

Virtual Coffee Shop Launch

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⚙️ Status	Done

Solution for a Virtual Coffee Shop Launch

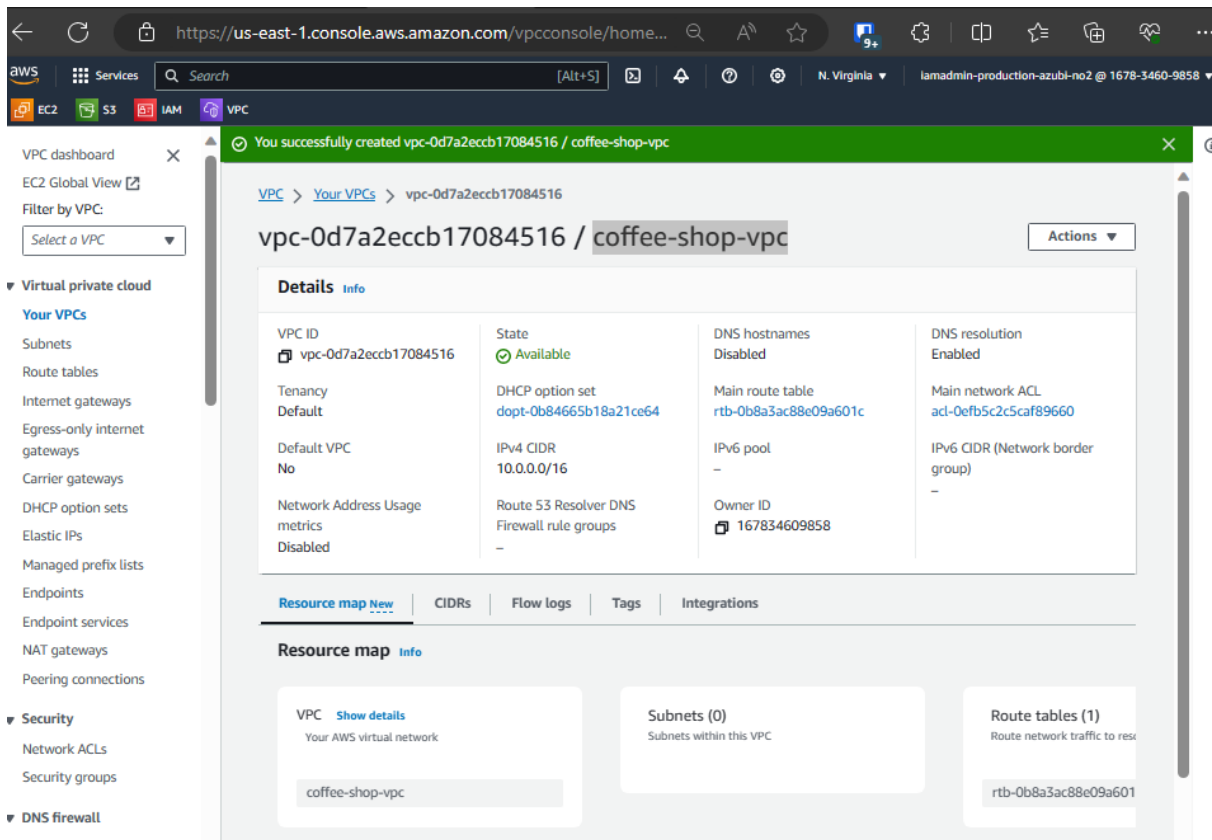
On going working through the solution for a project that I was assigned, I decided to outline my journey through it here with the thought that it might help someone.

Problem:

