

Workshop fundamentos de EC2

By: Miguel Angel Acuña Reyes

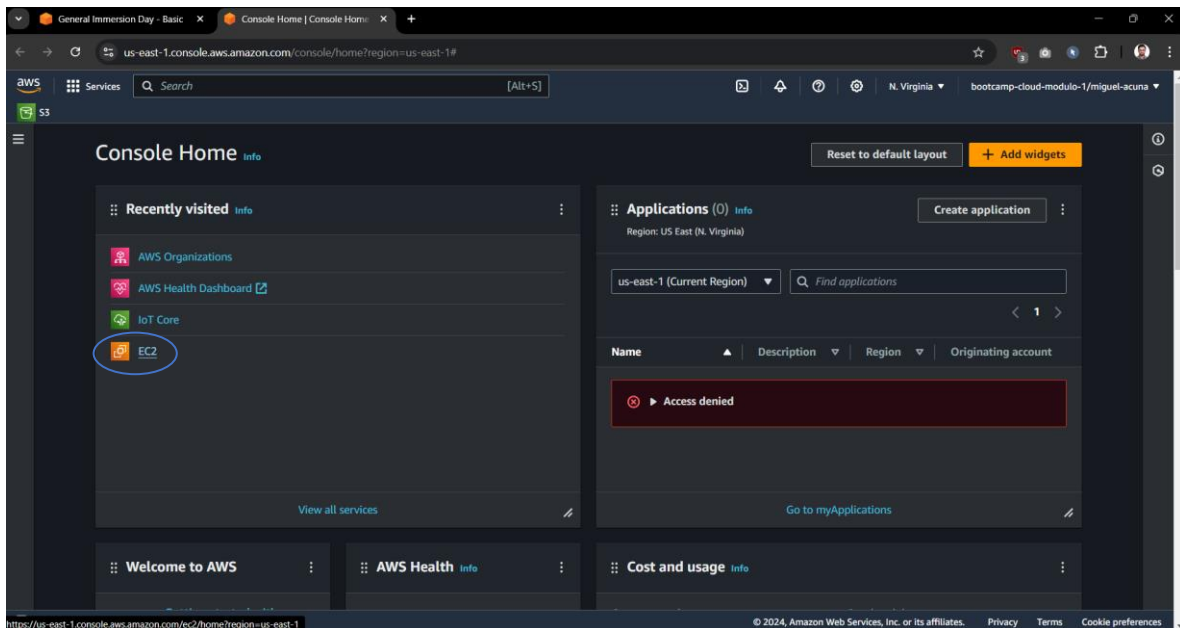
INTRODUCCIÓN

En este workshop, aprenderemos a trabajar con Amazon Elastic Compute Cloud (EC2), uno de los servicios fundamentales de AWS que permite lanzar y gestionar servidores virtuales, conocidos como instancias. Exploraremos el proceso completo, desde la creación de pares de claves hasta la configuración y conexión a una instancia EC2, y finalmente, cómo finalizar instancias cuando ya no se necesitan. Este taller está diseñado para ayudarte a comprender los conceptos básicos y a adquirir las habilidades prácticas necesarias para gestionar instancias EC2.

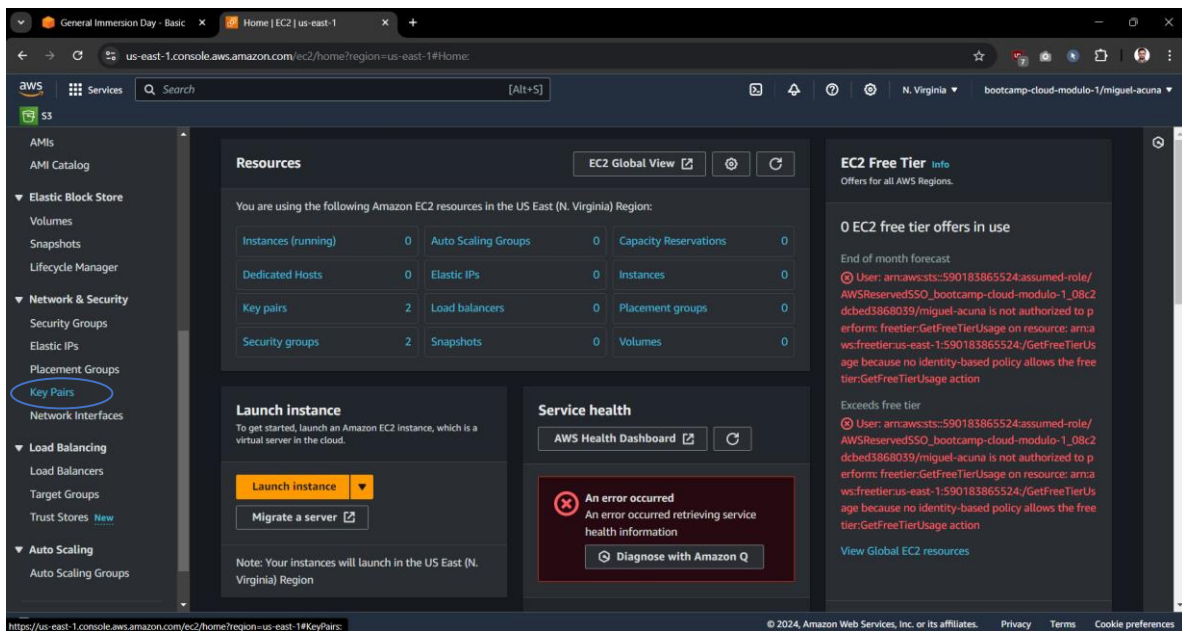
DESARROLLO

Creación de Pares de Claves

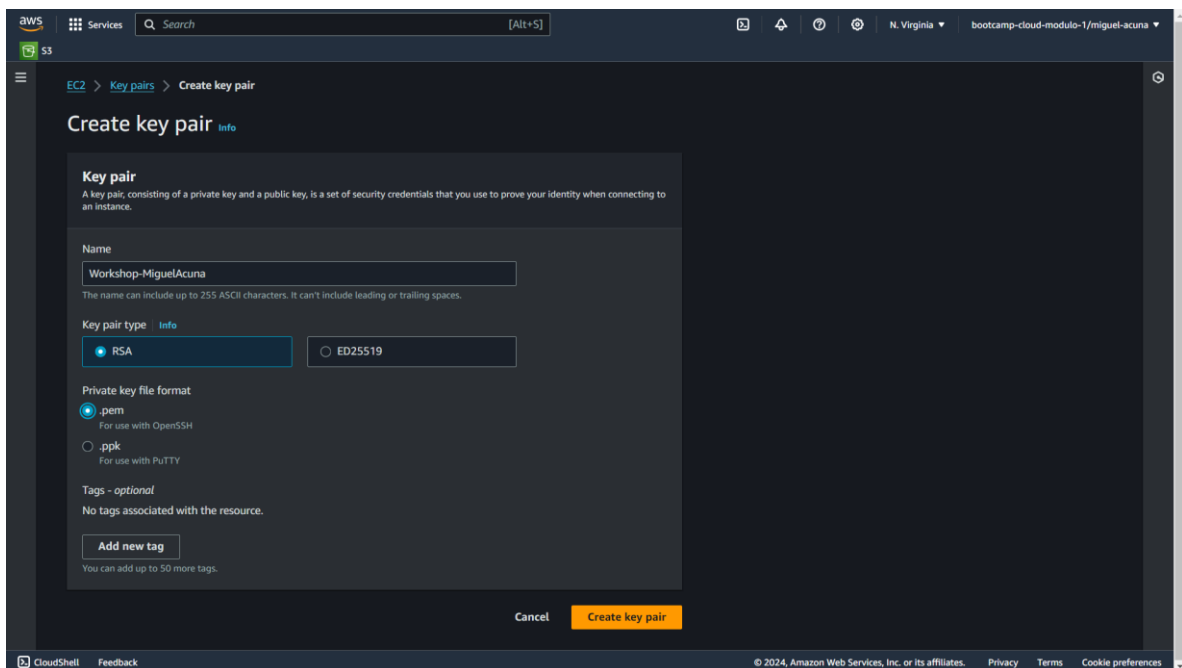
- Dirígete a la opción **EC2** en la consola de AWS.



