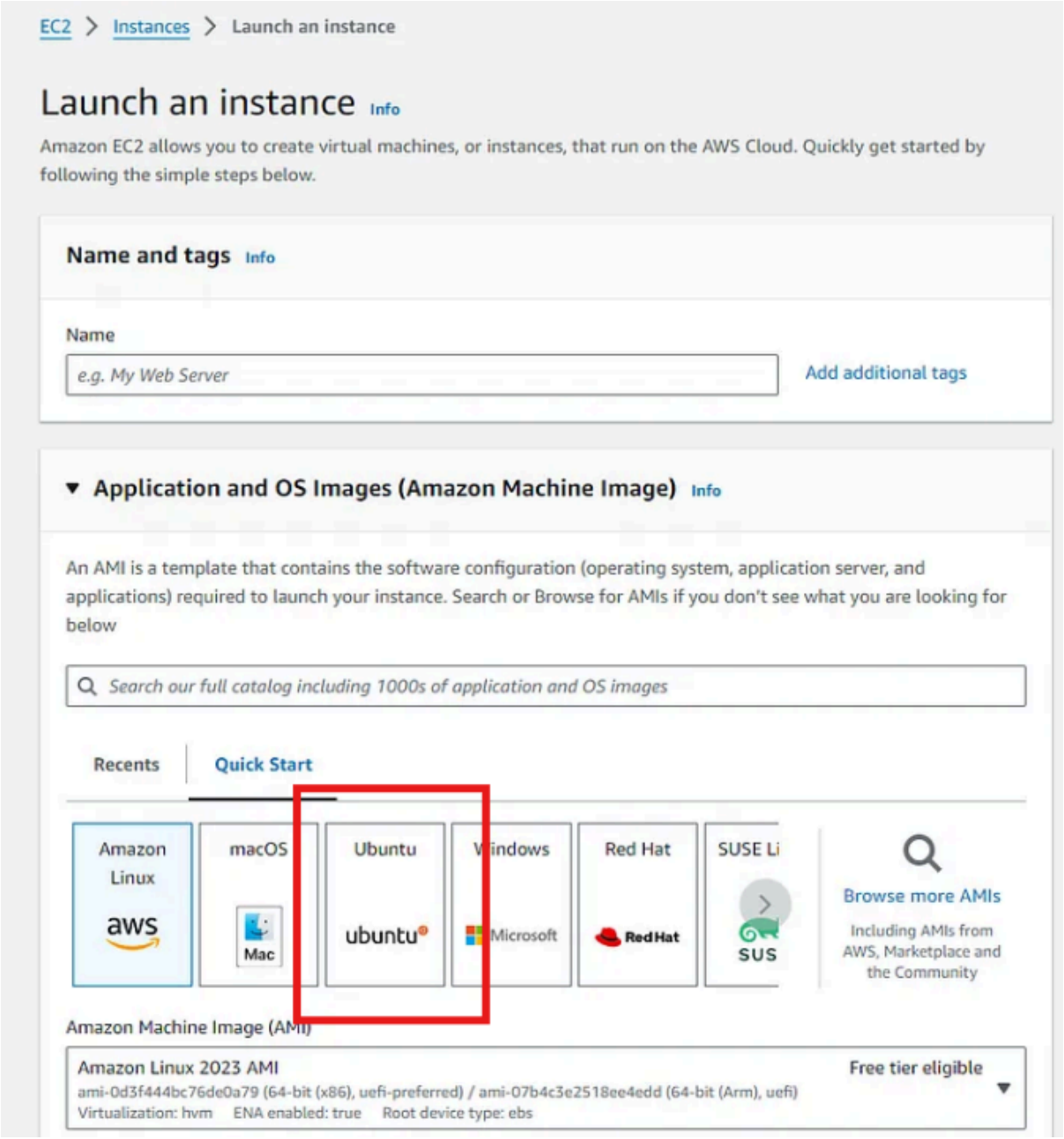
Step 3: Launch Instance

Find and click on the **Launch Instance** option on the dashboard or inside the instances page.



