

Clase 16 - Backend

Practica

1. Crear ambiente de cloud9

Nombre: **Modulo 16 Backend**

Descripción: **Ambiente para Módulo 16 Backend**

The screenshot shows the AWS Cloud9 'Create environment' wizard. The breadcrumb navigation at the top reads 'AWS Cloud9 > Environments > Create environment'. On the left, a sidebar lists the steps: 'Step 1: Name environment' (active), 'Step 2: Configure settings', and 'Step 3: Review'. The main content area is titled 'Name environment' and contains a form titled 'Environment name and description'. The form has two sections: 'Name' and 'Description - Optional'. The 'Name' section has a text input field containing 'Modulo 16 Backend' and a note: 'The name needs to be unique per user. You can update it at any time in your environment settings.' Below the input is a 'Limit: 60 characters' warning. The 'Description - Optional' section has a text area containing 'Ambiente para Módulo 16 Backend' and a note: 'This will appear on your environment's card in your dashboard. You can update it at any time in your environment settings.' Below the text area is a 'Limit: 200 characters' warning. At the bottom right of the form, there are two buttons: 'Cancel' and 'Next step'.

AWS Cloud9 > Environments > Create environment

Step 1
Name environment

Step 2
Configure settings

Step 3
Review

Name environment

Environment name and description

Name
The name needs to be unique per user. You can update it at any time in your environment settings.

Modulo 16 Backend

Limit: 60 characters

Description - Optional
This will appear on your environment's card in your dashboard. You can update it at any time in your environment settings.

Ambiente para Módulo 16 Backend

Limit: 200 characters

Cancel Next step

Seleccionar Platform → Ubuntu Server

Step 1
[Name environment](#)

Step 2
Configure settings

Step 3
[Review](#)

Configure settings

Environment settings

Environment type [Info](#)
Run your environment in a new EC2 instance or an existing server. With EC2 instances, you can connect directly through Secure Shell (SSH) or connect via AWS Systems Manager (without opening inbound ports).

- ☒ **Create a new EC2 instance for environment (direct access)**
Launch a new instance in this region that your environment can access directly via SSH.
- ☐ **Create a new no-Ingress EC2 instance for environment (access via Systems Manager)**
Launch a new instance in this region that your environment can access through Systems Manager.
- ☐ **Create and run in remote server (SSH connection)**
Configure the secure connection to the remote server for your environment.

Instance type

- ☒ **t2.micro (1 GiB RAM + 1 vCPU)**
Free-tier eligible. Ideal for educational users and exploration.
- ☐ **t3.small (2 GiB RAM + 2 vCPU)**
Recommended for small-sized web projects.
- ☐ **m5.large (8 GiB RAM + 2 vCPU)**
Recommended for production and general-purpose development.
- ☐ **Other instance type**
Select an instance type.