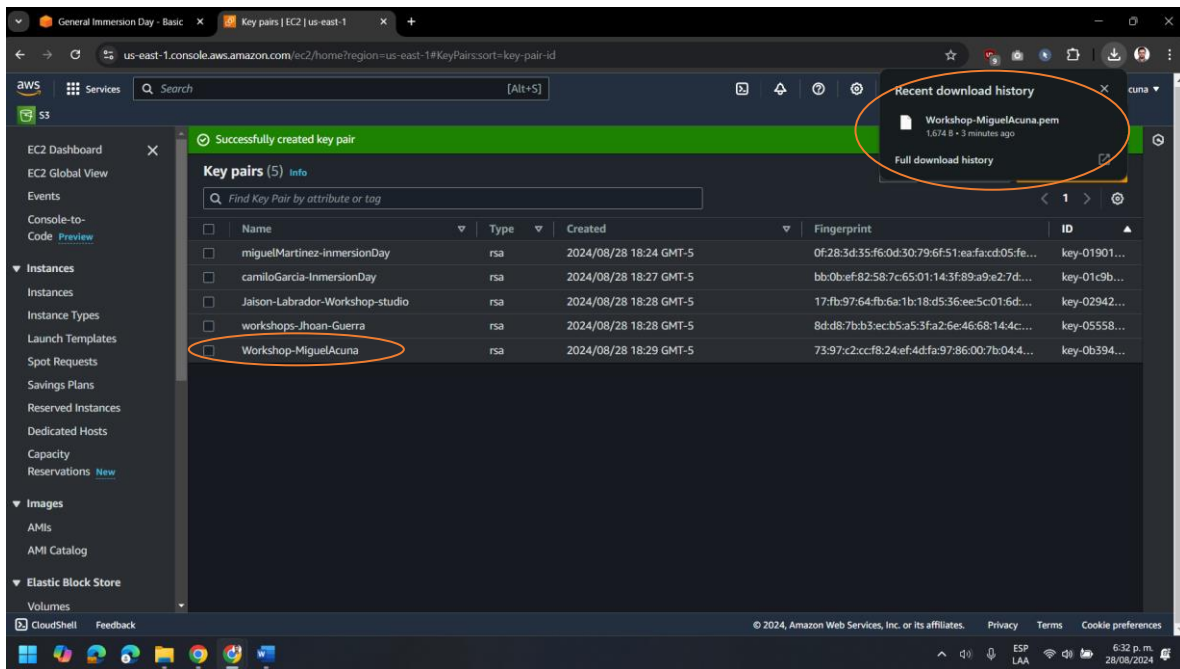
- En el menú de navegación, selecciona **Key Pairs**.



- Crea un nuevo par de claves introduciendo un nombre identificador

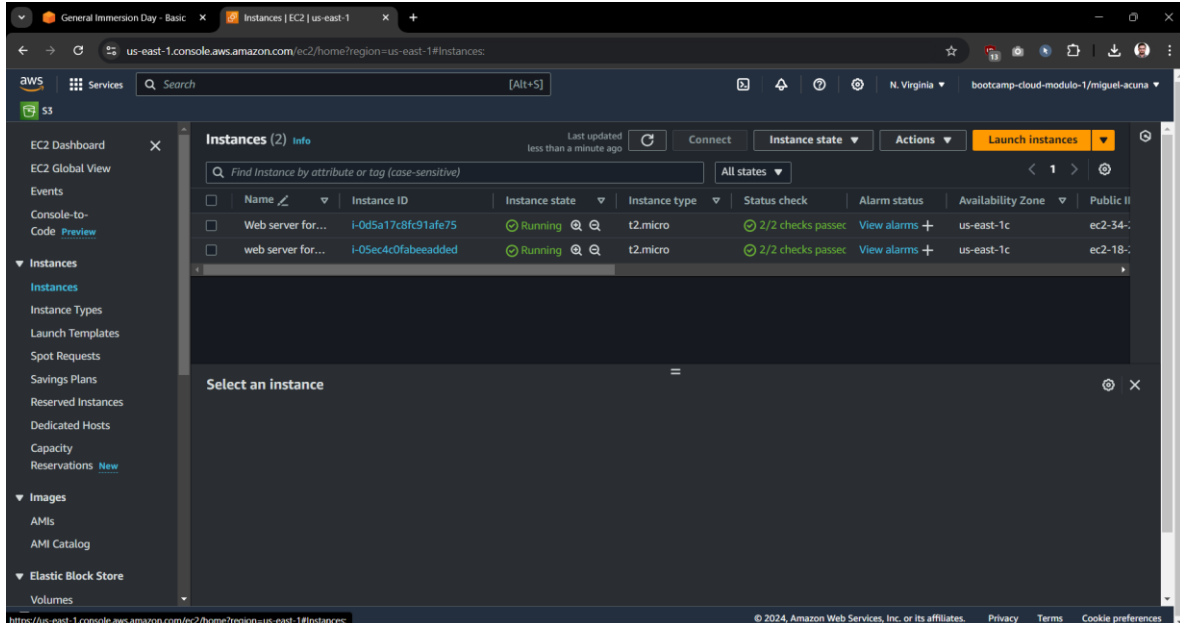


- Al crear la clave, se descargará un archivo .pem en tu equipo. Es importante guardar este archivo en un lugar seguro, ya que lo necesitarás para acceder a tus instancias EC2.

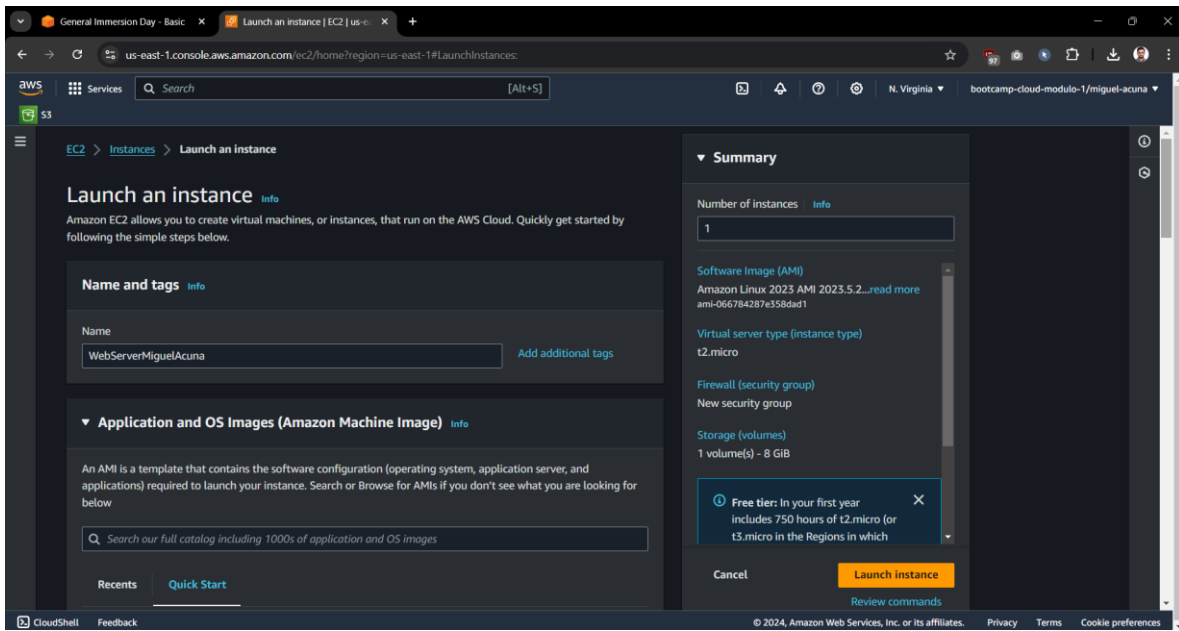


Lanzamiento de una Instancia EC2

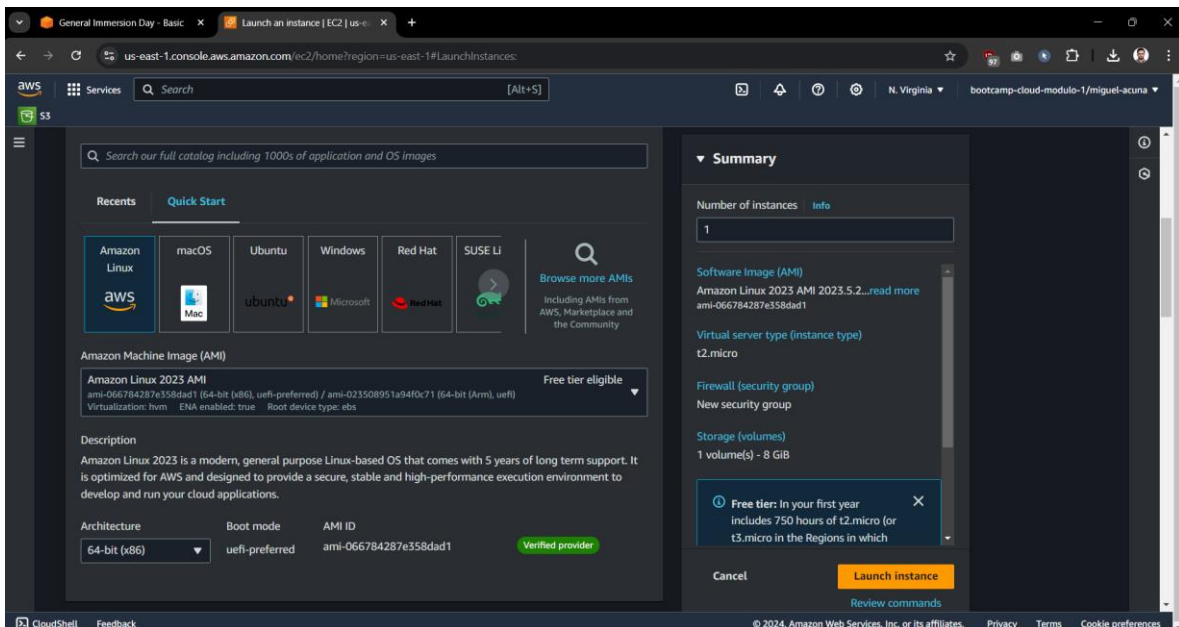
- Navega hasta **Instances** en la barra de navegación y selecciona **Launch Instances**.



