

Experiment 3 - Configuring Virtual Private Cloud VPC & Troubleshoot a VPC

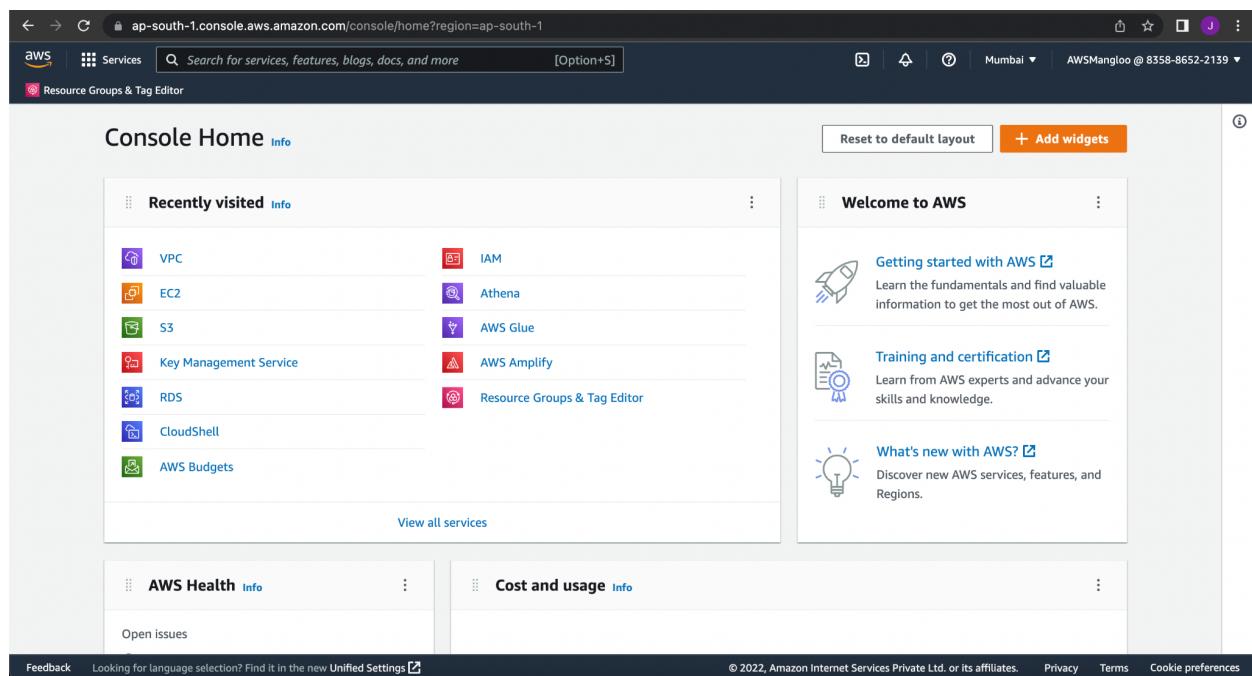
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AIM: To configure a Virtual Private Cloud VPC & Troubleshoot a VPC

PROCEDURE:

1. Firstly, open the AWS console homepage on browser (<https://aws.amazon.com/console/>).



2. Search for VPC in the search bar and open the VPC dashboard page.

← → 🔍 ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#Home:

New VPC Experience Tell us what you think ×

VPC dashboard

EC2 Global View New

Filter by VPC: Select a VPC ▾

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways
- Egress-only Internet gateways
- DHCP Option Sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Create VPC Launch EC2 Instances

Note: Your Instances will launch in the Asia Pacific region.

Resources by Region Refresh Resources

You are using the following Amazon VPC resources

VPCs See all regions ▾	Asia Pacific 1	NAT Gateways See all regions ▾	Asia Pacific 0
Subnets See all regions ▾	Asia Pacific 4	VPC Peering Connections See all regions ▾	Asia Pacific 0
Route Tables See all regions ▾	Asia Pacific 4	Network ACLs See all regions ▾	Asia Pacific 1
Internet Gateways See all regions ▾	Asia Pacific 1	Security Groups See all regions ▾	Asia Pacific 3
Egress-only Internet Gateways See all regions ▾	Asia Pacific 0	Customer Gateways See all regions ▾	Asia Pacific 0
DHCP option sets See all regions ▾	Asia Pacific 1	Virtual Private Gateways See all regions ▾	Asia Pacific 0

