VPC Environment Creation and Configuration Lab Report

Objective

The objective of this lab was to create and configure a custom Amazon Virtual Private Cloud (VPC) named lab-vpc in the us-east-1 region, complete with public and private subnets, and corresponding route tables.

Lab Environment Setup

- The **AWS Management Console** was used for this lab.
- The lab focused on creating and configuring core VPC components: VPC, Subnets, and Route Tables.

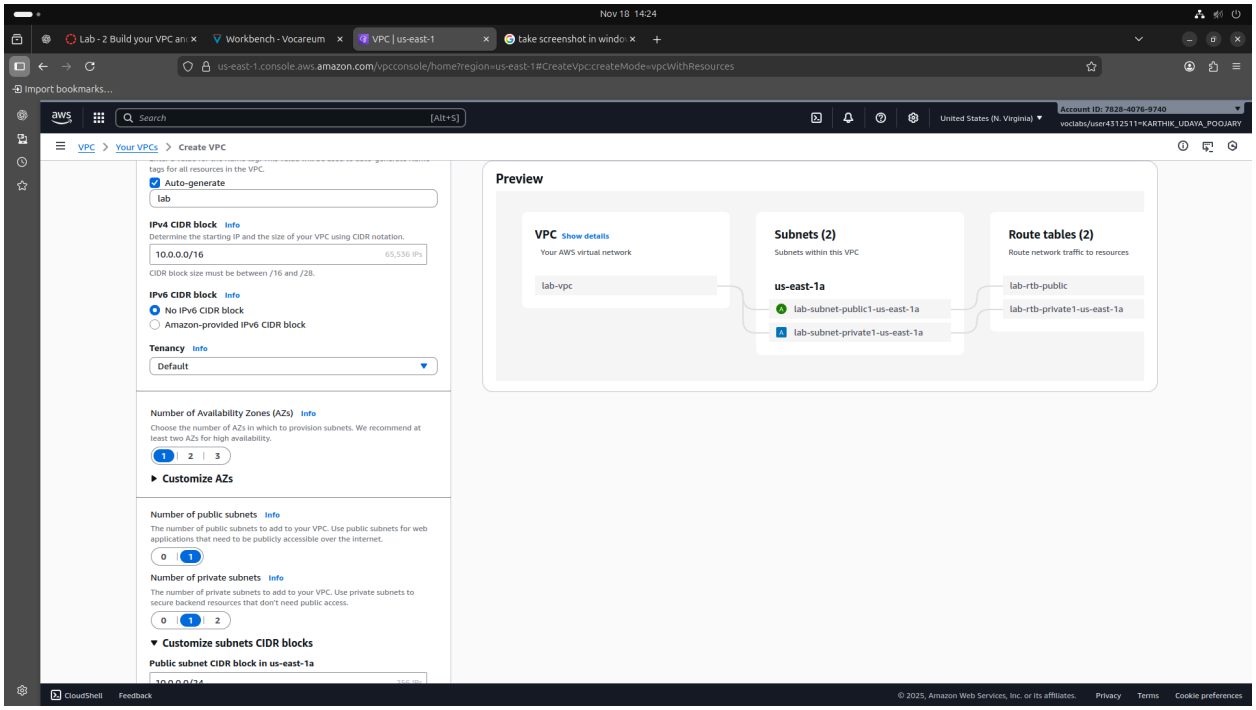
Task 1: Create the Custom VPC and Subnets

The VPC creation process involved the following steps:

1. **Initiation:** The VPC dashboard was accessed, and the "Create VPC" workflow was started.
2. **Configuration:**
    - The IPv4 CIDR block was set to `10.0.0.0/16`.
    - The VPC was configured to span a single Availability Zone (AZ).
    - One public and one private subnet were specified for creation within the VPC.

Result

The operation successfully created the VPC named `lab-vpc` (ID: `vpc-04c508510705089f1`). The resulting infrastructure included two subnets (`lab-subnet-public1-us-east-1a` and `lab-subnet-private1-us-east-1a`) and an associated Internet Gateway (IGW).


