

Task 3: Create and Configure a Virtual Private Cloud (VPC) with Subnets

■ Objective

To learn how cloud networking works by creating a Virtual Private Cloud (VPC) with public and private subnets, and enabling controlled internet access. This task teaches the backbone of secure cloud architecture and how resources are isolated and protected in the cloud.

■ Recommended Free Tools

- AWS Free Tier (Preferred) – VPC, Subnets, Route Tables, Internet Gateway, Security Groups
- OR Google Cloud VPC (also free-tier eligible)

■ Step-by-Step Guide (AWS)

Step 1: Login to AWS Console

Go to <https://console.aws.amazon.com/vpc/>. Open the VPC Dashboard.

Step 2: Create a VPC

Click 'Create VPC' → Name: MyVPC → IPv4 CIDR block: 10.0.0.0/16 → Tenancy: Default → Create VPC.

Step 3: Create Subnets

Create two subnets under MyVPC: • Public Subnet (10.0.1.0/24, enable auto-assign public IP) • Private Subnet (10.0.2.0/24, disable auto-assign public IP).

Step 4: Create and Attach Internet Gateway

Go to Internet Gateways → Create Internet Gateway → Name: MyIGW → Attach to MyVPC.

Step 5: Configure Route Tables

Create Public Route Table → Add route 0.0.0.0/0 → Target: MyIGW → Associate with Public Subnet. Create Private Route Table → No internet route → Associate with Private Subnet.

Step 6: Verify Configuration

Check Subnets tab → Public Subnet has internet access, Private Subnet is isolated.

Step 7: Save and Document

Take screenshots of VPC Dashboard and Route Tables for submission.

■ Example VPC Configuration Summary

Parameter	Description
VPC Name	MyVPC

CIDR Block	10.0.0.0/16
Region	Asia Pacific (Mumbai) ap-south-1
Public Subnet	10.0.1.0/24 – Internet Access Enabled
Private Subnet	10.0.2.0/24 – Isolated
Internet Gateway	MyIGW attached to MyVPC
Public Route Table	0.0.0.0/0 → Internet Gateway
Private Route Table	Local only

■ Learning Outcomes

- Understand how VPCs isolate resources in a cloud environment.
- Learn the concept of public vs. private subnets.
- Understand Internet Gateways, Route Tables, and CIDR blocks.
- Gain confidence in designing secure cloud networks.