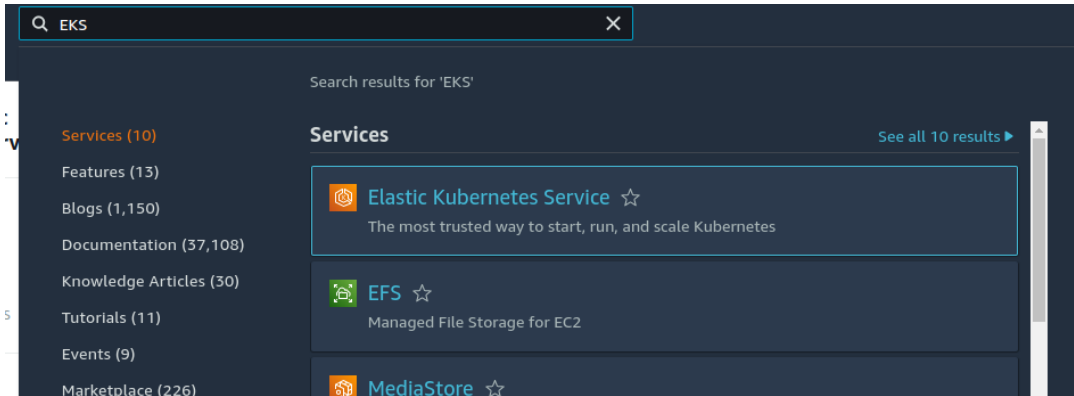


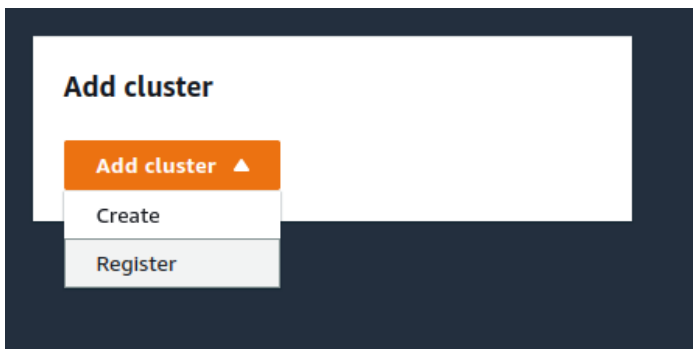
Creación y configuración de un Cluster EKS

Crear Cluster EKS

1. Dirigirse a la página principal de EKS



2. Seleccionar crear nuevo cluster:



3. Completar los campos del formulario de creación:

Cluster configuration [Info](#)

Name - *Not editable after creation.*
Enter a unique name for this cluster.

MundosE

Kubernetes version [Info](#)
Select the Kubernetes version for this cluster.

1.21

Cluster Service Role [Info](#) - *Not editable after creation.*
Select the IAM Role to allow the Kubernetes control plane to manage AWS resources on your behalf.To create a new role, follow the instructions in the [Amazon EKS User Guide](#).

eksClusterRole

Secrets encryption [Info](#)
Once enabled, secrets encryption cannot be modified or removed.

☐ Enable envelope encryption of Kubernetes secrets using KMS
Enable envelope encryption to provide an additional layer of encryption for your Kubernetes secrets.

Tags (0) [Info](#)

This cluster does not have any tags.

Add tag

Remaining tags available to add: 50

Cancel

Next

4. En caso de no disponer de Cluster Service Role, crearlo siguiendo este Link:

https://docs.aws.amazon.com/eks/latest/userguide/service_IAM_role.html#create-service-role

Role details

Role name

Enter a meaningful name to identify this role.

eksClusterRole

Maximum 128 characters. Use alphanumeric and '+=, @-_' characters.

Description

Add a short explanation for this policy.

Allows access to other AWS service resources that are required to operate clusters managed by EKS.

Maximum 1000 characters. Use alphanumeric and '+=, @-_' characters.