t3.nano

Platform

- ☐ Amazon Linux
- ☐ Amazon Linux 2
- ☒ **Ubuntu Server 18.04 LTS**

Create Environment

2. Instalar Node.js

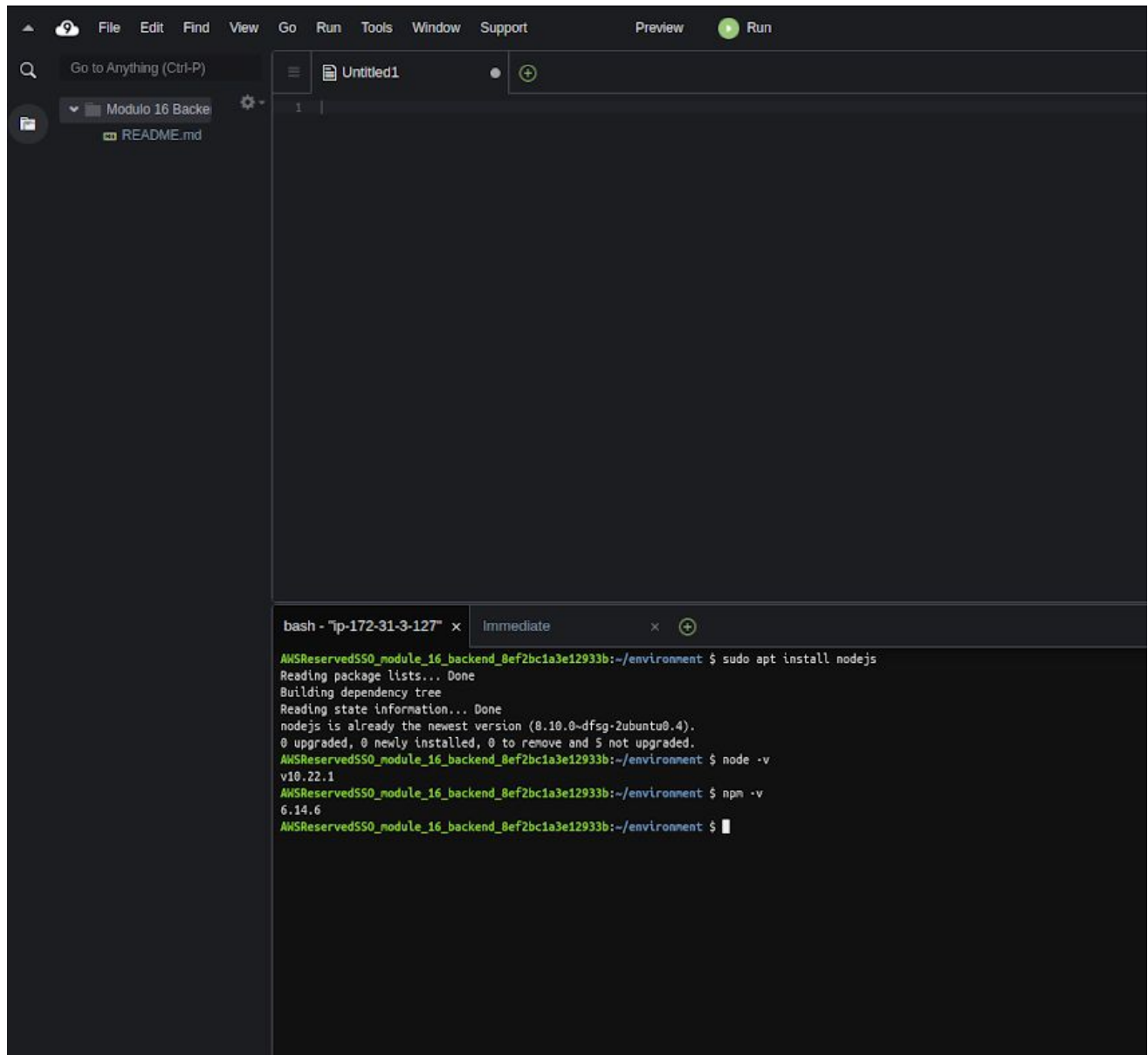
En la terminal ejecutar >

sudo apt install nodejs

Luego para verificar la instalación ejecutar >

node -v

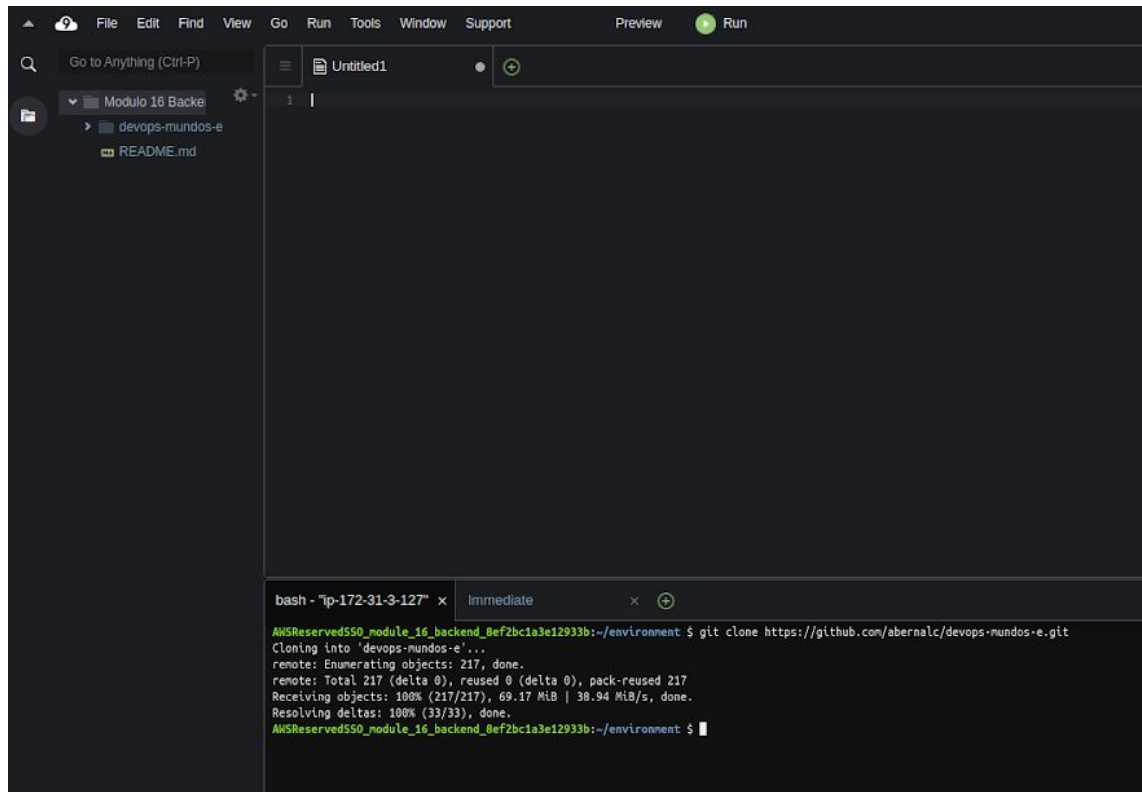
npm -v



3. Clonar el Repositorio

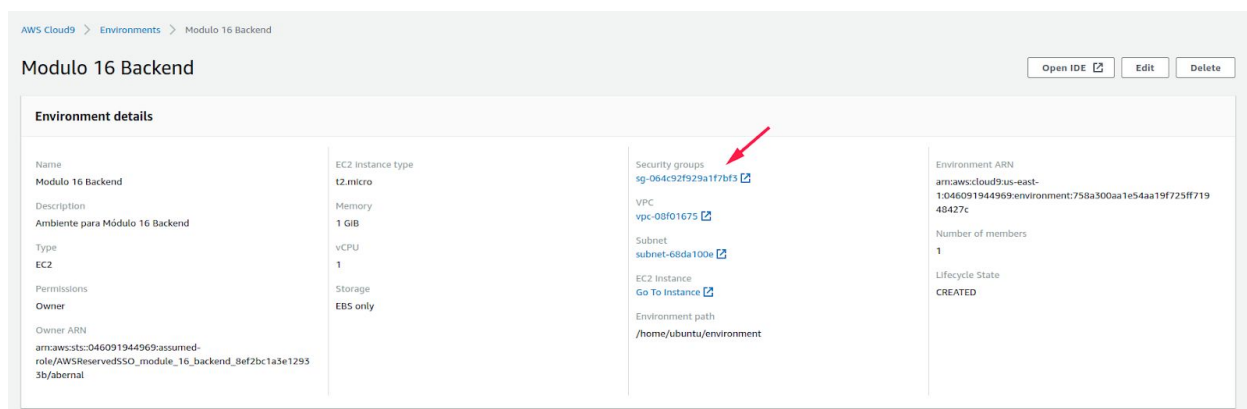
Ejecutar >

git clone <https://github.com/abernalc/devops-mundos-e.git>



4. Modificar Grupo de Seguridad para permitir request hacia el puerto 3000

Ir a AWS Cloud9 > Environments > Seleccionar el ambiente Cloud9 creado previamente



Editar inbound rules

The screenshot shows the AWS Management Console interface for editing inbound rules of a security group. The top section displays a list of security groups with columns for Name, Security group ID, Security group name, VPC ID, Description, and Owner. The selected security group is 'aws-cloud9-Modul...' with ID 'sg-064c92f929a1f7bf3'. Below this, the 'Inbound rules' tab is active, showing a table of existing rules:

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	35.172.155.192/27	-
SSH	TCP	22	35.172.155.96/27	-
Custom TCP	TCP	3000	0.0.0.0/0	-
Custom TCP	TCP	3000	:::0	-

An 'Edit inbound rules' button is located in the top right corner of the rules table, indicated by a red arrow.

Agregar 2 nuevas reglas, Custom TCP, Port range 3000, 0.0.0.0/0 y :::0

The screenshot shows the 'Edit inbound rules' form in the AWS Management Console. The form displays the existing rules and allows adding new ones. The rules are listed in a table with columns for Type, Protocol, Port range, Source, and Description - optional. The 'Add rule' button is located at the bottom left of the form.

Type	Protocol	Port range	Source	Description - optional	Actions
SSH	TCP	22	Custom	35.172.155.192/27	Delete
SSH	TCP	22	Custom	35.172.155.96/27	Delete
Custom TCP	TCP	3000	Custom	0.0.0.0/0	Delete
Custom TCP	TCP	3000	Custom	:::0	Delete

The 'Add rule' button is located at the bottom left of the form.