Nov 18 14:24
Lab - 2 Build your VPC an
Workbench - Vocareum
VPC | us-east-1
take screenshot in windo
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpc:createMode=vpcWithResources
Import bookmarks...
Search
[Alt+S]
United States (N. Virginia)
Account ID: 7828-4076-9740
voclabs/user4312511=KARTHIK_UDAYA_POOJARY
VPC > Your VPCs > Create VPC
Auto-generate
lab
IPv4 CIDR block Info
Determine the starting IP and the size of your VPC using CIDR notation.
10.0.0.0/16
65,536 IPs
CIDR block size must be between /16 and /28.
IPv6 CIDR block Info
No IPv6 CIDR block
Amazon-provided IPv6 CIDR block
Tenancy Info
Default
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-east-1a
Preview
VPC Show details
Your AWS virtual network
lab-vpc
Subnets (2)
Subnets within this VPC
us-east-1a
lab-subnet-public1-us-east-1a
lab-subnet-private1-us-east-1a
Route tables (2)
Route network traffic to resources
lab-rtb-public
lab-rtb-private1-us-east-1a
CloudShell
Feedback
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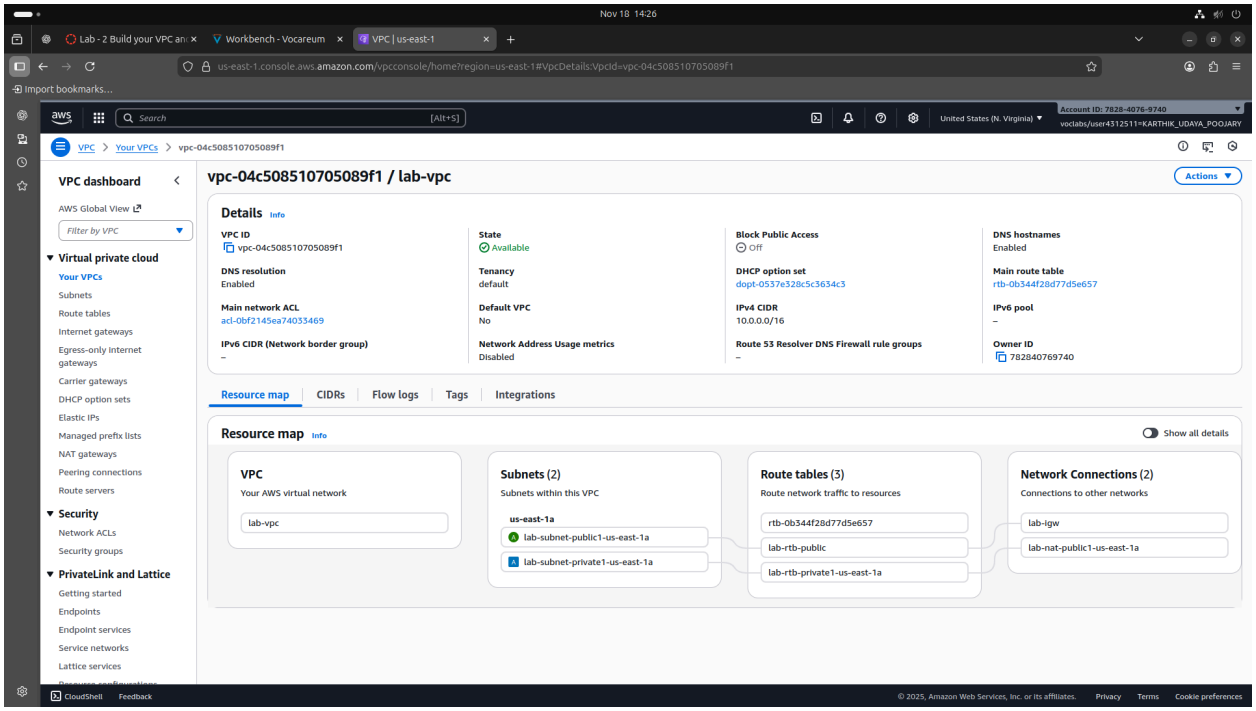
Nov 18 14:26
Lab - 2 Build your VPC an
Workbench - Vocareum
VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#VpcDetails:VpcId=vpc-04c508510705089f1
Import bookmarks...
Search
[Alt+S]
United States (N. Virginia)
Account ID: 7828-4076-9740
voclabs/user4312511=KARTHIK_UDAYA_POOJARY
VPC > Your VPCs > vpc-04c508510705089f1
VPC dashboard