Step 1: Select trusted entities

```
1  {
2    "Version": "2012-10-17",
3    "Statement": [
4      {
5        "Effect": "Allow",
6        "Principal": {
7          "Service": [
8            "eks.amazonaws.com"
9          ]
10       },
11       "Action": "sts:AssumeRole"
12     ]
13   }
14 }
```

5. En caso de querer crear un cluster con especificaciones diferentes a las por defecto con respecto a la red, seleccionar los valores que se necesitan. Si no, dejar los valores por defecto:

Networking [Info](#)

These properties cannot be changed after the cluster is created.

VPC [Info](#)

Select a VPC to use for your EKS Cluster resources. To create a new VPC, go to the [VPC console](#).

vpc-67797c02 | Default ▼



Subnets [Info](#)

Choose the subnets in your VPC where the control plane may place elastic network interfaces (ENIs) to facilitate communication with your cluster. To create a new subnet, go to the corresponding page in the [VPC console](#).

Select subnets ▼



subnet-08cc7204 ✕

subnet-4e70e365 ✕

subnet-57a5f120 ✕

subnet-6ff99036 ✕

subnet-2bfc684e ✕

subnet-70393f4a ✕

Security groups [Info](#)

Choose the security groups to apply to the EKS-managed Elastic Network Interfaces that are created in your worker node subnets. To create a new security group, go to the corresponding page in the [VPC console](#).

Select security groups ▼



Choose cluster IP address family [Info](#)

Specify the IP address type for pods and services in your cluster.

☒ IPv4

☐ IPv6

☐ **Configure Kubernetes Service IP address range** [Info](#)

Specify the range from which cluster services will receive IP addresses.

Cluster endpoint access [Info](#)

Configure access to the Kubernetes API server endpoint.

☒ **Public**

The cluster endpoint is accessible from outside of your VPC. Worker node traffic will leave your VPC to connect to the endpoint.

☐ **Public and private**

The cluster endpoint is accessible from outside of your VPC. Worker node traffic to the endpoint will stay within your VPC.

☐ **Private**

The cluster endpoint is only accessible through your VPC. Worker node traffic to the endpoint will stay within your VPC.

► **Advanced Settings**

Networking add-ons

Configure add-ons that provide advanced networking functionalities on the cluster.


Amazon VPC CNI [Info](#)

Enable pod networking within your cluster.

Version

Select the version for this add-on.

v1.10.1-eksbuild.1 ▼

 This add-on will use the IAM role of the node where it runs. You can change this add-on to use IAM Roles for Service Accounts after cluster creation.

CoreDNS [Info](#)

Enable service discovery within your cluster.

Version

Select the version for this add-on.

v1.8.4-eksbuild.1 ▼

kube-proxy [Info](#)

Enable service networking within your cluster.

Version

Select the version for this add-on.

v1.21.2-eksbuild.2 ▼

Cancel

Previous

Next

6. Seleccionar las opciones de logging para el control plane:

Configure logging

Control Plane Logging [Info](#)

Send audit and diagnostic logs from the Amazon EKS control plane to CloudWatch Logs.

API server

Logs pertaining to API requests to the cluster.

☒ Enabled

Audit

Logs pertaining to cluster access via the Kubernetes API.

☒ Enabled

Authenticator

Logs pertaining to authentication requests into the cluster.

☒ Enabled

Controller manager

Logs pertaining to state of cluster controllers.

☒ Enabled

Scheduler

Logs pertaining to scheduling decisions.

☒ Enabled

Cancel

Previous

Next

7. Revisar si la configuración está bien y crear el cluster en caso afirmativo:

Cluster endpoint access

API server endpoint access
Public

Networking add-ons

Amazon VPC CNI

Version
v1.10.1-eksbuild.1

CoreDNS

Version
v1.8.4-eksbuild.1

kube-proxy

Version
v1.21.2-eksbuild.2

Step 3: Configure logging

Edit

Control Plane Logging

API server

Enabled

Audit

Enabled

Authenticator

Enabled

Controller manager

Enabled

Scheduler

Enabled

Cancel

Previous

Create

8. Revisar que todo se haya creado de forma correcta:

MundosE

Active

Refresh

Delete cluster

A new Kubernetes version is available for this cluster.
[Learn more](#)

