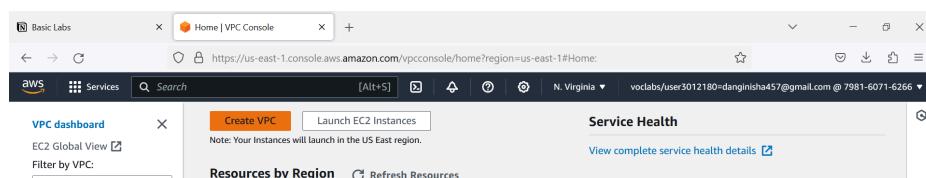


VPC Configuration Lab

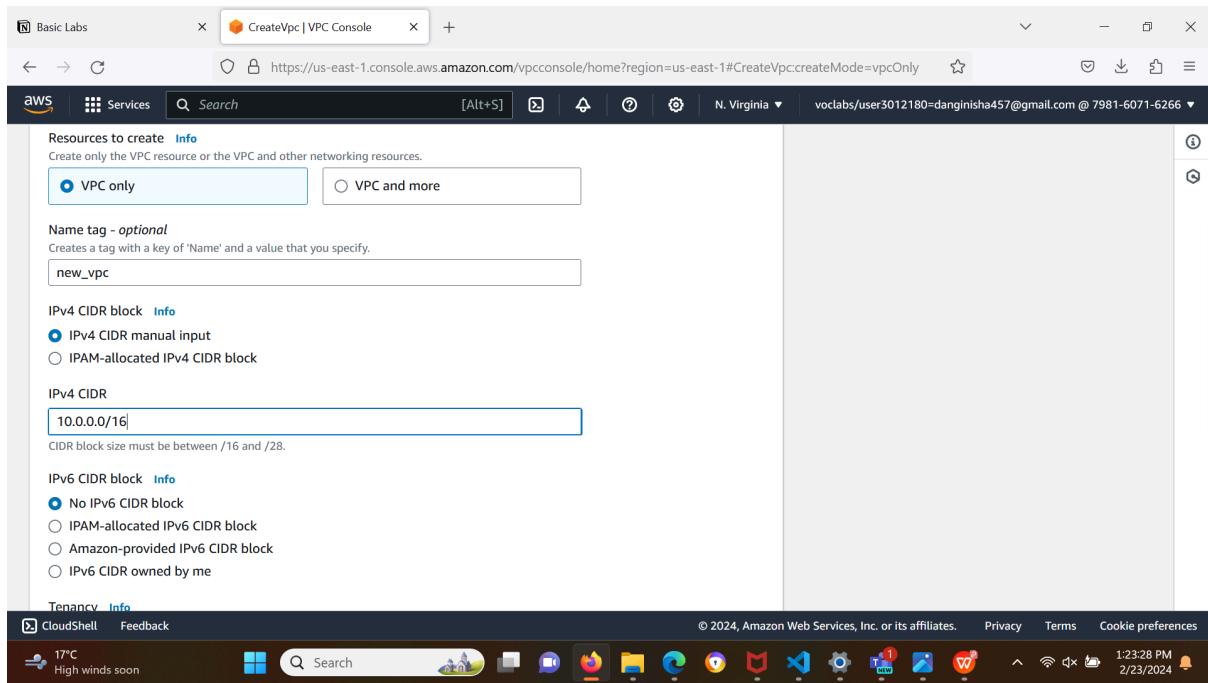
- Objective: To understand the fundamentals of AWS networking through the configuration of a Virtual Private Cloud (VPC).
- Approach: Students will create a new VPC, add subnets, set up an Internet Gateway, and configure route tables. The lab might also include setting up a simple EC2 instance within this VPC to demonstrate how resources are deployed in a custom network environment.
- Goal: By the end of this lab, students should be able to create and configure a VPC, understand subnetting, and the role of route tables and internet gateways in AWS.

Solution:

Step 1: We start by creating a VPC.



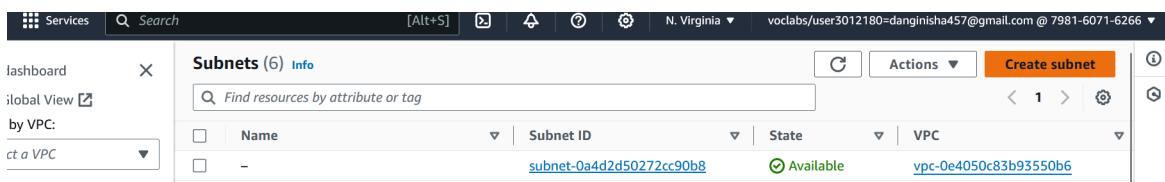
Set resources to create to VPC only and create a new VPC, provide APv4 CIDR. Then click on the “Create VPC” button.