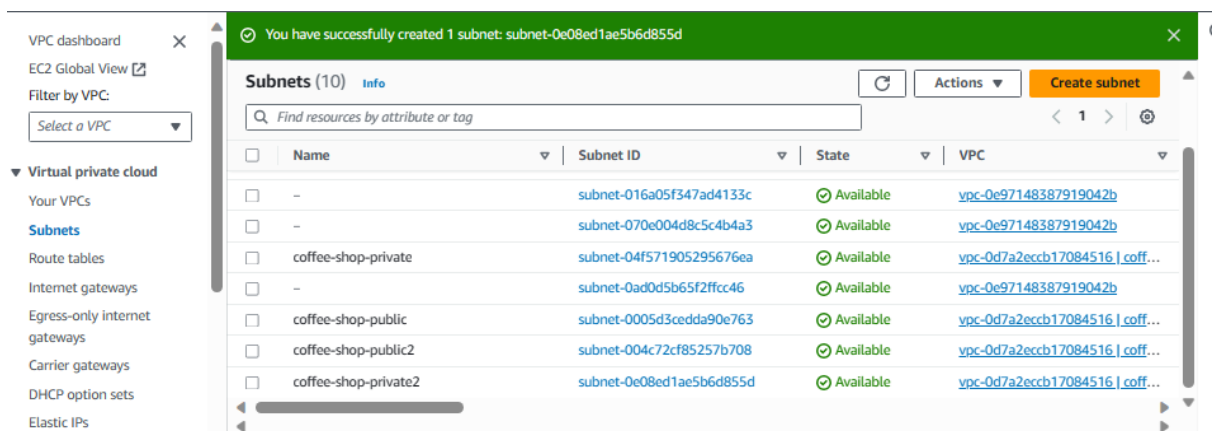
You're the cloud engineer for a virtual coffee shop chain that wants to move their operations to the cloud. They need a scalable and cost-effective solution to ensure their website and backend are always up and running.

Solution:

In order to achieve the end result of this project, I created a VPC called “**coffee-shop-vpc**”.



Then, created 2 subnets (one public and the other private) in 2 Availability zones, (named "coffee-shop-public" as the public subnet) and ("coffee-shop-private" as the private subnet), in "us-east-1a" and "us-east-1d" AZs respectively to ensure high availability always.



Launched EC2 instance named "coffee-shop-public" in the public subnet and EC2 instance named "coffee-shop-private" in the private subnet (Making 2 instances in the 2 different AZs).

Then, I setup the security groups for each instance, while creating them, to control inbound and outbound traffic.

Instances (4) Info

Find Instance by attribute or tag (case-sensitive)

Instance state = running X Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availa
<input type="checkbox"/>	coffee-shop-p...	i-085b6cef63122ae08	Running	t2.micro	2/2 checks passed	No alarms +	us-eas
<input type="checkbox"/>	coffee-shop-p...	i-046a13782058d579c	Running	t2.micro	Initializing	No alarms +	us-eas
<input type="checkbox"/>	coffee-shop-p...	i-09e4cb1e217985d8b	Running	t2.micro	Initializing	No alarms +	us-eas
<input type="checkbox"/>	coffee-shop-p...	i-030955da562af4435	Running	t2.micro	Initializing	No alarms +	us-eas

Added an Internet Gateway for the “coffee-shop-vpc” for access to the public internet and a NAT Gateway for the private subnet for access from the private subnet to the outside but not the other way around. And added the necessary Public and Private Route Tables and associated them with the custom VPC for routing within and for exiting the VPC.

Internet gateway igw-0ba4ac8c610e6fb65 successfully attached to vpc-0d7a2ecb17084516

VPC > Internet gateways > igw-0ba4ac8c610e6fb65

igw-0ba4ac8c610e6fb65 / coffee-shop-gateway

Actions

Details Info

Internet gateway ID igw-0ba4ac8c610e6fb65	State Attached	VPC ID vpc-0d7a2ecb17084516 coffee-shop-vpc	Owner 167834609858
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Tags Manage tags

You have successfully updated subnet associations for rtb-09fb06db83871dd75 / PublicRouteTable.

Route tables (4) Info

Find resources by attribute or tag

	Name	Route table ID	Explicit subnet associati...	Edge associations	Main
<input type="checkbox"/>	-	rtb-09f55b9b51bf903dd	-	-	Yes
<input type="checkbox"/>	-	rtb-0b8a3ac88e09a601c	-	-	Yes
<input type="checkbox"/>	PublicRouteTable	rtb-09fb06db83871dd75	2 subnets	-	No
<input type="checkbox"/>	PrivateRouteTable	rtb-0d5cc2a552bc52e55	2 subnets	-	No

VPC > Route tables > rtb-09fb06db83871dd75

rtb-09fb06db83871dd75 / PublicRouteTable Actions ▼

Details [Info](#)

Route table ID rtb-09fb06db83871dd75	Main No	Explicit subnet associations 2 subnets	Edge associations –
VPC vpc-0d7a2eccb17084516 coffee-shop-vpc	Owner ID 167834609858		

[Routes](#) | [Subnet associations](#) | [Edge associations](#) | [Route propagation](#) | [Tags](#)