Step 4: Choose an Amazon Machine Image (AMI)

Select an image for your instance. An image is a template for your instance with information like the operating system and required software for your virtual machine. For this example, choose a free-tier eligible Amazon Linux AMI or ubuntu.



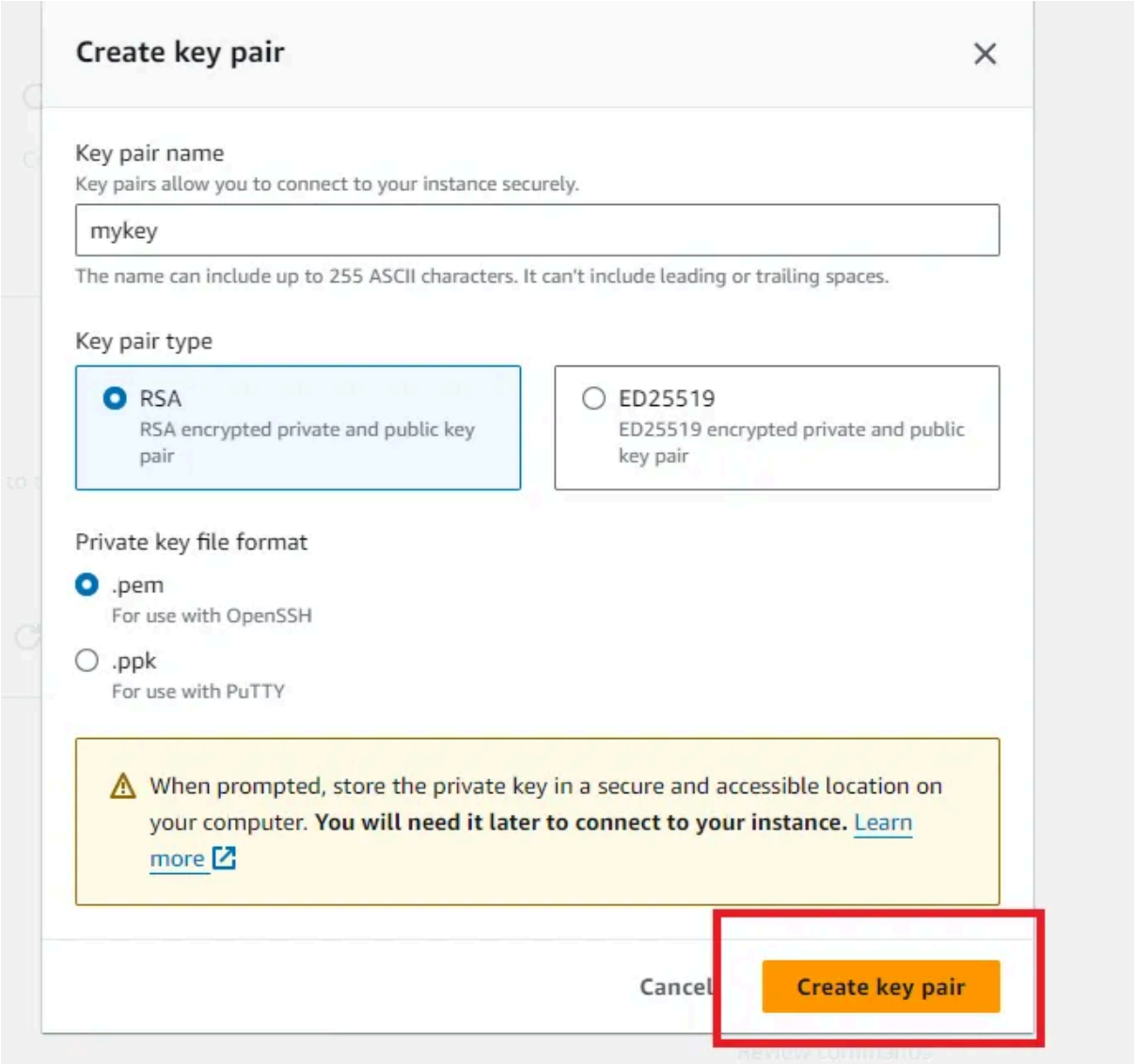
Step 5: Choose an Instance Type

Select an instance type. The default, t2.micro, is eligible for the AWS Free Tier.

