

Crear subredes y una VPC habilitada para IPv4 mediante la AWS CLI

se creó una Vpc con `aws ec2 create-vpc --cidr-block 10.0.0.0/16`

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-vpc --cidr-block 10.0.0.0/16
{
  "Vpc": {
    "CidrBlock": "10.0.0.0/16",
    "DhcpOptionsId": "dopt-1bf34e7f",
    "State": "pending",
    "VpcId": "vpc-089aa77c66222bb3b",
    "OwnerId": "317870740087",
    "InstanceTenancy": "default",
    "Ipv6CidrBlockAssociationSet": [],
    "CidrBlockAssociationSet": [
      {
        "AssociationId": "vpc-cidr-assoc-0aa26de835824c9d2",
        "CidrBlock": "10.0.0.0/16",
        "CidrBlockState": {
          "State": "associated"
        }
      }
    ]
  },
  "IsDefault": false
}
```

verifique la creación mediante la consola de aws

The screenshot shows the AWS Management Console interface for a VPC. At the top, it says "Your VPCs (1/1)" with a search bar and a "Create VPC" button. Below this, a table lists the VPCs. The VPC "vpc-089aa77c66222bb3b" is shown with a status of "Available" and an IPv4 CIDR of "10.0.0.0/16". Below the table, the "Details" section provides more information about the VPC.

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
-	vpc-089aa77c66222bb3b	Available	10.0.0.0/16	-

Details			
VPC ID vpc-089aa77c66222bb3b	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-1bf34e7f / DOPT1	Main route table rtb-076e16efb2755b049	Main network ACL acl-02ba7ebfa90524b76
Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 317870740087	

para crear una subred privada sobre la vpc id: **vpc-089aa77c66222bb3b** con el comando:
`aws ec2 create-subnet --vpc-id vpc-089aa77c66222bb3b --cidr-block 10.0.1.0/24`

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-subnet --vpc-id vpc-089aa77c66222bb3b --cidr-block 10.0.1.0/24
{
  "Subnet": {
    "AvailabilityZone": "us-west-2d",
    "AvailabilityZoneId": "usw2-az4",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.1.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-01466a662633e6893",
    "VpcId": "vpc-089aa77c66222bb3b",
    "OwnerId": "317870740087",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-west-2:317870740087:subnet/subnet-01466a662633e6893",
    "EnableDns64": false,
    "Ipv6Native": false,
    "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsARecord": false,
      "EnableResourceNameDnsAAAARecord": false
    }
  }
}
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$
```

SubnetId: "subnet-01466a662633e6893"

para crear una subred pública sobre la vpc id: **vpc-089aa77c66222bb3b** con el comando:
aws ec2 create-subnet --vpc-id vpc-089aa77c66222bb3b --cidr-block 10.0.2.0/24

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-subnet --vpc-id vpc-089aa77c66222bb3b --cidr-block 10.0.2.0/24
{
  "Subnet": {
    "AvailabilityZone": "us-west-2d",
    "AvailabilityZoneId": "usw2-az4",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.2.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-0408cbecfe037e4f9",
    "VpcId": "vpc-089aa77c66222bb3b",
    "OwnerId": "317870740087",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-west-2:317870740087:subnet/subnet-0408cbecfe037e4f9",
    "EnableDns64": false,
    "Ipv6Native": false,
    "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsARecord": false,
      "EnableResourceNameDnsAAAARecord": false
    }
  }
}
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$
```

SubnetId (Public): "subnet-0408cbecfe037e4f9"

Para crea una puerta de enlace de Internet ejecutando el siguiente comando:

aws ec2 create-internet-gateway

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-internet-gateway
{
  "InternetGateway": {
    "Attachments": [],
    "InternetGatewayId": "igw-0043280899e53f43a",
    "OwnerId": "317870740087",
    "Tags": []
  }
}
```

InternetGatewayId: "igw-0043280899e53f43a"

Asocia la puerta de enlace de Internet con tu VPC ejecutando el siguiente comando:

aws ec2 attach-internet-gateway --internet-gateway-id igw-0043280899e53f43a --vpc-id vpc-089aa77c66222bb3b