AWS Global View
Filter by VPC
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only internet gateways
Carrier gateways
DHCP option sets
Elastic IPs
Managed prefix lists
NAT gateways
Peering connections
Route servers
Security
Network ACLs
Security groups
PrivateLink and Lattice
Getting started
Endpoints
Endpoint services
Service networks
Lattice services
vpc-04c508510705089f1 / lab-vpc
Actions
Details Info
VPC ID
vpc-04c508510705089f1
State
Available
Block Public Access
Off
DNS hostnames
Enabled
DNS resolution
Enabled
Tenancy
default
DHCP option set
dopt-0537e328c5c3634c3
Main route table
rtb-0b344f28d77d5e657
Main network ACL
acl-0bf2145ea74033469
Default VPC
No
IPv4 CIDR
10.0.0.0/16
IPv6 pool
–
IPv6 CIDR (Network border group)
–
Network Address Usage metrics
Disabled
Route 53 Resolver DNS Firewall rule groups
–
Owner ID
782840769740
Resource map
CIDRs
Flow logs
Tags
Integrations
Resource map Info
Show all details
VPC
Your AWS virtual network
lab-vpc
Subnets (2)
Subnets within this VPC
us-east-1a
lab-subnet-public1-us-east-1a
lab-subnet-private1-us-east-1a
Route tables (3)
Route network traffic to resources
rtb-0b344f28d77d5e657
lab-rtb-public
lab-rtb-private1-us-east-1a
Network Connections (2)
Connections to other networks
lab-igw
lab-nat-public1-us-east-1a
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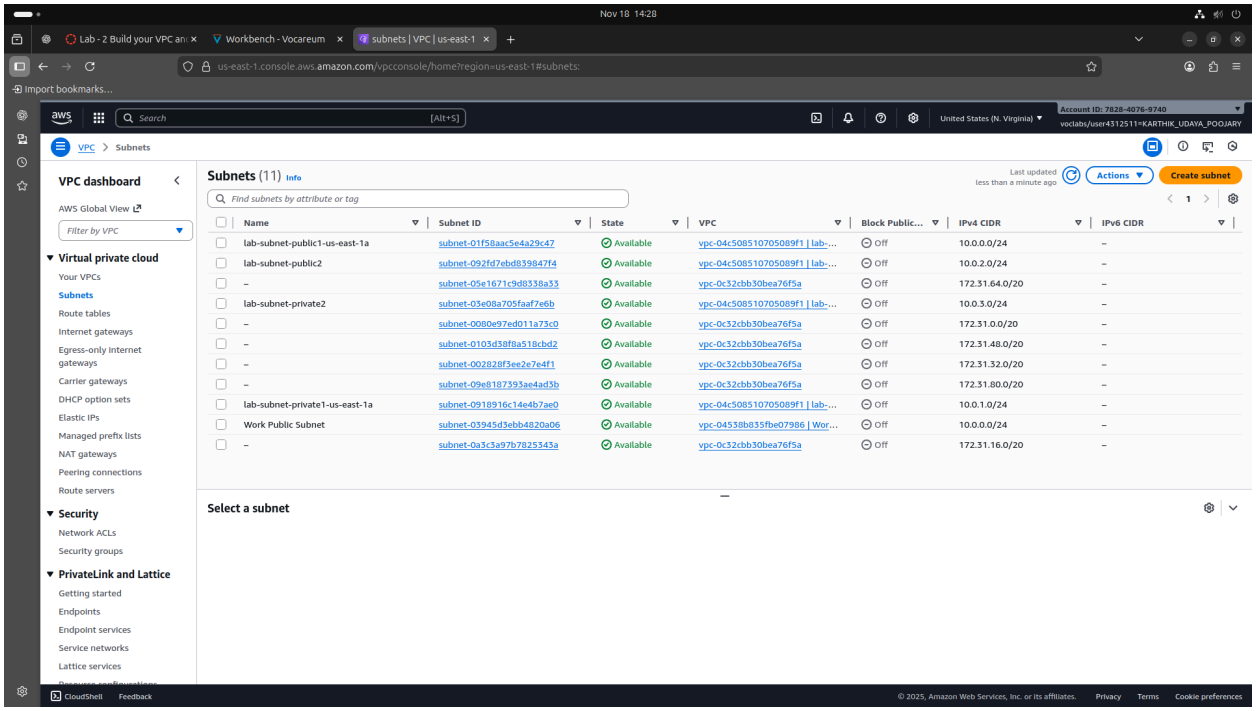
Task 2: Verify Subnet Details