Step 6: Key Pair

It allows you to create Key pair (a private and a public key) for logging in to your virtual machine. If you have already created any Key pair select it from the dropdown. Or else, create a new Key pair.

Download the key pair file and store it as it can be used to log in to your instance.

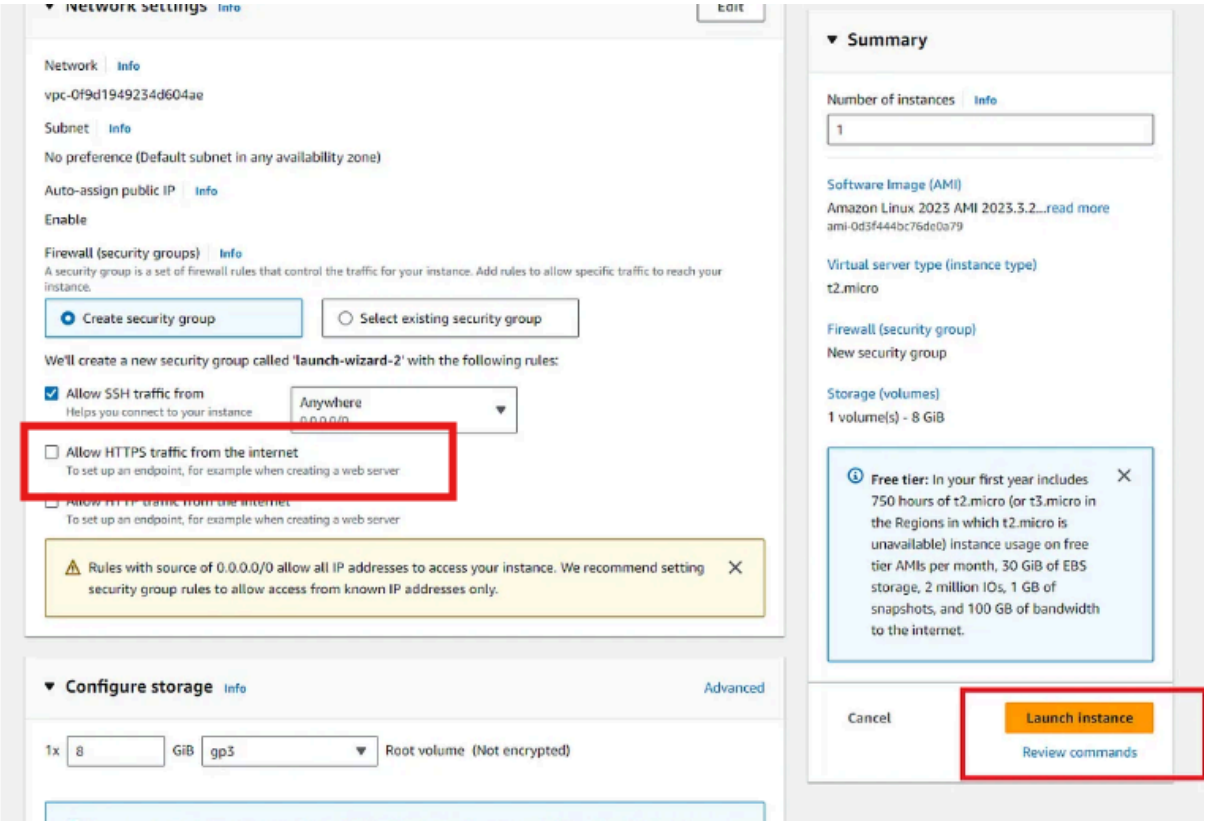


Step 7: Review and Launch

Review the instance and check the box where it says “Allow HTTPS traffic from the internet”,

to have https connection in our application

and launch the instance.



2.- Setting up the EC2 instance

Once the server is created, access its console either via **SSH** or using the web console in aws.