Update now

Overview

Workloads

Configuration

Cluster configuration

Info

Kubernetes version
1.21

Platform version
eks.6

Details

Compute

Networking

Add-ons

Authentication

Logging

Update history

Tags

Details

API server endpoint
<https://C1F735DE8B9F0E3A39F852C495725883.gr7.us-east-1.eks.amazonaws.com>

Certificate authority

LS0tLS1CRUdJTIBDRVJUSUZJQ0FUR50tLS0tck1JSUM1ekNDQWMrZ0F3SUJBZ0lCQURBTklna3Foa2lHOXcwQkFRc0ZBREFWTVJNd0VRWURWUVFERXdwcmRXSmwKY201bGRHVnpNQjRYRFRJeU1EUUhP

OpenID Connect provider URL
<https://oidc.eks.us-east-1.amazonaws.com/id/C1F735DE8B9F0E3A39F852C495725883>

Cluster IAM Role ARN
<arn:aws:iam::815354001048:role/eksClusterRole>

Created
14 minutes ago

Cluster ARN
<arn:aws:eks:us-east-1:815354001048:cluster/MundosE>

Creación de Node Group

1. Crear un IAM Role para los worker nodes
(https://docs.aws.amazon.com/es_es/eks/latest/userguide/create-node-role.html):

AmazonEKSNodeRole

Allows EC2 instances to call AWS services on your behalf.

Summary

Creation date April 18, 2022, 18:41 (UTC-03:00)	ARN arn:aws:iam::815354001048:role/AmazonEKSNodeRole	Instance profile ARN arn:aws:iam::815354001048:instance-profile/AmazonEKSNodeRole
Last activity None	Maximum session duration 1 hour	

Permissions Trust relationships Tags Access Advisor Revoke sessions

Permissions policies (3)

You can attach up to 10 managed policies.

Filter policies by property or policy name and press enter

<input type="checkbox"/>	Policy name ↗	Type	Description
<input type="checkbox"/>	AmazonEKSWorkerNodePolicy	AWS managed	This policy allows Amazon EKS worker nodes to connect to Amazon EKS Clusters.
<input type="checkbox"/>	AmazonEC2ContainerRegistryReadOnly	AWS managed	Provides read-only access to Amazon EC2 Container Registry repositories.
<input type="checkbox"/>	AmazonEKS_CNI_Policy	AWS managed	This policy provides the Amazon VPC CNI Plugin (amazon-vpc-cni-k8s) the permissions it requires to modify the IP address configuration on your

2. Seleccionar la pestaña “Compute” y presionar en “Add Node Group”

MundosE

[i](#) A new Kubernetes version is available for this cluster.
[Learn more](#) [↗](#)

[i](#) New versions are available for 1 add-on.

Overview Workloads **Configuration**

Cluster configuration [Info](#)

Kubernetes version [Info](#)
1.21

Platform version [Info](#)
eks.6

Details **Compute** Networking Add-ons Authentication Logging Update history Tags

Node Groups (0) [Info](#)

Group name	Desired size	AMI release version	Launch temp
------------	--------------	---------------------	-------------

No Node Groups

This cluster does not have any Node Groups.

Nodes that are not part of an Amazon EKS Managed Node Group are not shown in the AWS console.

Add Node Group

3. Completar el formulario de creación de Node Group, seleccionando el role creado anteriormente:

Configure Node Group [Info](#)

A Node Group is a group of EC2 instances that supply compute capacity to your Amazon EKS cluster. You can add multiple Node Groups to your cluster.

Node Group configuration

These properties cannot be changed after the Node Group is created.

Name

Assign a unique name for this Node Group.

Node IAM Role [Info](#)

Select the IAM Role that will be used by the nodes. To create a new role, go to the [IAM console](#).



The selected role must not be used by a self-managed node group as this could lead to a service interruption upon Managed Node Group deletion.

[Learn more](#)

Launch template [Info](#)

These properties cannot be changed after the Node Group is created.



Use launch template

Configure this Node Group using an EC2 launch template.