Steps:

1. Navigated to the Subnets section in the VPC console.
2. Verified the creation and status of the new subnets:lab-subnet-public1-us-east-1a andlab-subnet-private1-us-east-1a.

Outcome: The creation of the two specific subnets within the lab-vpc was confirmed, and their availability status was noted as "Available".

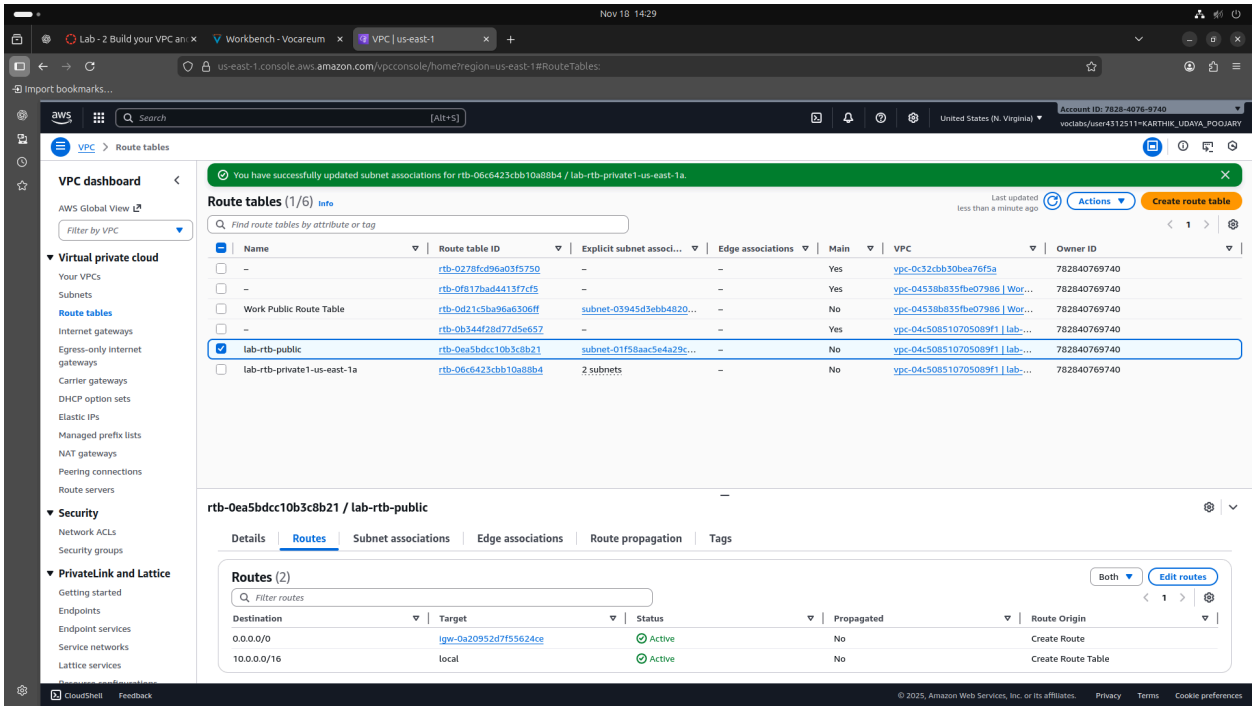


Task 3: Configure and Verify Route Tables

Steps:

1. Navigated to the Route tables section.
2. Selected the public route table lab-rtb-public and verified the default route http://0.0.0.0/0 pointed to the Internet Gateway.
3. Selected the private route table (and verified the default route http://0.0.0.0/0 pointed to the NAT Gateway.

Outcome: Both the public and private route tables were correctly configured and associated with their respective subnets, ensuring proper routing for external and internal traffic.


