

## CLOUD COMPUTING LAB 7

**Aim :** Aim: Demonstrate the Virtual Network Private Security in the Public Cloud for the Virtual Machine, Databases and Storage. Describe the step-by-step process, including subnet creation, route table configuration, and launching instances.

### Task 1: Create Your VPC

The screenshot shows the AWS VPC Management Console interface for creating a new VPC. The left panel, titled 'VPC settings', contains several configuration sections:

- Resources to create:** A radio button group where 'VPC and more' is selected (indicated by a blue outline).
- Name tag auto-generation:** A checked checkbox labeled 'Auto-generate' with the value 'vinayak-vpc-1'.
- IPv4 CIDR block:** A text input field containing '10.0.0.0/16' with a note indicating it provides 65,536 IPs.
- IPv6 CIDR block:** A radio button group where 'No IPv6 CIDR block' is selected.

The right panel, titled 'Preview', shows a diagram of the proposed VPC structure:

- VPC:** Labeled 'Show details' and 'Your AWS virtual network'. It has a tag 'vinayak-vpc-1-vpc'.
- Subnets (2):** Labeled 'Subnets within this VPC'. It contains two subnets:
  - 'us-east-1a'
  - 'vinayak-vpc-1-subnet-public1-us-east-'
  - 'vinayak-vpc-1-subnet-private1-us-east-'
- Route table:** Labeled 'Route t' and 'Route net'. It has two entries pointing to the subnets:
  - 'us-east-1a' points to 'vinayak'
  - 'vinayak-vpc-1-subnet-private1-us-east-' points to 'vinayak'

At the bottom of the screen, there are navigation links for 'CloudShell', 'Feedback', and 'Cookie preferences', along with copyright information for Amazon Web Services.

The screenshot shows the AWS VPC Management console with the URL [us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#vpcs](https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#vpcs). The left sidebar navigation includes 'VPC dashboard', 'EC2 Global View (New)', 'Filter by VPC: Select a VPC', 'Virtual private cloud' (with 'Your VPCs' selected), 'Subnets', 'Route tables', 'Internet gateways', 'Egress-only internet gateways', 'Carrier gateways', 'DHCP option sets', 'Elastic IPs', 'Managed prefix lists', 'Endpoints', 'Endpoint services', 'NAT gateways', 'Peering connections', and 'Security' (with 'Network ACLs' selected). The main content area displays 'Your VPCs (2) Info' with a table:

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	vpc-07f48b21c478da311	Available	172.31.0.0/16	-
<input type="checkbox"/>	vinayak-vpc-1-vpc	vpc-0ab7e497e2250bc17	Available	10.0.0.0/16	-

A message 'Select a VPC above' is displayed below the table. The bottom of the page includes links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences.

## Task 2: Create Additional Subnets

The screenshot shows the 'Create subnet' page in the AWS VPC Management Console. The 'VPC ID' dropdown is set to 'Select a VPC'. The 'Subnet settings' section indicates that a VPC must be selected first to create new subnets. A button labeled 'Add new subnet' is visible. At the bottom, there are 'Cancel' and 'Create subnet' buttons.

The screenshot shows the 'Subnets (10)' page in the AWS VPC Management Console. A green banner at the top displays two messages: 'You have successfully deleted subnet-0fd8550ffff222700' and 'You have successfully created 1 subnet: subnet-0caf96dd2ba678668'. The main table lists ten subnets, including the newly created one. The newly created subnet is highlighted with a green checkmark in the 'State' column. The table includes columns for Name, Subnet ID, State, VPC, and IPv4 CIDR.

Name	Subnet ID	State	VPC	IPv4 CIDR
-	subnet-09131a29029426c55	Available	vpc-07f48b21c478da311	172.31.52.0/20
vinayak-subnet-private	subnet-0caf96dd2ba678668	Available	vpc-0ab7e497e2250bc17   vina...	10.0.3.0/24
-	subnet-08d8f501c13632d49	Available	vpc-07f48b21c478da311	172.31.16.0/20
-	subnet-0bb4114ccbeff4ff	Available	vpc-07f48b21c478da311	172.31.64.0/20
vinayak-vpc-1-subnet-public1-us-east-1a	subnet-0354bf125a6ac191b	Available	vpc-0ab7e497e2250bc17   vina...	10.0.0.0/24
-	subnet-0ef1de506dd6029ef	Available	vpc-07f48b21c478da311	172.31.48.0/20
vinayak-subnet-public	subnet-03be63eeb932b277c	Available	vpc-0ab7e497e2250bc17   vina...	10.0.2.0/24

Screenshot of the AWS VPC console showing the Resource map for a VPC in us-east-1.

**VPC Details:**

Default VPC	IPv4 CIDR 10.0.0.0/16	IPv6 pool	IPv6 CIDR (Network border group)
No	-	-	-
Network Address Usage metrics	Route 53 Resolver DNS Firewall rule groups	Owner ID 479766746609	
Disabled	Failed to load rule groups		

**Resource Map:**

- Subnets (4):** Subnets within this VPC
  - us-east-1a
    - vinayak-vpc-1-subnet-public1-us-east-1a
    - vinayak-vpc-1-subnet-private1-us-east-1a
  - us-east-1b
    - vinayak-subnet-public
    - vinayak-subnet-private
- Route tables (3):** Route network traffic to resources
  - rtb-098c62b3403983be8
  - vinayak-vpc-1-rtb-public
  - vinayak-vpc-1-rtb-private1-us-east-1a
- Network connections (3):** Connections to other networks
  - vinayak-vpc-1-igw
  - vinayak-vpc-1-nat-public1-us-east-1a
  - vinayak-vpc-1-vpcce-s3

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