Guardar las nuevas reglas

5. Instalar proyecto Node

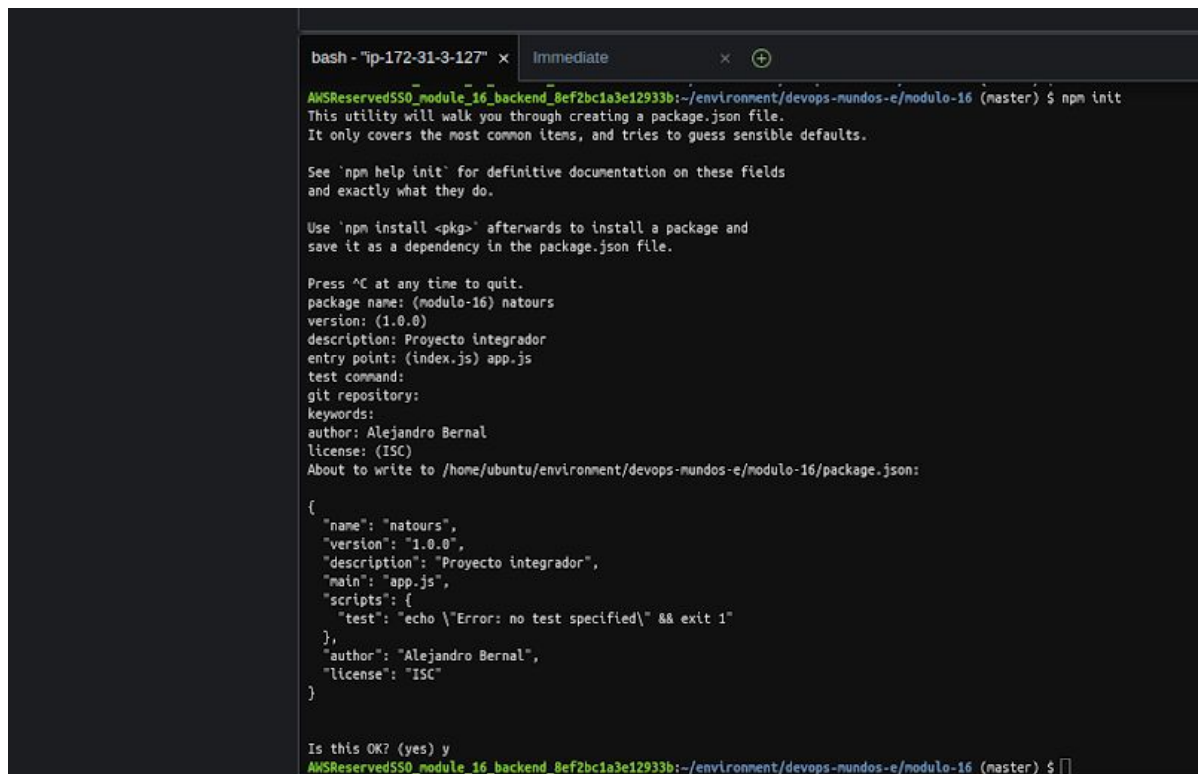
Ejecutar >

cd devops-mundos-e

cd modulo-16

npm init

- package name: (encuentro-16-practica) **natours**
- version: (1.0.0)
- description: **Proyecto integrador**
- entry point: (index.js) **app.js**
- test command:
- git repository:
- keywords:
- author: **Alejandro Bernal**
- license: (ISC)



```
bash - "ip-172-31-3-127" x Immediate x +
AWSReservedSSO_module_16_backend_8ef2bc1a3e12933b:~/environment/devops-mundos-e/modulo-16 (master) $ npm init
This utility will walk you through creating a package.json file.
It only covers the most common items, and tries to guess sensible defaults.

See 'npm help init' for definitive documentation on these fields
and exactly what they do.

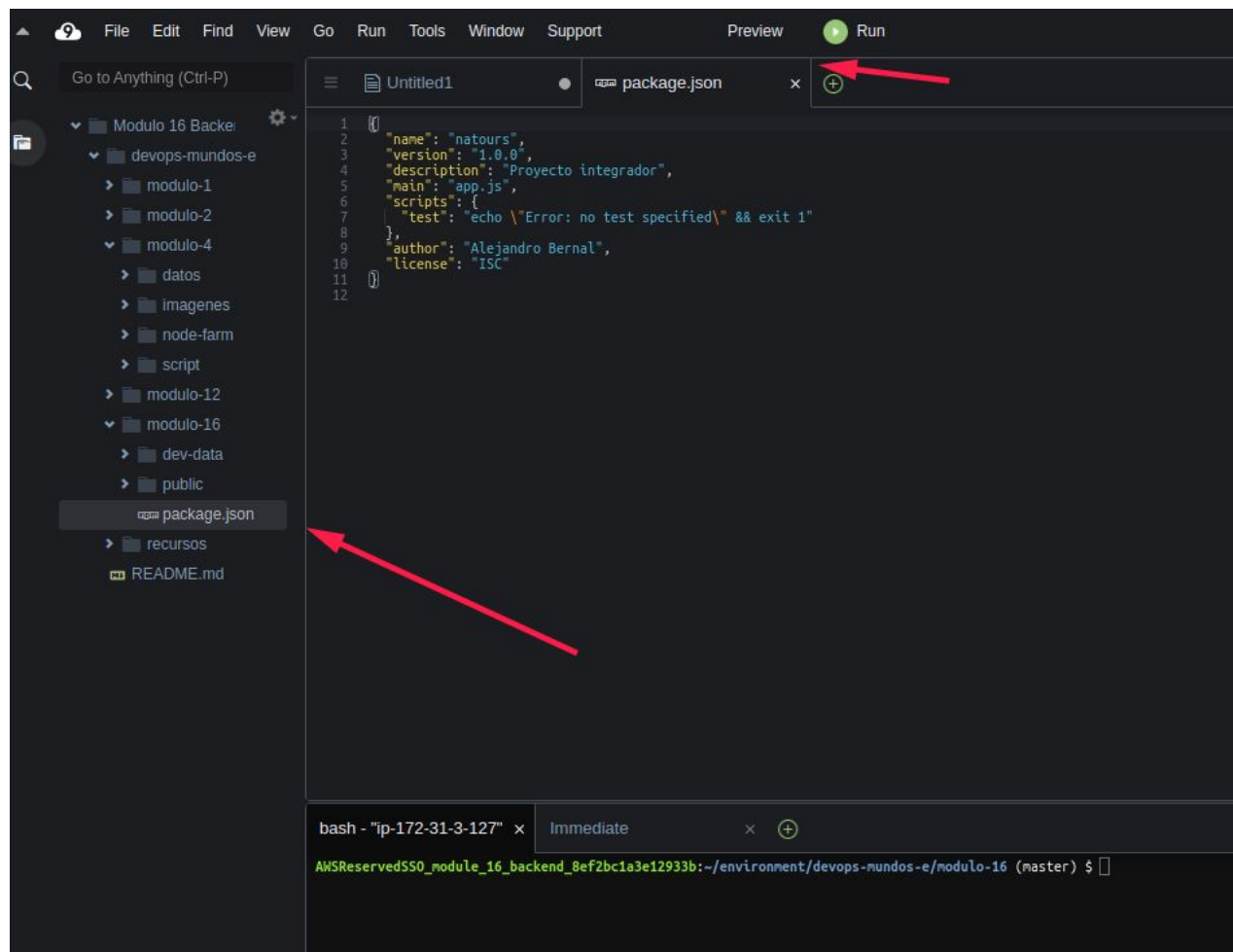
Use 'npm install <pkg>' afterwards to install a package and
save it as a dependency in the package.json file.

Press ^C at any time to quit.
package name: (modulo-16) natours
version: (1.0.0)
description: Proyecto integrador
entry point: (index.js) app.js
test command:
git repository:
keywords:
author: Alejandro Bernal
license: (ISC)
About to write to /home/ubuntu/environment/devops-mundos-e/modulo-16/package.json:

{
  "name": "natours",
  "version": "1.0.0",
  "description": "Proyecto integrador",
  "main": "app.js",
  "scripts": {
    "test": "echo \\\"Error: no test specified\\\" && exit 1"
  },
  "author": "Alejandro Bernal",
  "license": "ISC"
}

Is this OK? (yes) y
AWSReservedSSO_module_16_backend_8ef2bc1a3e12933b:~/environment/devops-mundos-e/modulo-16 (master) $
```