Routes (2) Both ▼ Edit routes

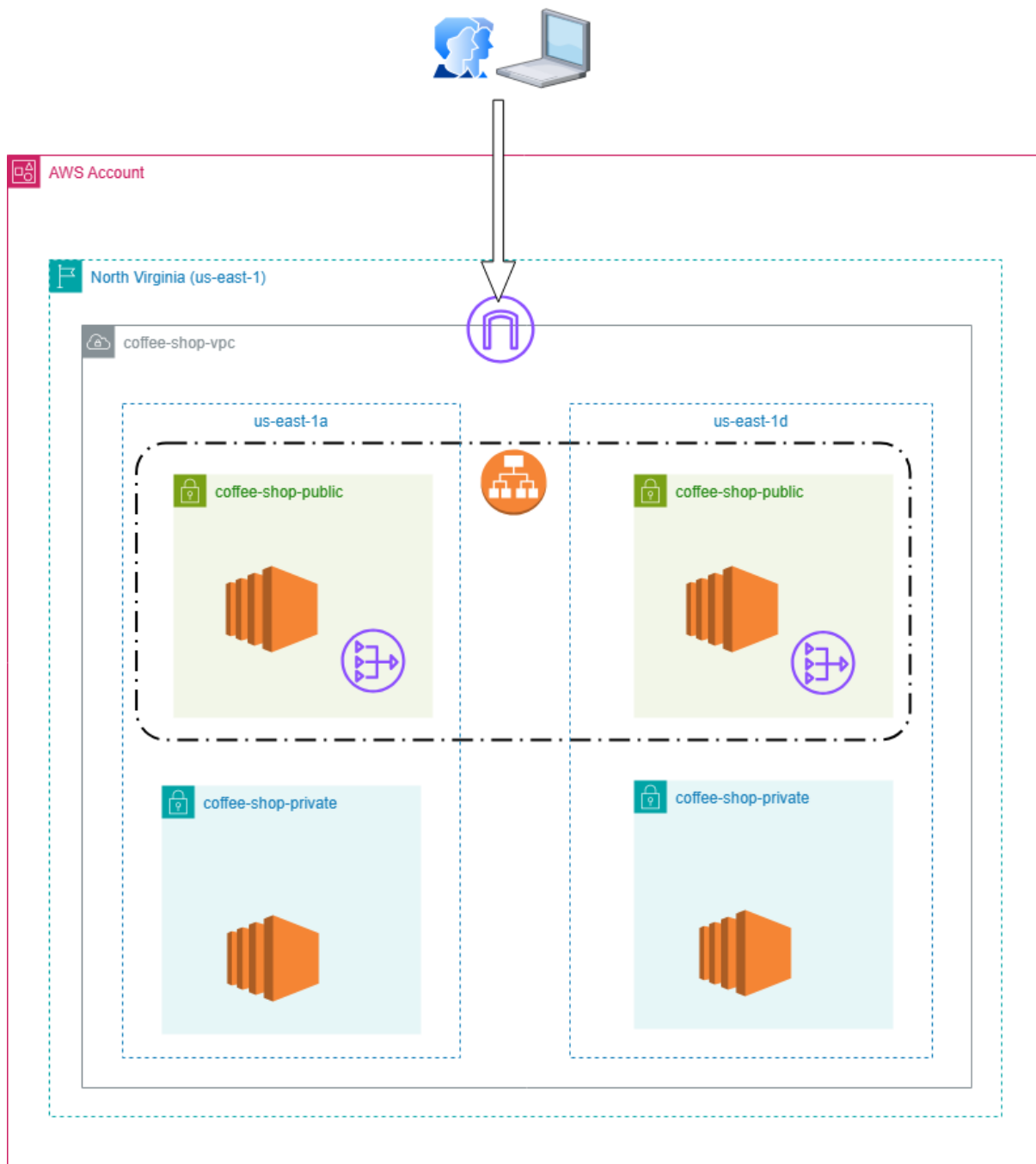
< 1 > ⚙

Destination ▼	Target ▼	Status ▼	Propagated ▼
0.0.0.0/0	igw-0ba4ac8c610e6fb65	Active	No
10.0.0.0/16	local	Active	No

And setup Network ACLs to provide additional layer of security.

And finally, created and configured an Application Load Balancer in order to ensure smooth and balanced flow of traffic across multiple instances in a target group to provide maximum throughput and availability.

VIRTUAL COFFEE SHOP LAUNCH



You can view the associated GitHub [here](#)