

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.

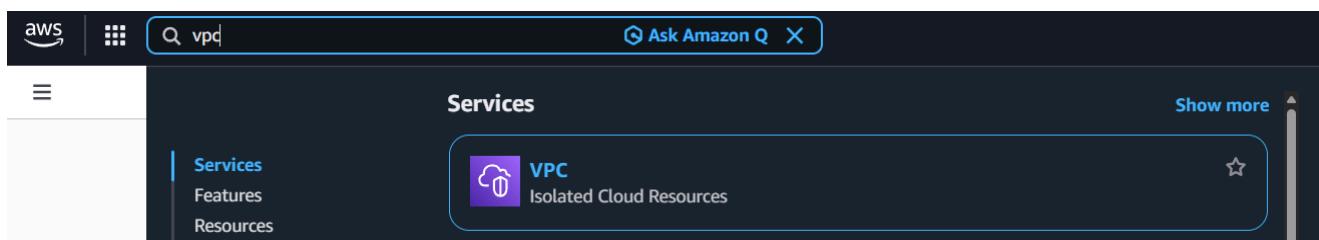
What is a subnet

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)

A screenshot of the AWS VPC Subnets list table. The table shows six subnets with the following details:

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

The screenshot shows the 'Create subnet' wizard. In the 'VPC' section, the VPC ID is set to `vpc-004b87ebc3cde8553`. Under 'Associated VPC CIDRs', the IPv4 CIDR is listed as `172.31.0.0/16`. The 'Subnet settings' section includes:

- Subnet name:** `nautilus-subnet`
- Availability Zone:** `No preference`
- IPv4 VPC CIDR block:** `172.31.0.0/16`
- IPv4 subnet CIDR block:** `172.31.96.0/24`
- Tags - optional:** A single tag named `nautilus-subnet` is added.

At the bottom right are 'Cancel' and 'Create subnet' buttons.

The subnet has successfully been created

Subnets (1) Info										
<input type="checkbox"/> You have successfully created 1 subnet: subnet-02debfb18740d3159 Last updated: less than a minute ago										
Actions Create subnet										
<input type="checkbox"/> Find subnets by attribute or tag Clear filters										
<input type="checkbox"/>	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available IPv4 addresses	Availability Zone
<input type="checkbox"/>	nautilus-subnet	subnet-02debfb18740d3159	Available	vpc-004b87ebc3cde8553	Off	172.31.96.0/24	-	-	251	use1-az6 (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