Check package.json file



Instalar Express

Ejecutar >

npm i express@4

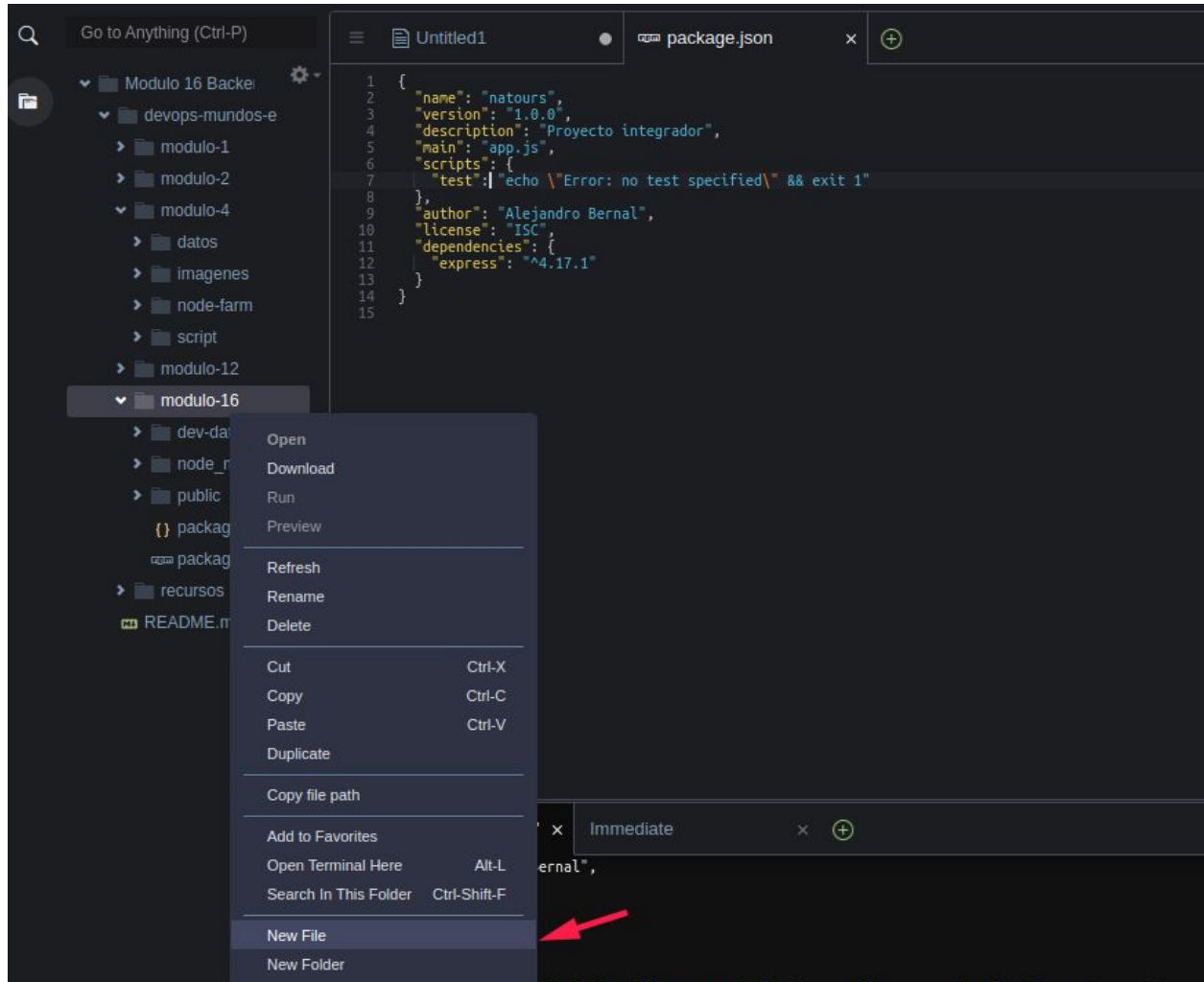
Instalar Nodemon

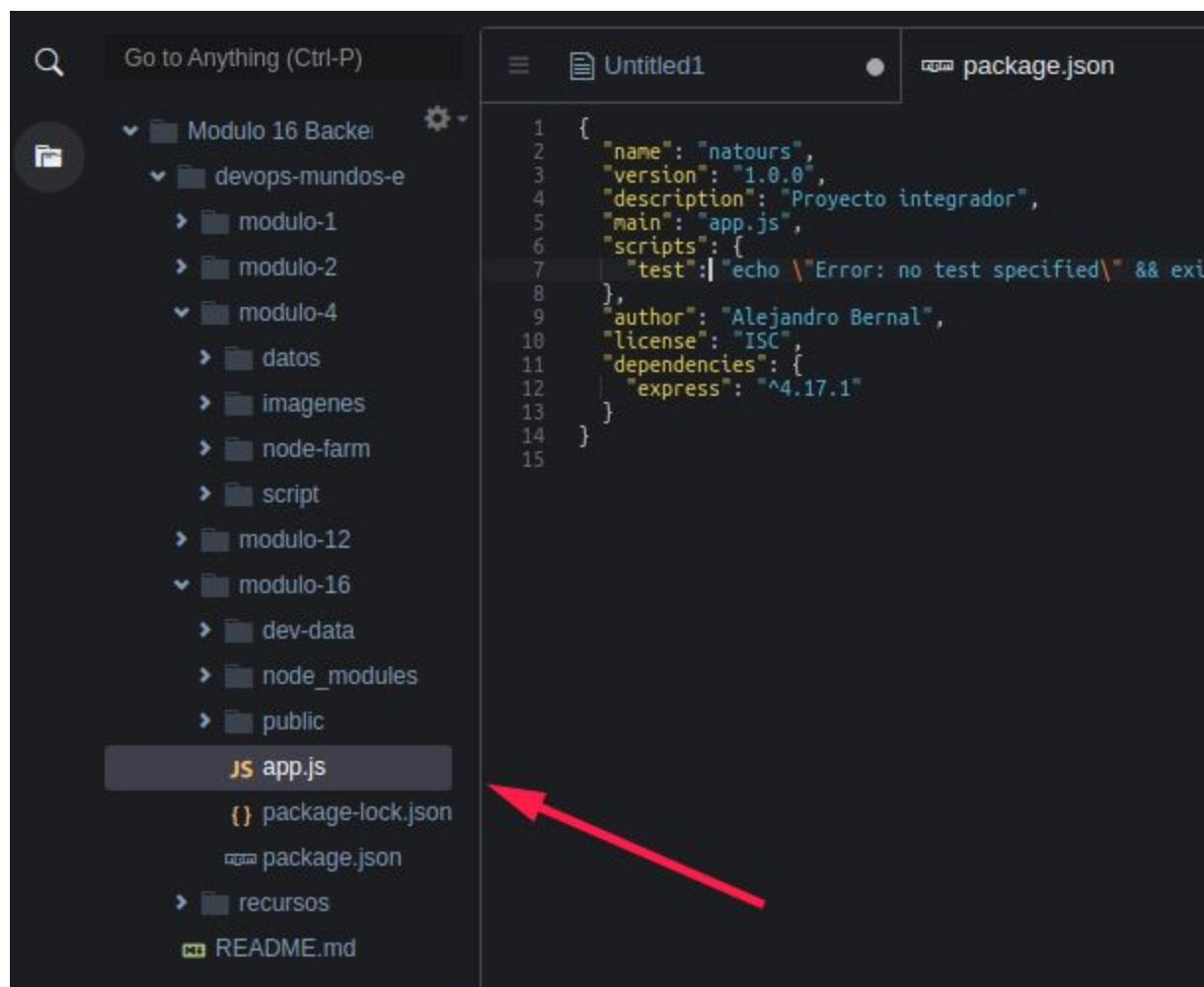
Ejecutar >

npm i -g nodemon

6. Crear Archivo app.js

Crear archivo app.js en la carpeta module-16





Codear en el archivo app.js

```
const express = require('express');
const app = express();
const port = 3000;

app.get('/', (req, res) => {
  res
    .status('200')
    .json({message: 'Hola desde el servidor', app: 'Proyecto troncal' });
});

app.post('/users', (req, res) => {
  res
    .status('200')
    .json({message: 'Creaste un nuevo usuario', app: 'Proyecto troncal' });
});

app.listen(port, () => {
  console.log(`App running on port ${port}...`)
});
```