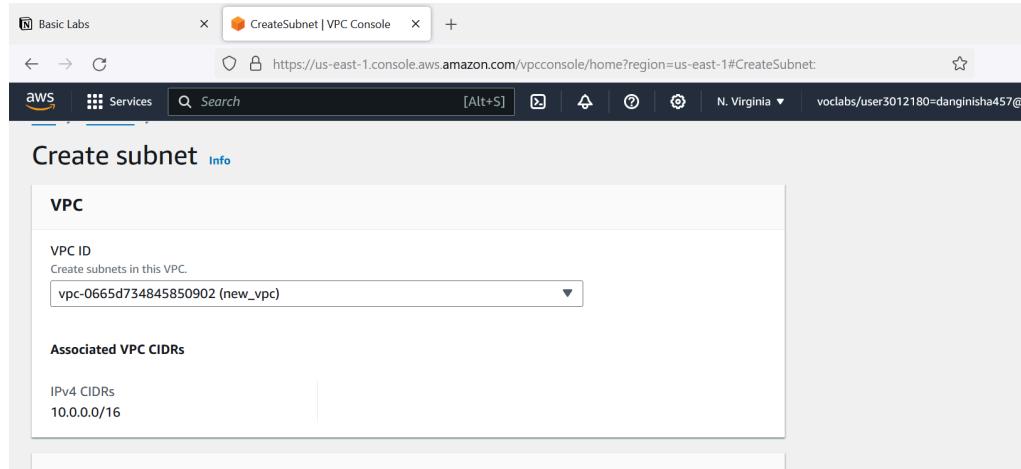
We can see a new VPC is successfully created.



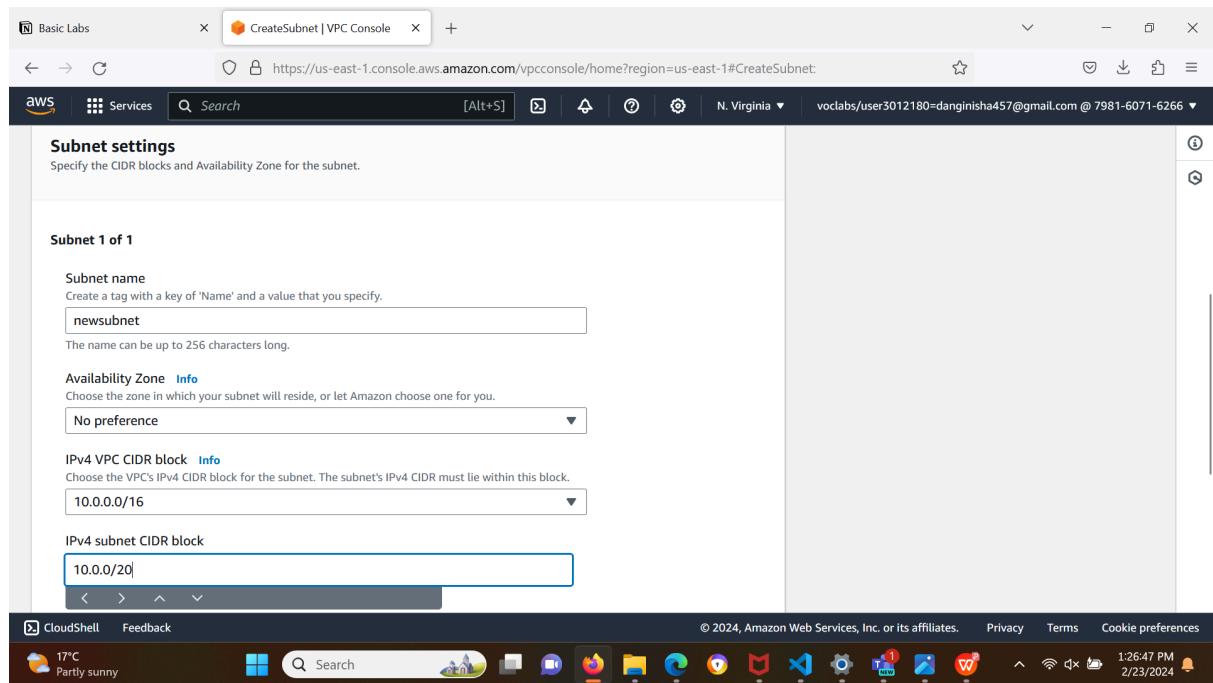
Step 2: Now, we create a new subnet.



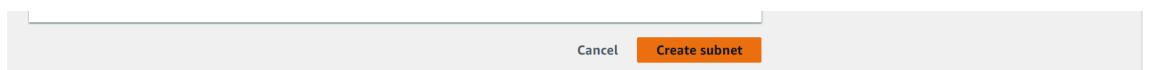
Select the VPC that we created earlier.



Then, we give a new subnet name, assign appropriate IPv4 subnet CIDR block



Then, click on the “Create Subnet” button.