Service Health

Current Status	Details
✓ Amazon EC2 - Asia Pacific	Service is operating normally

[View complete service health details](#)

Settings

Zones Console Experiments

Additional Information

VPC Documentation All VPC Resources Forums Report an Issue

AWS Network Manager

AWS Network Manager centrally manages your Cloud WAN core network and your Transit Gateway network across AWS and on-premises locations. [Learn more](#)

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3. To create a new VPC, click “Create VPC” and go to the Create VPC page.

← → 🔍 ap-south-1.console.aws.amazon.com/vpc/CreateVpc?region=ap-south-1#CreateVpc:

Resources to create Info

Create only the VPC resource or the VPC and other networking resources.

VPC only

VPC and more

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

project-exp-3

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

IPv6 CIDR block Info

No IPv6 CIDR block

Amazon-provided IPv6 CIDR block

Tenancy Info

Default

Preview

VPC Show details Your AWS virtual network project-exp-3-vpc

Subnets (4) Subnets within this VPC

Route tables Route network traffic

ap-south-1a

- project-exp-3-subnet-public1-ap-south-1a
- project-exp-3-subnet-private1-ap-south-1a

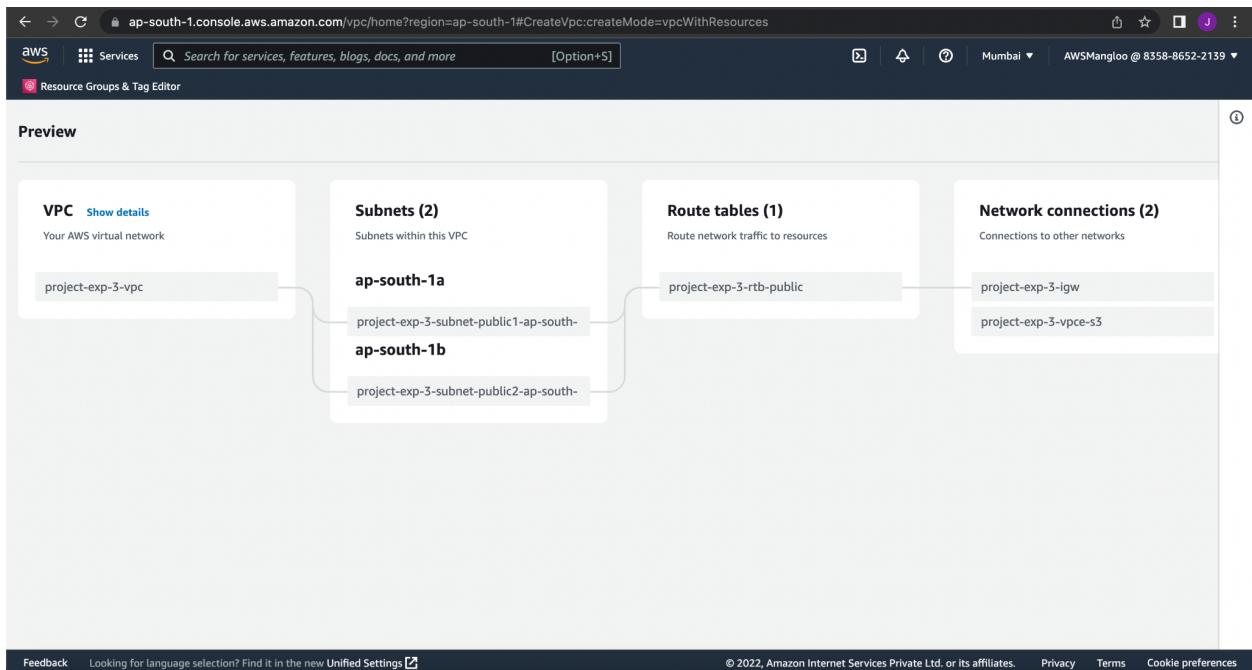
ap-south-1b

- project-exp-3-subnet-public2-ap-south-1b
- project-exp-3-subnet-private2-ap-south-1b