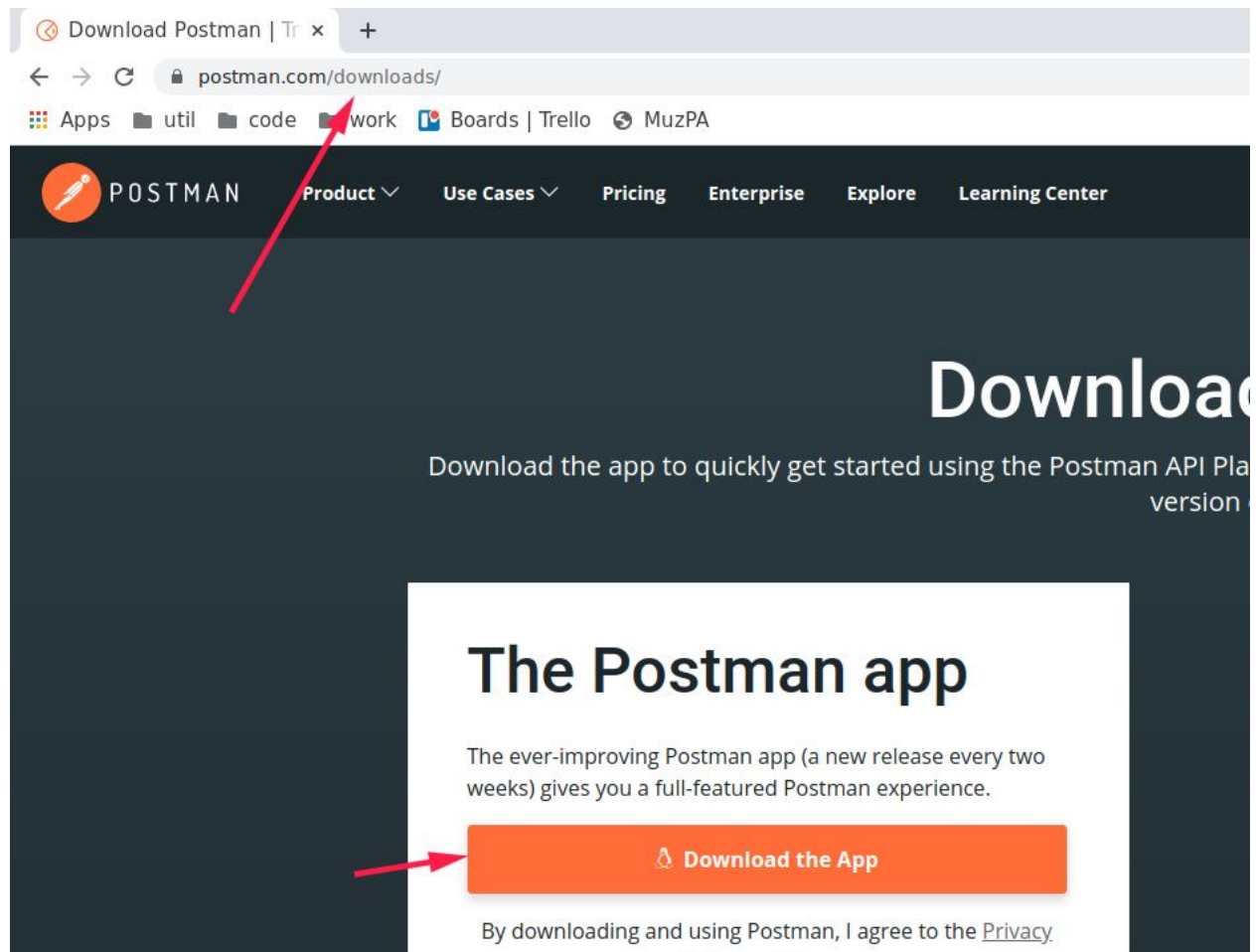
7. Probar la Aplicación

Correr la aplicación

Ejecutar >

nodemon app.js

Descargar postman



Obtener la url de la instancia EC2

Ir a la instancia de EC2

AWS Cloud9 > Environments > Modulo 16 Backend

Modulo 16 Backend

Environment details

Name Modulo 16 Backend	EC2 Instance type t2.micro	Security groups sg-064c92f929a1f7bf3
Description Ambiente para Módulo 16 Backend	Memory 1 GiB	VPC vpc-08f01675
Type EC2	vCPU 1	Subnet subnet-68da100e
Permissions	Storage EBS only	EC2 Instance Go To Instance
Owner Owner ARN <code>arn:aws:sts::046091944969:assumed-role/AWSReservedSSO_module_16_backend_8ef2bc1a3e12933b/abernal</code>		Environment path <code>/home/ubuntu/environment</code>

Obtener la URL pública de la instancia

Copiar la url

EC2 > Instances > i-0d23f1446ec54c148

Instance summary for i-0d23f1446ec54c148 (aws-cloud9-Modulo-16-Backend-758a300aa1e54aa19f725ff71948427c) [Info](#) [Refresh](#) [Connect](#) [Instance state](#)

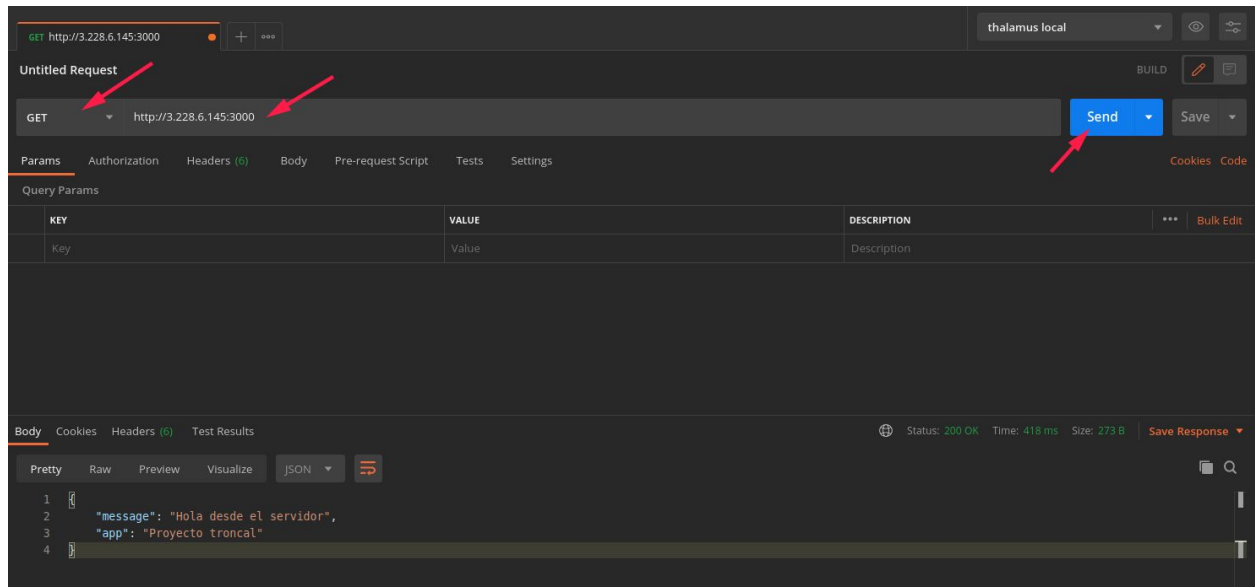
Updated less than a minute ago

Instance ID <code>i-0d23f1446ec54c148 (aws-cloud9-Modulo-16-Backend-758a300aa1e54aa19f725ff71948427c)</code>	Public IPv4 address <code>3.228.6.145</code> open address	Private IPv4 addresses <code>172.31.3.127</code>
Instance state Running	Public IPv4 DNS <code>ec2-3-228-6-145.compute-1.amazonaws.com</code> open address	Private IPv4 DNS <code>ip-172-31-3-127.ec2.internal</code>
Instance type t2.micro	Elastic IP addresses -	VPC ID <code>vpc-08f01675 (Default-VPC)</code>
IAM Role -	Subnet ID <code>subnet-68da100e</code>	