4. Seleccionar la capacidad de cómputo:

Set compute and scaling configuration

Node Group compute configuration

These properties cannot be changed after the Node Group is created.

AMI type [Info](#)

Select the EKS-optimized Amazon Machine Image for nodes.

Amazon Linux 2 (AL2_x86_64) ▼

Capacity type

Select the capacity purchase option for this Node Group.

On-Demand ▼

Instance types [Info](#)

Select instance types you prefer for this Node Group.

Select ▼

t3.medium ×

vCPU: Up to 2 vCPUs memory: 4.0 GiB

Disk size

Select the size of the attached EBS volume for each node.

20

GiB

5. Elegir el comportamiento de “autoscaling”:

Node Group scaling configuration

Minimum size

Set the minimum number of nodes that the group can scale in to.

2

nodes

Maximum size

Set the maximum number of nodes that the group can scale out to.

2

nodes

Desired size

Set the desired number of nodes that the group should launch with initially.

2

nodes

6. Optar por alguna combinación de opciones para cuando se necesite actualizar los node groups y presionar en “Next”:

Node Group update configuration [Info](#)

Maximum unavailable
Set the maximum number or percentage of unavailable nodes to be tolerated during the node group version update.

☒ **Number**
Enter a number

☐ **Percentage**
Specify a percentage

Value

1

 node

7. Seleccionar las opciones de red y presionar “Next”:

Specify networking

Node Group network configuration
These properties cannot be changed after the Node Group is created.

Subnets [Info](#)

Specify the subnets in your VPC where your nodes will run. To create a new subnet, go to the corresponding page in the [VPC console](#).

Select subnets

subnet-08cc7204

subnet-4e70e365

subnet-57a5f120

subnet-6ff99036

subnet-2bfc684e

☐ **Configure SSH access to nodes** [Info](#)

Cancel

Previous

Next

8. Revisar que las opciones esten correctas y crear el node group:

Node Group scaling configuration

Minimum size
2 nodes

Maximum size
2 nodes

Desired size
2 nodes

Node Group update configuration

Maximum unavailable
1 node

Step 3: Specify networking

Edit

Node Group network configuration

Subnets

```
subnet-08cc7204
subnet-4e70e365
subnet-57a5f120
subnet-6ff99036
subnet-2bfc684e
```

Configure SSH access to nodes

Disabled

Cancel

Previous

Create

9. Revisar que el nodo haya sido creado de manera correcta:

NodeGroup1

Node Group configuration [Info](#)

Kubernetes version 1.21	AMI type Info AL2_x86_64
AMI release version Info 1.21.5-20220406	Instance types t3.medium

DetailsNodesHealth issues 0Kubernetes labelsUpdate configKubernetes taintsUpdate historyTags

Details

Node Group ARN arn:aws:eks:us-east-1:815354001048:nodegroup/MundosE/NodeGroup1/c2c01f57-2f40-2da6-a9e7-961479ecb62d	Autoscaling group name eks-NodeGroup1-c2c01f57-2f40-2da6-a9e7-961479ecb62d	Capacity type On-Demand
Created 10 minutes ago	Node IAM Role ARN arn:aws:iam::815354001048:role/AmazonEKSNodeRole	Minimum size 2 nodes
		Maximum size 2 nodes
		Desired size 2 nodes

DetailsNodesHealth issues 0Kubernetes labelsUpdate configKubernetes taintsUpdate historyTags

Nodes (2) [Info](#)

Filter Nodes by property or value

Node name	Instance type	Node Group
ip-172-31-20-239.ec2.internal	t3.medium	NodeGroup1
ip-172-31-80-226.ec2.internal	t3.medium	NodeGroup1

Configuración de Kubectl

1. Configurar las credenciales de AWS, ya sea por medio de los perfiles o con variables de entorno.
2. Correr el siguiente comando para crea el ~/.kube/config file
aws eks update-kubeconfig --name NOMBRE_DEL_CLUSTER
3. Probar si se puede utilizar de manera correcta el comando kubectl
kubectl get nodes

