

# Day 3 - Create Subnet

The Nautilus DevOps team is strategizing the migration of a portion of their infrastructure to the AWS cloud. Recognizing the scale of this undertaking, they have opted to approach the migration in incremental steps rather than as a single massive transition.

For this task, create one subnet named `nautilus-subnet` under default VPC.

## What is a VPC

A VPC (Virtual Private Cloud) is your own isolated virtual network within AWS. A VPC allows you to define your own IP address range, create subnets, configure route tables, and set up network gateways. It provides network isolation, ensuring your resources are separated from other AWS customers and giving you control over who and what can access your infrastructure.

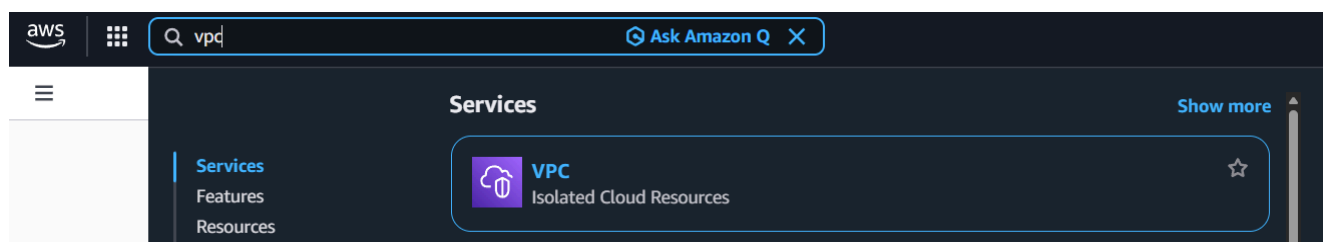
## What is a subnet

A subnet is a division of your VPC's IP address range.

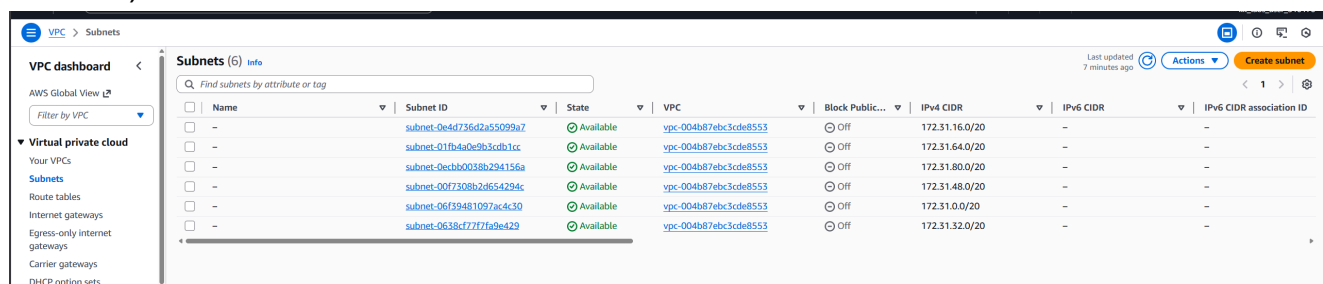
Subnets allow you to organize and isolate your resources within the VPC, placing them in specific Availability Zones for high availability and applying different security and routing rules to different groups of resources.

## Solution

Search for VPC



Next we go to `subnets > Create subnet` (It will already be filled out with default subnets)



Now we fill in all the relevant information that we need. We select the default VPC that AWS already provides us, Name the subnet `nautilus-subnet` and the IPv4 CIDR Block will automatically be filled `172.31.0.0/16` (The CIDR block tells us which IP ranges are available for the subnet). We then fill out the subnet CIDR block as `172.31.96.0/24`. Once all fields have been filled out we can go ahead and create our subnet

**Create subnet** [info](#)

**VPC**  
VPC ID  
Create subnets in this VPC.  
vpc-004b87ebc3cde8553

Associated VPC CIDRs  
IPv4 CIDRs  
172.31.0.0/16

**Subnet settings**  
Specify the CIDR blocks and Availability Zone for the subnet.

**Subnet 1 of 1**

**Subnet name**  
Create a tag with a key of 'Name' and a value that you specify.  
nautilus-subnet  
The name can be up to 256 characters long.

**Availability Zone** [info](#)  
Choose the zone in which your subnet will reside, or let Amazon choose one for you.  
No preference

**IPv4 VPC CIDR block** [info](#)  
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.  
172.31.0.0/16

**IPv4 subnet CIDR block**  
172.31.96.0/24 256 IPs

▼ **Tags - optional**

Key  
Q Name X

Value - optional  
Q nautilus-subnet X Remove

Add new tag  
You can add 49 more tags.  
Remove

Add new subnet

Cancel Create subnet

The subnet has successfully been created

You have successfully created 1 subnet: subnet-02debfb18740d3159

**Subnets (1)** [info](#)

Q Find subnets by attribute or tag

Subnet ID: subnet-02debfb18740d3159 X Clear filters

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available IPv4 addresses	Availability Zone
nautilus-subnet	subnet-02debfb18740d3159	Available	vpc-004b87ebc3cde8553	Off	172.31.96.0/24	-	-	251	us-east-1c

## Security Best Practices Implemented

- ✓ Private by Default - Subnet created without public IP auto-assignment for security
- ✓ Proper CIDR Sizing - Allocated /24 providing adequate IPs without waste

## Additional Recommendations

- Use Network ACLs as an additional security layer beyond security groups
- Implement VPC Flow Logs to monitor and audit network traffic
- Always create subnets in at least 2-3 Availability Zones