AWS Compute Optimizer

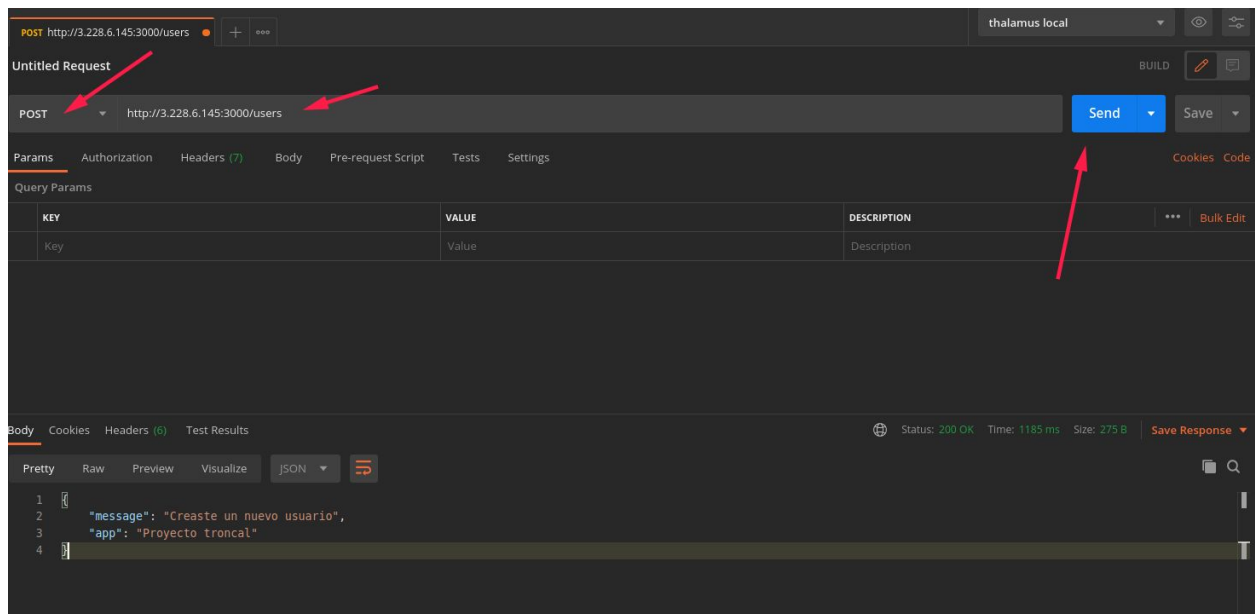
→ Seleccionar New Request en postman

Pegar la url en postman seguida de el puerto 3000



Presionar Send

Hacer el mismo proceso para Users



8. Borrar Ambiente Cloud9

The screenshot shows the AWS Cloud9 console interface. At the top, the breadcrumb navigation reads 'AWS Cloud9 > Your environments'. Below this, a header bar contains the text 'Your environments (1)' on the left and a series of buttons on the right: 'Open IDE' (with an external link icon), 'View details', 'Edit', 'Delete', and 'Create environment' (in orange). A red arrow points to the 'Delete' button. Below the header, a card for the environment 'Modulo 16 Backend' is displayed. It includes a blue plus icon in the top right corner. The card contains the following information: Type: EC2, Permissions: Owner, Description: Ambiente para Módulo 16 Backend, and Owner Arn: arn:aws:sts::046091944969:assumed-role/AWSReservedSSO_module_16_backend_d_8ef2bc1a3e12933b/abernal. An 'Open IDE' button is at the bottom of the card. A modal dialog titled 'Delete Modulo 16 Backend' is open in the foreground. It has a close button (X) in the top right. The dialog text states: 'This environment will be deleted permanently, including all settings, associated user data, and uncommitted code. Are you sure you want to delete the following environment?'. Below this, the environment name 'Modulo 16 Backend' is listed. Further text says: 'To remove this environment, type the phrase "Delete" into the field below, then press Delete.' A text input field contains the word 'Delete'. A red arrow points to this field. At the bottom of the dialog are 'Cancel' and 'Delete' buttons. Another red arrow points to the 'Delete' button.

AWS Cloud9 > Your environments

Your environments (1)

Open IDE View details Edit Delete Create environment

Modulo 16 Backend

Type EC2 Permissions Owner

Description Ambiente para Módulo 16 Backend

Owner Arn arn:aws:sts::046091944969:assumed-role/AWSReservedSSO_module_16_backend_d_8ef2bc1a3e12933b/abernal

Open IDE

Delete Modulo 16 Backend

This environment will be deleted permanently, including all settings, associated user data, and uncommitted code. Are you sure you want to delete the following environment?

Modulo 16 Backend

To remove this environment, type the phrase "Delete" into the field below, then press Delete.

Delete

Cancel Delete