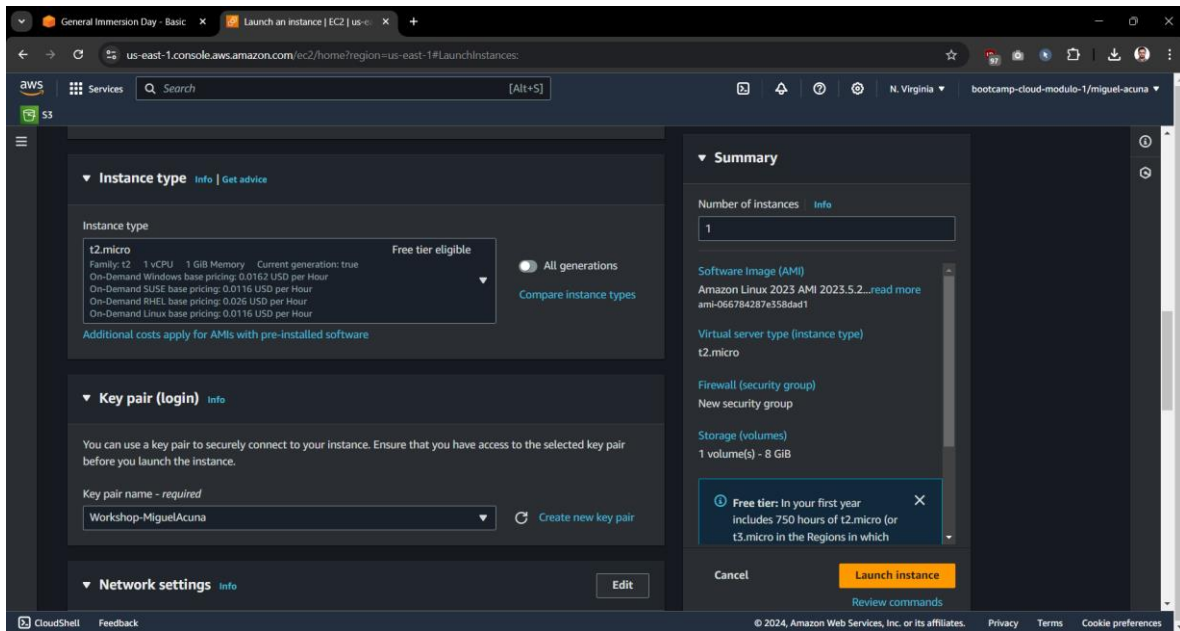
- En la siguiente pantalla, asigna un nombre a tu server



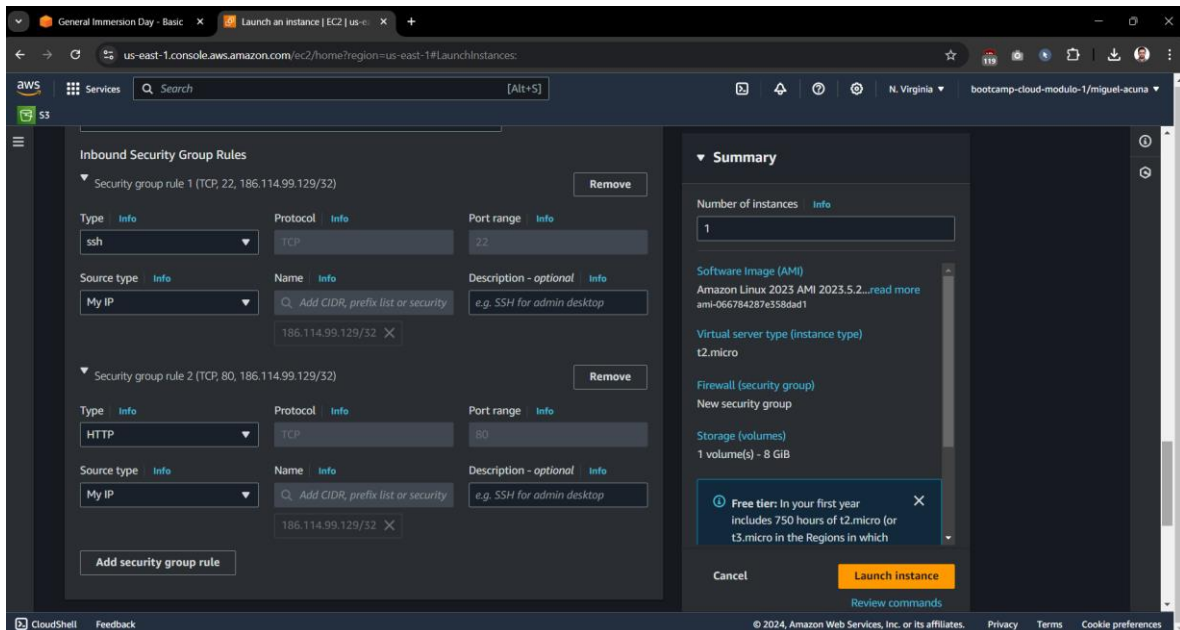
- Asegúrate de seleccionar una instancia que esté dentro de la capa gratuita (Free Tier) recomendada.



- Elige el par de claves que creaste anteriormente para acceder a la instancia.



- Configura las reglas de seguridad de entrada (Security Group), asegurándote de incluir tu dirección IP para permitir el acceso



- En el menú desplegable de **Metadata version**, selecciona "Solo V2 (token obligatorio)".
- En el campo **User Data**, ingresa el siguiente script para instalar un stack LAMP (Linux, Apache, MySQL, PHP) en tu instancia:

```
#!/bin/sh
# Install a LAMP stack
dnf install -y httpd wget php-fpm php-mysqli php-json php php-devel
dnf install -y mariadb105-server
dnf install -y httpd php-mbstring
```

```
# Start the web server
chkconfig httpd on
systemctl start httpd
```

```
# Install the web pages for our lab
if [ ! -f /var/www/html/immersion-day-app-php7.zip ]; then
  cd /var/www/html
  wget -O 'immersion-day-app-php7.zip' 'https://static.us-east-1.prod.workshops.aws/public/c24ac6ac-839f-4709-a061-eaee28af255e/assets/immersion-day-app-php7.zip'
  unzip immersion-day-app-php7.zip
fi
```

```
# Install the AWS SDK for PHP
if [ ! -f /var/www/html/aws.zip ]; then
  cd /var/www/html
  mkdir vendor
  cd vendor
  wget https://docs.aws.amazon.com/aws-sdk-php/v3/download/aws.zip
  unzip aws.zip
fi
```

```
# Update existing packages
dnf update -y
```


▼ Configure storage info

Advanced

1x 8 GB gp5 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage.

Add new volume

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems

Edit

▼ Advanced details info

Domain join directory info

Select

Create new directory

IAM instance profile info

Select

Create new IAM profile

Hostname type info

IP name

DNS Hostname info

Enable IP name (not A record) DNS requests

Enable resource-based IPv4 (A record) DNS requests

Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery info

Select

Shutdown behavior info

Stop

Stop + Hibernate behavior info

Select

Termination protection info

Select

Stop protection info

Select

Detailed CloudWatch monitoring info

Select

Elastic GPU info

Select

Credit specification info

Standard

Placement group info

Select

Create new placement group

EBS-optimized instance info

Exclude

Purchasing option info

None

Capacity Blocks

Launch instances for your active capacity blocks

Spot instances

Request Spot instances at the Spot price, capped at the On-Demand price

Capacity reservation info

Select

Tenancy info

Select

RAM disk ID info

Select

Kernel ID info

Select

Nitro Enclave info

Exclude

Nitro Enclaves are not compatible with instance types that have less than 2 vCPUs.

License configurations info

Select

Create

Specify CPU options

The selected instance type does not support CPU options.

Metadata accessible info

Enabled

Metadata IPv6 endpoint info

Select

Metadata version info

V2 only (token required)

For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.