Installing Required Packages

Before continuing, make sure to install the necessary packages to run the application.
You can do this with the following command (or its equivalent for your distribution):

sudo apt update # to update the package manager

sudo apt install git nodejs npm mariadb-server nginx ufw -y

Downloading the Repository

It's not mandatory, but it's recommended to create a folder to organize your project on your server.

```
mkdir 'projects'
cd 'projects'
```

Inside the folder, we clone our repository to have it locally:

```
git clone https://github.com/ian-hdzzz/nuclea.git
```

then move on to our project folder

```
cd 'nuclea'
```

Then, we will setup the.env file with the following command

You can use the following commands:

- touch .env

After creating the .env, you will have to modify this file with nano, and paste this code

- nano .env

  ```
  PORT=4002

  DB_HOST=mysql-flowitbd.alwaysdata.net

  DB_USER=flowitbd_general

  DB_PASSWORD=lalo123

  DB_NAME=flowitbd_basededatos

  DB_PORT=3306

  SECRET=ian

  GOOGLE_CLIENT_ID=474608711367-1jvug8coq4d5im2qr4p1sukshjfc4cju.apps.googleusercontent.com

  GOOGLE_CLIENT_SECRET=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
  ```

```
GOOGLE_API_KEY=AIzaSyDS6YpnsLgZHFUmL37oNME9lwZXs0P5EjI

GMAIL_USER="flowitdb@gmail.com"

GMAIL_APP_PASSWORD="epro aziw pnxd awhl"

WHATSAPP_TOKEN=EAAIBZB3s9pDQBOyjhZCEaZAiZAEoaYZAahGpp3w3GcyN9S2Z
CgIVtrLKY7Kh5uv0ZAl3Oapxb6GYjnkOOwA0I1TiWeWUpzka5gwYZBjw1XAQdJNLTLF
oS22zxxU5KdjsjWgpykYko6quF7NjD30YoaupJUxJqe4dOQu44EZCdHjAqWcwOGx8Q
1QiPaA7OujHTvZBlCeTZC7pIkJB0Ao8RanXQmt4EGjblb3SoGs4Hcr7eSZAfGgZD

WHATSAPP_PHONE_NUMBER_ID=557558657437715

WHATSAPP_BUSINESS_ACCOUNT_ID=54762320175998

WHATSAPP_VERIFY_TOKEN=nuclea_whatsapp_verify_token
```

Once all the necessary files are in place, install the dependencies and run the project to verify everything works:

```
npm install

npm run
```

Running the Application Persistently

At this point, you should be able to access your project via its port. If not, try:

```
sudo ufw allow 4002/tcp # Or the port you are using
```

To keep the application running persistently, install PM2 inside your project folder:

```
npm install pm2
```

Then run it with:

```
npx pm2 start src/index.js
```

To stop the project:

```
npx pm2 delete 0
```

Using a Proxy

HTTPS Connection with a Self-Signed Certificate

First, install the necessary packages:

```
sudo apt install openssl
```

Then generate a private key:

```
sudo openssl genpkey -algorithm RSA -out /etc/ssl/private/server.key
```

Generate a certificate signing request:

```
sudo openssl req -new -key /etc/ssl/private/server.key -out /etc/ssl/certs/server.csr
```

After that command you will have to fill the form fields required:

Country Name:

State or Providence Name(full name):

Locality Name

Finally, create the self-signed certificate (valid for one year):

Organization Name:

COMMON NAME (YOUR name):

the other ones you can leave them blank

After that run this code

```
sudo openssl x509 -req -in /etc/ssl/certs/server.csr -signkey /etc/ssl/private/server.key -out /etc/ssl/certs/server.crt -days 365
```

Update the Nginx configuration:

```
sudo nano /etc/nginx/sites-available/default
```

Comment all the lines after the editor opened up

And at the end of the code in the editor add this content:

```
server {
    listen 80;
    server_name _;

    return 301 https://$host$request_uri;
```

```
}

server {
    listen 443 ssl;
    server_name _;

    ssl_certificate /etc/ssl/certs/server.crt;
    ssl_certificate_key /etc/ssl/private/server.key;

    location / {
        proxy_pass http://localhost:4002;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header X-Forwarded-Proto $scheme;
    }
}
```

Test and reload Nginx:

```
sudo nginx -t
sudo systemctl restart nginx
```

If everything worked out you should be able to go to the IP of your EC2 instance and see the application running.