We can see that the subnet has been created successfully.

The screenshot shows the AWS VPC Subnets page. A green banner at the top indicates "You have successfully created 1 subnet: subnet-0a1bd53be21818b21". The main table lists one subnet named "newssubnet" with the ID "subnet-0a1bd53be21818b21", which is marked as "Available" and associated with the VPC "vpc-0665d734845850902".

Step 3: Now, we create a new Internet Gateway.

The screenshot shows the AWS Internet Gateways page. It displays a table with one internet gateway entry, though no specific details are visible.

Give a name to the internet gateway and click on “Create Internet Gateway” button.

The screenshot shows the "Create internet gateway | VPC" dialog. In the "Internet gateway settings" section, a "Name tag" is being added with the value "newinternetgateway". In the "Tags - optional" section, a single tag "Name" with value "newinternetgateway" is listed. At the bottom, there are "Cancel" and "Create internet gateway" buttons.

We can see that a new internet gateway has been created. Now, we should attach it to the VPC we created earlier.

The screenshot shows the AWS VPC Internet Gateways page. A new internet gateway, "igw-0d3a153663a17900b / newinternetgateway", has been created. The "Actions" menu is open, with "Attach to VPC" highlighted. The "Details" section shows the Internet gateway ID as "igw-0d3a153663a17900b", State as "Detached", VPC ID as "-", and Owner as "79816". The "Tags" section contains a single tag named "Name" with the value "newinternetgateway". The left sidebar shows the navigation path: Basic Labs > Services > VPC > Internet gateways > igw-0d3a153663a17900b. The bottom of the screen shows the AWS navigation bar with CloudShell, Feedback, and various icons.

Attach the VPC which we created earlier and then click on the “Attach internet gateway” button.

The screenshot shows the "Attach to VPC" dialog box. It asks to attach the internet gateway to a VPC to enable communication with the internet. It lists available VPCs: "vpc-0665d734845850902 - new_vpc". Below the list is an "AWS Command Line Interface command" field containing "vpc-0665d734845850902 - new_vpc". At the bottom are "Cancel" and "Attach internet gateway" buttons.

New internet gateway is created.

VPC > Internet gateways > igw-0d3a153663a17900b

igw-0d3a153663a17900b / newinternetgateway

Details [Info](#)

Internet gateway ID igw-0d3a153663a17900b	State Attached	VPC ID vpc-0665d734845850902	Owner new_vpc
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Tags

Key	Value
Name	newinternetgateway

Step 4: Now, we create a new route table.

VPC dashboard [Route tables \(1\)](#) [Info](#)

[Create route table](#)

We give a name and assign a VPC which we created earlier then click on “Create route table” button.

Basic Labs [CreateRouteTable | VPC Console X](#)

Route table settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.

VPC
The VPC to use for this route table.

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - <i>optional</i>
<input type="text" value="Name"/>	<input type="text" value="new-route-table"/>

[Add new tag](#)
You can add 49 more tags.

[Cancel](#) [Create route table](#)

Route Table has been created successfully.

VPC dashboard [Route table rtb-0b53b511bc5dbc782 | new-route-table was created successfully. X](#)

Step 5: Now, we create a new instance.

The screenshot shows the 'Launch an instance' wizard in the AWS Management Console. The 'Name and tags' section has 'Name' set to 'newwebserver'. The 'Software Image (AMI)' section shows 'Amazon Linux 2023 AMI 2023.3...' selected. The 'Virtual server type (instance type)' is 't2.micro'. Under 'Storage (volumes)', there is 1 volume(s) - 8 GiB. On the right, the 'Summary' panel shows 'Number of instances' set to 1. At the bottom right are 'Launch instance' and 'Review commands' buttons.

Select key pair name

The screenshot shows the 'Key pair (login)' section of the wizard. 'Key pair name - required' is set to 'vokey'. A 'Create new key pair' button is available. The 'Summary' panel on the right shows 'Number of instances' set to 1. Under 'Software Image (AMI)', it lists 'ami-0440d3b780d96b29d'.

Select VPC we created earlier, then launch instance.

The screenshot shows the 'VPC - required' and 'Subnet' sections. 'VPC' is set to 'vpc-0665d734845850902 (new_vpc)'. 'Subnet' is set to 'subnet-0a1bd53be21818b21'. A 'Create new subnet' button is available. The 'Summary' panel on the right shows 'Number of instances' set to 1. Under 'Software Image (AMI)', it lists 'ami-0440d3b780d96b29d'.

We can see that the instance is created successfully.

The screenshot shows the 'EC2 > Instances' page. It displays a green success message: 'Successfully initiated launch of instance (i-0eedc36be997c7f4c)'. Below this, the 'Launch log' section shows 'Initializing requests' and 'Creating security groups' both with a status of 'Succeeded'.