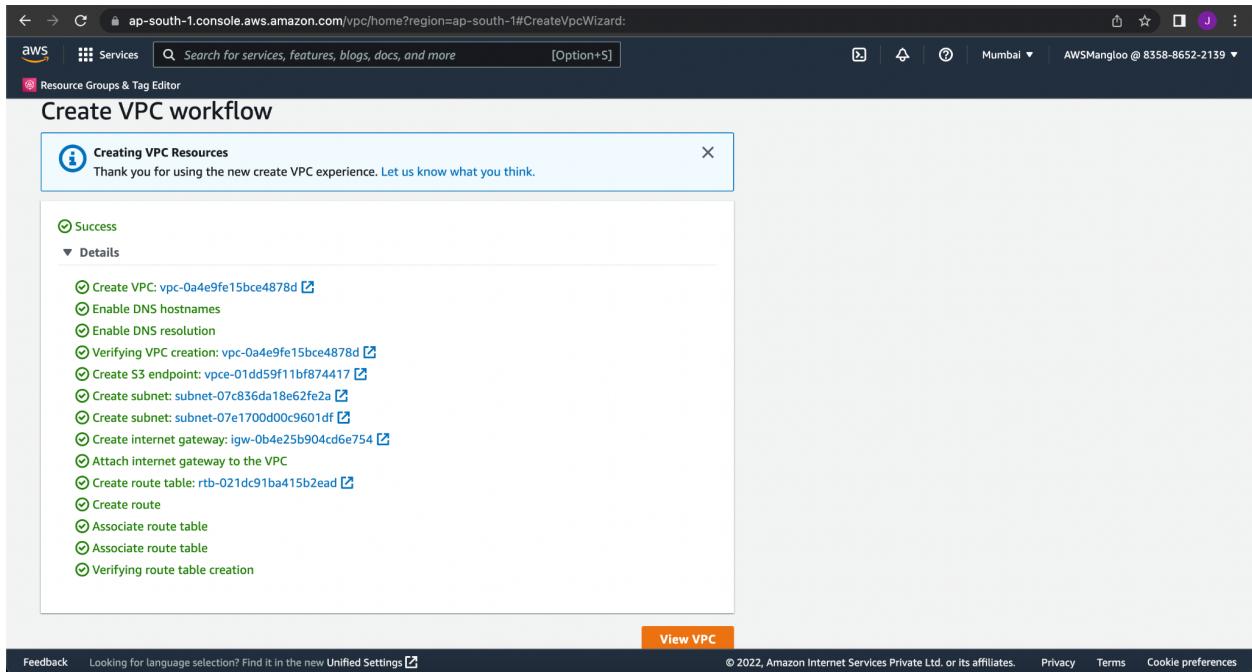
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4. Select the following configurations with appropriate VPC name.



5. Click on “Create VPC” button and wait for your VPC to be created.



6. Click on “View VPC” to view your VPC details.

The screenshot shows the AWS VPC Details page for a VPC named "vpc-0a4e9fe15bce4878d / project-exp-3-vpc". The left sidebar shows the VPC dashboard and other options like Subnets, Route tables, Internet gateways, etc. The main content area displays the VPC's configuration, including its ID, state, and various network settings. The CIDRs tab is selected at the bottom.