Metadata response hop limit info

2

Allow tags in metadata info

Select

User data - optional info

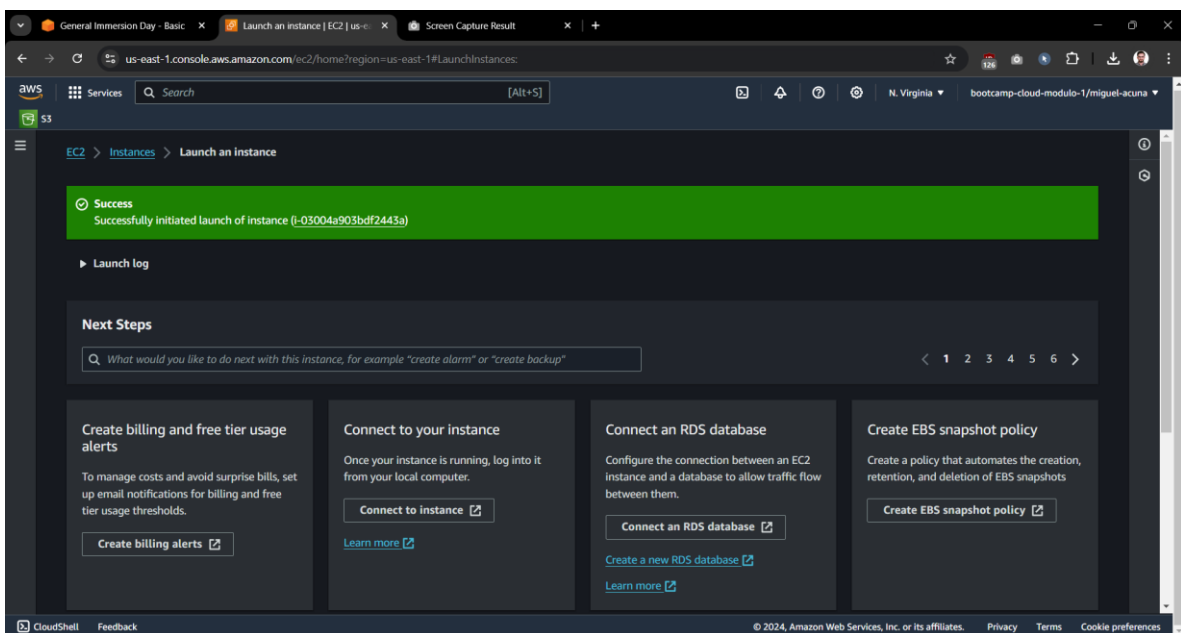
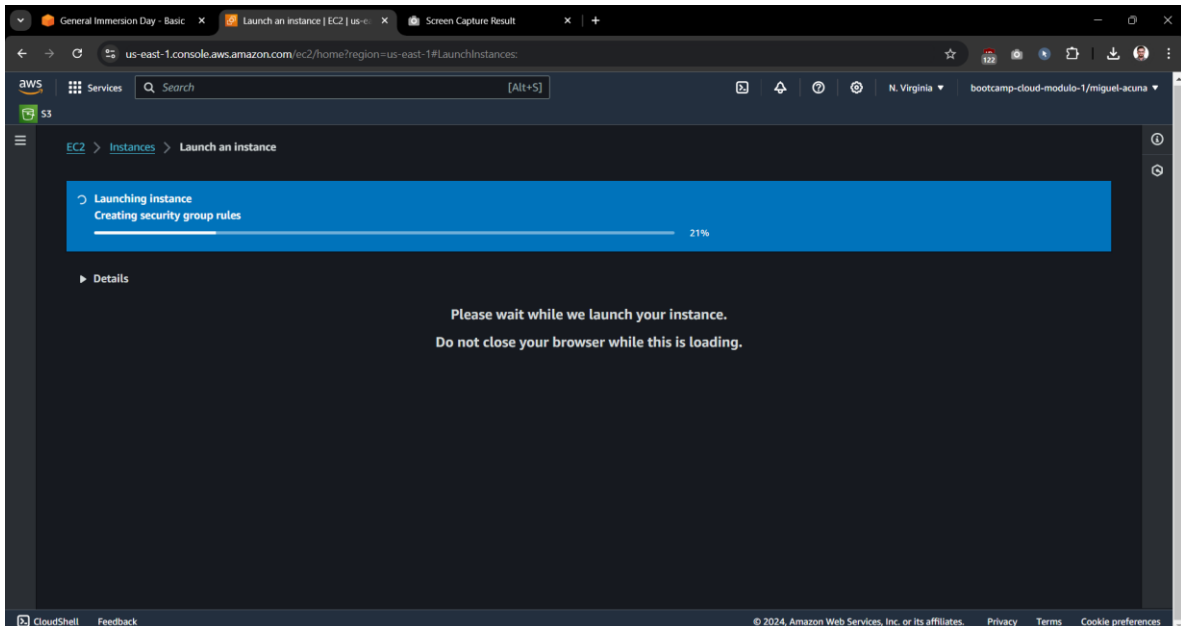
Upload a file with your user data or enter it in the field.

Choose file

```
awscli2025/assets/immersion-day-app-php7.zip
unzip immersion-day-app-php7.zip
#
# Install the AWS CLI for PHP
# If [ -f /usr/www/html/aws.zip ]; then
#   cd /usr/www/html
#   rm -rf aws
#   wget https://docs.aws.amazon.com/aws-sdk-php/v3/downloads/aws.zip
#   unzip aws.zip
#
# Update existing packages
dnf update -y
#
# User data has already been base64 encoded
```


Lanzamiento y Verificación de la Instancia

- Haz clic en **Launch Instance**. Aparecerá una ventana confirmando que la instancia se está creando.



- Una vez que la instancia esté inicializada, selecciona el **Instance ID** para ver los detalles.

The first screenshot shows the AWS Management Console 'Instances' page for the us-east-1 region. A table lists several EC2 instances. The instance 'WebServerMiguelAcuna' with ID 'i-03004a903bdf2443a' is highlighted with a red box. Below the table, the 'Details' tab for this instance is expanded, showing its summary information.

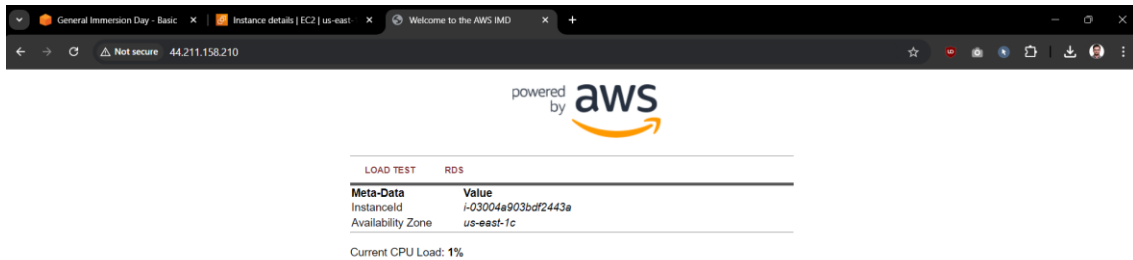
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Jason-Laraador-workshop...	i-0a0a97a8c17390000	Running	t2.micro	4/4 checks passed	View alarms	us-east-1c
Miguel web server for IMD	i-05ec4c0fabeeaddedd	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c
WebServerMiguelAcuna	i-03004a903bdf2443a	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c
servidor web- luis jeronimo ...	i-01947651caa869116	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c
Servidor Web Jhoan Guerra	i-0a085f46218f90130	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c
ec2-workshop-stanlek	i-037f927f3f0357275	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c
servidor web cristina perez	i-01a8a6fdb2ce21ce5	Running	t2.micro	2/2 checks passed	View alarms	us-east-1c

Instance summary for i-03004a903bdf2443a (WebServerMiguelAcuna)

Instance ID i-03004a903bdf2443a (WebServerMiguelAcuna)	Public IPv4 address 44.211.158.210 open address	Private IPv4 addresses 172.31.90.182
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-44-211-158-210.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-90-182.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-90-182.ec2.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding User: arn:aws:sts::590183865524:assumed-role/AWSReservedSSO_bootcamp-cloud-modulo-1_08c2dcbed3868039/miguel-acuna is not authorized to perform: compute-optimizer:GetEnrollmentStatus on resource: * because no identity-based policy allows the compute-optimizer:GetEnrollmentStatus action Retry
Auto-assigned IP address 44.211.158.210 [Public IP]	VPC ID vpc-049d9ac1cfb02436	Auto Scaling Group name
IAM Role	Subnet ID	