Nov 18 14:29
Lab - 2 Build your VPC and
Workbench - Vocareum
VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:
Import bookmarks...
Search
[Alt+S]
United States (N. Virginia)
Account ID: 7828-4076-9740
voclabs/user4312511=KARTHIK_UDAYA_POOJARY
VPC > Route tables
VPC dashboard
AWS Global View
Filter by VPC
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Endpoints
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Lattice services
You have successfully updated subnet associations for rtb-06c6423cbb10a88b4 / lab-rtb-private1-us-east-1a.
Route tables (1/6) Info
Last updated less than a minute ago
Actions
Create route table
Find route tables by attribute or tag
Name
Route table ID
Explicit subnet associ...
Edge associations
Main
VPC
Owner ID
– rtb-0278fcd96a03f5750 – – Yes vpc-0c32cbb30bea76f5a 782840769740
– rtb-0f817bad4413f7cf5 – – Yes vpc-04538b835fbe07986 | Wor... 782840769740
Work Public Route Table rtb-0d21c5ba96a6306ff subnet-03945d3ebb4820... – No vpc-04538b835fbe07986 | Wor... 782840769740
– rtb-0b344f28d77d5e657 – – Yes vpc-04c508510705089f1 | lab-... 782840769740
lab-rtb-public rtb-0ea5bdcc10b3c8b21 subnet-01f58aac5e4a29c... – No vpc-04c508510705089f1 | lab-... 782840769740
lab-rtb-private1-us-east-1a rtb-06c6423cbb10a88b4 2 subnets – No vpc-04c508510705089f1 | lab-... 782840769740
rtb-0ea5bdcc10b3c8b21 / lab-rtb-public
Details
Routes
Subnet associations
Edge associations
Route propagation
Tags
Routes (2)
Both
Edit routes
Filter routes
Destination
Target
Status
Propagated
Route Origin
0.0.0.0/0 igw-0a20952d7f55624ce Active No Create Route
10.0.0.0/16 local Active No Create Route Table
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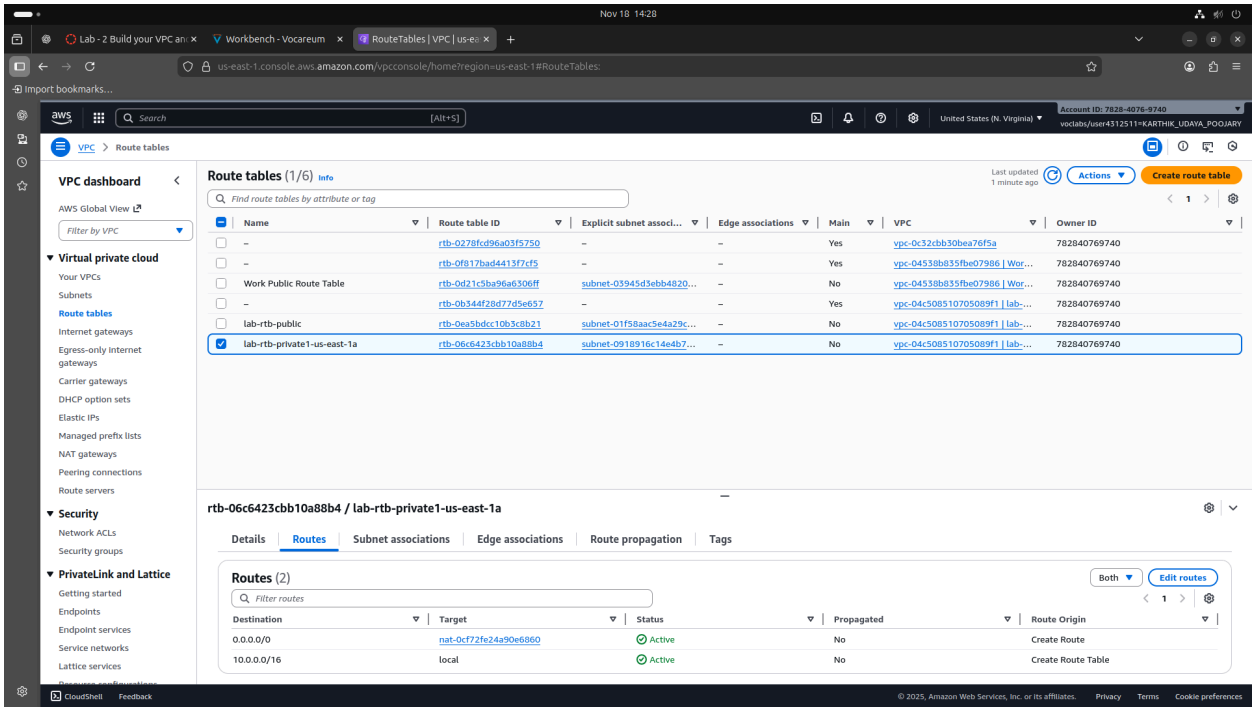
Nov 18 14:28
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RouteTables | VPC | us-e
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTables:
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lab-rtb-private1-us-east-1a rtb-06c6423cbb10a88b4 subnet-0918916c14e4b7... – No vpc-04c508510705089f1 | lab-... 782840769740
rtb-06c6423cbb10a88b4 / lab-rtb-private1-us-east-1a
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Route Origin
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10.0.0.0/16 local Active No Create Route Table
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Conclusion

The lab successfully demonstrated the creation of a custom VPC environment with a CIDR block of 10.0.0.0/16, properly segregated into one public and one private subnet. The correct routing rules were applied to the associated route tables, establishing the foundational network for hosting applications with both public and private tiers on AWS.