



AWS
re:Start
LAB

Create Subnets in a VPC



WEEK 3





Overview

Customer scenario

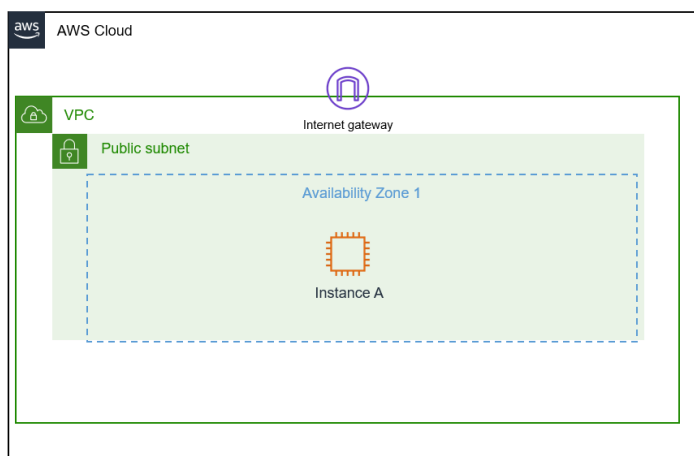
Your role is a cloud support engineer at AWS. During your shift, a customer from a startup company requests assistance regarding a networking issue within their AWS infrastructure. The following is the email and an attachment regarding their architecture.

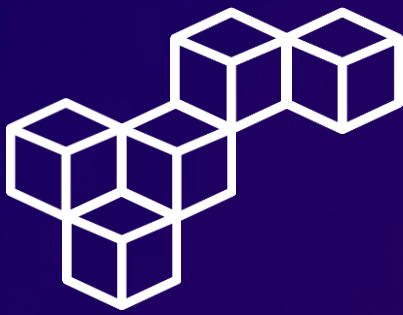
Ticket from your customer

Hello, Cloud Support!

I'm new to AWS, and I need help setting up a VPC. Can you please help me through the setup process? I would like to build only the VPC part and would like to make it look something like the following picture. Can you help me ensure I have around 15,000 private IP addresses in this VPC available? I would also like the VPC IPv4 CIDR block to be a 192.x.x.x. I don't remember which is a private range though. Can you confirm that? I would also like to allocate at least 50 IP addresses for the public subnet.

Thanks!
Paulo Santos
Startup Owner



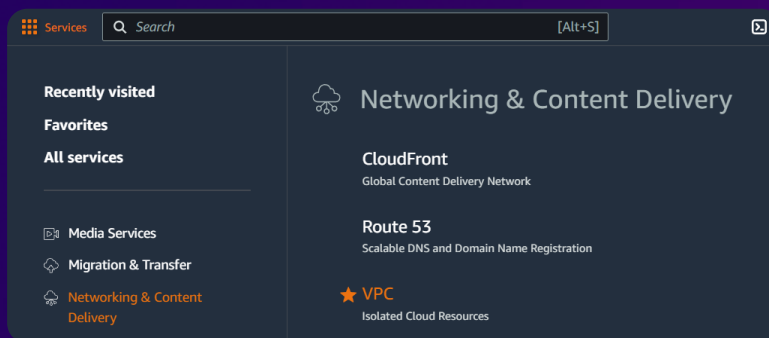


Task 1

Investigate the customer's environment

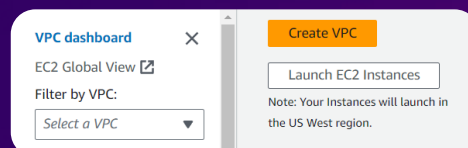
Step 1: Access the AWS Management Console

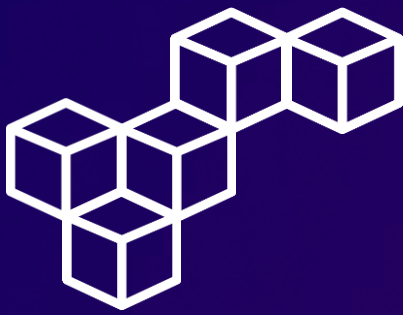
Open the AWS Management Console, and select VPC.



Step 2: Launch the VPC Wizard

In the Amazon VPC dashboard, choose the [Create VPC](#) button to launch the VPC wizard. This will launch you into a step by step process to set up a VPC with it's basic components.