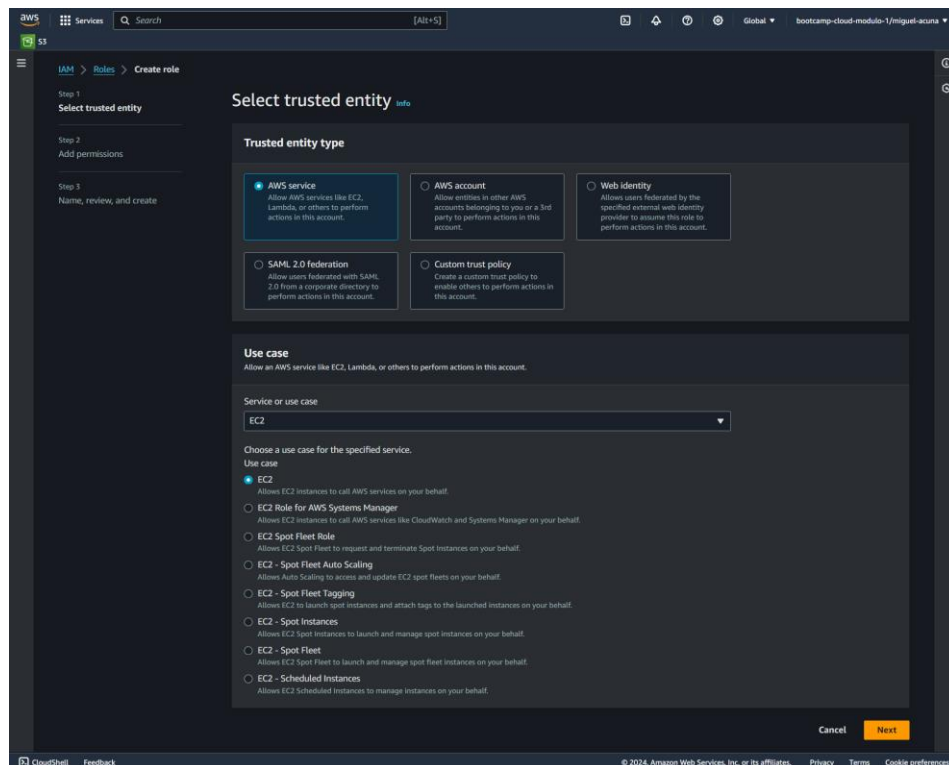
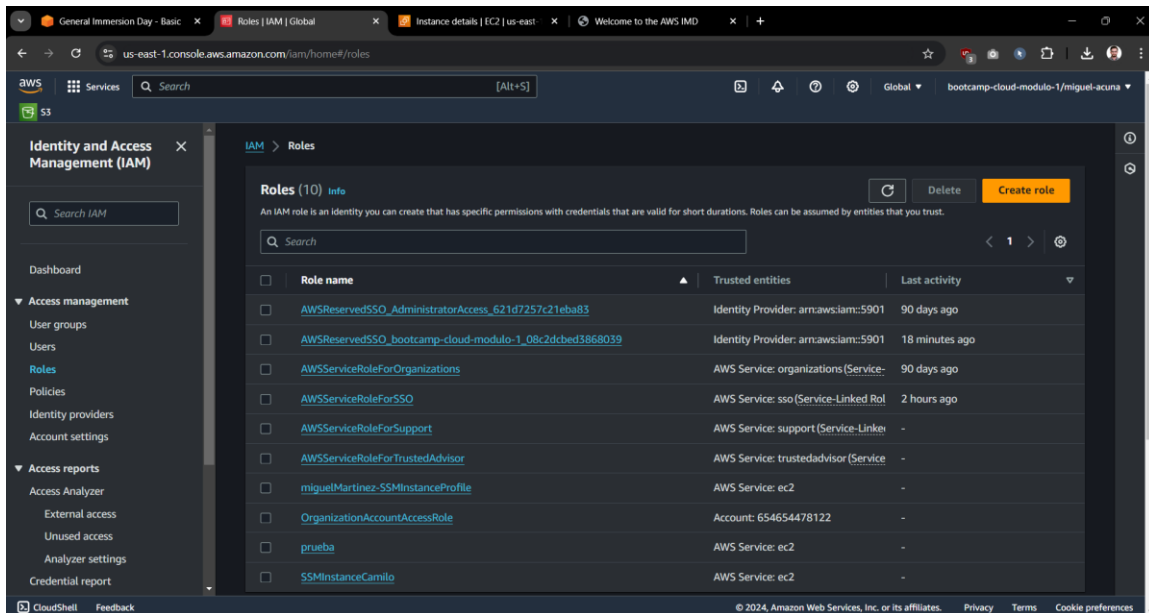
The second screenshot shows the 'Instance details' page for the same instance. It provides a more comprehensive view of the instance's configuration, including its network settings, IAM role, and VPC ID.

- Para acceder a tu servidor web, copia y pega la dirección **IPv4** en tu navegador, asegurándote de usar **HTTP**.

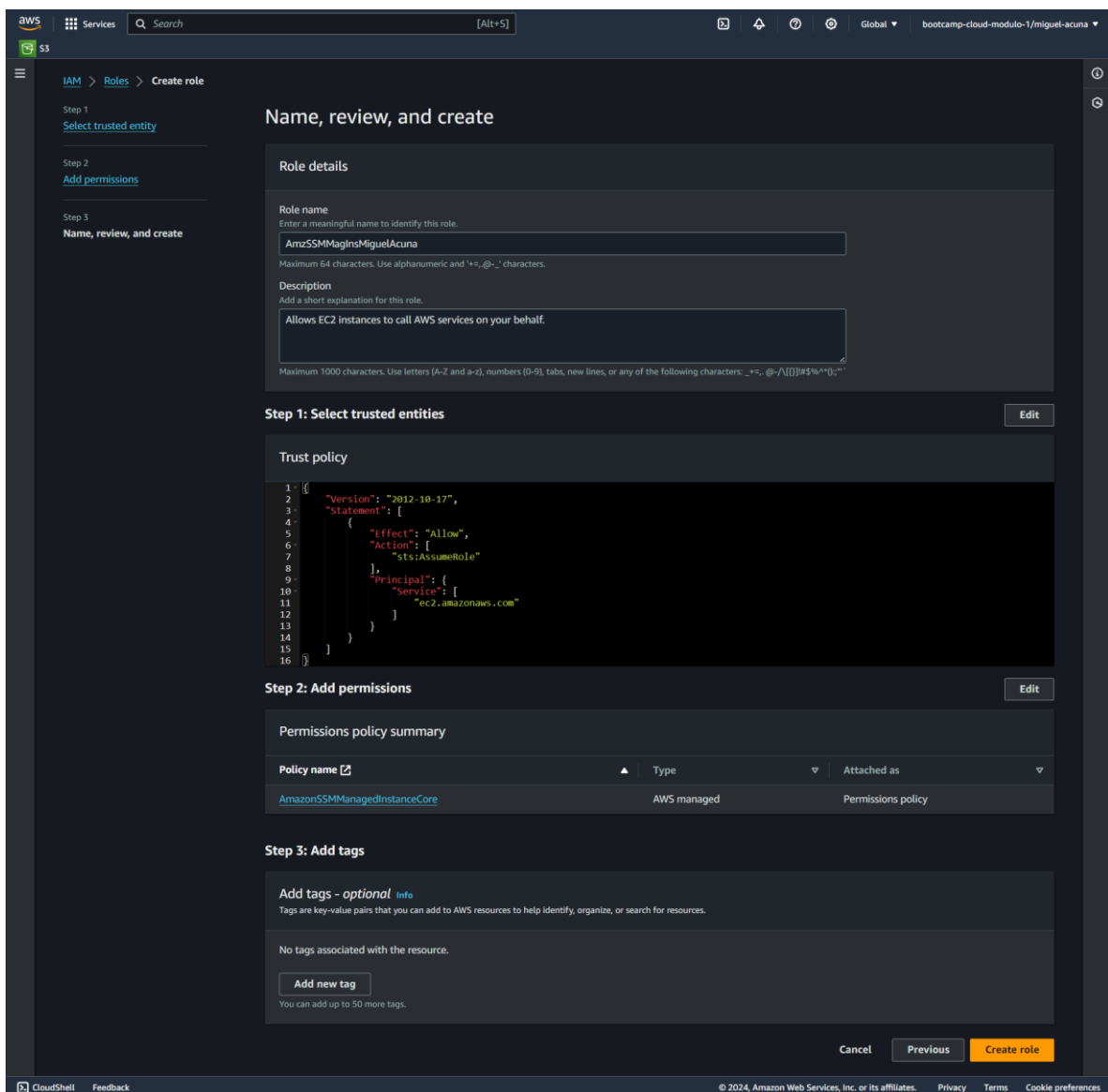
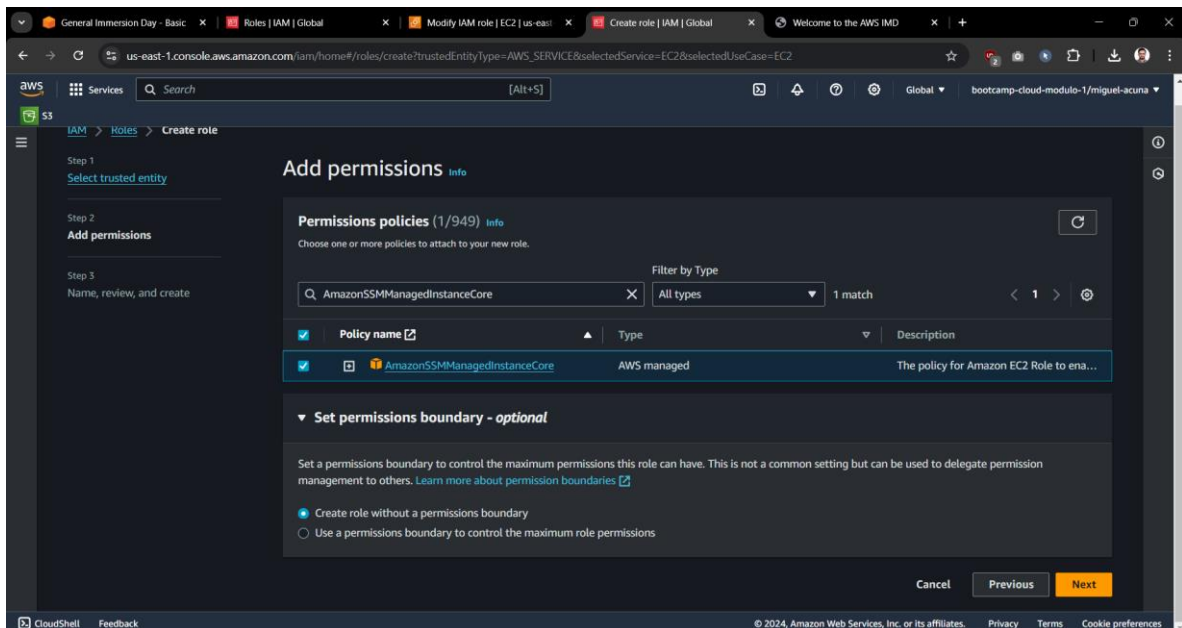