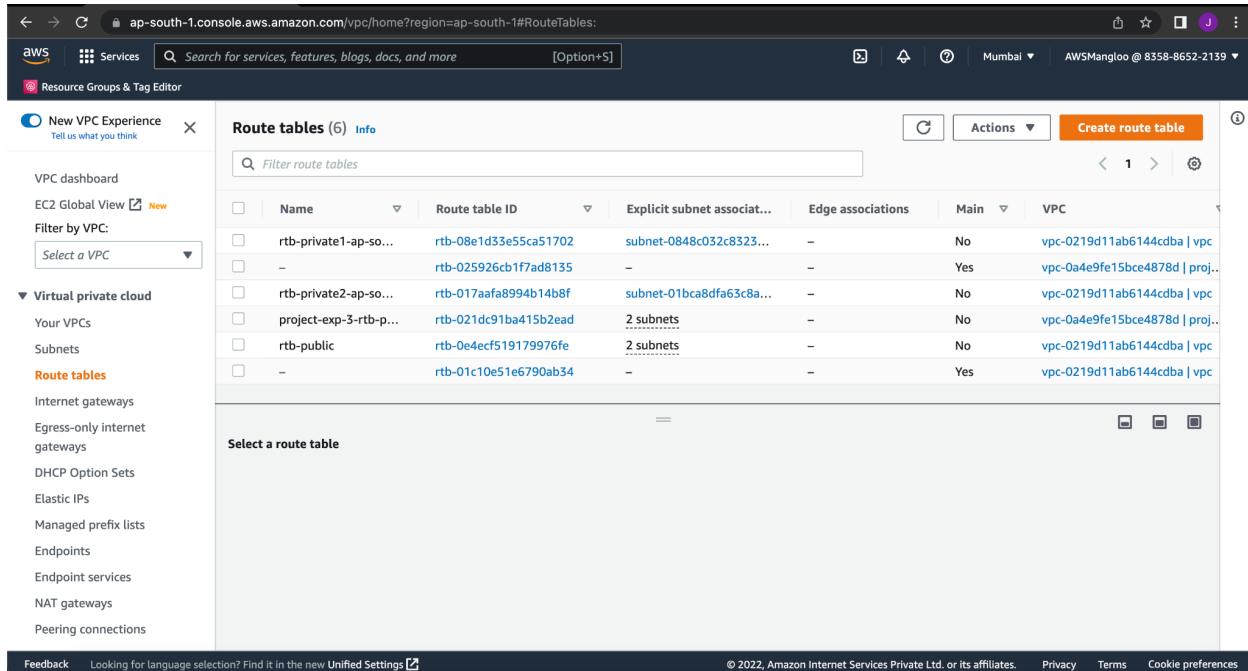
VPC ID	State	DNS hostnames	DNS resolution
vpc-0a4e9fe15bce4878d	Available	Enabled	Enabled
Tenancy	DHCP option set	Main route table	Main network ACL
Default	dopt-0731c89ad5b658ca1	rtb-025926cb1f7ad8135	acl-093440480b522a609
Default VPC	IPv4 CIDR	IPv6 pool	IPv6 CIDR
No	10.0.0.0/16	-	-
Route 53 Resolver DNS Firewall rule groups	Owner ID		
-	835886522139		

7. Click on “Subnets” in the left side menu to view subnets of your VPC.

The screenshot shows the AWS Subnets page, displaying a list of six subnets. The left sidebar shows the VPC dashboard and other options like Subnets, Route tables, Internet gateways, etc. The main content area shows a table of subnets with columns for Name, Subnet ID, State, VPC, IPv4 CIDR, and IPv6 CIDR. A "Create subnet" button is visible at the top right.

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR
subnet-private1-ap...	subnet-0848c032c8323ec90	Available	vpc-0219d11ab6144cd8a vpc	10.0.128.0/20	2406:
subnet-private2-ap...	subnet-01bca8dfa63c8a6d3	Available	vpc-0219d11ab6144cd8a vpc	10.0.144.0/20	2406:
project-exp-3-subn...	subnet-07c836da18e62fe2a	Available	vpc-0a4e9fe15bce4878d proj...	10.0.0.0/20	-
project-exp-3-subn...	subnet-07e1700d00c9601df	Available	vpc-0a4e9fe15bce4878d proj...	10.0.16.0/20	-
subnet-public2-ap...	subnet-00e5a3b0e4e357ede	Available	vpc-0219d11ab6144cd8a vpc	10.0.16.0/20	2406:
subnet-public1-ap...	subnet-0327ad3e7c0bb88bd	Available	vpc-0219d11ab6144cd8a vpc	10.0.0.0/20	2406:

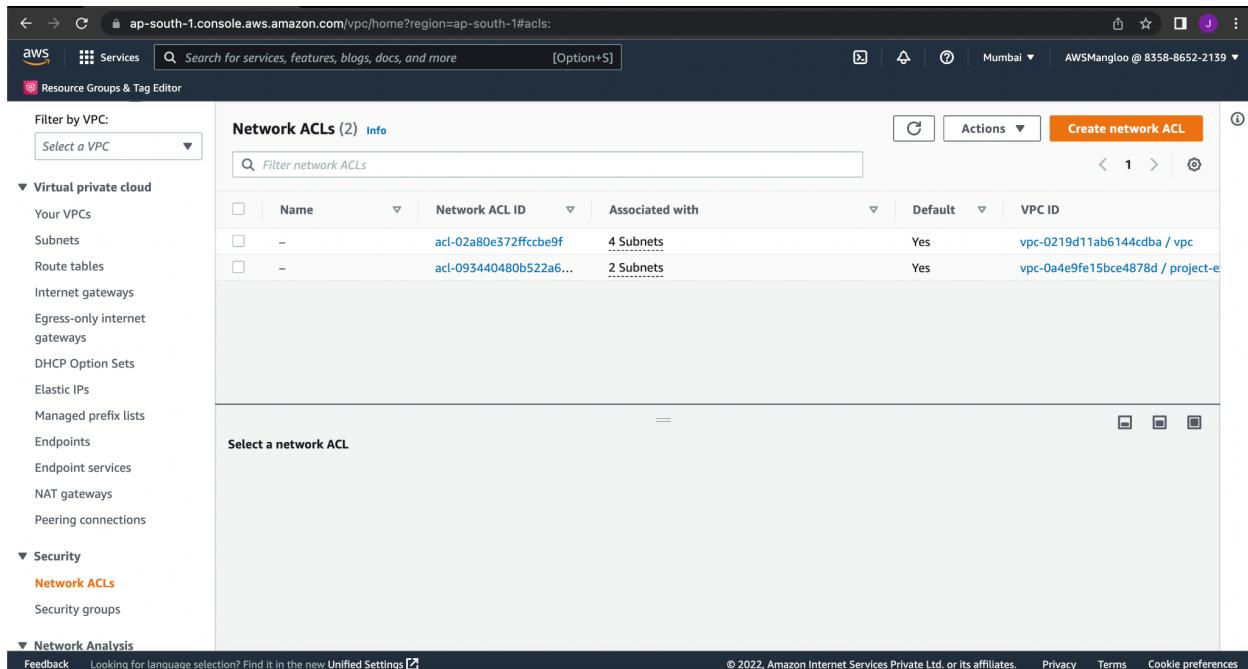
8. Click on “Route Tables” in the left side menu to view route tables of your VPC.



The screenshot shows the AWS VPC Route Tables page. The left sidebar is expanded to show the "Route tables" section under "Virtual private cloud". The main content area displays a table titled "Route tables (6) Info" with the following data:

Name	Route table ID	Explicit subnet associat...	Edge associations	Main	VPC
rtb-private1-ap-so...	rtb-08e1d33e55ca51702	subnet-0848c032c8323...	-	No	vpc-0219d11ab6144cd8 vpc
-	rtb-025926cb1f7ad8135	-	-	Yes	vpc-0a4e9fe15bce4878d proj..
rtb-private2-ap-so...	rtb-017aaaf8994b14b8f	subnet-01bca8dfa63c8a...	-	No	vpc-0219d11ab6144cd8 vpc
project-exp-3-rtb-p...	rtb-021dc91ba415b2ead	2 subnets	-	No	vpc-0a4e9fe15bce4878d proj..
rtb-public	rtb-0e4ecf519179976fe	2 subnets	-	No	vpc-0219d11ab6144cd8 vpc
-	rtb-01c10e51e6790ab34	-	-	Yes	vpc-0219d11ab6144cd8 vpc

9. Click on “Network ACL’s” in the left side menu to view ACLs of your VPC.



The screenshot shows the AWS VPC Network ACLs page. The left sidebar is expanded to show the "Network ACLs" section under "Virtual private cloud". The main content area displays a table titled "Network ACLs (2) Info" with the following data:

Name	Network ACL ID	Associated with	Default	VPC ID
-	acl-02a80e372ffccbe9f	4 Subnets	Yes	vpc-0219d11ab6144cd8 / vpc
-	acl-093440480b522a6...	2 Subnets	Yes	vpc-0a4e9fe15bce4878d / project-e

RESULT: A Virtual Private Cloud (VPC) was successfully created and troubleshooted.