Task 1

Investigate the customer's environment

Step 3: Set up the VPC

Once in the VPC wizard, use the following parameters to configure the VPC settings:

- The VPC name is set to **First VPC**
- The IPv4 CIDR block is set to **192.168.0.0/18**
- The IPv6 CIDR block is set to **No IPv6 CIDR block**
- The number of Availability Zones is set to **1**
- The number of public subnets is set to **1**
- The number of private subnets is set to **0**
- The Public subnet's IPv4 CIDR is set to **192.168.1.0/26**

VPC settings

Name tag auto-generation [Info](#)
Enter a value for the Name tag. This value will be used to auto-generate Name tags for all resources in the VPC.
☒ Auto-generate

IPv4 CIDR block [Info](#)
Determine the starting IP and the size of your VPC using CIDR notation.
 16,384 IPs
CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)
☒ No IPv6 CIDR block
☐ Amazon-provided IPv6 CIDR block

Number of Availability Zones (AZs) [Info](#)
Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.
☒ 1 ☐ 2 ☐ 3
[Customize AZs](#)

Number of public subnets [Info](#)
The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the internet.
☐ 0 ☒ 1

Number of private subnets [Info](#)
The number of private subnets to add to your VPC. Use private subnets to secure backend resources that don't need public access.
☒ 0 ☐ 1 ☐ 2

Customize subnets CIDR blocks
Public subnet CIDR block in us-west-2a
 64 IPs

DNS options [Info](#)
☒ Enable DNS hostnames
☒ Enable DNS resolution

Additional tags

[Cancel](#) [Create VPC](#)



Task 1

Investigate the customer's environment

Step 4: Check the Create VPC workflow

Once you have successfully created the VPC, you should see a **Success** message in the Create VPC workflow.

Create VPC workflow

✔ Success

▼ Details

✔ Create VPC: [vpc-0425c603935768865](#)

✔ Enable DNS hostnames

✔ Enable DNS resolution

✔ Verifying VPC creation: [vpc-0425c603935768865](#)

✔ Create S3 endpoint: [vpce-08b3e0912f70a68ce](#)

✔ Create subnet: [subnet-0b0e556fd2084b39c](#)

✔ Create internet gateway: [igw-0711940635f0d160e](#)

✔ Attach internet gateway to the VPC

✔ Create route table: [rtb-033603ac1b9269264](#)

✔ Create route

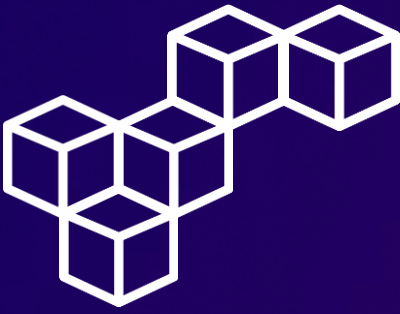
✔ Associate route table

✔ Verifying route table creation

Step 5: Review the VPC

Navigate to the Amazon VPC dashboard and select **Your VPCs** to verify that your VPC is available. You should see your VPC listed.

Your VPCs (2) Info				
<input type="text" value="Search"/>				
<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR
<input type="checkbox"/>	-	vpc-06497a96d434db48a	✔ Available	172.31.0.0/16
<input type="checkbox"/>	First VPC-vpc	vpc-0425c603935768865	✔ Available	192.168.0.0/18



Task 2

Send the Response to the customer

Submit your findings

Dear Paulo,

Thank you for reaching out. I'll be glad to assist you in setting up your VPC.

Here are the parameters to configure your VPC settings:

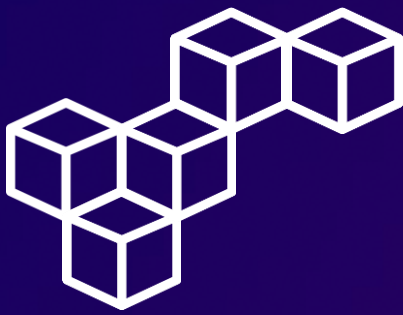
- Set the IPv4 CIDR block to 192.168.0.0/18
- Set the IPv6 CIDR block to No IPv6 CIDR block
- Set the number of Availability Zones to 1
- Set the number of public subnets to 1
- Set the number of private subnets to 0
- Set the Public subnet's IPv4 CIDR to 192.168.1.0/26

After configuring these settings, you can navigate to the Amazon VPC dashboard and select 'Your VPCs' to verify the availability and configuration of your new VPC.

If you need further assistance, please let me know.

Cristhian

Cloud Support Engineer



Conclusions

VPCs

Virtual Private Clouds provide isolated and customizable virtual network environments within cloud platforms like AWS, allowing users to launch and manage resources securely and efficiently.

Availability Zones

Availability Zones provide fault tolerance and high availability by distributing resources across different physical locations within a region.

Public Subnets

Public subnets are network segments within a VPC that are directly accessible from the internet, typically used for hosting public-facing resources like web servers or load balancers.

Private Subnets

Private subnets are network segments within a VPC that are isolated from the internet, often used for internal resources or backend systems that don't require direct internet access, enhancing security by reducing exposure to external threats.

CIDR blocks

CIDR blocks are used to define the IP address range for subnets within a VPC, enabling efficient IP address allocation and network segmentation.



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