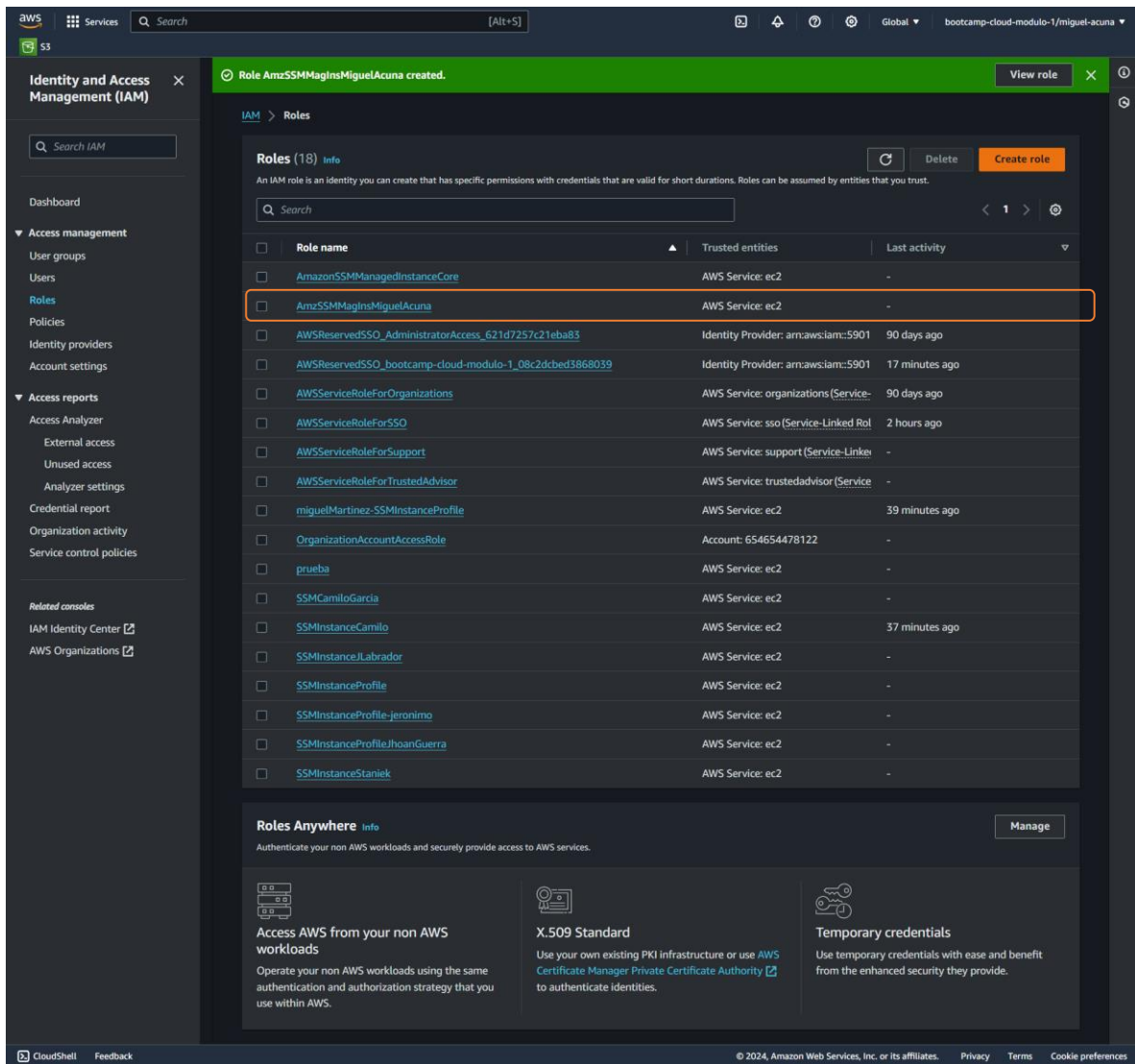
Creación y Asociación de Roles IAM

- Navega a **IAM** y selecciona **Roles** para crear un nuevo rol.

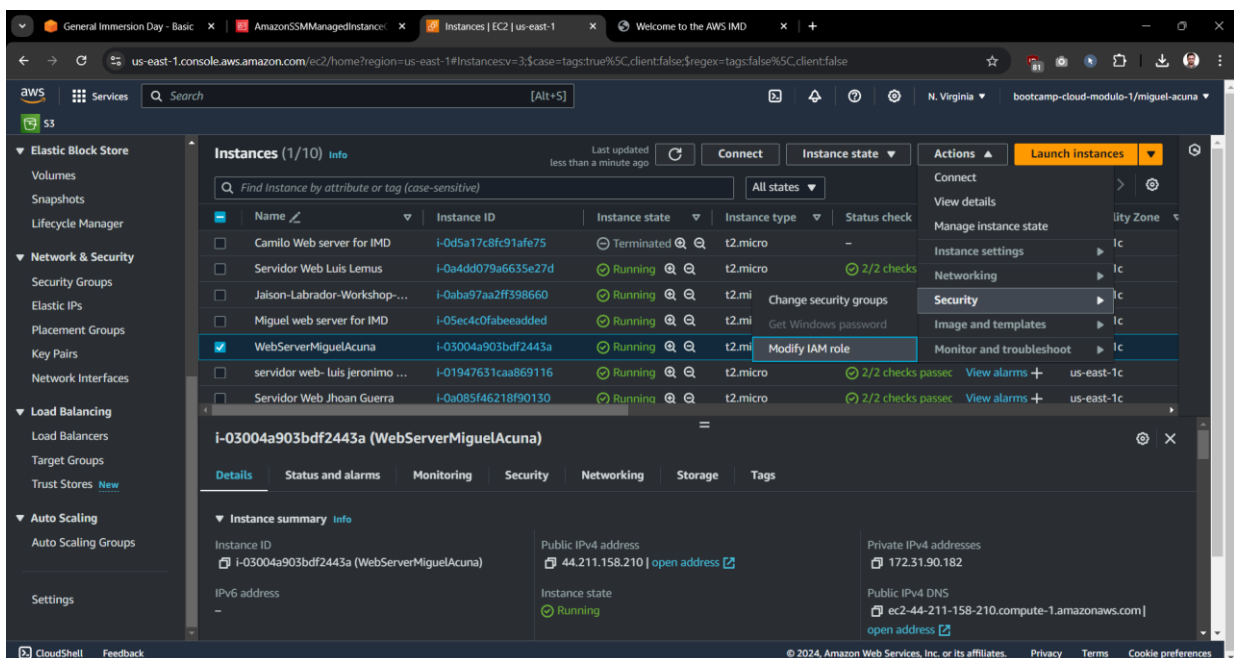


- Selecciona la política **AmazonSSMManagedInstanceCore** y sigue los pasos para crear el rol.

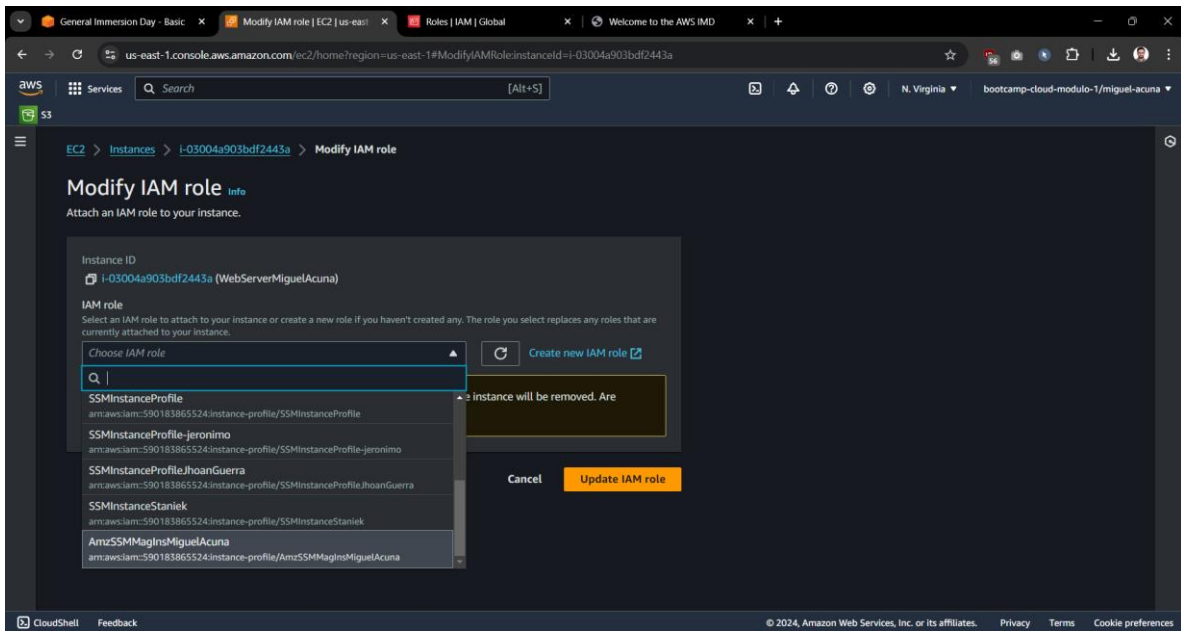




- Vuelve a la consola de EC2 y selecciona tu instancia. Haz clic en **Actions > Security > Modify IAM Role**.