Crea una tabla de enrutamiento ejecutando el siguiente comando:

aws ec2 create-route-table --vpc-id vpc-089aa77c66222bb3b

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-route-table --vpc-id vpc-089aa77c66222bb3b
{
  "RouteTable": {
    "Associations": [],
    "PropagatingVgws": [],
    "RouteTableId": "rtb-03383fd7a84ffff9f",
    "Routes": [
      {
        "DestinationCidrBlock": "10.0.0.0/16",
        "GatewayId": "local",
        "Origin": "CreateRouteTable",
        "State": "active"
      }
    ],
    "Tags": [],
    "VpcId": "vpc-089aa77c66222bb3b",
    "OwnerId": "317870740087"
  }
}
```

Route tables (1/1) [Info](#) [Refresh](#) [Actions](#) [Create route table](#) [Help](#)

[rtb-03383fd7a84ffff9f](#) [Clear filters](#) [Previous](#) 1 [Next](#) [Settings](#)

<input checked="" type="checkbox"/>	Name	Route table ID	Explicit subnet associati...	Edge associations	Main
<input checked="" type="checkbox"/>	-	rtb-03383fd7a84ffff9f	subnet-0408cbece037e4f9	-	No

rtb-03383fd7a84ffff9f [Details](#) [Routes](#) [Subnet associations](#) [Edge associations](#) [Route propagation](#) [Tags](#)

Routes (2) [Edit routes](#)

[Both](#) [Previous](#) 1 [Next](#) [Settings](#)

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0043280899e53f43a	Active	No
10.0.0.0/16	local	Active	No

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RouteTableId: "rtb-03383fd7a84ffff9f"

Asocia la tabla de enrutamiento creada con la subred pública ejecutando el siguiente comando

aws ec2 associate-route-table --subnet-id subnet-0408cbecfe037e4f9 --route-table-id rtb-03383fd7a84ffff9f

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 associate-route-table --subnet-id subnet-0408cbecfe037e4f9 --route-table-id rtb-03383fd7a84ffff9f
{
  "AssociationId": "rtbassoc-0265fecfd80f446e66",
  "AssociationState": {
    "State": "associated"
  }
}
```

AssociationId: "rtbassoc-0265fecfd80f446e66"

Crea una ruta en la tabla de enrutamiento para permitir el tráfico saliente a Internet ejecutando el siguiente comando:

aws ec2 create-route --route-table-id rtb-03383fd7a84ffff9f --destination-cidr-block 0.0.0.0/0 --gateway-id igw-0043280899e53f43a

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 create-route --route-table-id rtb-03383fd7a84ffff9f --destination-cidr-block 0.0.0.0/0 --gateway-id igw-0043280899e53f43a
{
  "Return": true
}
```

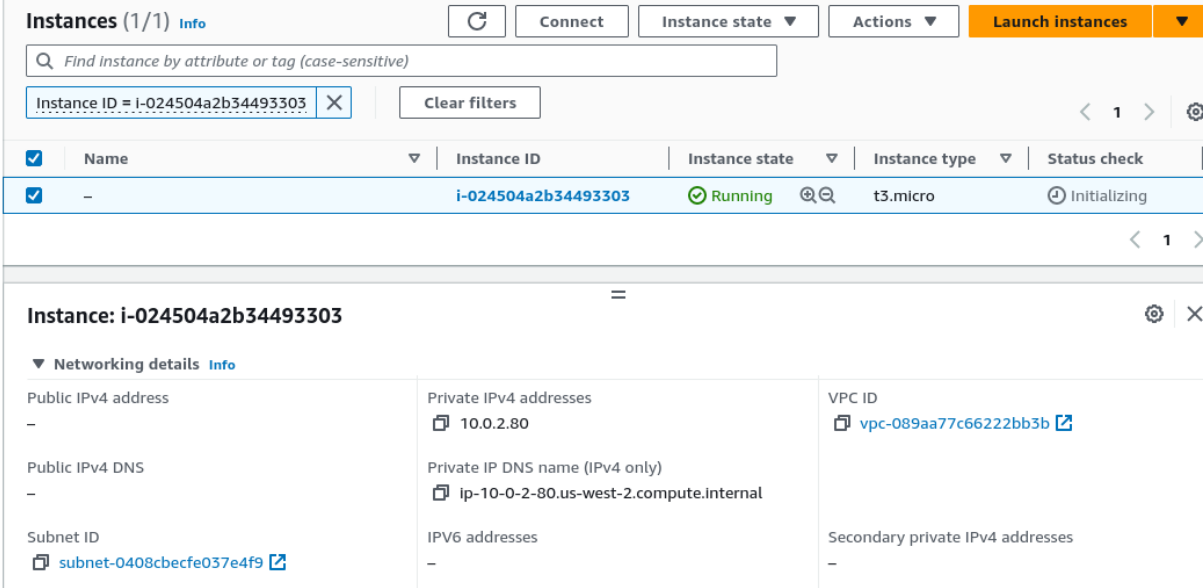
Lanzar una instancia en tu subred

Crea una instancia EC2 ejecutando el siguiente comando:

aws ec2 run-instances --image-id ami-0f42628993f784e44 --instance-type t3.micro --subnet-id subnet-0408cbecfe037e4f9 --key-name emser-supplai-key

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 run-instances --image-id ami-0f42628993f784e44 --instance-type t3.micro --subnet-id subnet-0408cbecfe037e4f9 --key-name emser-supplai-key
{
  "Groups": [],
  "Instances": [
    {
      "AmiLaunchIndex": 0,
      "ImageId": "ami-0f42628993f784e44",
      "InstanceId": "i-024504a2b34493303",
      "InstanceType": "t3.micro",
      "KeyName": "emser-supplai-key",
      "LaunchTime": "2023-07-11T23:44:00+00:00",
      "Monitoring": {
        "State": "disabled"
      },
      "Placement": {
        "AvailabilityZone": "us-west-2d",
        "GroupName": "",
        "Tenancy": "default"
      },
      "PrivateDnsName": "ip-10-0-2-80.us-west-2.compute.internal",
      "PrivateIpAddress": "10.0.2.80",
      "ProductCodes": [],
      "PublicDnsName": "",
      "State": {
        "Code": 0,
        "Name": "pending"
      },
      "StateTransitionReason": "",
      "SubnetId": "subnet-0408cbecfe037e4f9",
      "VpcId": "vpc-089aa77c66222bb3b"
    }
  ]
}
```