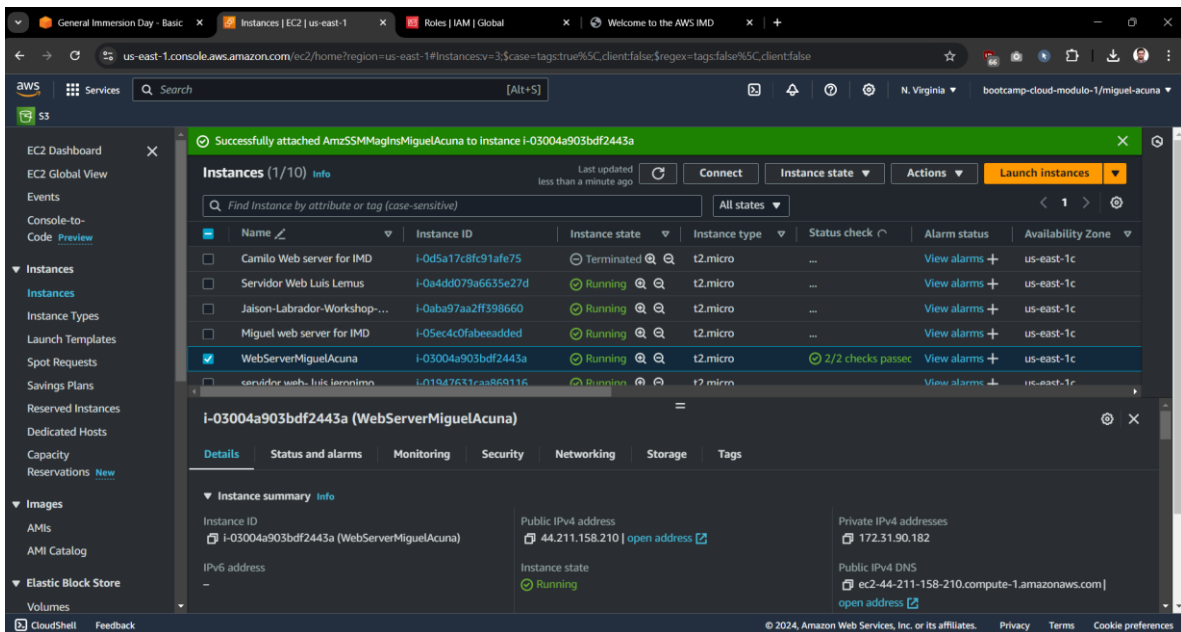


- Asocia el rol creado a la instancia y actualiza la configuración.

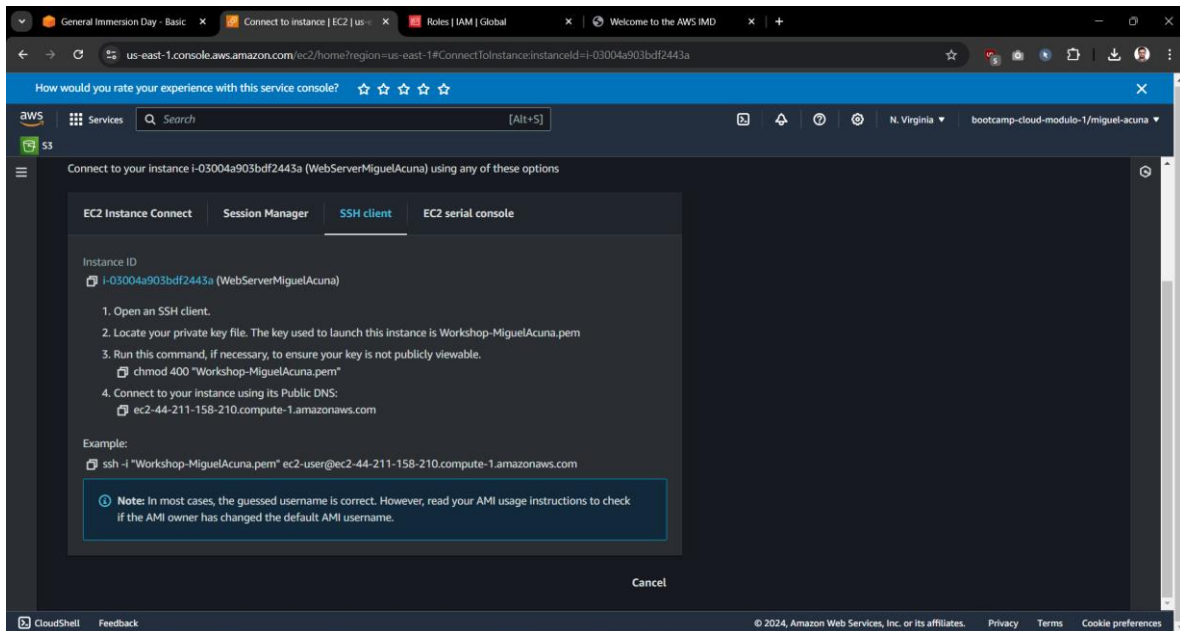


Conexión a la Instancia mediante SSH

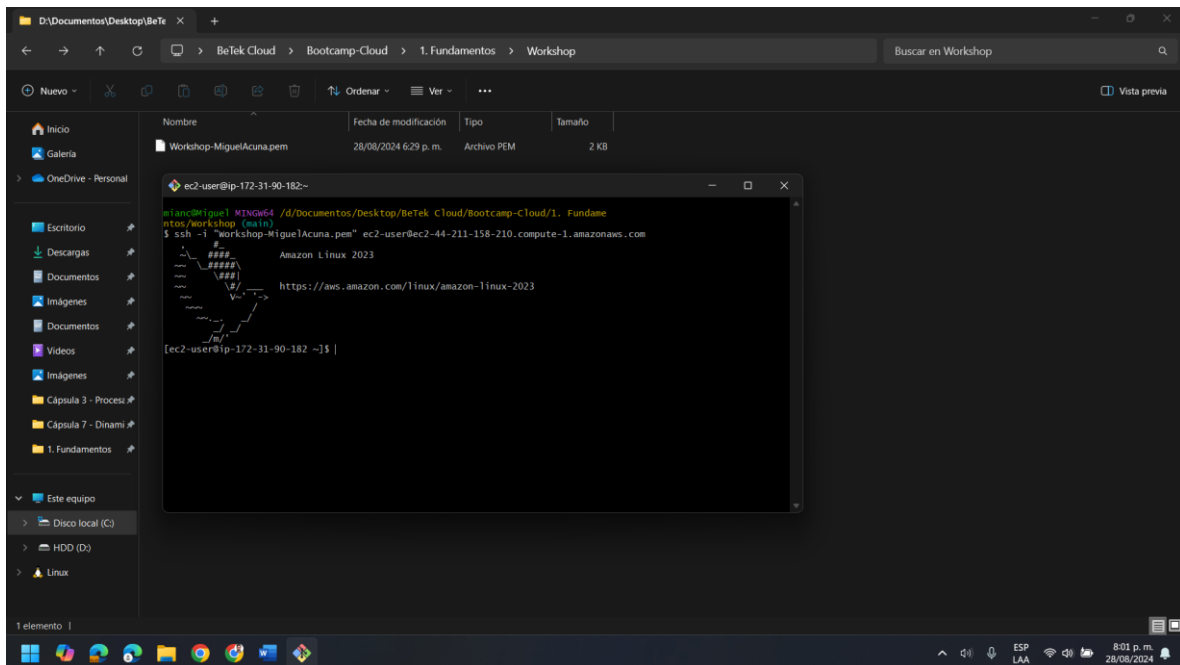
- Desde la consola de EC2, selecciona tu instancia y haz clic en **Connect**.



- Usa el ejemplo que se muestra para conectarte a la instancia mediante SSH.

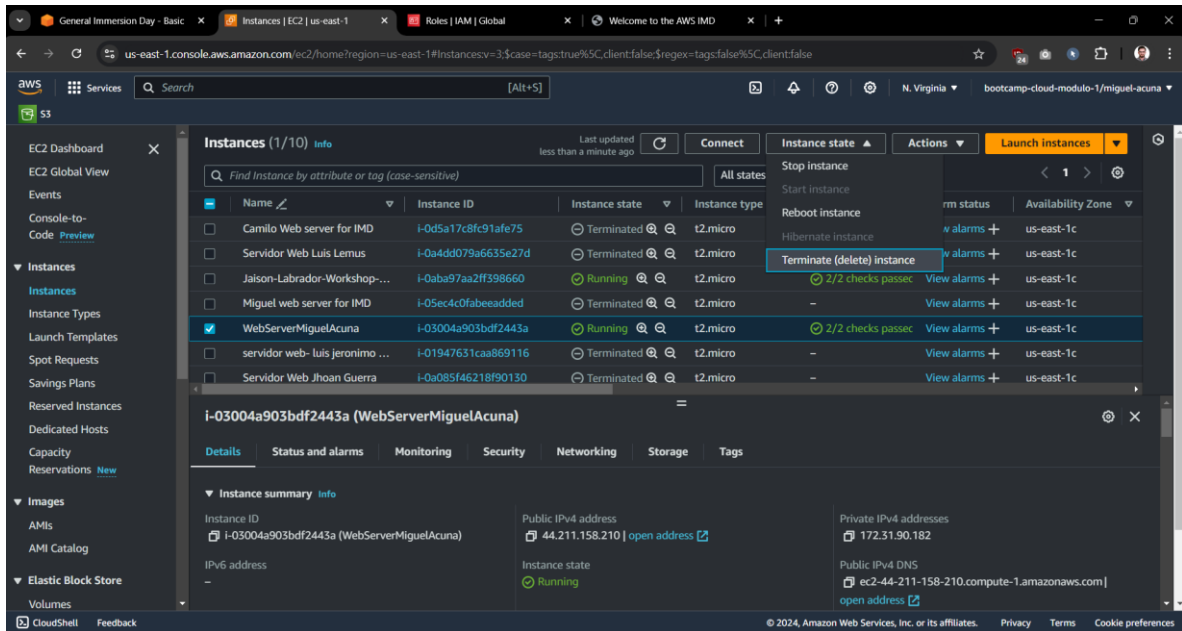


- Abre tu terminal (Git Bash) en la carpeta donde guardaste la clave .pem y ejecuta el comando SSH para establecer la conexión.

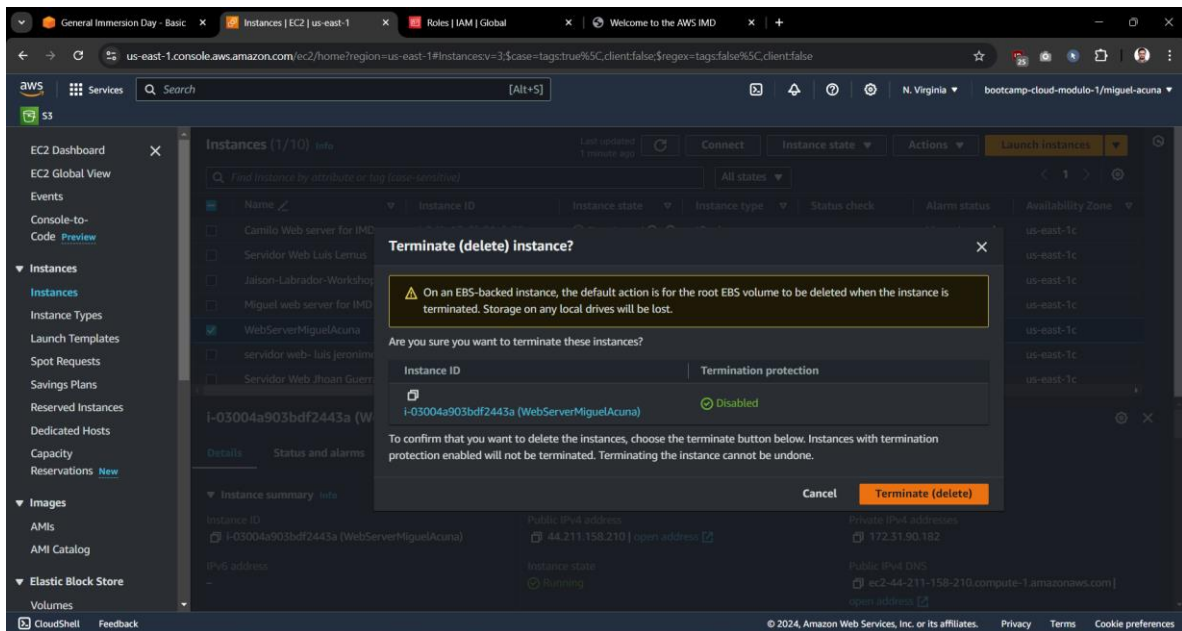


Finalización de una Instancia

- Para eliminar una instancia, selecciona la instancia en la consola de EC2 y elige **Instance State > Terminate Instance**.



- Confirma la acción y espera unos segundos para que la instancia sea terminada.



General Immersion Day - Basic x Instances | EC2 | us-east-1 x Roles | IAM | Global x Welcome to the AWS IMD x +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instancescv=3&case=tags:true%5Cclient:false\$regex=tags:false%5Cclient:false

aws Services Search [Alt+S] N. Virginia bootcamp-cloud-modulo-1/miguel-acuna

EC2 Dashboard EC2 Global View Events Console-to-Code Preview

Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations New

Images AMIs AMI Catalog Elastic Block Store Volumes CloudShell Feedback

Successfully initiated termination (deletion) of i-03004a903bdf2443a

Instances (1/10) info Last updated less than a minute ago Connect Instance state Actions Launch instances

Find instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Camilo Web server for IMD	i-0d5a17c8fc91afe75	Terminated	t2.micro	-	View alarms +	us-east-1c
Servidor Web Luis Lemus	i-0a4dd079a6635e27d	Terminated	t2.micro	-	View alarms +	us-east-1c
Jalson-Labrador-Workshop...	i-0aba97aa2ff398660	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c
Miguel web server for IMD	i-05ec4c0fabeeadded	Terminated	t2.micro	-	View alarms +	us-east-1c
WebServerMiguelAcuna	i-03004a903bdf2443a	Shutting-d...	t2.micro	2/2 checks passed	View alarms +	us-east-1c
servidor web- luis jeronimo	i-01947631caa869116	Terminated	t2.micro	-	View alarms +	us-east-1c

i-03004a903bdf2443a (WebServerMiguelAcuna)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary info

Instance details info

Platform	AMI ID	Monitoring
Amazon Linux (Inferred)	ami-066784287e358dad1	disabled
Platform details	AMI name	Termination protection
Linux / IMV	al2023-ami-2023-5-20240819-0-kernel-6.1-x86_64	Disabled

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General Immersion Day - Basic x Instances | EC2 | us-east-1 x Roles | IAM | Global x Welcome to the AWS IMD x +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instancescv=3&case=tags:true%5Cclient:false\$regex=tags:false%5Cclient:false

aws Services Search [Alt+S] N. Virginia bootcamp-cloud-modulo-1/miguel-acuna

EC2 Dashboard EC2 Global View Events Console-to-Code Preview

Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations New

Images AMIs AMI Catalog Elastic Block Store Volumes CloudShell Feedback

Instances (1/9) info Last updated less than a minute ago Connect Instance state Actions Launch instances

Find instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Servidor Web Luis Lemus	i-0a4dd079a6635e27d	Terminated	t2.micro	-	View alarms +	us-east-1c
Jalson-Labrador-Workshop...	i-0aba97aa2ff398660	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c
Miguel web server for IMD	i-05ec4c0fabeeadded	Terminated	t2.micro	-	View alarms +	us-east-1c
WebServerMiguelAcuna	i-03004a903bdf2443a	Terminated	t2.micro	-	View alarms +	us-east-1c
servidor web- luis jeronimo ...	i-01947631caa869116	Terminated	t2.micro	-	View alarms +	us-east-1c
Servidor Web Jhoan Guerra	i-0a085f46218f90130	Terminated	t2.micro	-	View alarms +	us-east-1c
ec2-workshop-stanlek	i-037f927f3f0337275	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c

i-03004a903bdf2443a (WebServerMiguelAcuna)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary info

Instance details info

Platform	AMI ID	Monitoring
Linux / IMV	ami-066784287e358dad1	disabled
Platform details	AMI name	Termination protection
Linux / IMV		Disabled

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CONCLUSIÓN

En este workshop, hemos cubierto los fundamentos de Amazon EC2, desde la creación y configuración de instancias hasta la gestión de claves y roles de IAM. Estas habilidades son esenciales para administrar entornos de computación en la nube de manera eficiente y segura. Ahora deberías sentirte cómodo trabajando con instancias EC2 y preparado para explorar configuraciones más avanzadas en AWS.