Para verificar la creación se ingresó a la consola y se buscó la instancia con el id InstanceId: "**i-024504a2b34493303**" que está asociado a la SubnetId: "**subnet-0408cbecfe037e4f9**" y la VpcId: "**vpc-089aa77c66222bb3b**"



The screenshot shows the AWS Management Console interface for EC2 instances. At the top, there's a search bar with the filter 'Instance ID = i-024504a2b34493303'. Below the search bar, a table lists the instance details:

Name	Instance ID	Instance state	Instance type	Status check
-	i-024504a2b34493303	Running	t3.micro	Initializing

Below the table, the 'Networking details' section is expanded, showing the following information:

- Public IPv4 address: -
- Private IPv4 addresses: 10.0.2.80
- VPC ID: vpc-089aa77c66222bb3b
- Public IPv4 DNS: -
- Private IP DNS name (IPv4 only): ip-10-0-2-80.us-west-2.compute.internal
- Subnet ID: subnet-0408cbecfe037e4f9
- IPv6 addresses: -
- Secondary private IPv4 addresses: -

para finalizar y limpiar todo lo creado se ejecutó

`aws ec2 terminate-instances --instance-ids i-024504a2b34493303`

```
desarrollo@desarrollo-HP-250-G7-Notebook-PC:~$ aws ec2 terminate-instances --instance-ids i-024504a2b34493303
{
  "TerminatingInstances": [
    {
      "CurrentState": {
        "Code": 32,
        "Name": "shutting-down"
      },
      "InstanceId": "i-024504a2b34493303",
      "PreviousState": {
        "Code": 16,
        "Name": "running"
      }
    }
  ]
}
```

`aws ec2 delete-route --route-table-id rtb-03383fd7a84ffff9f --destination-cidr-block 0.0.0.0/0`

`aws ec2 disassociate-route-table --association-id rtbassoc-0265fecdd80f446e66`

`aws ec2 delete-route-table --route-table-id rtb-03383fd7a84ffff9f`

`aws ec2 detach-internet-gateway --internet-gateway-id igw-0043280899e53f43a --vpc-id vpc-089aa77c66222bb3b`

`aws ec2 delete-internet-gateway --internet-gateway-id igw-0043280899e53f43a`

`aws ec2 delete-subnet --subnet-id subnet-0408cbecfe037e4f9`

`aws ec2 delete-subnet --subnet-id subnet-01466a662633e6893`

`aws ec2 delete-vpc --vpc-id vpc-089aa77c66222bb3b`

para verificar se consultaron algunas pantallas de la consola de AWS
la VPC ya no aparece

Your VPCs

Info

Refresh

Actions

Create VPC

Find resources by attribute or tag

VPC ID : vpc-089aa77c66222bb3b

Clear filters

< 1 >

Settings

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
No matching resource found					

Select a VPC above

Route Tabela tampoco existe el id

Route tables

Info

Refresh

Actions

Create route table

Find resources by attribute or tag

rtb-03383fd7a84ffff9f

Clear filters

< 1 >

Settings

	Name	Route table ID	Explicit subnet associati...	Edge associations	Mi
No matching resource found					

la instancia también está en el proceso de eliminación

Instances (1)

Info

Refresh

Connect

Instance state

Actions

Launch instances

Find instance by attribute or tag (case-sensitive)

Instance ID = i-024504a2b34493303

Clear filters

< 1

Settings

	Name	Instance ID	Instance state	Instance type	Status check
<input type="checkbox"/>	-	i-024504a2b34493303	Terminated	t3.micro	-